
THE
BEECHAM MANUAL
FOR
FAMILY PRACTICE

THE BEECHAM MANUAL FOR FAMILY PRACTICE

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Foreword

The original *Beecham Manual for General Practice* was produced by Dr Selwyn Carson, of Christchurch, New Zealand, whose objective was a set of instructions for patient care for his practice team. Beecham Research Laboratories published and distributed it. Dr Ed Gawthorn of Melbourne, Australia, edited an Australian version again published and distributed by Beecham Research Laboratories.

We were invited to adapt the New Zealand and Australian editions for British readers - but we decided that we should produce an entirely new *Manual*. This was done and it was published and distributed to general practitioners by Beecham Research Laboratories. This latest edition has been revised and updated.

The *Manual* is a ready reference on planned care of certain age groups and situations; specific procedures and emergencies; and clinical care in general practice of important conditions. We have intentionally adopted a concise didactic style that should be helpful for trainers, trainees and members of the practice team.

We thank Beecham Research Laboratories, and especially Ed Stanford and Bill Burns, for their support and help over many years.

John Fry (Editor)
June 1982

Section A

PLANNED CARE

A1

Family Planning

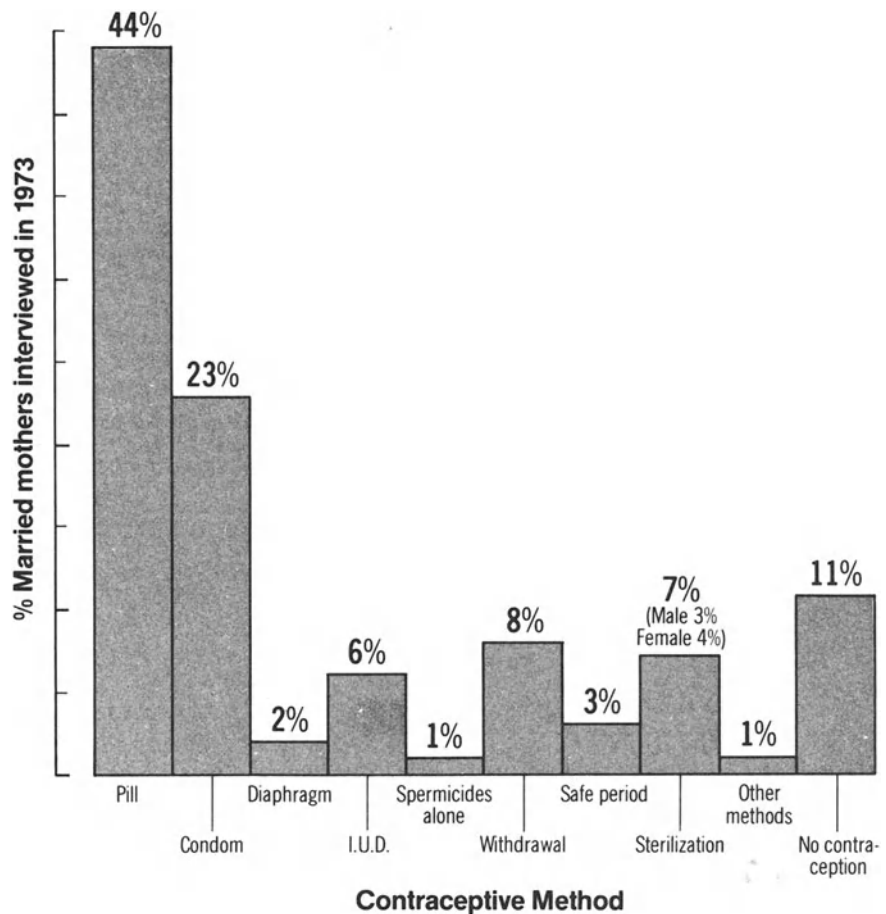
Discuss with the individual patient the advantages and disadvantages of all the methods. Keep in mind individual needs, wishes and religious beliefs.

In Great Britain

- 2.5 million women are registered with their G.P.'s for contraception. — 100 per G.P.
- 95% of G.P.'s provide contraceptive services.
- 20% of G.P.'s fit I.U.C.D.'s.
- 15% of married couples are infertile.
- 1.66 is the average number of children per family.
- The population is decreasing slightly.
- 120,000 induced abortions per annum.— 5-6 per G.P.
- 1 in 3 births to women below the age of 20 are illegitimate.
- 1 in 3 women are pregnant on their wedding day.
- 1 in 10 pregnancies end in a natural abortion.— 2-3 per G.P.

Use of contraceptive methods by couples with a recent childbirth. (Cartwright 1976)

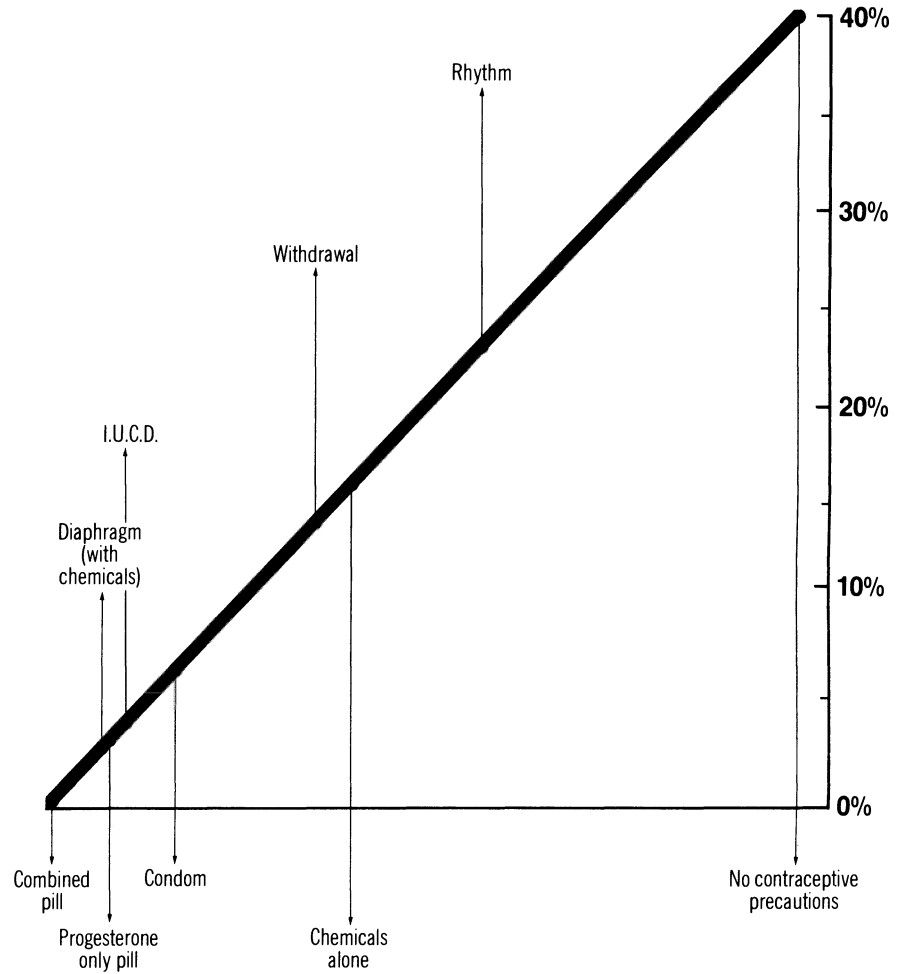
TABLE 1



Pregnancy failure rates for different methods of contraception

TABLE 2

Total pregnancy rate (method and patient failure) per 100 woman-years.



The Pill - The Combined Pill

Various oestrogen and progesterone combination pills are taken by 3 million women in Great Britain and, with sterilization, form by far the most effective means of contraception known. The pill is a source of great public interest and debate. Although serious complications are rare the doctor must be well informed about possible adverse effects and organise regular supervision.

Starting a patient on the pill

The oral contraceptive most suited to a particular woman is often found by trial and error. Changing from one preparation to another does not appear to lead to any loss of protection.

The pill should be stopped at least one month prior to any surgical operation or if there is likely to be prolonged immobility for any reason.

**Advice to the Patient
(When starting or
restarting the pill)**

1. Explain what the "pill" is and how it works.
2. Counting the first day of your period as day one then take the first pill on day five whether your period has finished or not. Use additional precautions for the first 14 days.

or Start on day one and use no other precautions.
3. Take the pill at the same time each day.
4. When the packet is finished stop for 7 days, during which time you will have your period.
5. If you forget to take a pill, take one as soon as you remember. If the gap is more than 12 hours then do not take the pills you have forgotten but take the next one at the usual time and use additional precautions for the rest of that month.
6. If you have vomiting or diarrhoea lasting more than a few hours then continue the course but use additional precautions for the rest of it.
7. Mention - lightening of periods
- break through bleeding
- possible side effects.

After childbirth the first course may be started in a month without waiting for menstruation to be established. If breast feeding then alternative methods preferable until baby is off the breast.

Oral contraceptives available in the U.K.

TABLE 3A

Oestrogen		Ethinylloestradiol	50 micrograms
<i>Name</i>		<i>Progestogen</i>	
Anovlar 21		Norethisterone acetate	4 mg
Gynovlar 21		Norethisterone acetate	3 mg
Minilyn		Lynestrenol	2.5 mg
Norlestrin		Norethisterone acetate	2.5 mg
Ovulen 50		Ethinodiol diacetate	1 mg
Orlest/Minovlar		Norethisterone acetate	1 mg
Demulen 50		Ethinodiol diacetate	0.5 mg
Ovran/Eugynon 50		Levonorgestrel	0.25 mg
Oestrogen		Mestranol	50 micrograms
Orthonovin 1/50/ Norinyl 1		Norethisterone acetate	1 mg
Oestrogen		Ethinylloestradiol	35 micrograms
Norimin		Norethisterone acetate	1 mg
Ovysmen/Brevinor		Norethisterone acetate	0.5 mg
Oestrogen		Ethinylloestradiol	30 micrograms
Eugynon 30/Ovran 30		Levonorgestrel	0.25 mg
Microgynon 30/ Ovranette		Levonorgestrel	0.15 mg
Oestrogen		Ethinylloestradiol	20 micrograms
Loestrin 20		Norethisterone acetate	1 mg

N.B. Triphasic pills i.e. Trinordiol, Logynon contain varying combinations of ethinylloestradiol and levonorgestrel

Progestogenic Potencies

TABLE 3B

Strong ←		Weak →	
Ovulen	Microgynon	Gynovlar 21	Norinyl 1/ Orthonovin
Ovran/Eugynon 50	Ovranette	Minilyn	Minovlar/Orlest
Ovran 30	Anovlar 21	Norlestrin	Loestrin 20
Eugynon 30	Demulen		Brevinor/Ovysmen
			Norimin
Femulen	Neogest	Micronor/Noriday	

History and examination

FAMILY PLANNING CARD		DOCTOR	
Name		Date of Birth	Address
PAST HISTORY/RISK FACTORS			
PILL over 35 smoker overweight	hyperlipidaemia hypertension diabetes	jaundice migraine CVS disease	
COIL/MINI PILL	ectopic pregnancy pelvic inflammation abdominal operations	OTHERS	
GYNAE ASSESSMENT			
PARA	CYCLE	PELVIC EXAM	
SCREENING			
RUBELLA	SMEAR	BREAST LEAFLET/EXAM	
DATE	BP	NOTES	1001 1002

This record card, used by Laindon Health Centre, Basildon, Essex, sums up the main areas of history and examination. LMP and any regular medication would also be included.

Routine follow-up (amend to practice needs)

Under 35 and no relative contra-indications

B.P. - 6 monthly	V.E./Speculum - 5 yearly
Weight - noted yearly	Smear - 5 yearly
Urinalysis - yearly	Breast exam - teach self examination

Over 35

B.P. - 6 monthly	V.E./Speculum - 3 yearly
Weight - noted yearly	Smear - 3 yearly
Urinalysis - yearly	Breast exam - teach self examination

Possible complications

A. Deep Vein Thrombosis

4 times greater than in a non-user. Not related to duration of use, oestrogen dose or progestogen content, or to presence of varicose veins.

B. Superficial Thrombosis

2.5 times greater than in a non-user. Not related to duration of use but significantly related to both oestrogen dose and progestogen content. Also related to presence and severity of varicose veins.

C. Circulatory Diseases

Deaths from a wide range of vascular conditions of 1 per 5,000 ever users per year. Related to duration of use, age and cigarette smoking.

D. Hypertension

Up to 5% of users will develop this after 5 years.

In most cases is reversible. Do not assume that this is caused by the pill.

E. Pill does not lead to cancer or impairment of fertility.

F. The risks of the pill are less than those of a pregnancy.

**Possible side effects
and remedial action**

First ever migraine attack
Persistent severe headaches
Acute visual disturbances
Pregnancy
Jaundice
Moderate or severe hypertension
First signs of thrombophlebitis or thromboembolism

Action: Stop the pill

Bloating
Breast discomfort
Non-migrainous headaches
Mild hypertension
Recurrent migraine
Nausea and vomiting
Premenstrual tension
Vaginal (mucoid) discharge
Cyclical weight gain

Action: Reduce oestrogen dose

Acne
Breast discomfort
Depression (rule out psychogenic cause)
Hirsutism
Loss of libido (rule out psychogenic cause)
Missed withdrawal bleeding
Steady weight gain (check dietary factors)

Action: Reduce progestogen dose

Heavy bleeding
Break through bleeding
Missed withdrawal bleeding (patient on low dose pill)

Action: Increase progestogen dose

Break through bleeding on lower dose pills (if increased progestogen has not helped)

Action: Increase oestrogen dose

Contra-indications**Absolute**

1. Cardiovascular: History of thromboembolism.
Any existing vascular abnormality, e.g.
any cause of pulmonary hypertension
Severe hypertension
Post splenectomy
2. Impaired Liver Function: Biliary cirrhosis
Jaundice
Recent or severe liver disease
Impaired hepatic excretion
History of idiopathic jaundice of pregnancy
3. Carcinoma of the breast and genital tract.
4. Infrequent scanty periods in young girls.
5. Pre-existing neuro-ophthalmic disorders.
6. Deterioration of otosclerosis in pregnancy.
7. Pituitary dysfunction.

Relative

In these cases oral contraceptives represent a lesser risk than pregnancy should no other method be acceptable or sufficiently effective. Further investigations may be required before a decision to prescribe is taken. Careful follow-up is required.

1. Moderate hypertension.
2. Women over the age of 35 particularly if they smoke or are over-weight or are hypertensive or are diabetic or hyper-lipidaemic or have a family history of C.H.D.
3. Obesity
4. Migraine
5. Epilepsy
6. Diabetes
7. Depression
8. Fibroids
9. Oligomenorrhoea
10. Asthma
11. Otosclerosis
12. Renal disease
13. Liver disorder
14. Lactation
15. Contact lens wearers.

The Progestogen only Pill

Uses

Alternative to combined pill for women in whom oestrogens are contra-indicated and who are prepared to accept the slightly increased risk of pregnancy.

Women over the age of 40 as their fertility is less and age dependant complications of oestrogens are increasing.

During lactation.

Types available

Progestogen only contraceptives		
Name	Progestogen	
Femulen	Ethinodiol diacetate	500 mcg
Micronor/Noriday	Norethisterone	350 mcg
Neogest	Levonorgestrel	75 mcg

Starting

If no previous oral contraception then same history and examination as for the combined pill.

Contra-indications

- Levonorgestrel is the only progestogen that has no oestrogenic activity.
Manufacturer's list same absolute contra-indications as for the combined pill though obviously these are much less.
- History of ectopic pregnancy.

Advice to patient

1. Take your first pill on the first day of your next period.
2. Take one pill at the same time each day for as long as contraception is required. Take even when you are menstruating.
3. Use extra precautions for the first 14 days.
4. If a tablet is forgotten then take it as soon as you remember but use other precautions for the next 14 days.
5. If you get vomiting and diarrhoea then carry on taking the tablets but use other precautions for the next 14 days.
6. Mention - irregularity of periods especially in the first few months.
- return if two consecutive periods are missed.

Follow-up

As for the combined pill.

Possible side effects

Much less than for combined pill apart from

- cycle irregularity
- intermenstrual bleeding

The Sheath

- Uses** Couples where the male wishes to take responsibility for contraception.
Temporary protection while waiting to use other methods or while waiting for other methods to become effective.
For casual sex as is only method to give some protection against venereal disease.
- Advice to patient**
1. No medical prescription or supervision required.
 2. Sheath only put on when penis is erect.
 3. Must be put on before penetration.
 4. After ejaculation the sheath should be held close to the penis so that it remains in place until the penis has been withdrawn.
 5. Use a spermicidal cream in association.

The Rhythm Method

- Uses** Limited effectiveness.
Information available from:
Catholic Advisory Marriage Council,
Clitherow House,
15 Lansdowne Road,
London W11 3AJ.

The Vaginal Diaphragm

Uses	Useful alternative for those who cannot or should not take the pill. Effective but onus is on the user to take correct action before coitus. Difficulties where there is prolapse or poor vaginal tone.
Types	Soft coil spring diaphragm in 5 mm graded sizes from 50-100 mm (most women 70-85 mm size). Cervical cap. Vault cap.
Fitting	A set of fitting rings should be obtained from the manufacturer, e.g. Ortho or London Rubber. <ol style="list-style-type: none">1. The diaphragm fits across the vault of the vagina from the posterior fornix to the retropubic space, thus covering the cervix.2. The largest comfortable size should be fitted to help cope with changes in vaginal size and shape during coitus.3. Can be inserted with the dome up or down (usually up) and the direction of the cervix is immaterial.4. Correct size will fit comfortably without distending the vaginal walls and the anterior rim will not descend below the lower edge of the symphysis (even when the patient strains down).5. Once correctly fitted the patient should be unaware of its presence.6. At the first visit a practice diaphragm is fitted and after a 1-2 week trial the patient leaves it in place for a few hours before coming for a final fitting.
Advice to the patient	<ol style="list-style-type: none">1. Always use a spermicidal cream with your diaphragm.2. Put your diaphragm in at any convenient time before intercourse.3. Check the diaphragm is covering the cervix.4. If you have intercourse more than three hours after inserting the diaphragm then use more cream or a pessary (without removing the diaphragm).5. Do not remove the diaphragm for at least six hours after intercourse. Do not leave it in for more than 24 hours.6. After use, clean the diaphragm gently in soap and water. Rinse and dry thoroughly.7. Mention - if weight gain or loss of more than 7 lbs. then come for check.
Follow up	Attend with diaphragm in position. If fitted in puerperium, after a vaginal operation or before regular coitus then see in six weeks to three months otherwise yearly check for fitting and possible replacement.

The I.U.C.D. or Coil

Uses	Alternative to the pill for parous women. Eliminates risks in poorly motivated couples.
Types	Larger plastic devices (Lippes, Saf T, etc.) ● greater side effects ● do not need to be changed. Smaller copper devices. ● fewer side effects ● need to be changed every two years.
Contra-indications	Menorrhagia and abnormal uterine bleeding. Recent acute pelvic inflammation or acute cervicitis. Moderate sized fibroids. Congenital abnormalities affecting the size or shape of the uterus.
Insertion	Skill in insertion techniques should be gained at courses run by the Joint Committee on Contraception.
Advice to patient	<ol style="list-style-type: none">1. The coil is effective from the moment it has been fitted.2. Mild cramping pains may occur after fitting and perhaps with the next few periods.3. Your next few periods may well be heavier with some intermenstrual bleeding. Do not worry about this.4. Some coils may be expelled and it is worth checking yourself for the threads after your first three periods.5. Mention - pregnancy risk (2-5 per cent). - possible side effects.
Follow up	See at 6/52 or 12/52, and then at 12/12 and 24/12 for check speculum/VE.
Possible side effects	Pregnancy with coil in situ (N.B. MAY BE ECTOPIC). Pelvic infection. Abdominal cramp and dysmenorrhoea. Menorrhagia.
Notes:	<ol style="list-style-type: none">1. Remove by pulling threads, with sponge forceps, downwards in direction of long axis of the cervix.2. If thread is lost—ultrasound or X-ray pelvis to check position.3. If pregnant—consider removal of I.U.C.D.

A2

Antenatal Care

More than 98% of deliveries now occur in hospital.
General practitioners provide total care for less than 20% of all pregnancies but shared care in most of the others.

Aims

1. To provide the mother with a healthy, full-term pregnancy and rapid recovery after a normal delivery.
2. To facilitate the live birth of a normal baby, free of congenital or developmental damage.
3. To help both mother and father achieve the knowledge and capacity to provide for the physical, emotional and social needs of the baby.

Consultation Plan

Initial booking — as early as possible	8-12 weeks
4 weekly until	28 weeks
2 weekly from 28 weeks to	36 weeks
Weekly thereafter to	Term
6 weeks after delivery	Postnatal

Shared care may alternate with hospital visits or hospital will see for booking then at 28, 36 and then weekly, with G.P. doing the bulk of the antenatal care.

The Team

Antenatal clinics in general practice provide opportunity for productive co-operation between health visitor, midwife and G.P.

The **health visitor** should be involved from early in pregnancy both to develop her own patient contacts and to carry out her vital role in health education.

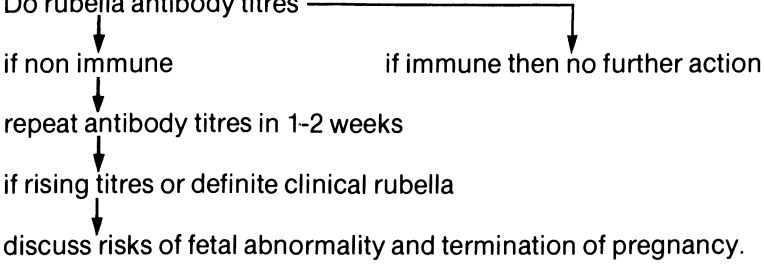
The **midwife** should also be involved with any patients booked for G.P., maternity unit or home delivery.

Possible adverse fetal drug effects

Drug class	Agent	Possible fetal or neonatal effect
Drugs acting on CNS	Strong analgesics (narcotics)	Neonatal depression "Withdrawal symptoms"
	Mild analgesics (salicylates)	Transient coagulation defects
	Barbiturates	Neonatal depression Increased rate of neonatal drug metabolism Fetal asphyxia (if maternal hypotension induced by barbiturate) Fetal bradycardia
	Local anaesthetics	Neonatal depression Maternal hypotension (in spinal anaesthesia) Methaemoglobinaemia Neonatal sedation
	Phenothiazines	?Retinopathy (high doses) Extrapyramidal reactions
Drugs acting on hormonally regulated processes	Anticonvulsants benzodiazepines phenytoin	Neonatal depression ?Congenital abnormalities
	Antithyroid agents iodides (NB cough mixtures) radio-iodine propylthiouracil, carbimazole	Fetal euthyroid goitre Severe hypothyroidism in fetus Fetal goitre
	Hypoglycaemic agents	?Prolonged hypoglycaemia
	Androgens and certain progestogens	Virilisation of female
	Oestrogens	Feminisation of male Adenocarcinoma of cervix in children
	Corticosteroids	?Congenital abnormalities Increased risk of prematurity and/or intra-uterine growth retardation ?Adrenal crisis on withdrawal (theoretically possible)
	Anticoagulants coumarin	?Fetal and neonatal haemorrhage

Drug class	Agent	Possible fetal or neonatal effect
Anti-microbial agents	Amino-glycosides streptomycin; kanamycin; gentamycin	Ototoxicity
	Tetracyclines	Abnormal dentition Maternal hepatotoxicity (large doses)
	Chloramphenicol	Cardiovascular collapse 'grey syndrome'
	Sulphonamides	Neonatal kernicterus Haemolytic anaemia in those with G6PD deficiencies (rare)
	Nitrofurantoin	Haemolytic anaemia in those with G6PD deficiencies (rare)
	Antimalarials quinine chloroquine	Thrombocytopenia Retinopathy Ototoxicity
Drugs acting on cardiovascular system	β -Adrenergic receptor blockers	Neonatal depression
	Antihypertensives reserpine magnesium sulphate thiazides	Nasal stuffiness, lethargy Neuromuscular weakness, lethargy
		Thrombocytopenia
Anti-neoplastic agents	Cytotoxic drugs	Congenital abnormalities

Suspected rubella contact in early pregnancy

1. Make sure patient is pregnant and less than 16 weeks.
2. How strong is the history of contact? Has the patient clinical evidence of rubella (rash, cervical glands, joint pains)?
3. Has the patient previously had rubella?
4. Do rubella antibody titres 

```
graph TD; Q4[4. Do rubella antibody titres] --> A[if non immune]; Q4 --> B[if immune then no further action]; A --> R[repeat antibody titres in 1-2 weeks]; R --> C[if rising titres or definite clinical rubella]; C --> D[discuss risks of fetal abnormality and termination of pregnancy.];
```

There is no clear evidence that human immunoglobulin given to women, who are suspected contacts or who actually contract rubella in early pregnancy, will protect the fetus.

The earlier in pregnancy the worse the damage and if rubella develops in the first 8 weeks then the chances of a healthy infant, completely undamaged are only 1 in 3.

Indications for hospital delivery by specialist (rather than in G.P. unit)

1. Bad social history.
2. Primiparae.
3. Fourth or subsequent delivery.
4. Age alone regardless of parity, i.e. over 35 years.
5. Previous third stage abnormality.
6. All major medical disorders.
7. Multiple pregnancy.
8. All malpresentations.
9. Bad obstetric history.
10. Disproportion — actual or suspect.
11. Previous Caesarean Section, myomectomy or hysterectomy.
12. All hypertensive states.
13. Prematurity and history of premature labour.
14. Rh negative women with antibodies.
15. Gynaecological abnormality.
16. History of infertility.
17. Gross obesity.

Indications for prompt hospital referral during antenatal care

Early in pregnancy

1. History of CNS abnormality: discuss and refer for alphafetoprotein and amniocentesis.
2. Mother over the age of 40 discuss and then refer for test of fetal chromosomal pattern to exclude mongolism.
3. Clinical rubella or rising rubella antibody titre.
4. IUCD in utero (may be **ectopic** pregnancy).
5. Hyperemesis gravidarum.
6. Medical disorders, e.g. anaemia, diabetes, renal or heart disease.
7. Hypertension.
8. History of recurrent abortion.
9. Large for dates.

Later in pregnancy

1. Antepartum haemorrhage (bleeding after 28 weeks).
2. Malpresentations after 32 weeks, e.g. breech for external cephalic version.
3. Small for dates.
4. Large for dates.
5. Pre-eclampsia.
6. Suspected intrauterine death.
7. Development of diabetes or jaundice.

Initial examination (8-12 weeks pregnant)

Practice Staff

Fill in form FP24 FP24/A.

Fill in personal details on co-operation card.

Weight.

Urinalysis for albumin and glucose

B.P.

Fill in forms for antenatal

- Hb
- AB0 and Rhesus
- Rubella antibodies
- V.D.R.L.

Electrophoresis for abnormal haemoglobins in women of African or Indian extraction and Mediterranean stock.

MSU.

Doctor

Full medical history.

Menstrual history.

Calculate EDD.

Past gynae history.

Past obstetric history.

Physical examination including breasts and vaginal examination.

Anti-smoking propaganda if appropriate.

Pro-breast feeding propaganda.

Decide form and place of antenatal care and delivery.

Problem check list (see page IA2.7).

All details filled in on co-operation card.

From 12-28 weeks

Practice Staff

Weight.

B.P.

Urinalysis albumin
 glucose

Doctor

Fundus

Check EDD.

Problem check list (see page IA2.7).

Iron, folic acid therapy if necessary.

From 30 weeks onwards

Practice Staff

Weight.

B.P.

Urinalysis albumin
 glucose

Encourage care of breasts.

Check iron, folic acid administration

Arrange for parentcraft, relaxation
classes, etc.

Doctor

Fundus.

Confirm fetal position.

Fetal heart if indicated.

Check EDD.

Problem check list (see page IA2.7).

Also at 30 weeks	Check Hb, Rh antibodies if appropriate.
at 36 weeks	Check Hb, Rh antibodies if appropriate. Engagement of the head in primips.

Postnatal examination (6 weeks after delivery)

Practice Staff

Weight.

B.P.

Urinalysis albumin
 glucose.

Send off completed form FP24 FP24/A.

Doctor

Examine breasts and pelvis.

Cervical smear.

Contraception.

Problem check list (see below).

? follow up, e.g. bacteriuria and investigate further.

Complete form FP24 FP24/A.

Complete form FP1001, 1002 or 1003 if appropriate.

Enquire about baby's progress and arrange to see at children's clinic.

Problem check list

Enquire about Work

Diet

Sex

Management of other children in family

Anxieties ● having a baby
 ● hospital delivery
 ● caring for baby
 ● possible malformation of baby

Depression

Genetic counselling

A3

Child Care

Women in the reproductive age group and children below the age of 5 consult their G.P.'s on average about five times per year. Many consultations are for preventive procedures and are an extension of antenatal care.

Aims

1. To establish **immunity** against specified infectious diseases.
2. To **detect and prevent** certain other diseases and problems before irreparable damage occurs.
3. To facilitate **growth and development** to the infant's optimal potential.
4. To provide a basis for **lifelong emotional stability**; especially through a loving relationship within the family.

Immunisation

Vital to get full uptake from preventive viewpoint and also to maximise practice income. Special weekly clinic run by practice nurse or health visitor is best, but remember doctor is responsible for ensuring his staff are fully competent.

Age/sex register is valuable in ensuring no one is forgotten.

Developmental assessment

Intensive developmental screening is still of unproven value and the subject of much argument. However there can be no argument about the presumption that every G.P. should take every opportunity of appreciating the capabilities of normal infants and children. Thus, at any consultation, he can look for and recognise defects outside the range of normal.

Routine Preventive Care in the first 14 years of Life

Consultation Plan

Age	Doctor	HV or Practice Staff	Present DHSS Immunisation schedule
Birth	Hospital		
2-3 weeks		X	
6 weeks	At post natal		
3 months		X	1st Triple* plus polio
4½ months		X	2nd Triple* plus polio
7 months	X		
8½-11 months		X	3rd Triple* plus polio
15 months		X	Measles
18 months		X	
3 years	X		
4½ years	X	X	Diphtheria, tetanus plus polio
11-13 years		X	BCG for tuberculin negatives
11-13 years		X	Rubella (girls only)
15-19 years		X	Tetanus toxoid plus polio

* ¹If pertussis is not wanted or contra-indicated then give diphtheria and tetanus.

²In event of whooping cough outbreak can give "crash" regime of 3 doses of triple at monthly intervals from age 3 months.
A diphtheria/tetanus booster then has to be given at 12-18 months.

Available vaccines

TABLE 1

Live	Killed	Toxoid
Yellow fever Measles BCG Rubella Poliomyelitis Influenza	Cholera TAB Rabies Anthrax Pertussis Influenza	Tetanus Diphtheria

Contra-indicationsTABLE 2a Contra-indications to **killed vaccines and toxoids**

Vaccine/toxoid	Contra-indications
Diphtheria	Persons over 10 unless Schick-positive
Tetanus	Booster dose within the past year
Pertussis	Any abnormality of the CNS Acute febrile illness Severe general or local reaction to a previous dose (no further pertussis but complete tetanus and diphtheria courses) History of convulsions in the child (particularly cerebral symptoms in the neonatal period) Family history of convulsions
Influenza	Egg allergy Children below the age of 9
Anthrax, TAB, cholera and rabies	None

Contra-indications
continued

TABLE 2b Contra-indications to live vaccines															
GENERAL	<ul style="list-style-type: none"> A. Within 3 weeks of another live vaccine. B. Pregnancy (unless risk of contracting the disease outweighs risk of fetal damage). C. Acute febrile illness. D. Immunological dysfunction, e.g. hypogammaglobulinaemia. E. Malignant disease, e.g. leukaemia, Hodgkin's disease. F. Steroid therapy. G. Immunosuppressant therapy. H. Radiotherapy. 														
SPECIFIC	<table border="1"> <thead> <tr> <th style="text-align: left;">Vaccine</th> <th style="text-align: left;">Contra-indications</th> </tr> </thead> <tbody> <tr> <td>Poliomyelitis</td> <td>Diarrhoea and vomiting. PH serious adverse reaction to penicillin, neomycin, streptomycin or polymyxin.</td> </tr> <tr> <td>Measles</td> <td>Active TB Allergy to egg, polymyxin or neomycin History or family history of convulsions</td> </tr> <tr> <td>BCG</td> <td>Local septic conditions Chronic skin disease, e.g. eczema Heaf positive reactions (except Grade I)</td> </tr> <tr> <td>Rubella</td> <td>Pregnancy and any possibility of pregnancy within 2 months following vaccination Allergy to neomycin and polymyxin Thrombocytopenia</td> </tr> <tr> <td>Influenza (live)</td> <td>Below age of 9 years Allergy to egg protein</td> </tr> <tr> <td>Smallpox</td> <td>Septic skin disease Eczema (NB if another person in family with active eczema then they must not come into contact with vaccination)</td> </tr> </tbody> </table>	Vaccine	Contra-indications	Poliomyelitis	Diarrhoea and vomiting. PH serious adverse reaction to penicillin, neomycin, streptomycin or polymyxin.	Measles	Active TB Allergy to egg, polymyxin or neomycin History or family history of convulsions	BCG	Local septic conditions Chronic skin disease, e.g. eczema Heaf positive reactions (except Grade I)	Rubella	Pregnancy and any possibility of pregnancy within 2 months following vaccination Allergy to neomycin and polymyxin Thrombocytopenia	Influenza (live)	Below age of 9 years Allergy to egg protein	Smallpox	Septic skin disease Eczema (NB if another person in family with active eczema then they must not come into contact with vaccination)
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Smallpox	Septic skin disease Eczema (NB if another person in family with active eczema then they must not come into contact with vaccination)														

In any patient with a personal or family history of allergy the increased risk of adverse reactions to vaccines should be taken into account.

Administration

TABLE 3				
Vaccine	Dose	Route	Adverse effects	Special Notes
Triple (Diph/Tet/Pert)	0.5 mls x 3	IM or deep SC	Transient local erythema and tenderness. Restlessness and irritability in 24 hours post vaccination. Occasional screaming fits. Rarely encephalopathy.	Joint Committee estimates 1 case of brain damage per 300,000 children immunised. 75% of these cases have symptoms within 24 hours. Do not give to children over the age of 3 years.
Poliomyelitis Sabin	3 drops x 3	oral	Rarely vaccine related paralysis in recipients or contacts.	Joint Committee recommends that unvaccinated parents of a child being immun- ised are also offered immunisation.
Measles	0.5 mls	IM or SC	Usually about 8th day with mild cough, cold, rash, pyrexia. Rarely high pyrexia and febrile convulsions. Encephalitis in 1 in 10 ⁶ .	Vaccine is quickly killed by ether, alcohol or detergents. In child with chronic heart or lung disease reactions can be reduced by con- comittant injection of gammaglobulin into the muscle of the opposite limb.
BCG	0.1 mls	ID	Discharging ulcer. Rare severe local reaction with abscess.	Injection site best left uncovered to facilitate healing. May be given at same time as polio but 3 week rule applies to all other live vaccines.
Rubella	0.5 mls	SC	Mild symptoms of natural infection may occur on 9th day.	Only acetone, alcohol or ether should be used to swab the skin which must be allowed to dry before injection given.
Tetanus (booster)	0.5 mls	IM or deep SC	Transient local pain, tenderness and swelling especially in those who have previously been immunised against tetanus.	Give at 10-15 year intervals after primary course and pre-school booster.
Influenza (live)	0.5 mls	IM or deep SC	Mild URTI symptoms.	Must not come into contact with spirit.

KEEP VACCINES IN REFRIGERATOR BUT NOT FROZEN.

Special Groups

TABLE 4

Anthrax	Workers at risk from animal products.
Influenza	Patients with chronic heart, respiratory or renal disease. Diabetes or other endocrine disorders. Patients in institutions, especially the young and old. Some nursing and medical personnel. High value business personnel (mass vaccination of all workers has not proved to be worthwhile).
Measles	Any child up to age 15 without immunity, especially at school entry.
Polio	Everyone in the neighbourhood of a case of the disease, a single oral dose regardless of state of immunity.
Rabies	Persons bitten or licked. Workers in contact with quarantined animals.
Rubella	Female schoolteachers, nursery staff, doctors and nurses in obstetric units, antenatal clinic staff—but antibody status should be determined first and pregnancy avoided for 12 weeks. Seronegative patients post partum.
Tuberculosis	Tuberculin negative students. Relevant hospital staff. Tuberculin negative contacts of known cases, including children of immigrants from TB areas.

Developmental Surveillance

General notes

1. Growth implies increasing size. Development implies increasing complexity.
2. Assessment of an infant's mental maturity is made from a study of his behaviour and reactions to standard stimuli from one month onwards. Comparisons can be drawn and give Development Quotient (DQ).
3. Achievement of a new stage is dependant on the growing maturity of the nervous system so development CANNOT be accelerated by outside stimulus.
On the other hand environmental factors and illness can retard it.
4. Development is made up of many fields and rate in each field can be very different.
5. Uniform retardation implies mental retardation or severe emotional deprivation, but retardation in a single field does not suggest mental retardation. It may be pattern for that child or due to lack of stimulation in that field, or due to organic disease, e.g. speech retardation from deafness.
6. Development rate is not constant. Learning is slow for the first 9 months then very fast.

Basic Data

Place of birth
Date of birth
Complications
Birth rank (previous miscarriages/stillbirths)
Mother's age
Father's age
Significant family history

At Birth

At birth (by doctor/midwife conducting delivery, or paediatrician)

Check for:

Normal appearance with normal motor tone
Cataracts - Red rash
Any deformity neck, arms and legs
Fontanelles
Down's syndrome
Micro-ophthalmia
Cleft palate/hare lip
Cardiac abnormality
Single umbilical artery
Abdominal mass (including renal)
Pilonidal sinus
Spina bifida
Hypospadias
Imperforate anus
Testes
Congenital Dislocation of Hips
Talipes
Femoral pulses

Hospital Test:

Guthrie Test

Record:

Familial history
Antenatal history
Apgar rating
Birth weight
Length
Head circumference } Record in percentiles

Discuss with paediatrician:

1. All babies who become clinically jaundiced in the first 24 hours.
2. Premature infants whose bilirubin has reached a level of $170\mu\text{mol/l}$.
3. Full term infants whose bilirubin has reached a level of $205\mu\text{mol/l}$.
4. Any jaundiced infant who has, in addition, lethargy, anorexia, vomiting or pale stools.

Apgar Scale:**Record Score 60 seconds after delivery of baby**

The baby is rated 0, 1 or 2 for each of the five signs listed in the left-hand column. The overall score of 0 to 10 is the sum of the ratings of the five individual signs. Infants with a score of 4 or less need help with breathing.

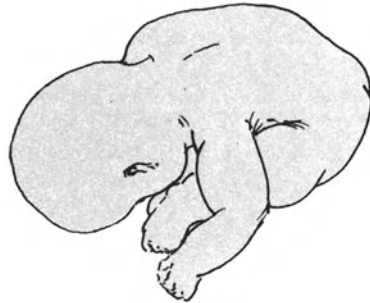
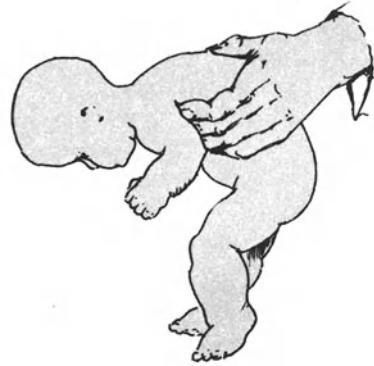
Sign	0	1	2
Heart Rate	Absent	Slow (Below 100)	Over 100
Respiratory	Absent	Slow Irregular	Good Crying
Muscle Tone	Flaccid	Some flexion of extremities	Active motion
Reflex Irritability	No response	Grimace	Cry
Colour	Blue, Pale	Body Pink Extremities Blue	Completely Pink

The indications for active resuscitation are:

- (a) A baby severely depressed at birth (heart rate under 100, judged by auscultation, inspection or palpation for a few seconds only) or,
- (b) A baby not breathing properly 1 minute after delivery or later.

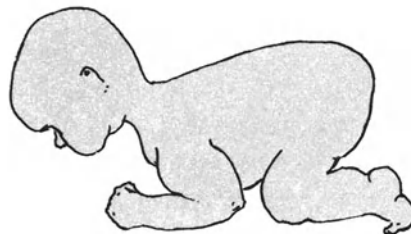
Motor Responses in the few weeks after birth

Ventral Suspension:
1-3 weeks. Flexed elbow,
flexed knee, drooping
of head.



Sitting: First 4 weeks.
Completely rounded back.

Supine position: First
4 weeks. Complete head
lag when pulled to
sitting position.

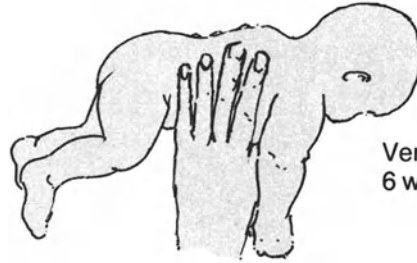
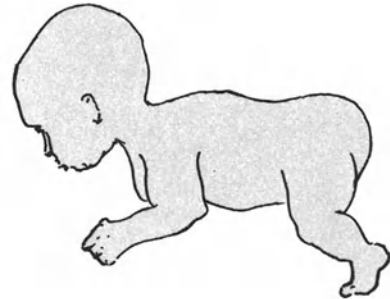


Prone position: 0-2 weeks.
Pelvis high, knees drawn
up under abdomen.

-After R. S. Illingworth

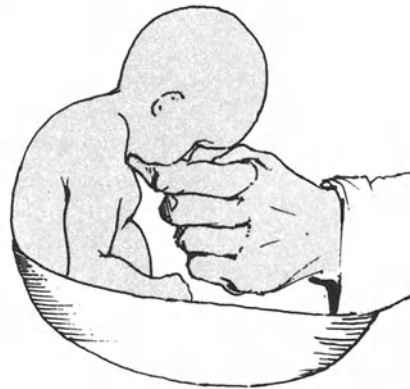
Motor Responses: 4-6 weeks after birth

Prone Position: 4-6 weeks.
Pelvis still high. Intermittent
extension of hips.



Ventral Suspension:
6 weeks.

Sitting: 4-6 weeks.
Rounded back.
Head held up
intermittently.



Supine Position: 4 weeks.

Supine Position: About 2 months.
Considerable head lag when
pulled to sitting but lag not
complete.



-After R. S. Illingworth

6 weeks

(preferably by GP and HV).

History *(unless previously recorded)*

Ante-natal
Natal
Post-natal
Present feeding (? breast; ? solids)
Mother's comments and queries
'Are you enjoying your baby?'

Examination

General appearance
Height/weight/skull (recorded on percentile charts)
Head shape
Ears
Eyes
Palate
Cardio-vascular } cyanosis
 } heart sounds
 } femoral pulses
Chest
Abdomen
Hernial orifices } umbilical
 } inguinal
Genitalia
Hips (necessary to re-check)
Tone and reflexes
Arms and legs (? missing extra/digits: talipes)
Skin } naevi
 } seborrhoea/eczema
 } other skin blemishes
Discuss immunisation and seek permission

Milestones

Check with mother or examine

Gross Motor

Ventral suspension — head held up momentarily in same plane as rest of body.
Some extension of hips and flexion of knees. Flexion of elbows.
Prone — pelvis high, but knees no longer under abdomen.
Much intermittent extension of hips. Chin raised intermittently off couch.
Head turned to one side.
Pull to sit — head lag considerable but not complete.
Held in sitting position — intermittently holds head up.
Held standing — no walking reflex. Head sags forward.
May hold head up momentarily.

Hands

Often open. Grasp reflex may be lost.

General Understanding

Smiles at mother in response to overtures.

Vision

Eyes fixate on objects. They follow moving persons. In supine — looks at object held in midline, following it as it moves from the side to midline (90 degrees).

Hearing

Alert to sound.

Teaching Topics

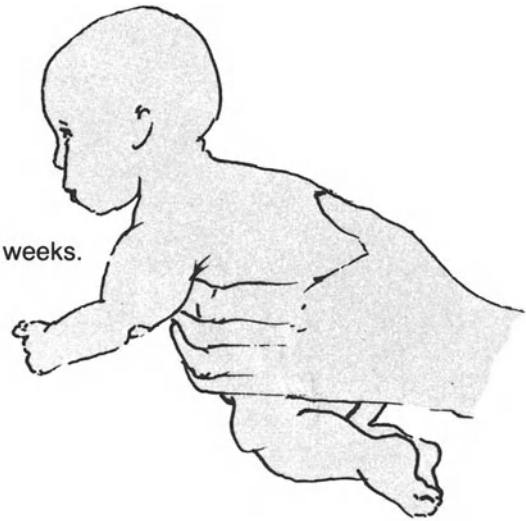
Management of minor illnesses.
Safety in the home.
“Talk to your baby”.

Plans

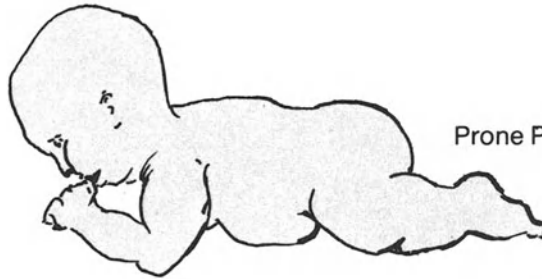
Outline arrangements proposed for abnormalities found.
Discuss immunisation and seek permission.
Appointment card for next check.

Motor Responses: 8-14 weeks

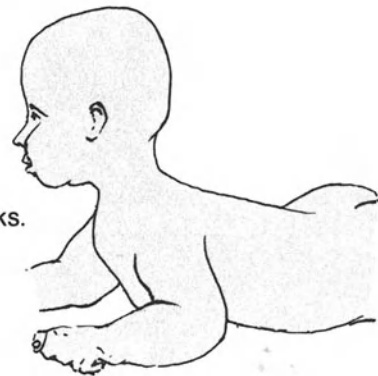
Ventral Suspension: 8 weeks.



Prone Position: about 8 weeks.



Prone Position: 12-14 weeks.



-after R. S. Illingworth

7 months

7 months: (Examination by G.P.)

History

Mother's comments and queries
'Are you enjoying your baby?'
Any illnesses since last examination
Is baby happy?
Sleep pattern
Appetite
Feeding (breast to what age? solids started?)
Change in family circumstances
Does mother go out to work? Hours worked/week
Does baby go to nursery/child minder?
Check immunisations given and previous recommendations.

Examination

Length/weight/skull circumference (recorded on percentile charts).
Check
(a) Sit/stand/crawl — with/without support
(b) Grasp 1" brick — what does he do with it?
(c) Hearing — (distraction test)
(d) Squint — refer now **if in doubt**
(e) Hips — refer now **if in doubt**
(f) How does child respond to examination?
(g) Heart sounds
(h) Femoral pulses
(i) Herniae — inguinal
 — umbilical
(j) Genitalia

Milestones

Check with mother or examine

Speech/Hearing

Makes 4 different sounds.
Turns head to sound below level of ear.

General Understanding

Looks for a fallen object.
Attract attention by cough or other method.

Gross Motor

Rolls from front to back.
Bounces if held standing.
Sits on floor for few seconds without support.

Hands

Feeds self with biscuit.
Drinks from cup.

Teaching topics

Home safety
Sleep independently

Appointment card for next visit.

18 months

18 months: (Examination by H.V.)

History

Mother's comments and queries
Any illnesses since last examination
Is baby happy?
Sleep pattern
Appetite?
Changes in family circumstances
Does mother go to work? (hours worked)
Does baby go to nursery/child minder?
Mother's opinion of speech development
Toilet training: clean by day /night
dry by day /night
Check immunisation given and previous recommendations.

Examination

Height/weight/skull (recorded on percentile charts)

Review

Behaviour
Speech
Walking
Neuro-muscular co-ordination (brick building, etc.)

Milestones

Check with mother or examine

Eyes

Check for strabismus, confrontation and light source.

Gross Motor

Gets up and down stairs, holding rail, without help.
Walks up stairs, one hand held.
Walks, pulling toy or carrying doll.
Seats self on chair.
Beginning to jump (both feet).

Cubes

Tower of 3 or 4.

Ball

Throws ball without fall.

Dressing

Takes off gloves, socks, unzips.

Feeding

Manages spoon well, without rotation.

Pencil

Spontaneous scribble. Makes stroke imitatively.

General understanding

'Domestic mimicry'. Copies mother in dusting, washing, cleaning.

Parts of body

Points to 2 or 3 (nose, eye, hair, etc.).

Picture card

Points to one ('Where is the . . .?').

Book

Turns pages, 2 or 3 at a time.
Points to picture of car or dog.
Shows sustained interest.

Sphincter control

Dry by day, occasional accident.

Speech

Babble. Many intelligible words.

Simple Formboard

Piles 3 blocks.

2 – 2½ years

2 – 2½ years: (Examination by G.P. or H.V.)

History	<p>Mother's comments and queries — her view of development 'Are you enjoying your child?' Is baby happy? Sleep pattern Appetite Changes in family circumstances Does mother go to work? (hours worked) Does baby go to nursery/minder/play group? Eating: knife-fork, spoon-pusher Toilet: clean by day/night dry by day/night Can child dress itself? Check immunisations given and previous recommendations.</p>
Examination	<p>Height/weight (recorded on percentile charts). Dominant foot/hand/eye.</p>
Review	<p>Speech Behaviour Comprehension Neuro-muscular co-ordination.</p>
Milestones	<p>Check with mother or examine Gross Motor Jumps off bottom step. Goes up stairs, one foot per step, and down stairs, two feet per step. Stands on one foot for seconds. Rides tricycle. Hands Can help set table, not dropping china. Cubes Tower of 9. Imitates building of bridge. Dressing Dresses and undresses fully if helped with buttons, and advised about correct shoe. Unbuttons front and side buttons. Pencils Copies circle (from a card). Imitates cross. Draws a man on request. General Understanding Knows some nursery rhymes. Can name 8-12 subjects in a picture book. Knows own first and last names. Vision 1-8 rolling balls at 10.</p>
Teaching topics	<p>Safety outside house. Sharing: discuss nursery/minder/play group. Appointment for next check.</p>

4½ years

4½ years: pre-school (Examination by G.P.)

History

Mother's comments and queries—her view of development
'Are you enjoying your child?'
Any illnesses since last examination?
Is child happy?
Sleep pattern
Appetite: Can he feed himself?
Use of knife-fork-spoon
Any fads?
Changes in family circumstances
Does mother go out to work?
Does child go to nursery/minder/play group/school?
Toilet: clean by day/night
dry by day/night
Can child dress?
Check immunisations given and previous recommendations.

Examination

Height/weight (recorded on percentile charts).
Dominant foot/hand/eye.
Vision: squint and acuity.
Hearing: Stycar sentences
audiogram if indicated.
Teeth

Review

Behaviour
Speech
Comprehension
Cardio-vascular system
Limbs

Milestones

Check with mother or examine

Gross Motor

Skips on both feet.

Heel/toe

Can walk on a straight line for at least 4 steps with gaps greater than 10 cm.

Vision

Stycar 9-letter test near and far vision.

Pencil

Copies triangle.

General Understanding

Knows sex, age and address.

Distinguishes morning from afternoon.

Compares two weights.

Colours

Names four.

Preposition (Triple order)

'Put this on the chair, open the door, then give me that book'.

The child new to the practice questionnaire

Having obtained basic data and symptoms, if any, the following are some questions which may be appropriate.

	YES	NO
A. Are there any brothers or sisters? If so, state sex and ages	<input type="checkbox"/>	<input type="checkbox"/>
.....		
B. Was the pregnancy and birth abnormal or unusual? If so, what was abnormal?	<input type="checkbox"/>	<input type="checkbox"/>
.....		
C. Do you think that the child has not developed normally? If so, how is the child not normal?	<input type="checkbox"/>	<input type="checkbox"/>
.....		
At what age did the child walk?		
At what age did the child talk?		
At what age did the child achieve bladder control, By day? By night?		
D. Does the child go to school?	<input type="checkbox"/>	<input type="checkbox"/>
E. Are you dissatisfied or unhappy with the school achievement?	<input type="checkbox"/>	<input type="checkbox"/>
F. Has the child missed any routine immunisations? Could you list what immunisations the child has had? (With dates)	<input type="checkbox"/>	<input type="checkbox"/>
.....		
G. Has the child any allergies? If so, what are they?	<input type="checkbox"/>	<input type="checkbox"/>
.....		
H. Is there any history of illness? If so, what were the illnesses? (Give age)	<input type="checkbox"/>	<input type="checkbox"/>
.....		
I. Are there any previous medical records? If so, where are they?	<input type="checkbox"/>	<input type="checkbox"/>
.....		
J. Has the child any other physical complaints? If so, what are they?	<input type="checkbox"/>	<input type="checkbox"/>
.....		
K. Has the child any emotional problem you would like to discuss with the doctor?	<input type="checkbox"/>	<input type="checkbox"/>
L. Is there any family history of illness? If so, what are they?	<input type="checkbox"/>	<input type="checkbox"/>
.....		
M. Can you think of any other way the child may need help? If so, what would you suggest?	<input type="checkbox"/>	<input type="checkbox"/>
.....		

Notes on the Use of Percentile Charts

Introduction

Body measurements for a given age vary from person to person. Reasons for variation include inherited constitution, dietary factors, emotional deprivation, and specific diseases.

Physical growth is one facet of total health, and must always be seen in this perspective. The correct goal is *optimal* growth within an optimal health situation. This will almost always mean less than *maximal* growth potential.

How to take measurements

Standing height (age 2 onwards).

Measurement without shoes, standing with heels, buttocks and shoulders in contact with an upright wall. Head looking straight forward with lower borders of eye sockets horizontal with ear openings. During measurement the child is told to stretch his neck to stand as tall as possible without the heels leaving the ground. The measurer applies gentle but firm traction upwards on the mastoid processes to assist this, and a right-angled block is slid down the wall to touch the child's head, a scale fixed to the wall being read to the nearest 0.1 cm.

Supine height (up to age 3).

Taken on flat surface with the child lying on back. One observer holds the child's head in contact with a board at the table top, whilst another straightens the legs, turns the feet at right angles, and slides a board in contact with the child's heels.

Weight. Take weight nude with empty bladder. If clothed subtract weight of clothes worn. Record to nearest 0.1 kg over the age of 6 months.

The use of percentiles

Distribution of measurements of children at each age is expressed in percentiles. A percentile refers to the position which a measurement would hold in any typical series of 100 children.

The 10th percentile is the value for the 10th in any 100 arranged in order, i.e. 9 children of the same sex and age would be expected to be smaller than the measurement under consideration, while 90 would be larger. The 90th percentile similarly would show 89 children would be smaller and 10 would be larger. The 50th percentile marks the median position in the usual range. The 3rd and 97th percentiles mark the borderlines of the range of normal measurements. If a child falls below the 3rd or above the 97th percentile then in all probability he would be very much under or over weight or height respectively.

How to obtain a percentile position

Place a dot where the vertical age line intersects the horizontal line representing the reading taken.

Examples:

Boy age 10 years, weight 32 kg, percentile lies between 50th and 75th.

Boy age 10 years, height 134 cm, percentile lies between 24th and 50th.

Significance of percentiles

When periodic height-weight measurements are made, the percentile position can be compared with previous ones, and significant deviations recognised.

Under normal circumstances a child will maintain a similar position from age to age, that is on or near one percentile line or between the same two lines. When a sharp deviation or gradual shift from one percentile to another occurs, further investigation should be performed. An exception to this is in the pubertal years, when a child may drop to a lower percentile until he starts his growth spurt, rising rapidly whilst growing rapidly, and then dropping back to finish near the pre-pubertal percentile. Charts included in this book represent only average growth at given age, and take no account of intense pubertal growth.

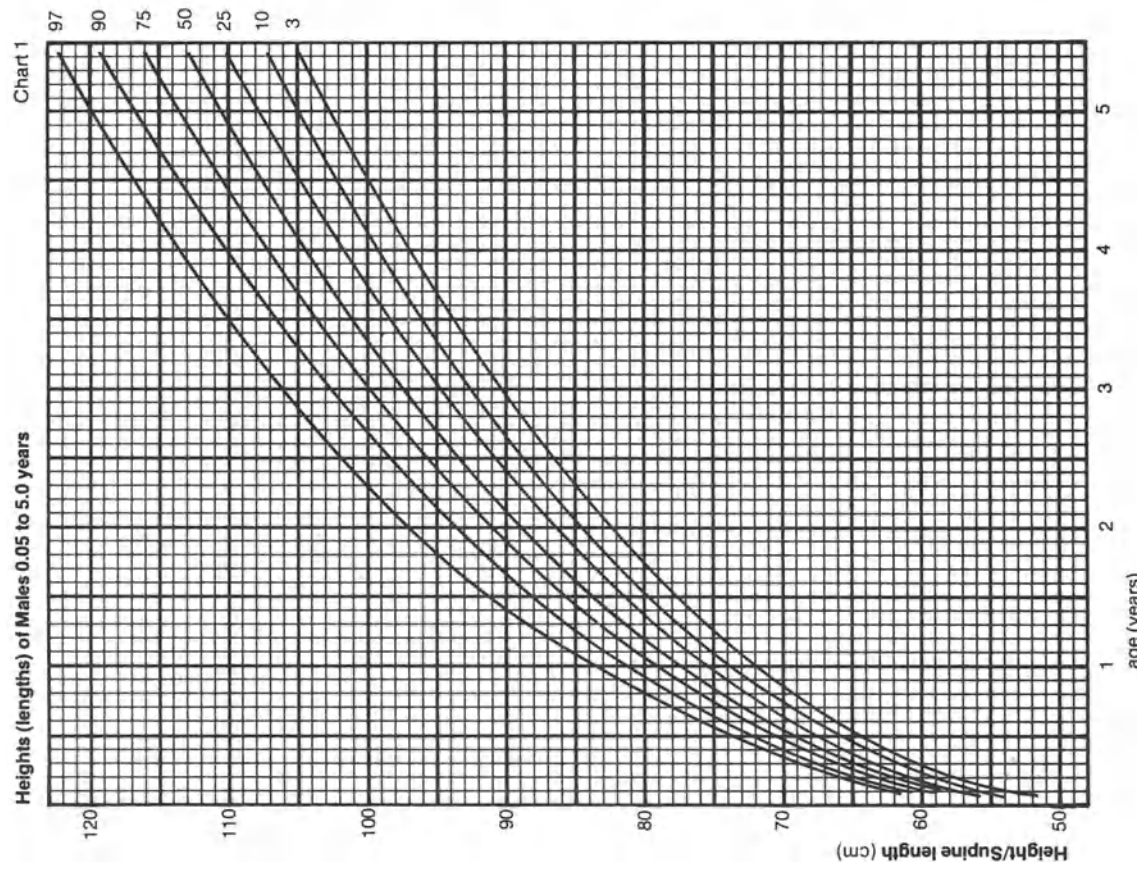
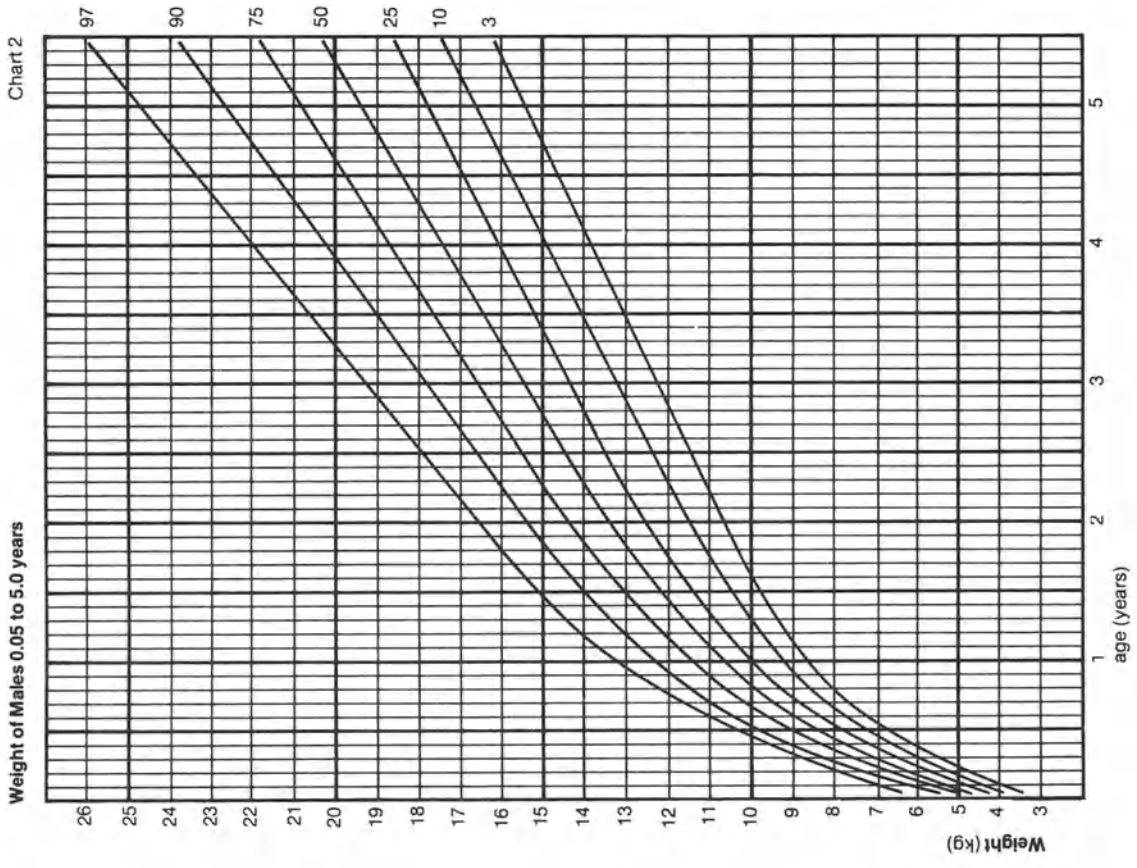


Chart 4

Weight of Females 0.05 to 5.0 years

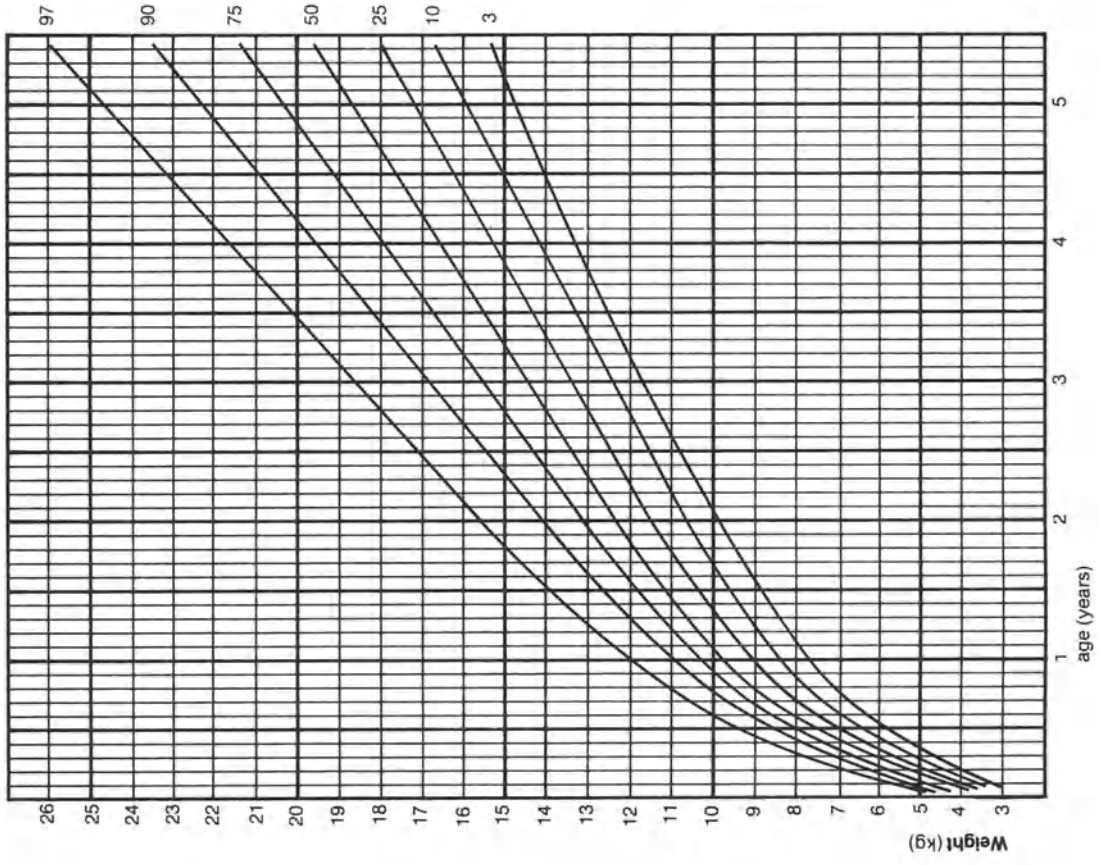


Chart 3

Heights (lengths) of Females 0.05 to 5.0 years



Chart 6

Head Circumferences of Females 0.05 to 5.0 years

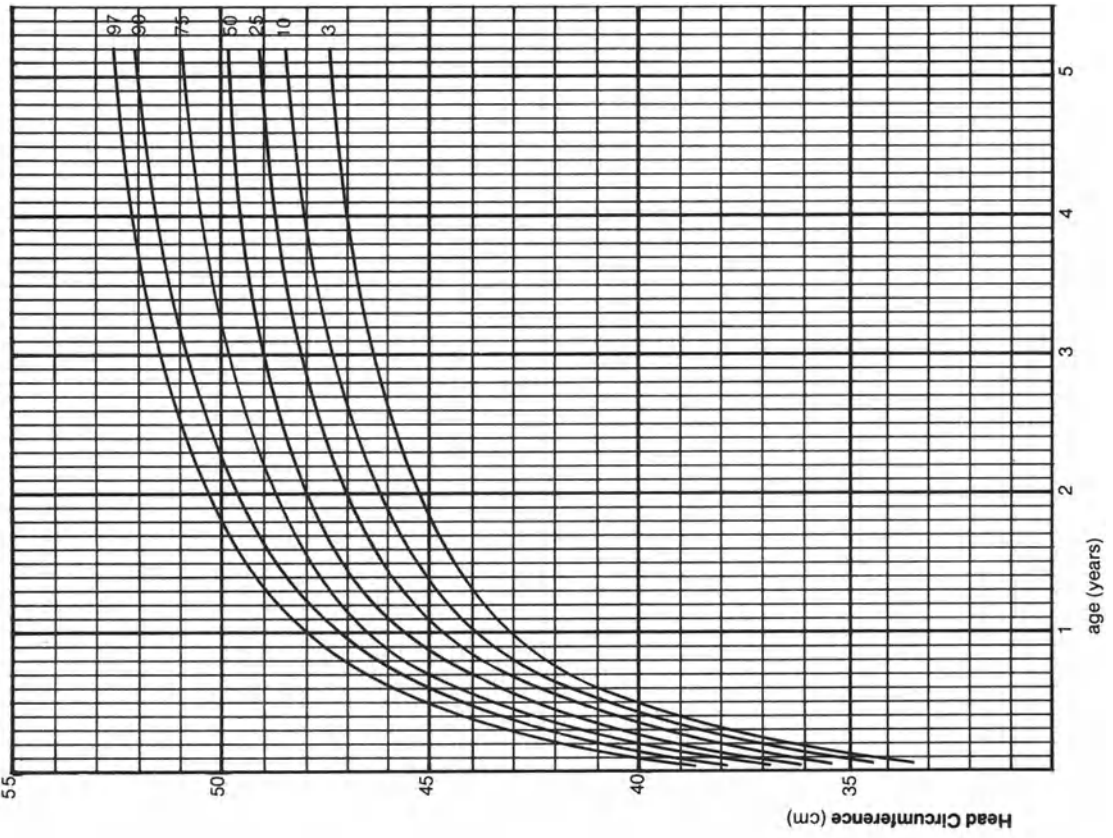


Chart 5

Head Circumferences of Males 0.05 to 5.0 years

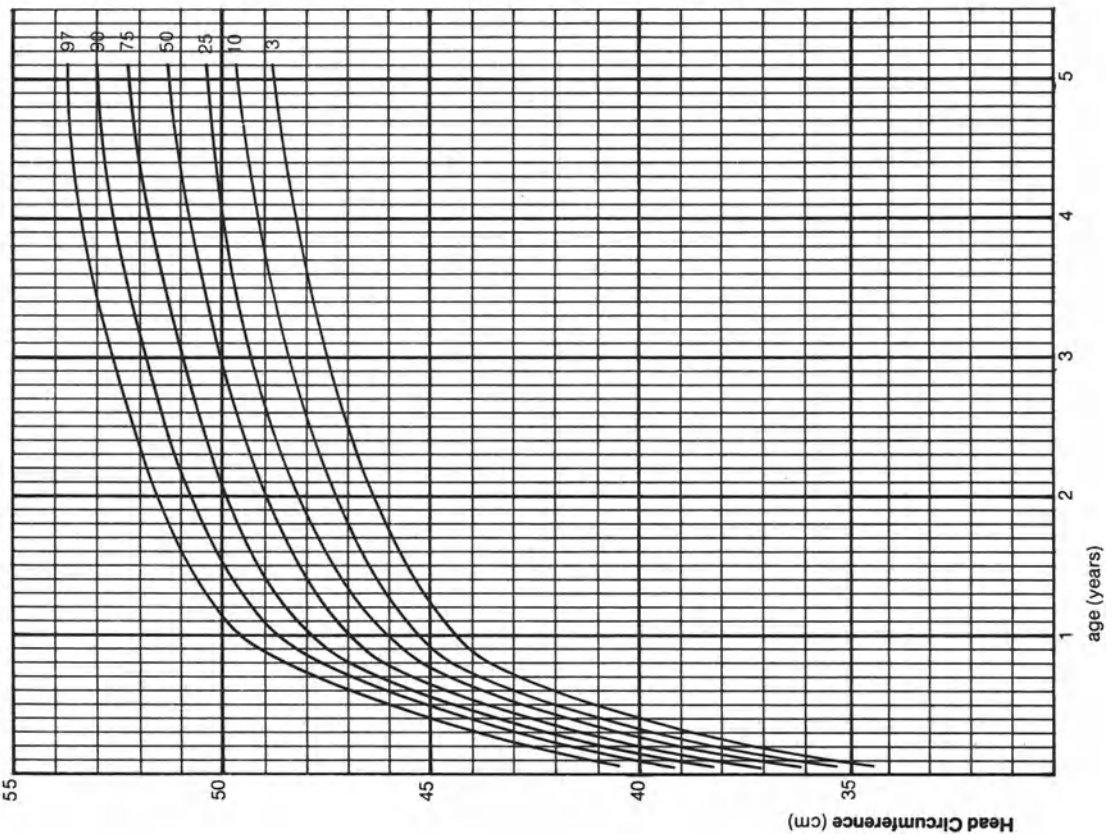


Chart 7 Heights (lengths) of Males 2.0 to 18.0 years

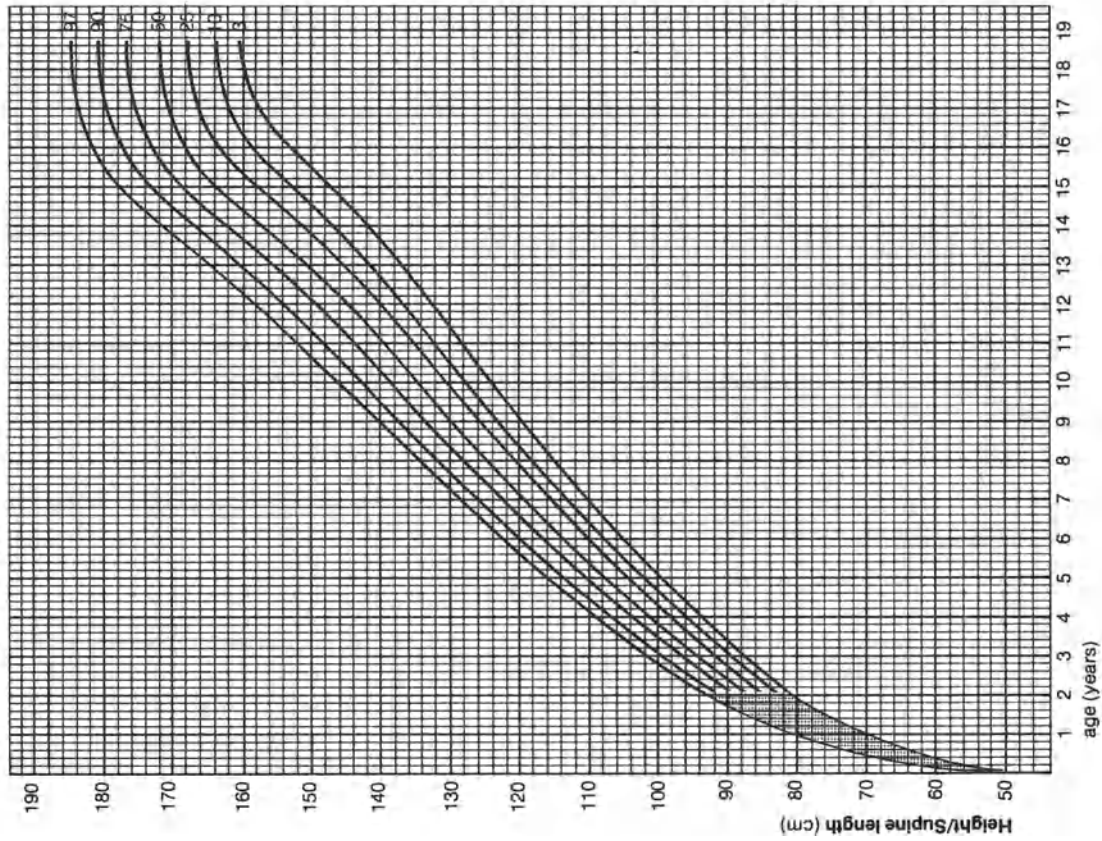


Chart 8 Weight of Males 2.0 to 18.0 years

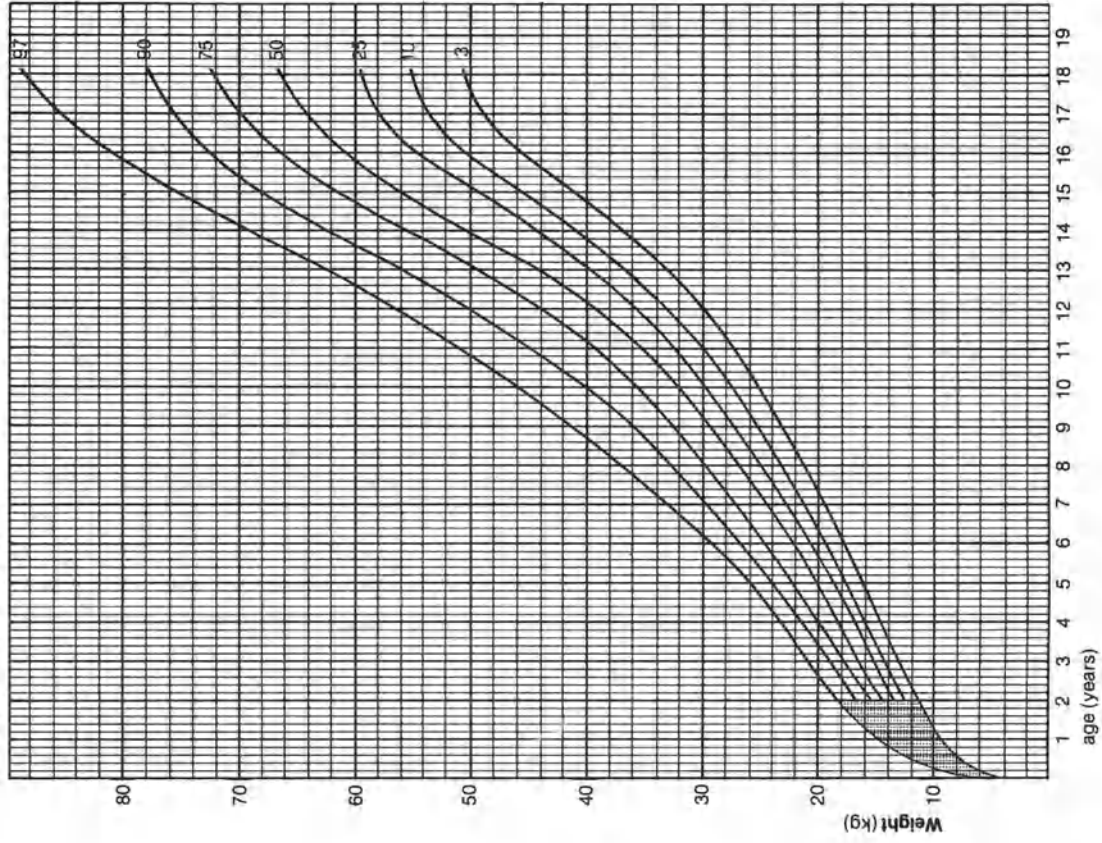


Chart 10

Weight of Females 2.0 to 18.0 years

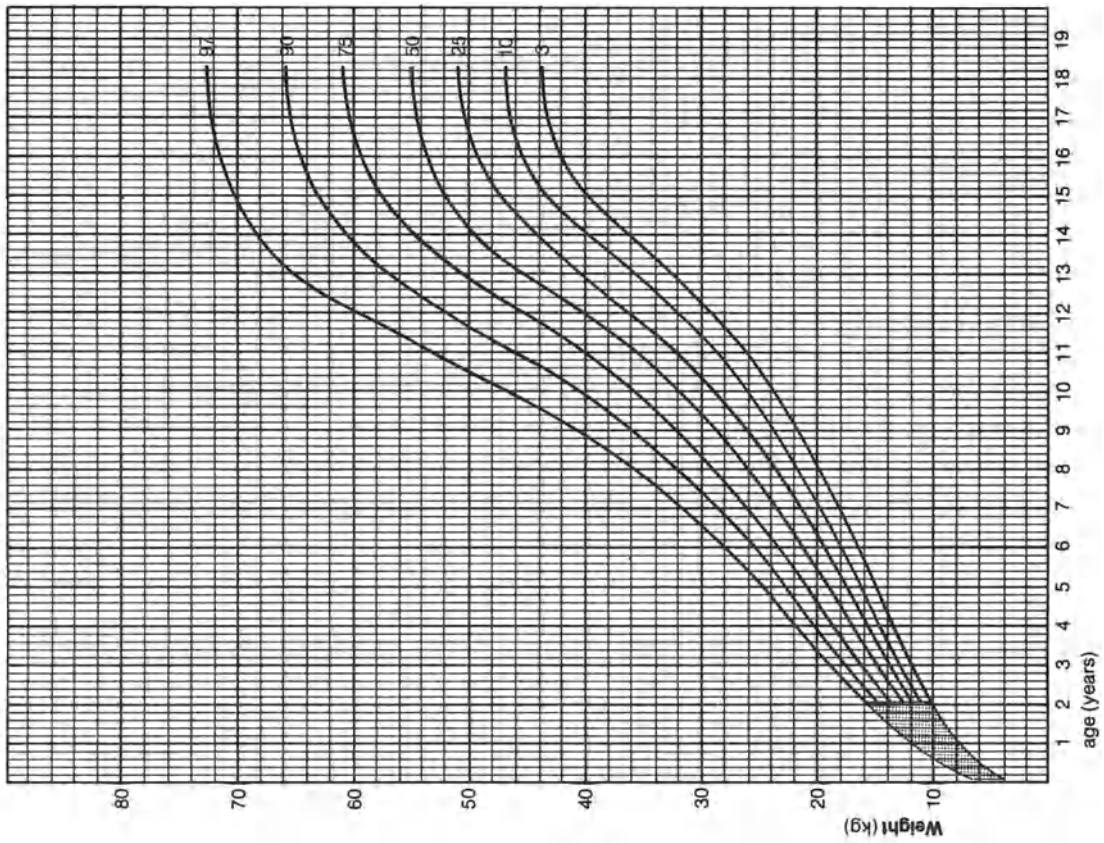
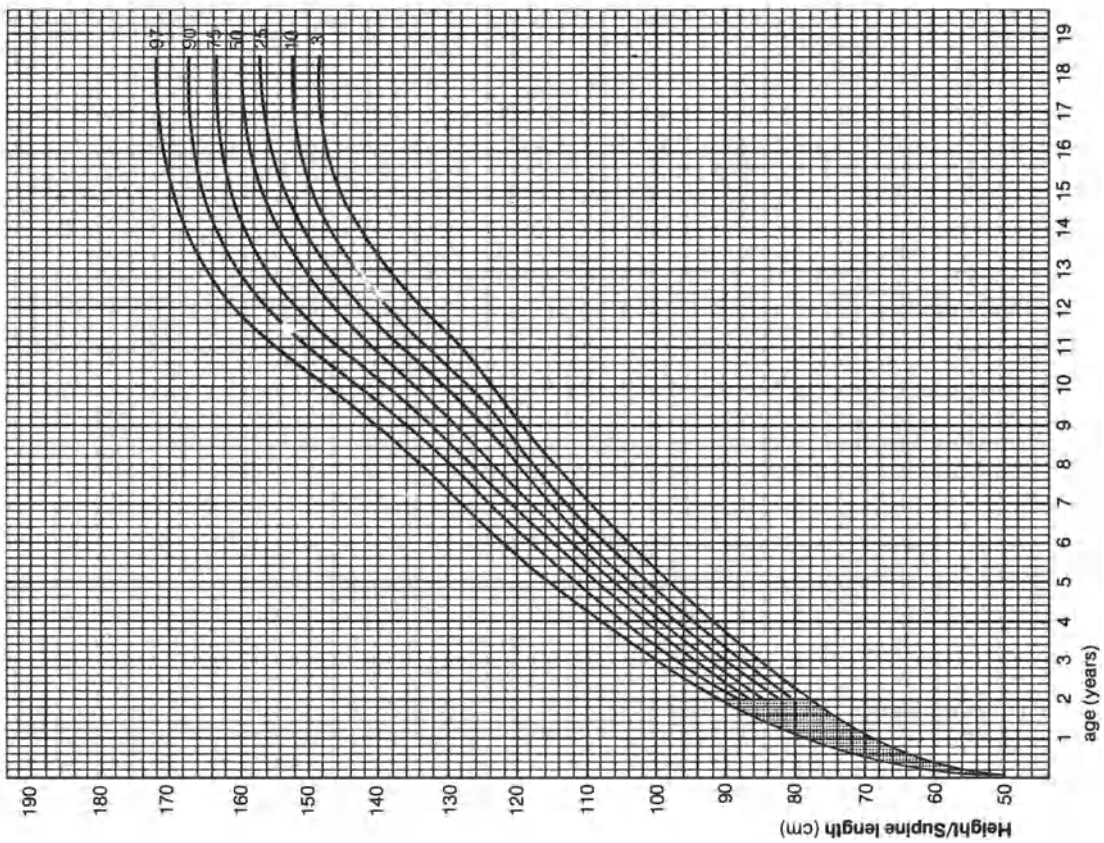


Chart 9

Heights (lengths) of Females 2.0 to 18.0 years



Objectives

1. To advise and educate patient or relatives about normal development where this is in doubt.
2. To inform patient about possible hazards to health implicit in his life-style, and to encourage healthy modes of living while allowing for adequate and satisfying experimentation.
3. To distinguish the rare cases of serious physical or psychiatric disease.

Problems

1. The most difficult may be to **establish an efficient and sensitive doctor-patient relationship**.
The G.P. may be rejected as being identified too closely with parents, but adolescent may be unable or unwilling to change his doctor.
“Will he laugh at me?”
“Will he listen to me?”
“Will he tell my parents?”

There seems no reason to alter the ethical framework which governs every other consultation, i.e. what passes between adolescent and doctor is said **in confidence** and is respected by both as such.
2. This ambivalence may lead to **poor use of services**, lack of self-care and subsequent problems, e.g.
no contraception leads to unwanted pregnancy.
excessive drinking or smoking leads to illness
unresolved emotional problems lead to parasuicide or breakdown.
3. **Poor education about illness and normality**
may lead to frequent attendance for trivial complaints, and subsequent rejection by doctor
or may lead to over high expectations of what doctors can achieve and subsequent disappointment and rejection by doctor.
“Am I normal?”
4. Most G.P.s have little experience of the wide range of problems in this age group, and many may have strong feelings that will effect their clinical judgement. It pays to listen carefully and **refer early when in doubt**. It is important to know the range of local helping agencies.
5. **The teenager experiences abrupt changes** in his life for which he has little preparation. There may be serious conflicts e.g. a girl who has to be a new wife, a worker, and potential mother. The style of life may be unwise e.g. drinking heavily and driving, or a newly married couple may be forced by housing shortage to live with parents.
6. **The patient may be presented obliquely**, in his absence by parents, with the request to “do something” about particular behaviour. Dealing with the guilt or anger of the referring person may be the only move possible.

Some Statistics**Causes of Death** in the U.K. in 15-24 age group, per 100,000—

<i>All causes</i>	52
Accidents	35
Neoplasms	7
Respiratory diseases	4
CVS	3
Other	3

Causes of Morbidity: Annual consulting rates in 15-24 age group, per 1,000

Respiratory infections	230
Mental illness	125
Skin disorders	120
Genito-urinary diseases	110
Accidents	95

Social Morbidity

Up to 20% of youths under age of 20 are likely to appear in Court.
80 to 90% of youths interviewed admit breaches of the law.
(*Moral – beware statistics!*)

Methods of avoiding problems

Make confidentiality clear.
Treat adolescent as patient in own right, i.e. never accept consultation with relative present unless clinically indicated or patient wants it so.
Listen.
Educate.
Refer early if in doubt.

Important techniques/knowledge

Legal responsibility and ages of consent.
Family planning: **all** methods.
Venereal disease: knowledge of presentation, methods of diagnosis, sources of help.
Antenatal care.
Counselling.
Services outside surgery for distressed teenagers, e.g.
educational welfare
counselling agencies.
employment advice
social service agencies.

Check List**Infectious diseases**

Glandular fever, infectious hepatitis.

Venereal diseases.

Rubella immunisation for teenage girls — have they slipped through the net at school?

Acne.

Nutritional

Care of teeth.

Weight problems.

Inadequate diet from diversion of income to leisure activities.

Leisure Activities

Sporting injuries.

Loud music.

Driving problems: drink, motorcycles, drug effects.

Smoking.

Alcoholism.

Drug misuses, wilfully or in ignorance.

Occupational

Specific occupational injuries — e.g. back strain, eye injuries — and prophylaxis.

Problems of unemployment.

Changing jobs.

Further education.

Sexual

Contraception.

Venereal disease.

Sexual inadequacy.

Sexual orientation problems — “Am I a homosexual?”

Dysmenorrhoea.

Unwanted pregnancy.

Behaviour and**Mental Health**

Realistic view of self, intelligence and capabilities.

Relationships with family, sexual partners and friends.

Loneliness, depression.

Suicide, parasuicide, self injury.

Drug abuse.

Anorexia nervosa and related feeding problems.

Scope and opportunities

Special features of general practice that should be utilised in planned care are:

- frequent and regular contact between doctors and patients (average of 3-4 annual contacts).
- long term care in a relatively small (2,500 persons) and stable practice community.
- scope for prevention, early diagnosis and long term care.

Objectives

To maintain lifetime records, to monitor health, and to make early diagnosis of disease from

- regular recording of basic clinical data
- information on personal habits and behaviour
- information on the family.

Difficulties

No accepted programme of regular lifetime health maintenance in the NHS. Medical check-ups and screening exercises are complex, expensive and of uncertain value.

The standard NHS records are not designed for regular data recording.

Methods

Planned care for adults (and for other age groups) requires a programme that is meaningful and acceptable to the public and to doctors.

The **basic data** recorded must be simple, reliable and useful.

The **methods of recording** must be simple, cheap and easy to use and apply.

Records (based on current summary cards) must be simple to use and to analyse.

Specific Procedures - Males: 20-64

The *plan* should be to record basic data at 5-year intervals (that is ten times between 20 and 64 years).

Basic Data Set

Height
Weight
Blood Pressure
Urine—albumin/sugar
Vision
Hearing
Blood—Hb
lipids.
Immunisation status

Personal Data— *opportunity for your patient to report*

Health - symptoms ?
Habits - smoking ?
- alcohol ?
- exercise ?
- diet ?
- dental state ?
Work - nature ?
Marriage - sex ?
Family - children ?
Parents - health and dependence ?

Check List

Programme has to be designed.
Practice Staff have to be allocated shared work (who does what?)
Patients have to be informed and invited to participate.
Recording system has to be devised.
Arrangements for the **data recording** to be made either at regular consultations or at a special session.
Abnormalities must be followed-up.
Re-examination every five years to be organised.

Specific Procedures - Females: 20-64

The *plan* should be to record basic data at 5-year intervals (that is ten times between 20 and 64 years).

Basic Data Set

Height
Weight
Blood pressure
Urine—albumin/glucose
Vision
Hearing
Blood—Hb
lipids
Cervical smear
Breasts.
Immunisation status

Personal Data *opportunity for your patient to report*

Health - symptoms ?
Habits - smoking ?
- alcohol ?
- exercise ?
- diet ?
- dental state ?
Work - nature ?
Marriage - sex ?
Home - ?
Family - children ?
Parents - health and dependence ?

Check List

Programme has to be designed.
Practice Staff have to be allocated shared work (who does what?)
Patients have to be informed and invited to participate.
Recording system has to be devised.
Arrangements for the **data recording** to be made either at regular consultations or at a special session.
Abnormalities must be followed-up.
Re-examination every five years to be organised.

Objectives

1. To detect and distinguish disease from normal ageing, and where appropriate, treat.
2. To prevent avoidable misadventures (such as hypothermia, side effects of drug treatment).
3. To educate patients and relatives in the changing physiology and needs of the aged.
4. To preserve dignity and self-sufficiency for the patient within a framework of outside help which permits independence of mind if not of body.

Problems

1. **Prevention** is cure. Growing old is not preventable, but some medical problems of old age can be forestalled,
 e.g. painful feet → housebound lonely man → suicide
 or broken glasses → fall → fractured hip.

Multiple pathology in the elderly.

The elderly are often reluctant to report disabilities as they want to see themselves as healthy and therefore independent. Often they leave problems, obvious to others, to deteriorate to a point where their health is permanently damaged, or where those surrounding them are angered or alienated by their apparent pig-headedness. This is worse in the poorer and less well-educated — (e.g. the higher incidence of social class iv and v in presentation with acute retention with prostatic enlargement).

2. **Drugs and surgery** may need extra caution, if they are not to have unacceptably high physical, mental, social or ethical side effects. If things are going wrong, consider stopping a drug rather than starting another.
3. **Isolation** may be physical, social or emotional. Families may have moved away. Inflexible housing may create difficulties for the poorly mobile, and a need will not be detected until a crisis occurs.
4. **Bereavement**
5. **Suicide**, most common in older men.
6. **Retirement** will be a crisis for a man or single woman, and the abrupt transition may be like a minor death. "I'm in the way" "I'm on the scrap heap now". The retired may have no activities, no role, no status, and worst of all no money. Many are fit to work still, and some find their way back to employment with satisfaction.
7. **Families** may need support to cope with a difficult relative.
8. **Resources** are limited, both of the elderly and for their care.

Vital Statistics

- 15% of our present population are over 65 (i.e. 375 out of a practice of 2,500). Of these, about 130 will be men and 245 women. Over 75, women outnumber men 3 to 1. Over 75, all problems of the elderly increase.
- The elderly population will increase to a peak of nearly 20% at the end of the present century, when the number over 75 will almost equal those between 65 and 75. Consequently, the work load for general practitioners may be more than double what it is now, as there is no evidence that the increased number of survivors will be healthier than their predecessors.
- Beyond 70 years old, many people cease to be able to lead an independent existence. Those unable to live at home without assistance increase from 12% in 65-69 age group to over 80% at the age of 85 years. Nevertheless, in a study of the last year of patients' lives it was found that one in seven of the general population and one in four of those aged 85 or more lived on their own before they died.
- Morbidity and disability from chronic diseases in old age are higher in the lower social classes.
- 94% of the country's pensioners live at home and are therefore cared for by general practitioners. 40% of consultations are with the elderly, who also have the highest attendance rate per consulting patient at risk.

These statistics raise the pertinent questions:

- Do I know who my over 65s are?
- Do I know what their needs and problems are?
- How can I cope with the increase in work that the years will bring?
- Why am I not delegating much of this work?

Organisation

Combined care from practice team backed up by hospital geriatric unit and social services.

Roles

General Practice

Doctor supervises medical care and follow up, by routine method decided on as below, with preventive work based on knowledge of patients and relatives and backed up by age/sex register where applicable.

District Nurse fully involved with care of some patients, episodically with others.

Health Visitor for preventive work.

Receptionists or other workers taking messages, encouraging, making arrangements for transport, etc.

District medical services may supply
screening clinics for the elderly
chiropody in the home or in clinics
audiology services
dentistry
occupational therapy or physiotherapy.

Geriatric unit may supply
geriatrician for in-patient stay, clinics, domiciliary visits
community geriatric nurse
day unit

Psychiatrist will advise on psychogeriatric problems.

Social services may supply

- Social worker
- Bathing attendant
- Meals on wheels
- Home help
- Occupational therapist
- Part III accommodation
- Day Centre for special needs

Terminal care — (see subsection 7).

Follow up

Visiting List
At Risk Register
List Patients Unable To Attend Surgery (PUTA)
Age/Sex Register ?FPC to help in compiling
District Nurse/Health Visitor case load
Referrals from Social Services/District medical services
Regular follow up by different methods:

Possible different methods include:

1. Monthly visits by district nurse with yearly full check-up by doctor
2. Car clinics— patients brought by practice transport or ambulance to the surgery.
3. Day unit attendance
4. Nurse questionnaire
5. Regular visits by doctor
6. Survey for unmet needs— can they feed, wash, dress, keep warm, move about in or outside, have they outside support or surveillance?
Drugs, diet, dressings.

Check List

Possible Problems

1. Can they get out?
 - Heart failure?
 - Incontinence?
 - Fear of traffic or muggers?
 - Housing— lifts or stairs?
 - Cheap travel?
 - Wheel chairs or walking aids?
2. Can they get around the house?
 - Arthritis or bone pain?
 - Immobility— day centre or physiotherapy for walking practice?
 - Painful feet— chiropody?
 - Occupation therapy— aids for daily living?
3. Can they wash and dress?
 - Specific handicaps and specific aids?
 - Bathing attendant?
 - District nurse?
 - Early morning anti-inflammatory for pain and stiffness?
4. Are they feeding adequately?
 - Beware single and widowed, especially men
 - Meals on wheels?
 - Home helps for shopping?
 - Dentures?

-
- | | |
|---|---|
| 5. Are they warm? | Heating system and ability to pay bills?
Prompt repair of vandalism?
Prophylaxis of hypothermia,
especially in
Parkinsonism?
Incontinence?
Immobility? |
| 6. Have they got enough money? | Social worker/health visitor?
Attendance allowance?
Rent and rate rebates?
Holiday schemes with cheap travel?
Death grant? |
| 7. Can they keep clean? | Incontinence appliances and laundry
service?
Home help?
Local authority disposal of large items |
| 8. Are they safe? | Fire prevention — eliminate dangerous
devices
Lighting?
Loose carpets? |
| 9. Can they communicate? | Telephones?
Whistle?
Wax in ears?
Hearing aids?
Speech therapy after stroke?
Dentures? |
| 10. Are they happy? | Depression in old age?
Loneliness: consider groups, pubs,
neighbours
Local schemes for visiting or day
centres?
Special aids — e.g. for blind?
TV/radio?
Holiday schemes?
Holiday relief for relatives?
Neighbourhood schemes, or practice-
based groups?
Advice on incontinence and sexual
matters? |
| 11. Have they got the right
medicines? | Clear labelling and instructions,
written if possible.
Access to GP services=flexible
enough appointment system to
cope with the needs of the elderly.
Sensible repeat prescription scheme,
with 'fail safe' device for regular
checks.
Suitable surveillance for wanted and
unwanted effects
What will happen when they have
minor illness? |

Suggestions

- Age/sex register to identify the elderly
- Examine routine care of the aged. Delegate follow-up work where possible and concentrate as GP on medical work
- Consider simple screening perhaps yearly, but concentrate on any danger periods, e.g. after discharge from hospital, or after death of spouse
- Find out what facilities there are to help old people in the area and what are the gaps
- Help to get the gaps filled — after all: “where they tread, we follow”.

A7

Terminal Care

Objectives

1. Terminal care means looking after the patient in the last weeks of his life. It is not restricted to death from painful malignancy.
2. The patient should “*die well*” and with dignity. He needs a physician who will help him throughout the illness, and not retreat into professionalism.
3. It presumes total patient care in the patient’s preferred context — home, hospice or hospital.

Problems

- a) **The right setting.** Less than half of deaths in the UK occur at home. The patient may want to die at home but may not be able to do so because of lack of nursing or medical support, or because his family are not prepared to cope. Changing this may mean vigorous campaigning for nursing and family support.
- b) **Pain control.** Little or no pain may be experienced by up to 50% of patients dying from cancer: but of the remainder, 40% at least experience severe pain. Many are given too little analgesia too late. There is much fear in the community of cancer and death. As a result pain is made worse by fear, loneliness, depression, anxiety, hypercalcaemia, infection and anticipation of pain to come. Acute pain is an event with a meaning: chronic pain is an endless situation devoid of satisfactory explanation for the patient, frequently expanding to fill all his conscious self and isolating him from the world around him.
- c) **Control of other symptoms.** These may include sleeplessness, depression, nausea and vomiting, dyspnoea, loss of bladder or bowel control, constipation, bed sores, unpleasant smell, mental confusion. Two-thirds of all dying patients have severe physical restrictions to their life in the last 3 months, and one in five are confined to bed all this time.
- d) **Isolation.** Many of the dying are physically and emotionally alone, surrounded by a conspiracy of silence, with visitors driven away by embarrassment or distaste. Neither medical staff nor relatives may welcome discussion. The precise understanding of diagnosis and prognosis, however, may be much less important for the patient than the knowledge that someone cares and is ready to share some of his concerns.
- e) **Stages of Acceptance of Diagnosis and Prognosis.** These are well recognised, although not always passed through or needed.
 - 1) The patient may begin by **denying** the diagnosis, either verbally or in behaviour, in spite of explanation. The patient may show ambivalence and may press the doctor to offer alternative explanations or further referrals.
 - 2) This may be replaced by **anger** — “*why me?*” or blame — “*why was it not detected before?*” No-one can do the right thing, and if doctor and relatives are not prepared to cope with their guilt the patient may be deserted.
 - 3) Some patients **bargain** by offering alternative ways of proceeding, to “*buy off*” the disease.

-
- 4) Most patients go through a stage of **depression** when it is clear that they cannot avoid the truth any longer. This may be masked by a superficial cheerfulness: it may be short, or it may merge with the mood and level of consciousness of the last days. If it is persistent and severe it may be helped by antidepressant treatment, but often careful and open handling and discussion when the patient indicates that the time is ripe will lead to —
 - 5) **Acceptance.** Enough time and help is needed to work through the previous stages. It may not be a state of obvious happiness, but one where the patient sleeps a lot, and may finally slip into the quietness that surrounds his last hours.
 - f) **Relatives will need support** — perhaps more than the patient — especially if they cannot cope with a discussion of the true diagnosis. It is the patient's illness, but they must be prepared for their loss.
 - g) **Our own fears.** Most studies show that doctors and nurses for the most part are more afraid of death, and of speaking about it, than their dying patients. Some think that the patient who asks no questions is protecting his medical attendants from a task he knows they do not relish. *"What do you let your patients tell you?"*

Speaking to the dying

Doctors are not good at talking to the dying. This may be because we feel helpless, or that we have failed. We may not be reconciled to our own death.

The patient will usually indicate when he wants us to talk, and he should not be rushed. An open question *"Perhaps you are wondering how bad this illness is?"* may be a cue that is taken up, or left.

Some may never want to know and we should not press them. Direct questions from the patient should get direct but supportive encouraging answers. The patient may start by telling us what *he* knows. Often the questions will be *"will it be painful?" "How long have I got?"* Unexpected fears may be uncovered, of what it will be like at the end, about who will look after family or pets. Sometimes it may be important to ask if the patient is afraid of dying, and why, so that we can reassure them that we will support them all through. Sometimes it may be important just to sit together in calm silence.

Organisation

G.P.

- 24 hour cover
- plan of care and institutional back-up
- knowledge or access to knowledge of plan by colleagues
- access to relevant drugs
- allocation of key worker, not necessarily G.P. who will have main relationship with patient and relatives
- procedure at the death and patient's or relative's wishes
- personal visit to relatives after death

District Nurse

- fully involved even if not attached to practice

Health Visitor

- especially for children and elderly

Hospital or Hospice team may be available to visit at home and prepare for the final in-patient stay if required.

Pain Relief

General Principles

1. Analgesics must be given regularly **prophylactically** before pain recurs (3-4 hourly for opiates).
2. Use **oral** therapy for as long as possible. Suppositories may be an alternative. Injections can usually be reserved for last days or even hours.
3. Dosage should rapidly be increased to control pain completely: then can sometimes be diminished gradually when control established.

-
- All other symptoms (e.g. itch, sleeplessness, loneliness, depression) may worsen pain perception and must also be tackled.
 - Patient should be visited no less regularly than the acutely ill.
 - Neither physical dependence nor tolerance need be practical problems if opiates are given within a programme of total care.

Pain Control

Have a '**League Table**' of analgesics:—

- MINOR** viz aspirin → indomethacin or phenylbutazone
(bone and joint pain)
or paracetamol → 'Distalgesic' or dihydrocodeine
(other pain)
- MEDIUM** viz dipipanone ('Diconal')
or dextromoramide ('Palfium') and suppositories
- STRONG** Morphine or **diamorphine** (heroin) in initial dose 2.5mg-10mg, as part of 'cocktail' or elixir containing the opiate, cocaine, tranquilliser and anti-emetic (e.g. chlorpromazine), and alcohol as vehicle. Consult B.N.F. or local pharmacy for precise doses and change as needed; the pharmacy will need notice and will only be able to make up for a few days at a time as diamorphine is unstable in solution.

Remember **alternative forms** of pain relief— e.g. radiotherapy, cytotoxics, nerve blocks.

Consider **hypercalcaemia**, which can precipitate or exacerbate pain; if present, can be treated with steroids.

Always use **laxative** with opiates, as well as anti-emetic (e.g. metoclopramide or cyclizine).

Other Symptoms

Dyspnoea

Tap effusion.

Prednisone 10mg-15mg t.d.s. reducing to 5mg t.d.s. where diffuse malignant disease of lungs, and for wheezing.

Aminophylline suppositories or slow release tablets.

Salbutamol.

Oxygen.

Antibiotics to relieve distress due to infection.

If all measures ineffective, use increasing doses of opiates and tranquilliser (diazepam —'Valium').

Cough

Codeine may be given in large doses, or linctus methadone 5-10ml.

Poor appetite

Stout, sherry, bitters. Consider steroids.

Vomiting

Prochlorperazine ('Stemetil') as syrup, injection or 25mg suppositories.
Chlorpromazine ('Largactil') 100mg suppositories, cyclizine or metoclopramide ('Maxolon') 10mg 1 hour before meals.

For obstructive vomiting, use analgesia and anti-emetics, but Dioctyl Forte 1-2 t.d.s. or Lomotil 1-2 q.d.s. may help painful colic.

For analgesia, 'Prolodone' 30mg suppositories one or two 8 hourly may forestall the necessity for injections.

Itch

Trimeprazine ('Vallergan'), local calamine, Eurax or 'PR Spray'.
Treat thrush.

Dry mouth

Oral toilet. Again remember thrush.

Bedsores, Incontinence, Colostomy, Wound Care

All these need skilled and sensitive nursing. Smell may deter relatives and friends. Ensure adequately ventilated room and careful hygiene. Some have recommended 'Amplex' or equivalent inserted into 'ostomy mouth' to reduce smell.

Remember incontinent laundry service.

Consider barrier creams for skin and ripple beds if necessary.

Constipation**Hiccough**

Metoclopramide ('Maxolon') 10mg t.d.s. or chlorpromazine ('Largactil') 25mg q.d.s.

Crisis relief

(e.g. pulmonary embolism or sudden haemorrhage) Inj. hyoscine 0.4 or 0.6mg plus diamorphine 10mg/morphine 15g increased according to previous opiate dosage.

Depression

Tricyclic antidepressants are being increasingly used in satisfactory doses, e.g. 100-150mg/day divided.

Loneliness, Anxiety, Sleeplessness

Sedatives and hypnotics should never be withheld but all drugs may be ineffective without some member of the team giving time to listen, being at the bedside regularly, explaining, encouraging. Diversionary activity can be effective, with T.V., radio, books, visits.

Bereavement

Grief has as many forms as there are sufferers. Denial may be an initial reaction. Guilt may be seen as the news sinks in and be accompanied by blame of self or doctors and nurses, or by anger often directed against the person who has died, other mourners, or God and the clergy. Some feel an intense relief. Usually there are persistent physical symptoms—pains in neck, shoulders and abdomen may be related to the symptoms of the dead relative. Minor illnesses appear more major. Hallucination of smelling, hearing or seeing the dead person may lead the mourner to think that he is going mad, until he is reassured that these are very common sensations. Some have delayed grief reactions, others prolonged incapacitating grief and emptiness. Severe reaction may cause many forms of breakdown, including fugues or even suicide.

Unless a reaction is severe, psychotherapy and 'talking cures' appear to offer more than conventional drug treatments. A sympathetic understanding of fear and guilt, and a chance to talk through the death and the present symptoms, are what the bereaved seek, and what we can all give. The bereaved sometimes reappear with symptoms at the anniversaries of the death, and may not realise the connection. Often grief will last for years, then suddenly disappear. Help may be obtained from others who have suffered similarly, in groups or individual help (Cruse, Society of Compassionate Friends).

Section B

TEACHING AND LEARNING

B1

Patient Education

Components

What people need to know

Healthy living	Management of sickness	Use of services
Diet	Minor	Primary Health Care Team
Exercise	Moderate	Hospital
Smoking	Severe	Child Guidance Clinic
Alcohol	Use of medicines	Speech Therapy
Drugs	Self-help groups	Social Services Dept.
Stress		Voluntary agencies
Bodily functions		

Sources

Where they may find out

Media	Primary Health Care Team	School
Radio	Audiovisual: News Sheets	Teachers+help from
T.V.	Leaflets	Primary Health Care
Newspapers	Tapes	Team or Area Health
Magazines	People: Receptionists	Authority (Area Health
	Nurses	Education Officer,
	Health Visitors	School Medical
	Doctors	Officer).

1. Healthy living

Diet — basic principles **Content** — Proteins: meat, fish, eggs, cheese, milk, vegetables especially peas and beans.
Carbohydrates: cereals, fruit and vegetable, sugars and starches.
Fats: dairy and non-dairy.
Vitamins, minerals.
Roughage.

Usual faults — too high proportion sugar and fats, too little roughage.
Animal fat — butter, cream, fat meat should be kept to a minimum.
Roughage may be added in the form of wholemeal bread, bran, vegetables, fruit fresh and dried.

Quantity — enough to maintain normal weight.

Meals — should be regular — three daily — taken sitting down and relaxed, not too large.

Elderly and Children— especially 2-7 years and the elderly, often need very little. Provided diet contains some of all the elements and the child is well, it does not matter how little is eaten. Children should not eat sweets or biscuits —→teeth —→obesity.

Exercise Should be regular, vigorous but not necessarily violent—sufficient to cause shortness of breath and pulse to rise to 100 for half-an-hour, three times a week. The more the better provided accustomed.

Contentment (*serenity*) Personal relationships require love, tolerance, patience and realistic expectations.
Personal fulfillment important at home and at work.
Maintenance of individuality and individual interests— especially likely to be lost in married women.

Impediments to healthy living

LACK OF EXERCISE

POOR DIET— especially if high in fats and low in roughage.

OBESITY—

Why slim? because obesity increases risk of hypertension, heart disease, diabetes mellitus, immobility from arthritis.
to look and feel better.

How slim? eat little and often.
never miss meals.
(The same food which causes weight gain if eaten all at one meal can result in loss of weight if eaten at intervals during the day).

EAT — UNLIMITED green vegetables, tomatoes, carrots.
GENEROUS amounts of fruit.
MODERATE amounts of lean meat, eggs, cheese, potatoes, wholemeal bread, pulses (fresh and dried peas and beans, lentils).
VERY LITTLE fat—only margarine, lean meat, skimmed milk.
NO white flour.
NO butter, cream, fat meat, full cream milk.
NO alcohol.
NO sugar or anything containing sugar (tinned fruit, ice cream, squashes, cakes, biscuits, sweets, jams, most cereals).

SMOKING

Why stop? **adverse effects** on general health—exercise tolerance, resistance to infection, nutrition (often underweight).
implicated in causing disease—peptic ulcer, bronchitis; carcinoma larynx, lung, oesophagus, stomach; hypertension, ischaemic heart disease, peripheral vascular disease.
adverse effects on unborn child—effects on family—young children in family suffer more frequent upper respiratory tract infections and bronchitis—children more likely to smoke (already addicted)—financial burden.

How stop? **encouragement, understanding**—? small dose tranquilliser for first ten days. Tricks —→light first cigarette ten minutes later each day —→don't smoke in certain situations —→ substitute chewing gum, ginger, worry beads.

**Impediments to
healthy living**
continued

ALCOHOL

Uses — peripheral vascular disease — night sedative for elderly. Harmless in moderation.

Dangers — addiction, liver damage, intellectual deterioration, impotence.

Danger signals — drinking daily, heavily, early in day, more than can afford, enough to interfere with job, domestic disharmony. Loss of driving licence due to drink. Falls. Memory blanks. Absenteeism. Monday morning sickness.

DRUGS

Doctor induced addiction and habituation.

Marijuana (“hashish”, “pot”, “grass”) — smoked. No demonstrable effect.

L.S.D. (“acid”) — Cause hallucinations (“trips”), sometimes psychotic illness.

Amphetamines (“speed”) — tablets, capsules, cause wakefulness, anorexia, tachycardia, addiction.

Barbiturates (“barbs”) — capsules, tablets — cause sedation, depression, addiction. If injected cause phlebitis and necrosis.

Cocaine (“coke”) — white powder — sniffed, injected.

Heroin (“horse”) — tablets, powder — orally, injected or sniffed. Causes sedation, vomiting, constipation, addiction.

Glue sniffing

FOR SCHOOLCHILDREN

No evidence that anti-smoking or anti-drug teaching programmes work. Some evidence that group discussions and counselling about general problems do lessen drug use.

STRESS

Certain amount of stress necessary.

Harmful only when excessive or person over-reacts.

People need to recognise the sources of excessive stress, try to reduce them and to avoid their effects.

Relaxation, meditation, Yoga, may be useful.

Psychotherapy where indicated.

Short term sedation.

ACCIDENTS:

At home:

Fire guards

Cooker guards

Flame resistant clothing

Harnesses for children in prams, high chairs

Medicine cabinets

Storage for dangerous chemicals — e.g. bleach, weedkillers

Children should never be left alone.

On roads:

Accompany small children

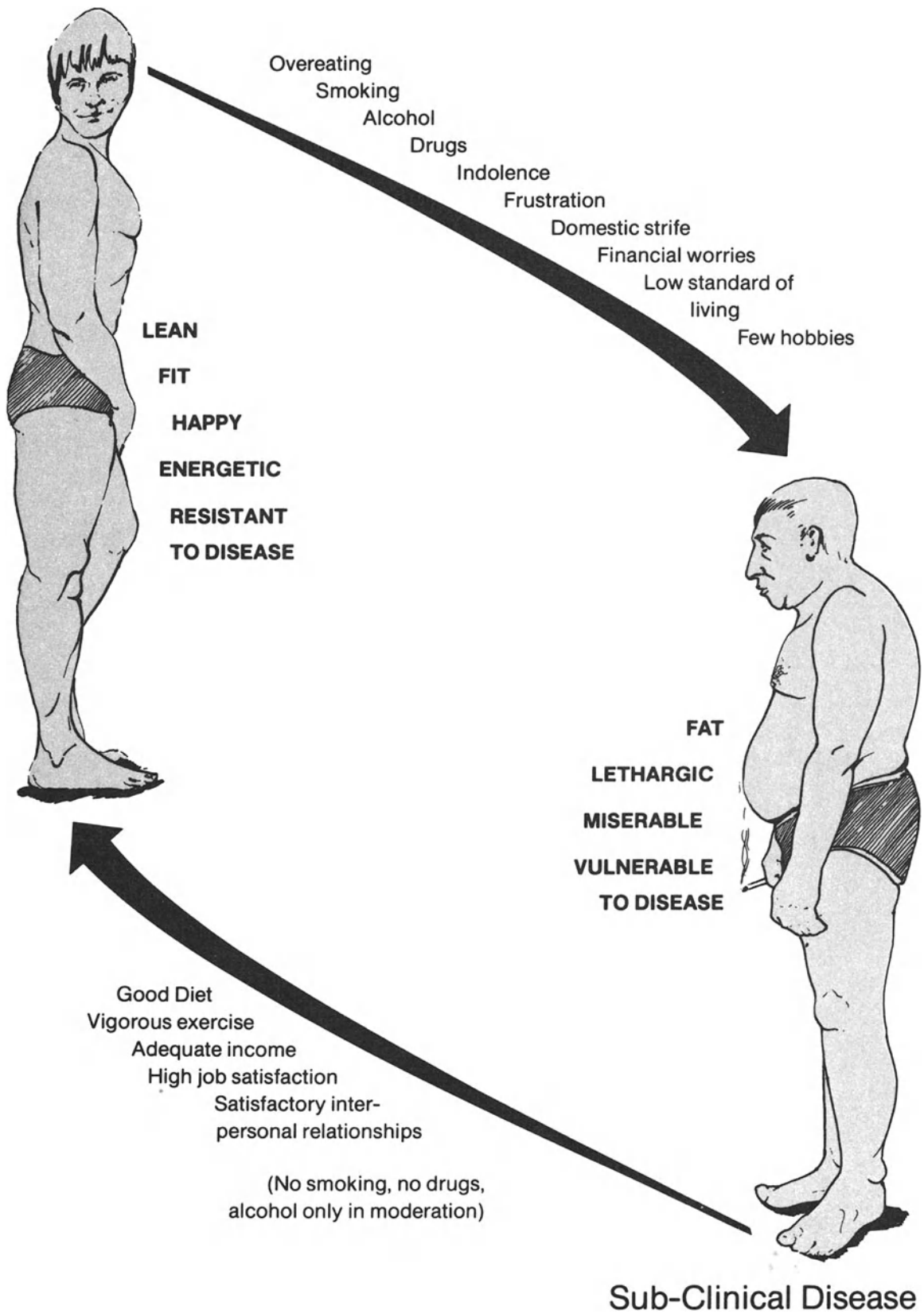
Crossing drill for older children

Risk of accident increased if driver has had ANY alcohol

Seat belts

Never let child sit on lap in front passenger seat.

Positive Health



**Bodily functions:
the range of normal**

- Sleep** — **requirements vary** with constitution and habit — no rules. No harm results from too little provided the opportunity is there. Children usually wake during the night — cry out if feeling insecure or anxious.
- Bowels** — **defaecation should be painless** and require no straining.
— it does not matter how **infrequent** it is.
— **the consistency** of the stool should be that of stiff porridge — this may be achieved by addition of extra roughage, (e.g. bran) and fluids in diet.
— the stool should **not contain blood or mucus**.
- Menstruation** — may last 3-8 days and occur at various intervals. There should be no bleeding or heavy discharge **between** the periods or after intercourse. Changes in regular pattern must be suspect.
- Sex** — **normal** is what suits you provided no-one else suffers.
— **a sexual problem** exists when the subject or his/her partner, if he/she has one, finds his/her sex life unsatisfactory and his/her sexual tensions unrelieved.
— **sexual appetites** vary and compromise may be necessary in marriage. There is no upper age limit.
- Appetite** — **in health** will normally be geared to needs, i.e. weight will be correct and steady.
— **decreased** in smokers, anorexia nervosa, endogenous depression, chronic illness.
— **increased** in neurotic depression and adults with bad habits.
— **children** will eat more than they need under pressure from adults. They should be encouraged to eat only when hungry and not just to please.
- Micturition** — should be **painless**.
— **urine may be cloudy** or coloured by foods, e.g. beetroot — should never contain blood or gravel.
- Weight** — is correct if you look good stripped in front of a long mirror.

2. Management of Sickness (self-care)

Minor	<p>Self-care with no help from primary health care team except possibly leaflet or telephone advice.</p> <p>Include the following unless the patient is a young infant (under 10 weeks), or frail, or old.</p> <ul style="list-style-type: none">Short-lived fevers (less than 2-3 days) without other symptoms.Epidemic diarrhoea and vomiting without pain or blood.Upper respiratory tract infections.Muscular strains and bruises, insect bites.Headache which is not severe, prolonged or accompanied by vomiting.Backache which is not severe, prolonged or accompanied by difficulty in micturition.Rashes if patient is otherwise well and not taking medicines.
Moderate	<p>Self-care with help from primary health care team — patient and advisers must work together.</p>
<i>Acute</i>	<p>e.g. infections — understand use of medicines and other advice, e.g. bed rest, diet. In absence of other advice, go to bed if feeling unwell, eat whatever you feel like, drink plenty, treat pain and fever with aspirin if not vomiting.</p>
<i>Chronic</i>	<p>e.g. depression, hypertension. Patient should understand as much as possible about the disorder and its treatment, especially the use of drugs (see later).</p> <p>Long-term plan.</p> <p>Other advice, e.g. diet, rest. Who will help care for someone ill or disabled at home — e.g. Social Services, voluntary agencies.</p>
Major	<p>Self-care with help from primary health care team and possibly hospital.</p> <p>Co-ordination more important than ever, e.g. what is the operation? What effects will it have? And how long will the patient be in hospital? Will there be any disability afterwards? Long term outlook?</p>

Use of Medicines

(a) Self-medication

Pain — aspirin two every 4 hours up to eight a day if patient does not suffer from indigestion or asthma, and is not vomiting.

Paracetamol, same dose if aspirin contraindicated (beware overdosage).

Cough — Alcohol or hot drink probably as effective as proprietary cough mixtures.

Fever — As for pain, plus cool sponging.

Diarrhoea — Medicines usually unnecessary.

Vomiting — Medicines usually unnecessary.

Indigestion — Simple antacid.

Constipation — Should be corrected by adjustment of diet, i.e. increased roughage and fluids. Short term laxatives harmless in adults.

Upper respiratory tract infections — Steam inhalation with or without inhalant, e.g. Friar's balsam.

(b) Use of Prescribed Medicines

Patients need to know:

What the drug is for — especially important if several drugs being prescribed.

How to take the drug — e.g. by mouth, per rectum, per vaginum (special care needed with non-English-speaking patients).

When to take the drug — e.g. does t.d.s. mean with meals, 8 hourly or evenly spread through waking hours?

Has it to be taken until finished, like a course of antibiotics, or as required to relieve a particular symptom?

Whether there are any special instructions — e.g. should it be taken with copious fluids like methyl cellulose for constipation, or with very little fluid like methyl cellulose for diarrhoea? Should certain foods or other medicines be avoided, like milk or alkalis with tetracyclines or alcohol and aspirin with Warfarin?

Whether there are any side effects which —

should be expected, e.g. dry mouth with tricyclic antidepressants.

are likely, e.g. loose stools in children on antibiotics.

must be reported, e.g. rashes, indigestion on steroids.

What to expect from treatment —

immediate relief of a symptom, e.g. analgesic.

delayed relief of a symptom, e.g. antidepressants.

protection from future morbidity, e.g. hypotensives, prophylactic iron in pregnancy.

prevention of infection, e.g. antimalarials.

Patients are unlikely to retain this information even if it is carefully explained by the doctor during the consultation. Much of it needs to be written down, e.g. in chart form or leaflet.

Symptom	Treatment (Paracetamol may be better than aspirin for anyone who suffers from indigestion)	When to seek advice
1. Fever.	Bed rest, tepid sponging, fluids. aspirin.	Always if the subject is very young (under ten weeks), very old, frail or seems generally ill. If there is headache, vomiting, pain on passing urine, abdominal pain, loin pain. If it continues three days or more.
2. Diarrhoea and vomiting (separate or together).	Bed rest, frequent clear fluids — sips if vomiting. No solid food, no milk. Simple anti-diarrhoea mixture.	If there is abdominal pain or blood is passed. If it is very severe. If it persists for more than 48 hours despite treatment. If the subject has recently returned from abroad.
3. Upper Respiratory Tract Infection (common cold)	Inhalations of steam. Nose drops (for not more than three days). Fluids, aspirin.	If there is breathlessness, pain or tightness in the chest or difficulty in breathing.
4. Cough.	If with upper respiratory tract infection see (3).	If there is breathlessness, pain or tightness in the chest, wheezing or difficulty in breathing. If the sputum is purulent or blood-stained.
5. Rashes.	Calamine if itchy.	If accompanied by headache, vomiting. If taking medicines.
6. Headache.	Aspirin or paracetamol. Bed rest.	If sudden, severe, accompanied by vomiting, or prolonged.
7. Abdominal pain.	Rest, clear fluids, mild antacids. No solid food, no medicines.	If severe or accompanied by vomiting, diarrhoea, or passage of blood, lump in groin, early pregnancy, pain, frequency or difficulty in micturition.
8. Croup.	Steamy atmosphere.	If severe or persists after 20 minutes steam.
9. Earache.	Warm olive oil, aspirin.	Always: within 12 hours (?24).
10. Backache.	Lie flat on firm surface (board or door under mattress). Aspirin.	If severe, prolonged or accompanied by pain, difficulty or frequency of micturition or fever.
11. Minor injuries, strains, grazes, bruises, insect bites.	Bathe with water and apply dry dressing if skin is broken. Rest. Aspirin.	If any severe persistent pain or swelling.
12. Head injuries.	Rest.	If there has been loss of consciousness or vomiting.
13. Pain in chest.	Lie down with two pillows.	Always and immediately.
14. Convulsions.	Put something between teeth. Lie in $\frac{3}{4}$ prone position.	Always and immediately (unless a known epileptic).
15. Unconsciousness.	Lie in $\frac{3}{4}$ prone position.	Always and immediately.
16. Vomiting blood.	Lie down.	Always and immediately.
17. Coughing blood.	None.	Always, but not urgent unless profuse or otherwise ill.
18. Passing blood in motions or urine.	None.	Always, but not urgent unless profuse or otherwise ill.
19. Bleeding between periods.	None.	Always, but not urgent.
20. Lump in breast.	None.	Always, but not urgent.
21. Tiredness and depression.	Talk to close relations or friends. Join group.	If severe or persistent or recurs regularly.

Self help groups

General—e.g. local community based care groups*

*May arrange emergency care for children, pets, the elderly. shopping for housebound, visiting of sick, transport of relatives to visit, night sitters.

Disease oriented —

Association for Spina Bifida and Hydrocephalus

30 Devonshire Street, London W1N 2EB.

Tel: 01-486 6100 and 01-935 9060.

British Diabetic Association

3-6 Alfred Place, London WC1E 7ED.

Tel: 01-580 2704.

British Rheumatism and Arthritis Association

6 Grosvenor Crescent, London SW1X 7ER.

Tel: 01-235 0902.

Cheyne Holiday Club for Handicapped Children

61 Cheyne Walk, Chelsea, London SW3 5LX.

Tel: 01-352 8434.

Coeliac Society of Great Britain and Northern Ireland

P.O. Box 181, London NW2 2QY.

Haemophilia Society

P.O. Box 9, 16 Trinity Street, London SE1 1DE.

Tel: 01-407 1010.

Help the Aged

32 Dover Street, London W1A 2AP.

Tel: 01-499 0972.

Invalid Children's Aid Association

126 Buckingham Palace Road, London SW1W 9SB.

Tel: 01-730 9891.

MIND (National Association for Mental Health)

22 Harley Street, London W1N 2ED.

Tel: 01-637 0741.

National Council for One Parent Families

255 Kentish Town Road, London NW5 2LX.

Tel: 01-267 1361.

National Eczema Society

27 Doyle Gardens, London NW10 3DB.

National PHAB (Physically handicapped and able bodied)

42 Devonshire Street, London W1N 1LN.

Tel: 01-637 7475.

National Society for Cancer Relief

Michael Sobell House, 30 Dorset Square, London NW1 6QL.

Tel: 01-402 8125.

National Society for Mentally Handicapped Children

Pembridge Hall, 17 Pembridge Square, London W2 4EP.

Tel: 01-229 8941.

Patients' Association

Suffolk House, Banbury Road, Oxford OX2 7HN.

Tel: Oxford (0865) 50306.

Royal National Institute for the Blind

224 Great Portland Street, London W1N 6AA.

Tel: 01-388 1266.

Royal National Institute for the Deaf

105 Gower Street, London WC1E 6AH.

Tel: 01-387 8033.

National Marriage Guidance Council

Herbert Gray College, Little Church Street, Rugby, Warwickshire.

Tel: Rugby (0788) 73241.

3. Use of Services

Primary Health Care Team: Doctor, nurse, health visitor, community psychiatric nurse, midwife, social worker.

Hospital: Accident and Emergency Department.
Outpatients Departments.
Inpatients.

Child Guidance Clinic: Psychiatric Social Worker, Psychiatrist, Psychologist.

Social Services Department: Services for handicapped, elderly, meals-on-wheels, home helps, old people's homes.

Police; especially juvenile bureau.

Probation Service:

Lawyers — legal aid service.

Family Planning Clinic:

Voluntary Agencies: W.R.V.S.
Marriage Guidance Council.
Samaritans.
Citizens Advice Bureau.
Churches.
N.S.P.C.C.
Care Groups.
Special Groups, e.g. M.S. Society,
British Diabetic Association.

For all these Services:

The user needs:

1. A knowledge of
What services are available and what they provide.
When to seek help and from which agency.
How to approach the appropriate agency and use the service.
2. The wish to use the service.
The ability to co-operate.
An understanding of what is required of him.

The provider needs:

1. To provide factual information by:
Word of mouth.
Posters.
Leaflets.
Booklets.
2. To understand what the patient wants.
To tailor advice to the patient's ability to use it.
To make the advice clearly understood.

Every contact between patient or client and the provider of the service is a learning experience for the user.

1. Appointments System and Requests for Home Visits

Information Needed

When and how to make an appointment to see the doctor or other member of the team or attend clinic.

When and how to request home visit —

- (a) during surgery hours, and
- (b) out of surgery hours.

How to provide it

Notices.

Leaflet, card, booklet given to every new patient.

Verbal information from receptionist or other member of team.

1. Appointments System and Requests for Home Visits
continued

Lack of Compliance due to:

- (a) Not understanding the system.
- (b) Difficulty fitting in with the system, e.g. due to
 - working hours,
 - children,
 - transport.
- (c) Inefficiency of the system.
- (d) Lack of goodwill.

Ways to deal with this:

- (a) Explanation
 - verbal (receptionist)
 - written (posters, booklet, leaflet).
- (b) Flexibility:
 - receptionist to take account of and allow for individual problems.
 - creche or playroom or toys or playpen.
 - practice bus/car service.
 - provision for emergencies: "gaps"-special sessions.
 - opportunities for patients and families to speak to members of the team including doctor, on telephone.
- (c) Regular review of methods and practice.
- (d) Tact and sympathetic handling by all members of the team (encouraged and facilitated by doctor).

2. Compliance with Medication

Depends on:

- 1. Willingness to comply
 - (a) confidence in usefulness of prescription.
 - (b) wish to please doctor.
- 2. Understanding instructions.
- 3. Remembering instructions.
- 4. Observed effectiveness of treatment.

Therefore, in order to achieve compliance:

- 1. Make sure patient wants the drug.
- 2. Explain carefully and ask patient to repeat.
- 3. Rely as little as possible on patient remembering what the doctor says. Write down instructions or supply leaflet, e.g. oral contraceptives, anti-depressants, β -blockers, (some supplied by manufacturers).
If complex, someone else, e.g. nurse, should repeat/reinforce/explain the instructions.
Keep dosage as simple as possible, e.g. not t.d.s. if o.d. will do (thyroxine, β -blockers, tranquillisers).
- 4. Make sure patient knows what to expect from taking the drug, e.g.
 - (a) immediate relief,
 - (b) delayed relief,
 - (c) worse before better.

2. Compliance with Medication
continued

5. Freedom from side effects.

5. Warn what side effects are:
(a) to be expected and put up with,
(b) likely,
(c) possible,
and under what circumstances to stop drug.

Follow up

Cannot be left to patient if important, e.g. ears in children, hypertension.
Computer links.
Book at surgery — doctors marks notes of every patient to be seen again with time limit — this is written in book and the notes checked at the expiry of the time to see if the patient has attended.
Clinic groups, e.g. antenatal, diabetics, hypertensives — seen together at special sessions.

Patient Involvement in the Practice

Could lead to **better use of facilities** and increased compliance.

Suggestions box.

Patient as editor of **news sheet**.

Patients as contributors to news sheet.

Self directing groups.

Links for mutual benefit,

e.g. transport - to and from surgery,
to and from hospital and for hospital visiting.
collecting prescriptions.

Care groups.

Advisory Committee of patients and staff to run practice, or parts of it.

Volunteers to help with crèche, transport, collecting toys and visiting elderly and housebound.

Self-help groups — community based or practice based

e.g. Slimming
Depression
Smokers
Handicapped.

Patient Information Leaflets

Healthy Living:

Infancy	Exercise
Childhood	Diet
Adult	Alcohol
Pregnancy	Smoking
Old age	Bowel Function
	Sleep

Self Care:

Useful medicines/dressings to have at home.
Diets: weight reduction, low cholesterol, high roughage, for children, gluten free, diabetes.
Treatment of minor illness: diarrhoea and vomiting,
upper respiratory tract infections, croup, vaginal thrush, cystitis, backache.

Use of services:

Who will help? Primary health care team, social services, voluntary agencies.

What is a Health Visitor/Social Worker/Community Psychiatric Nurse?

When to visit the hospital accident and emergency department.

When and how to call the doctor urgently — children — adults — elderly.

When and how to call the doctor non-urgently.

When and how to visit the doctor at the surgery.

What you need to know about the medicines the doctor prescribes.

Particular drugs: steroids, D.C.G. (Intal), oral contraceptives,
antidepressants, eyedrops, local steroids.

Diseases: diabetes, asthma, eczema, hypertension.

Exercises**Contraception****Practice booklet**

incorporating some of the information on healthy living, self care and use of services, plus how to use the practice.

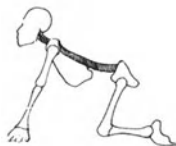
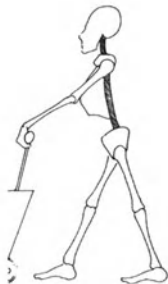
- telephone
- appointments system
- home visiting
- surgery times, clinics
- list of personnel with short description of the rôle of each.

Weight Reducing Diet

General Rules	Eat slowly Eat little and often Never miss a meal.
Free list†	Eat as much as you like of the following: Apples, oranges, tomatoes, lettuce, green vegetables. Water, black coffee, tea. Clear soup, tomato juice.
Banned list	Never eat any of the following: White bread, cakes, biscuits, pastry or anything made with white flour. Sugar, or anything containing sugar, e.g. fruit squash, tinned fruit, custard, ice-cream, jam, cakes, biscuits, cereals (other than those listed), chocolate, cocoa, Ovaltine, Horlicks, cream, cream cheese.
Rationed list	Eat only very small amounts of the following: Butter, bananas, root vegetables (e.g. carrots, parsnips), beetroot, sausages, milk, nuts, dried fruit. WEIGH YOURSELF AT THE SAME TIME EACH WEEK.
Remember	IT IS NOT NECESSARY TO LIKE EVERYTHING YOU EAT.
Essentials	These must be eaten by the end of the day. ½ pint milk (excluding the top of the milk). 3 pieces of fruit—apple or orange or pear or tomato. 1 small bag potato crisps or 1 extra slice of brown bread. 1 pint water. 1 slice of brown bread.
Suggested Menu including essentials	Breakfast Small portion cereal (Bran Flakes, Wheat Flakes, Weetabix, All-Bran or porridge) with 1 dessertspoonful or more of Bran and milk from ration). Mid-morning Fruit or potato crisps. Drink. Mid-day Main course* with salad, green vegetables, or brown bread. Mid-afternoon As mid-morning. Tea/Supper Clear soup if desired. Main course* with greens or salad. 1 potato or other root vegetable or 1 slice of brown bread. Bedtime Anything left over from essential list or something from free list. *Main course should include 2oz.cheese (cheddar or cottage), or 1 egg or 2oz. fish. Liver and tinned fish (except sardines) are good.

Posture Chart

Right



Wrong



KEEP YOUR BACK HOLLOW.

Treatment of Diarrhoea and Vomiting

- DO Take frequent small amounts of clear fluids, e.g. water, fruit juice clear soup, Bovril, Oxo, Marmite.
- DO Rest — in bed if possible.
- DO Tell the doctor if you pass blood or have persistent pain.
- DON'T Eat any solid food.
- DON'T Drink milk or thickened soups.
- DON'T Return to normal diet until completely recovered.

Vaginal Thrush

- Avoid — nylon pants — wear cotton ones or those with a cotton gusset.
 - soap — wash with plain water or weak solution of salt or vinegar.
 - hot baths — have a shower or cool bath with salt or vinegar.
 - antibiotics unless really essential.
 - antiseptic creams.

Nappy Rash

- Change nappy as soon as wet or soiled.
- Wash baby with plain warm water (no soap) at each change.
- Apply soothing cream each time (Vaseline or Zinc and Castor Oil are suitable).
- Leave off plastic pants, especially at night, until completely better.
- Allow baby to lie and kick without a nappy for part of each day.

The attitudes of both medical schools and medical students to general practice have changed in the last twenty years, and now there is much interest in the community as an area where students should have some of their training. Much is owed to the Todd Report, changes in curriculum and exams to include G.P. studies, and the foundation of new universities where behavioural studies feature largely in the curriculum. The cynical might also claim that the improved financial status of the G.P. and his relative freedom from bureaucratic restrictions in comparison with his hospital colleagues have added to students' interest. However, when a student visits a practice, both student and G.P. can be seen to benefit and it is hoped more practitioners will feel able to take part in undergraduate education at all levels.

The Schemes

There are **two types of scheme**:

1. The **newer medical courses** have community or human development studies which are taught from the beginning of training, and much of this teaching draws resources from general practice. A student may:
 - a) meet a patient in his own home and see his problem there in context;
 - b) follow a normal human process through its various stages — such as following a mother through her pregnancy and delivery and visiting her and the child in subsequent years;
 - c) help as an unqualified worker in old people's clubs or day centres, or act as co-therapist in psychotherapeutic exercises;
 - d) visit practices to understand how community services are organised;
 - e) visit practices to sit in with the doctor and see patients.

2. The **older medical courses** have revised their curricula to fit general practice into a conventional timetable of 'firm' attachments, either as a residential block, or by day release during another 'firm' like psychiatry. Here a proportion of the week is spent with a G.P. in practice and the students come back to the medical school for regular seminar or group teaching. Some schools use both methods combined with some teaching by G.P.s joining the normal ward programme.

Some schools have full time academic staff, but many do not, and depend on sessional teachers also acting as general practitioners. Funding restrictions usually do not allow more than a nominal remuneration to G.P.s taking students, together with reimbursement of residential expenses, but it is hoped that this situation will be improved in the future. If you are taking a student into your practice, it is very important to read letters of instruction from the academic staff carefully and keep them for reference.

The Aims of these Schemes

1. To introduce students to the 85% of illness episodes which do not need hospital care, and the different spectrum of illness and style of presentation in practice.
2. To show students how normal men and women, of different classes and backgrounds from their own, live and work.
3. To demonstrate "whole person" diagnosis, and how social and family pressures impinge on health.

The Aims of these Schemes

4. To watch and take part in the general practice consultation.
5. To meet other community health workers, whether employed by local authority or attached to a practice, and to understand their roles and how they work.

Side effects

Often students have not followed a doctor through his whole working day, and may never have had a one-to-one relationship with a qualified doctor. They may never have considered working in the community, or may have a distorted view of practice from their experiences in hospital. "To be actually getting down to it" and doing essential medical work may be very exciting, and the G.P. should give the student any work with patients that the student is keen and able to do.

Methods**1. Sitting in with the G.P.**

The student should always be introduced to the patient and the patient's permission for his presence obtained. Show the student the different style of consultation from the hospital, with a series of short consultations, often involving no examination or special tests, on patients about whom data is gradually collected;

- general practice records;
- 'games' in the surgery, body language, "while I'm here", "it's me again, doc";
- the unexpected or absent patient, e.g. the depressed mother presenting via her child, the wife discussing her alcoholic husband;
- the wide variation of presenting problems including many not strictly medical: "ticket of entry";
- the multitude of symptomatology, the need to explain what patients have not got, how to sift major from minor problems;
- prescribing.

Most doctors find that the extra time taken up with the student is more than compensated for by the happy way in which these sessions are received by the patients. However, a strategy should be organised for the student when it is clear his presence is inhibitory. Some doctors have given experienced students the doctor's chair while sitting by him, or have asked their patients to see the student initially before consulting the doctor, and then discussed the problem together. Final year medical students may well be able to manage patients to a large extent, with supervision.

2. Introduction

Lay aside time at the beginning to introduce the student to all the staff, and to your family if appropriate. Learn about what he has done so far, his interests and ambitions, the gaps in his knowledge, and what you can learn from him. He may be a pharmacologist, sailing half-blue or jazz fiend.

3. Meeting the practice team

Suggestions include sitting in the waiting room, with the receptionists, with the health visitor, district or practice nurses, joining baby clinics. Include the student in all discussions and conferences where possible and appropriate.

4. Visiting

Do not shield him from any valuable experiences and let him visit with the health visitor or nurse too. Consider asking him to get to know one family or problem in some depth over his time with you, perhaps writing up a project on a patient with a chronic illness, a dying patient, or a handicapped patient and family.

Methods
continued

5. The Community

Arrange for him to visit any organisation or centre locally you think is valuable such as a day centre, prison, chemist, mental handicap group, or any facility that the area has. Make sure he sees what the area can offer for social life and leisure too.

6. Projects and Evaluation

The medical school may have set him a project — if so, help him with material for it.

The school may require an evaluation of the student. If they permit, discuss it with him before he leaves. You may be the first to point out to him that he bites his nails in consultations, that he should be a paediatrician or that no-one can read his writing. Praise as well as criticise. You need never see him again: but if you would like to, suggest another meeting.

The following job description for the general practitioner and educational aims for vocational training were set out by a working party appointed by the second European Conference on the teaching of general practice. They were subsequently adopted by the Joint Committee on Postgraduate Training for General Practice (JCPTGP), the Royal College of General Practitioners and the Council for Postgraduate Medical Education in England and Wales.

Description of Work

The general practitioner is a licensed medical graduate who gives personal, primary and continuing care to individuals, families and a practice population, irrespective of age, sex and illness. It is the synthesis of these functions which is unique. He will attend his patients in his consulting room and in their homes and sometimes in a clinic or a hospital. His aim is to make early diagnoses. He will include and integrate physical, psychological and social factors in his considerations about health and illness. This will be expressed in the care of his patients. He will make an initial decision about every problem which is presented to him as a doctor. He will undertake the continuing management of his patients with chronic, recurrent or terminal illnesses. Prolonged contact means that he can use repeated opportunities to gather information at a pace appropriate to each patient and build up a relationship of trust which he can use professionally. He will practice in co-operation with other colleagues, medical and non-medical. He will know how and when to intervene through treatment, prevention and education to promote the health of his patients and their families. He will recognise that he also has a professional responsibility to the community.

Educational Aims

At the conclusion of the training programme the doctor should be able to demonstrate:

1. Knowledge

- a) that he has sufficient knowledge of disease processes, particularly of common diseases, chronic diseases and those which endanger life or have serious complications or consequences.
- b) that he understands the opportunities, methods and limitations of prevention, early diagnoses and management in the setting of general practice.
- c) his understanding of the way in which interpersonal relationships within the family can cause health problems or alter their presentation, course and management, just as illness can influence family relationships.
- d) an understanding of the social and environmental circumstances of his patients and how they may affect a relationship between health and illness.
- e) his knowledge and appropriate use of the wide range of interventions available to him.
- f) that he understands the ethics of his profession and their importance for the patient.
- g) that he understands the basic methods of research as applied to general practice.
- h) an understanding of medico-social legislation and of the impact of this on his patient.

2. Skills

- a) how to form diagnoses which take account of physical, psychological and social factors.
- b) that he understands the use of epidemiology and probability in his everyday work.
- c) understanding the use of the factor (time) as a diagnostic, therapeutic and organisational tool.
- d) that he can identify persons at risk and take appropriate action.
- e) that he can make relevant initial decisions about every problem presented to him as a doctor.
- f) the capacity to co-operate with medical and non-medical professionals.
- g) knowledge and appropriate use of the skills of practice management.

3. Attitudes

- a) a capacity for empathy and for forming a specific and effective relationship with patients and for developing a degree of self-understanding.
- b) how his recognition of the patient as a unique individual modifies the way in which he elicits information and makes hypotheses about the nature of his problems and their management.
- c) that he understands that helping patients to solve their own problems is a fundamental therapeutic activity.
- d) that he recognises that he can make a professional contribution to the wider community.
- e) that he is willing and able critically to evaluate his own work.
- f) that he recognises his own need for continuing education and critical reading of medical information.

Vocational Training Regulations

From August 16, 1982, all doctors who are not at that time exempt from the regulations, e.g. principals already in post and certain other categories, must have completed a course of prescribed or equivalent experience, approved by the JCPTGP, before they can be appointed as a principal in general medical practice in the National Health Service. Prescribed experience implies a minimum of three years full time training made up as follows:

- General Medicine
- Geriatrics
- Accident and Emergency
- Psychiatry
- Paediatrics
- Obstetrics and Gynaecology.

Other hospital posts which are educationally approved may be included in an individual training programme.

During the trainee year all trainees are expected to attend trainer-trainee meetings and day or half-day release courses. In many V.T.S. the associated academic course extends throughout the three years.

Group Activities for Trainee G.P.s

There are two types of group learning situations available for trainees.

Trainer/Trainee groups usually meet locally, often over lunch, for 1-1½ hours, and provide an informal opportunity for all the trainers and trainees in a district to meet and get to know each other, exchange ideas, discuss topics of general interest to G.P.s and identify those areas where outside expertise may be valuable.

Day or Half-day Release Courses are organised on a district or sub-regional basis depending on requirements. Normally the course organiser will be the only experienced G.P. present, although individual trainers are often used as a resource.

The content of the course will depend on need as defined by participant trainees and their trainers but will be expected to include subjects less well covered by the undergraduate curriculum or other postgraduate experience, predominantly human behaviour, psychology and interpersonal skills, relationships with other professional and community organisations, the function of primary health care in society, practice organisation and the legal and statutory aspects of practice.

Some examples of Group Activities

Topics— Individual preparation and presentation to group.

Clinical e.g. Asthma, diabetes, handicapped children, strokes, fits and faints.

Organisational e.g. Prescribing patterns, home visits, out-of-hours work, G.P. hospitals.

Journal club and book reviews

e.g. Individual responsibility for reading a journal, viz Update, JRCGP, BMJ, informing group and leading a discussion.

Reviewing book and presenting opinion to group.

Case Material/Prescribing/Audit

e.g. "Morning Surgery"—group discussion of unselected cases.

Random case analysis.

Reviewing prescriptions.

Audit Techniques—creating protocol, critical path analysis.

Audio-visual resources

e.g. using video equipment—simulated consultations, role play, taping surgeries.

using outside resources—GPTV, Dundee University, MSD Foundation.

Graves Audio Visual Library.

Pharmaceutical Video.

Exam Techniques

e.g. MEQ's, MCQ's, Quizzes.

Outside Resources

Didactic or semi-didactic teaching and discussion.

e.g. G.P.s, Clinical Consultants, Community Physicians, Health Visitors, Nurses, Social Workers, Pharmacists, Marriage Guidance Counsellors, FPC Administrators, CHC, Coroners, Solicitors, Accountants, Teachers, Architects, Research Workers, BEA, BDA, Police, BMA, MDU.

Sensitivity Groups

e.g. Balint-style, T-Group, etc.

Visits

e.g. Selected Practices, Rehabilitation Units, Abortion Clinic, Hospice, FPC, LMC, DRO, DHSS, RCGP, Industrial Medical Centre, Alcoholic Unit, Part III Accommodation, Schools for Handicapped, EBS, GP Relief Service, Day Hospitals, Probation, Social Service Office, Pharmaceutical Company.

The Trainee Year

Traditionally, trainees spent the whole year with one trainer in one practice. Increasingly, however, trainees in three-year schemes start with a short initial period of 2-3 months in one practice and complete the last 9-10 months, often in a different practice 2 years later. Various other combinations have been experimented with and increasingly teaching practices contain more than one appointed trainer.

Nevertheless, certain principles apply whatever the individual arrangements and suggestions are listed below:—

1. Initial assessment of previous experience and present competence by Trainee and Trainer together

Use of confidence rating scale may help.

2. Introduction to practice

- ancillary staff, structure, records, forms and certificates.
- attached staff, spend some time with Health Visitors, District Nurses, Mid-wives, Community Psychiatric Nurses, Social Workers.
- Local Pharmacist.
- Local hospital and Postgraduate Medical Centre.

3. Introduction to Consultations and Visits

- joint consultations and visits with trainer initially.
- conducting surgeries with trainer adjoining, initially with no time constraints.
- out-of-hours work covered by trainer or partners.
- discussion of experience with trainer regularly.
- tutorial sessions.

4. Advice and Guidance, re Outside Resources

- trainer/trainee group.
- half-day release course.
- attendance at out patients, e.g. skins, ENT, eyes.
- Postgraduate Diplomas, e.g. family planning certificate.
- books and journals.
- visits to other practices.
- applying for posts.

5. Project within practice

- disease group, hospital referrals, prescribing.

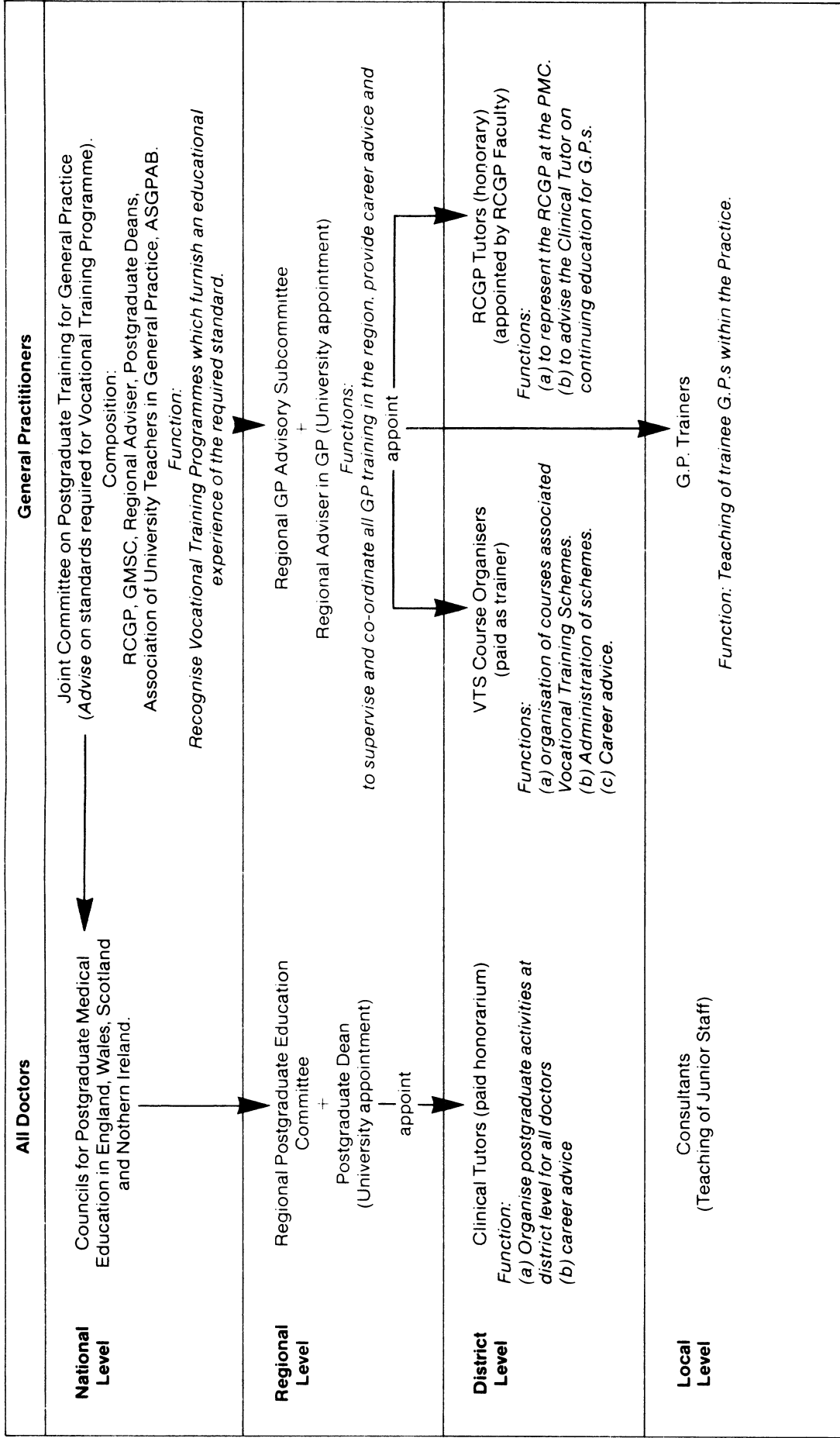
6. Continuing Review of Progress

- adequate clinical experience and discussion time.
- adequate release and study time.
- occasional joint consultation sessions.

7. Final Evaluation and Guidance

- Confidence Rating Scale.
- Manchester Rating Scale or similar.
- Advise re MRCGP exam.
- Advise re career.
- Provision of references.

Structure of Postgraduate Education for General Practice



The M.R.C.G.P. Examination

The college examination is in two parts.

Part 1 consists of:

- A A modified-essay question paper (1 hour)
- B A traditional-essay question paper (1½ hours)
- C A multiple-choice question paper (2 hours).

Part 2 consists of two consecutive structured oral examinations held approximately six weeks after Part 1.

The examination is based upon the job description of the general practitioner and the content of general practice as defined in "The Future General Practitioner— Learning and Teaching". The areas of knowledge assessed in the examination are as follows:—

1. Clinical practice — Health and disease.

The candidate will be required to demonstrate a knowledge of the diagnosis, management and, where appropriate, the prevention of diseases of importance in general practice.

2. Clinical practice — Human development.

The candidate will be expected to possess a knowledge of human development and be able to demonstrate the value of this knowledge in the diagnosis and management of patients in general practice.

3. Clinical practice — Human behaviour.

The candidate must demonstrate an understanding of human behaviour particularly as it affects the presentation and management of disease.

4. Medicine and Society.

The candidate must be familiar with common sociological and epidemiological concepts and their relevance to medical care and demonstrate a knowledge of the organisation of medical and related services in the United Kingdom and abroad.

5. The Practice.

The candidate must demonstrate a knowledge of practice organisation and administration and be able to critically discuss recent developments in the evolution of general practice.

The examination is designed to assess in a variety of ways the skills of the candidate:

- In managing patients through:
 - a) history taking
 - b) examination
 - c) the use of investigations and procedures
 - d) recording information
 - e) interpreting information
- In decision making
- In early diagnosis
- In preparation of plans for management and therapy
- In selection of therapy
- In long-term care
- In interactive medicine in relation to:
 - a) the patient
 - b) the family
 - c) the community
- In the organisation of his practice and himself
- In teamwork, delegation, relating to other colleagues
- In business methods
- In communications.

The candidate will also be required to demonstrate appropriate attitudes to his patients, his colleagues, to the role of the general practitioner and to other aspects of professional life.

A candidate may elect to sit Part 1 papers in one of several centres; currently London, Birmingham, Leeds, Manchester, Newcastle, Edinburgh, Aberdeen, Cardiff, Belfast and Dublin. These and other centres may be used as required, subject to a minimum number of candidates at each centre.

The oral examinations are held at the Royal College of General Practitioners, 14 Princes Gate, Hyde Park, London SW7 1PU, and in Edinburgh.

The following notes are provided to assist candidates in their preparation for the examination.

Part I

A. Modified-essay question — MEQ.

These questions are a college development of the patient management type of question used in the ECFMG (United States) and the Canadian and Australian Colleges' examinations. The paper examines the candidate's ability to define and react to clinical problems in general practice.

A clinical situation is presented and developed and the candidate is required at each stage of the development to answer a series of questions. He does not, as he would in the overseas examinations quoted, have to select from listed options but produce his own solutions. The paper, therefore, examines diagnosis and clinical management in its broadest sense and the MEQ is concerned with any or all of the five areas set out on the previous page.

Past MEQ's are available from the Examination Secretary of the College.

B. Traditional-essay question — TEQ.

This paper contains three essay questions all of which have to be answered. This type of paper presents the candidate with the opportunity of displaying knowledge and indicating skills and attitudes in any or all of the areas of the examination.

Past TEQ papers are available from the Examination Secretary.

C. Multiple-choice question paper — MCQ.

This paper consists of 60 questions of the "true/false" variety. Each question consists of a statement, or stem, followed by five completions or items any of which may be true or false. Candidates are awarded one positive mark for each item correctly identified and one mark deducted for each incorrect response. It is possible in case of doubt to indicate "don't know" in which case no marks are awarded. The balance of questions in the multiple choice paper relates to the morbidity patterns of general practice and at present consists of the following:—

General medicine	12
Therapeutics	8
Obstetrics and gynaecology	6
Paediatrics	6
Psychiatry	6
Surgical diagnosis	4
ENT	4
Dermatology	4
Eyes	3
Social and legal aspects	3
Epidemiology and statistics	2
Practice organisation	2

Part I
continued

The MCQ paper seeks to measure the candidate's clinical factual recall and it is therefore largely concerned with areas 1, 3 and 4.

Past MCQ papers are not published. The question paper is in book form and candidates are required to record their answers on special sheets which allow computer marking. Detailed instructions are issued before each examination.

Part II

Candidates whose performance in Part I has been satisfactory will be called for oral examination approximately six weeks later. They will have completed a "log diary" which provides the examiners with a description of their practice and its organisation, and lists and describes 50 consecutive patients seen during a normal working week. The diary is not marked but provides a basis for Oral No. 1

Each of the consecutive oral examinations occupies a period of 30 minutes and is conducted by 2 or 3 examiners.

Oral 1.

Based on the log diary, approximately 10 of the 30 minutes will be devoted to aspects of the candidate's practice, staffing, organisation, diagnostic facilities, special clinics, etc. The candidate's own patients will then be the subject of the examination. He may expect to have his diagnosis and management challenged and be required to defend with reasons his handling of the clinical situations described. This oral therefore examines clinical skills as well as attitudes towards patients, colleagues, general practice and the profession of medicine as a whole.

Oral 2.

In this examination the candidate will be presented by the examiners with a mixture of typical problems from general practice. Brief clinical and social details of a patient may be provided with an outline of the presenting symptoms. The candidate will describe his approach to the problem, seeking further information from the examiners, outlining the examination and investigations he would perform and demonstrating his ability to define the problem and make a diagnosis. Specific treatment and the overall management of the patient will be discussed.

In this oral examination candidates may be questioned on any topic, either those arising from the cases discussed or suggested by the examiners through the presentation of photographs of clinical conditions, laboratory reports, electro-cardiographic tracings, etc.

The five individual components of the examination carry equal marks (i.e. each comprises 20% of the total). At the examiners' meeting following the oral examinations the marks of all the candidates are discussed and a corporate decision made.

The examination at present is held in May and October/November and the orals in June/July and December.

At each examination candidates may be awarded a pass with distinction and the Fraser Rose Gold Medal is awarded annually to the candidate who achieves the highest overall mark of the year.

The results are published in the week following the last oral examination when a list is posted at 14 Princes Gate and each candidate informed of his result by post. Candidates are requested not to telephone the College as the results will not be given verbally.

Criteria for Membership of the Royal College of General Practitioners

Candidates for membership must:

1. be fully registered medical practitioners who have completed, or who will complete within eight weeks of the date of the oral examination, three years full-time, or equivalent part-time, post-registration experience which:-

a) includes not less than two years in general practice (including any periods as a trainee).

or

b) consists of a special post-registration programme of vocational training for general practice recognised by the College.

or

c) ensures eligibility for the JCPTGP's Certificate of prescribed or equivalent experience.

and 2. pass the examination in accordance with Ordinance 3 of the Royal Charter.

Training

1 One year as a trainee in general practice.
2 A minimum of one year in two or more six-month hospital appointments in specialties drawn from a restricted list including:-

General Medicine

Geriatric Medicine

Obstetrics and/or Gynaecology

Accident and Emergency Medicine (or General Surgery)

Psychiatry

Paediatrics

3) In most vocational training schemes the whole of the course would be spent in the above posts. However, any remaining period, i.e. up to a maximum of one year, may be spent in one or more of a wider range of hospital or community medicine posts, provided that they are educationally approved and selected by the appropriate regional postgraduate medical education committee as suitable for general practice training.

Part-time training is admissible provided that it is not less than half-time and does not take longer than seven years in total.

At the completion of each qualifying post it is most important that the applicant obtains a "statement of satisfactory completion". These statements should then be forwarded to the JCPTGP in order to obtain the vital certificate of prescribed experience.

If an application does not qualify for a certificate of prescribed experience he or she may apply to the JCPTGP, enclosing a curriculum vitae, so that they may be informed whether their total medical experience is acceptable as "equivalent" to the prescribed experience, and if not, what further experience will be required.

Further details of this complex subject are available in the following publications:-

National Health Service (Vocational Training) Regulations 1979. H.M.S.O.
Health Circular. HC(FP) (80) 1980. D.H.S.S.

Entering General Practice – J. S. Norell – published by Schering Chemicals Ltd., 1981.

Training for General Practice – D. J. Pereira Gray – published by Macdonald and Evans, 1982.

During the trainee year all trainees are expected to attend trainer-trainee meetings and day or half-day release courses. In many vocational training schemes the associated academic course extends throughout the three years.

Continuing education for established general practitioners has been generously supported by the DHSS, through Section 63 funding, and by the pharmaceutical companies. Unfortunately, although the volume of educational material offered has been enormous, the quality and content has not been as carefully devised or evaluated as has that provided for vocational training.

Listed below are some of the facilities available:—

District Postgraduate Centres

Lunchtime, sessional or extended courses.

Library facilities.

Advice and help from Clinical Tutors, GP Tutors and the Postgraduate Secretary.

Learning methods used include:—

lectures, group work, studies and investigations, audio-visual facilities.

Regional and National Centres

Day, extended and intensive courses.

For availability refer to:—

Postgraduate Secretary.

Regional Postgraduate Organisation booklets.

Journal advertising.

Royal College of General Practitioners

Refer to Courses Secretary.

Clinical Assistantships

Dependant on local availability.

Clinical Attachments

Personal arrangement

via Regional Postgraduate Adviser in G.P.

Prolonged Study Leave

see Statements of Fees and Allowances (Red Book).

M.D. Thesis

apply to qualifying university for advice.

Funding Organisations

for help with research, travel, etc.

DHSS

Regional Health Authority

Nuffield Provincial Hospitals Trust

Kings Fund

Pharmaceutical Companies.

Practice Activities

Developing management protocols.

Audit methods

- prescribing

- deaths

- serious illness

- emergencies

- hospital referrals

Journal club

Multidisciplinary meetings.

Section C

PROCEDURES

C1 Emergencies

Mental

Although emotional-psychiatric disorders are common, acute mental disorders are not. Less than one a month can be expected.

In an average practice population of 2500	
Patients consulting for emotional-psychiatric disorders	375 per year
Severe depression	10-15 per year
Marital or other personal crises	5-10 per year
Suicidal attempts	2-3 per year
Alcoholic crisis	2-3 per year
Compulsory admission to hospital	1-2 per year
Suicide	1 every 3-4 years
Acute mania	1 every 5-6 years

Assessment:

The purposes of assessment should be to decide —

- what is wrong
- what underlying causes
- what immediate and long-term management

For a complete picture it is necessary to get information from the past medical records, from the patient, from the family, from friends and from others such as neighbours, police and social workers.

History

- what symptoms or problems
- previous episodes
- on treatment
- what medication
- overdose
- alcohol
- personal - family background

Behaviour

- appearance
- depressed/withdrawn
- elated/manic
- confused/psychotic
- aggressive/violent

Signs

- drugs
- alcohol
- head injuries
- other injuries
- conscious level

	<p>Safety</p> <ul style="list-style-type: none"> <input type="radio"/> patient in danger <input type="radio"/> family in danger <input type="radio"/> public in danger <input type="radio"/> doctor/social worker in danger
What is it:	<p>Diagnosis must include —</p> <p>Clinical</p> <ul style="list-style-type: none"> <input type="radio"/> depression <input type="radio"/> 'situatoid hysteria' <input type="radio"/> alcoholism <input type="radio"/> mania <input type="radio"/> schizophrenia <input type="radio"/> brain failure (dementia) <input type="radio"/> other primary conditions such as head injury, thyroid disease, diabetes, stroke, etc. <p>Social</p> <ul style="list-style-type: none"> <input type="radio"/> personal/family crisis <input type="radio"/> criminal act <input type="radio"/> home conditions/resources <input type="radio"/> (others)
What to do:	<p>General</p> <p>The role of the G.P. must be to —</p> <ul style="list-style-type: none"> <input type="radio"/> calm the situation by calm behaviour <input type="radio"/> reassure those who are present <input type="radio"/> first listen rather than act <input type="radio"/> assess and diagnose <input type="radio"/> do not assault the patient <p>For the patient</p> <ul style="list-style-type: none"> <input type="radio"/> comfort and support by an understanding approach <input type="radio"/> relief of acute symptoms with tranquillisers/hypnotics <input type="radio"/> immediate treatment for overdose <input type="radio"/> immediate treatment for injuries <input type="radio"/> home or hospital <p>For the family</p> <ul style="list-style-type: none"> <input type="radio"/> listen, listen, listen! <input type="radio"/> explain nature of condition <input type="radio"/> discuss immediate management <p>For the public</p> <ul style="list-style-type: none"> <input type="radio"/> what dangers <input type="radio"/> what safety measures <p>For the doctor/social worker</p> <ul style="list-style-type: none"> <input type="radio"/> what danger <input type="radio"/> what safety measures <p>Urgent sedation of violent patient</p> <ul style="list-style-type: none"> <input type="radio"/> diazepam 10 - 20 mg i.m. or i.v. <input type="radio"/> chlorpromazine 25 - 100mg i.m.

Hospital admission

Whenever possible endeavour to persuade the patient to go into hospital voluntarily and informally.

Assistance of colleagues may be useful —

- partner
- social worker
- consultant psychiatrist in domiciliary consultation.

If patient refuses and “where the patient is suffering from a mental disorder warranting detention for their own health or safety or for the protection of others” (Mental Health Act) then compulsory admission can be arranged under Sections —

Section 25

- admission up to 28 days
- signed by closest relative, social worker, G.P. or approved doctor
- G.P. has to organise an admission and arrange transport

Section 26

- for treatment up to one year
- signed by G.P. and psychiatrist

Section 29

- emergency admission for up to 72 hours
- signed by one doctor
- G.P. has to organise admission and transport

Section 136

- emergency admission for up to 72 hours
- by police officer
- person in public place suffering from mental disorder and in need of care and control

NOTE:

Scotland — Section 24 Applications for compulsory admission must be approved by Sheriff

Scotland — Section 31 Emergency admission does not require Sheriff's approval

N. Ireland — All admissions to a mental hospital arranged on a temporary basis. Temporary patients admission on application by doctor or social worker to Medical Superintendent of Mental hospital.

Bleeding

What might it be: Sudden uncontrolled bleeding has fear added to the dangers of blood loss.

In practice bleeding sites of note are:

Nose

Vagina

- abortion
- PPH
- menstrual

Lung

- haemoptysis

Gastro-intestinal tract

- haematemesis
- melaena
- occult
- blood PR, i.e. piles, neoplasm, diverticular disease

Internal (hidden)

- ruptured aortic aneurysm
- intracranial
- ectopic pregnancy
- ruptured spleen/liver
- fracture of a large bone, i.e. femur

Assessment:

Is there a bleed

- obvious** with nose, lung, vaginal, stomach and rectal
- not obvious** with melaena, ectopic, aortic aneurysm, intracranial

NOTE: Sudden collapse as first feature of melaena and ectopic.

NOTE: Severe pain with ruptured aorta, ectopic and intracranial.

What causes

- major underlying cause — neoplasm, ulcer, aneurysm
- minor underlying cause — nose bleed, menstrual, piles

What effects

- blood loss — how much
- tissue destruction — brain, aorta

What is it:

Nose bleed

- not significant in children (beware of FB) and in young adults.
- associated hypertension
- atherosclerotic vessels

Haematemesis

- always significant
- peptic ulcers
- erosive gastritis
- cirrhosis
- cancer

Melaena and rectal

- always significant
- peptic ulcers
- diverticular disease
- cancer
- piles

Haemoptysis

- always significant
- cancer
- TB

Vaginal

- significance varies
- metropathia
- uterine polyps
- IUD
- cancer
- abortion
- PPH

Internal

- always significant
- beware missed diagnosis

What to do:

- blood loss can lead to death
- significant bleeding must not be managed at home

Nose bleed

- most cases will cease spontaneously without plugging with time and reassurance
- bleeding in elderly hypertensives may require hospitalisation

Haematemesis

- admit at once

Melaena

- admit at once

Bleeding PR

- check for lesion higher up

Haemoptysis

- all require chest X-ray and bronchoscopy

Vaginal

- many abortions will need evacuation
- PPH is best managed in hospital
- heavy menstrual bleeding should be fully investigated

Acute severe blood loss

- lie in head down position
- set up IV fluids (if available)
- morphine 15 mg/sc
- control bleeding site if possible
- flying squad summoned (if available)
- urgent admission (hospital alerted)

Sudden Deafness

What might it be:

Distinguish

- sudden onset of deafness
- sudden discovery of deafness by patient

Possible causes

- wax in external ear, by far the most frequent cause
- external otitis
- acute otitis media — secretory/suppurative
- trauma to middle/inner ear
- otosclerosis
- presbycusis (deafness of old age)
- vascular accidents to inner ear
- infections: mumps, rubella
- ototoxic drugs: salicylates, streptomycin, neomycin, kanamycin, quinine, chloroquine, phenytoin

Assessment:

Check

- ears with auriscope
- hearing with tuning fork — audiometer
- previous history
- occupation
- recent drugs
- family history

What is it:

External ear

- wax
- external otitis

Middle ear

- acute otitis media
- otosclerosis

Inner ear

- presbycusis
- infection
- vascular
- drugs

What to do:

External ear

- remove wax
- treat external otitis

Middle ear

- treat acute otitis media

Refer to consultant

- inner ear causes
- otosclerosis

Unexpected sudden death

What might it be:

In any year in the UK

Total deaths	600,000
Deaths in hospital	350,000
Deaths outside hospital	250,000
Sudden and unexpected deaths (Reported to Coroner)	60,000 (2 per G.P.)

Sudden and unexpected deaths — Causes

	%
Ischaemic coronary heart disease	55
Other heart disease	9
Pulmonary embolism	6
Ruptured aortic aneurysm	6
Acute respiratory disease	7
Cot deaths	2
Acute abdomen	2
Suicide	5
Road traffic accident	5
Others	3
	100

(After H. G. Penman, in *Scientific Foundations of Family Medicine*, 1978)

Assessment:

- confirm death
- establish identity
- history from witnesses
- examine body.

What might it be

- almost all sudden deaths are from natural causes
- once in a professional lifetime you will meet an un-natural cause — be prepared

What to do:

- if deceased had medical care in past 14 days — possible to issue death certificate
 - if no medical attention in past 14 days — notify the coroner's officer
 - notify the coroner's officer if —
 - accident-injury in past year
 - uncertain causes
 - allegations of negligence
 - alcoholism/self neglect
 - war or industrial disability pension
 - result of medical/surgical treatment
 - suicide
 - in prison/custody
- (In Scotland Procurator-Fiscal acts as Coroner.)
- support family — explain and inform
 - removal of body (by local undertakers)
 - if autopsy — try to attend

Sudden Blindness

What might it be:

Distinguish

- sudden onset of blindness
- sudden discovery of blindness by patient

Possible causes

- glaucoma
- cataract
- migraine
- senile macular degeneration
- retinal detachment
- giant cell arteritis
- multiple sclerosis
- intracranial neoplasm
- central retinal artery occlusion
- malignant hypertension
- central retinal vein occlusion
- macular haemorrhages
- carotid artery occlusion
- methanol drinking
- hysteria

Assessment:

Check

- visual acuity
- visual fields
- systematic examination of eyes
- other systems
 - CVS
 - CNS
 - urine
 - ESR

What is it:

Whatever your diagnosis — refer to consultant.

What to do:

Arrange for urgent consultation with consultant ophthalmologist.

Sudden severe breathlessness

What might it be:

Sudden severe breathlessness demands urgent home visit

The **two most likely causes** are —

- acute left sided heart failure
- acute asthma/or chronic bronchitis.

Rarer possibilities may be —

- spontaneous pneumothorax
- pulmonary embolus
- hysterical hyperventilation

Assessment:

Even before seeing the patient access to his (or her) records will show **past history** of chest troubles, (asthma/chronic bronchitis) or cardiovascular problems (ischaemic heart disease/high blood pressure/valvular heart disease).

History

- onset — preceding cough/sputum
— paroxysmal nocturnal
- chest pain

Examination

- wheezing
- crepitations
- thick mucoid/purulent sputum
- thin watery frothy blood-stained sputum
- triple rhythm/pulsus alternans
- JVP
- blood pressure

What is it:

	Asthma/chronic bronchitis	Left heart failure
Past history	Chest troubles	BP+ IHD Valvular heart disease
Chest	Wheezing	Crepitations
CVS	JVP+ Tachycardia Gallop rhythm	Triple rhythm Pulsus alternans
Sputum	Thick Purulent	Thin Frothy Blood-stained

What to do:

Firm diagnosis — LHF

— asthma/bronchitis

Immediate — rapid examination . . . CVS
. . . chest

— oxygen (if available).

LHF — morphine 10 - 20 mg iv (or diamorphine)

— aminophylline 0.25 - 0.5 g im iv

— frusemide 20 - 40 mg iv

Asthma/bronchitis — aminophylline 0.25 - 0.5 g iv

— adrenaline (1:1000) 0.5 - 1 ml sc

or — salbutamol 0.5 mg sc

or — terbutaline 0.25 - 0.5 mg sc

— hydrocortisone hemisuccinate 100 mg iv

— antibiotics

If undecided use aminophylline and frusemide

Hospital admission — must be decided on merit in each case.

Croup

What might it be:

“Croup” is an old term for acute laryngitis with stridor in children. A winter epidemic ailment affecting children between 6 months and 3 years of age.

- majority** are acute laryngitis associated with viral URI.
- epiglottitis** is very rare caused by H. influenzae.
- very very rare**
 - laryngeal diphtheria
 - laryngeal foreign body
 - laryngeal trauma
 - laryngeal papilloma
 - laryngeal angioneurotic oedema.

Assessment:

Although the majority can be managed safely at home death can occur from anoxia.

- many cases occur late in the evening or night time in winter
- recurrent attacks frequent until age of 3.
- family history of tendency to croup.

Symptoms

- croaky barking cough
- inspiratory stridor
- anxious parents.

Signs

- child alert or distressed
- tachycardia +
- colour — pale or cyanotic
- fauces — normal appearance
 - cherry red epiglottitis (dangerous to look for it)
- chest — clear

What is it:

- assume an acute viral laryngitis (part of URI).
- prognosis good if alert child of good colour, in spite of noisy barking cough, but with clear chest.
- beware if child is distressed, pale blue-grey and if there are wheezes — creps in chest.
- beware of suggestion of epiglottitis, diphtheria, FB or angioneurotic oedema.
- beware of bad social conditions or inadequate mother/father.

What to do:

- decide on care at home or hospital
- explain nature of condition and good prognosis to parents
- condition usually improves by early morning and if child can be allowed to go off to sleep.
- no evidence of real benefits from —
 - steam inhalations
 - sedatives (for child)
 - antibiotics
 - cough mixture.
- common sense management is to —
 - reassure ++
 - forecast the likely course
 - advise warm drinks
 - re-assess the situation next morning.
- if some therapy is deemed necessary, then —
 - simple linctus in hot water
 - promethazine (Phenergan)
 - steam kettle atmosphere in kitchen or bathroom.

Acute Diarrhoea and Vomiting

What might it be:

Acute D & V is endemic and affects all ages.

Acute D & V is potentially dangerous in infants because of secondary interference with water and electrolyte balance.

Causes of acute D & V are uncertain. In only a small minority definable pathogenic bacteria (E. Coli, dysentery, typhoid-paratyphoid, cholera and food poisoning organisms, protozoa (giardiasis) or viruses (rota viruses) detectable.

It must be assumed that at present most D & V in practice is of uncertain cause.

NOTE: that D & V may occur in association with **remote infections** (in children) such as acute otitis media.

— as part of **acute abdomen** — appendicitis, intussuseption, and mesenteric artery thrombosis.

— with **malabsorption syndrome**.

Assessment:

History

- possible food poisoning
- other cases in family (or area)
- recent travel overseas
- duration
- severity — vomit/diarrhoea
- other symptoms in other systems

Examination

- general condition
- TPR
- dehydration (look at tongue, fontanelle, tissue turgor)
- abdominal examination:
 - tenderness
 - distension
 - masses
- rectal examination
- ears
- throat
- chest
- inspect vomit
- inspect faeces

Investigations are normally unhelpful but essential in food handlers.

Faeces should be examined for organisms etc. if condition lasts more than a few days and if epidemic present.

What to do:

Majority of D & V settle naturally within 2- 3 days.
There is no need for antibiotics or any other medication.

General advice

- no solids to be eaten
- plentiful fluids by mouth
- small amounts and frequently if vomiting.
- since attacks tend to be over in 2 - 3 days no need for special formulation of fluid.

Infants

- NO solids
- ½ strength milk in mild attacks
- glucose-electrolyte mixture 1-2 hourly in infants under 6 months

NOTE: lactose intolerance in recurrent or persistent diarrhoea

If no improvement in 2 - 3 days:

Children and adults: reconsider diagnosis — faecal examination

Infants: consider hospital admission to correct dehydration.

Bereavement

What might it be: Bereavement and grief are human experiences and happenings common to all. There is a normal process of grieving and there are abnormal deviations.

Normal bereavement

- shock and disbelief
- weeping
- depression, gloom and self-pity
- guilt and hostility
- sleeplessness
- anxiety — panic
- hallucinations of dead person
- withdrawal
- readjustment

Grief process may last weeks or months.

Abnormal grief

- prolonged
- severe depression
- suicide or suicidal gestures
- increased general morbidity
- increased mortality
- increased consumption of psychotropic drugs.

Assessment:

- normal bereavement
- abnormal grief

What to do:

- bereaved need support from family and other agencies.
- G.P., nurse, HV or Social Worker should offer help.
- allow bereaved to talk+
- give due praise in their care of the deceased.
- reassure that no more could have been done.
- "happy release" or "life would have been a great burden".
- offer follow-up consultations.
- do not immediately prescribe sleeping pill and/or psychotropic drugs.

Acute Abdomen

What might it be:

- Sudden
- abdominal pain
 - vomiting
 - bowel change
 - bleeding
 - shock/collapse

face the GP with a potential life/death situation.

The rate of acute abdomen in a typical practice of 2500 may be:

acute appendicitis	3 cases every year
renal colic	2 cases every year
biliary colic	1 case every year
intestinal obstruction	1 case every year
peptic ulcer complications	1 case every year
strangulated hernia	1 case every 2 years
acute pancreatitis	1 case every 4 years
ectopic pregnancy	1 case every 4 years
gynae emergencies	1 case every 4 years
diverticulitis	1 case every 5 years
congenital pyloric stenosis, etc.	1 case every 10 years

after Fry, J. "Common Diseases" (1979)

The **problems** facing the GP are:

- has the patient an acute surgical abdomen
- should immediate hospital admission be arranged
- if not: what further investigations should be done
 - should a specialist opinion be arranged
 - when should the patient be seen again
- what should the patient/family be told

Assessment:

History

- pain
 - how long
 - where
 - what character
 - has it moved
- vomit
 - how many times
 - character
- bowels
 - last open
 - diarrhoea
 - appearance
- micturition
 - any change
- menses
 - LMP
 - discharge
 - on pill
- other symptoms
 - ?
- previous history
 - similar attack
 - operations
 - major illnesses
- family history
 - ?

Examination

- abdomen — follow sequential pattern
 - (do not forget groins, scrotum, vagina, rectum)
 - look before you feel
 - palpate gently.
- TPR — take and note.
- urine — infected
 - blood
 - sugar
 - porphyria
- throat — acute throat infection as cause of abdominal pain in child
- chest — non-surgical causes of acute abdominal, i.e. pneumonia, myocardial infarction, ruptured aorta.

NOTE: abdominal pain lasting more than 3 - 4 hours is likely to be an acute abdomen

child who can jump up and down is unlikely to have acute abdomen.

beware, we have all missed the occasional acute abdomen.

What is it: Diagnosis

The role of the GP is **not** to make a **definite diagnosis**, which must always be retrospective.

Clinical pointers

- acute appendicitis is chiefly a condition of young adults but can occur at any age.
- renal colic is often recurrent, but is more common in men.
- biliary colic is more common in women and the pain is worse than labour pain.
- intestinal obstruction is secondary to some primary mechanical causes which are more likely in the elderly.
- ectopic pregnancy is becoming more frequent, note women with IUD.

What to do:

Do not delay, see patient quickly.

Remember the **sins of clinical omission** and followed recognised sequence of

- history
- examination
- assessment
- discussion with patient/family.

If **acute abdomen is likely**, then:

- arrange immediate hospital admission

If **acute abdomen is possible**, then:

- arrange for immediate hospital admission

or

- arrange for immediate domiciliary consultation

or

- arrange for immediate hospital O.P. assessment

or

- arrange to see the patient again in a few, 2 - 3 hours

DO NOT LEAVE OVERNIGHT

If **acute abdomen is unlikely**, then:

- arrange to see the patient again soon
- instruct patient/family to report any change or deterioration.

Anaphylaxis

- What might it be:** Immediate systemic reaction to antigen (reagin) entering sensitised person by —
- injection — penicillin, foreign sera or insect bites, therapeutic desensitisation, etc.
 - ingestion — drugs, e.g. penicillin or aspirin
foods, e.g. shell fish
 - inhalation — pollens, animal dander.
- Effects**
- General**
- collapse, convulsions, coma
 - fall in BP
 - tachycardia — cardiac arrest — death
 - shock
 - anuria
 - coma
- Respiratory**
- laryngeal oedema
 - bronchospasm
 - pulmonary oedema
- GI Tract**
- vomiting
 - diarrhoea
- Skin**
- angio-neurotic oedema
 - urticaria
 - maculo-papular rash
 - pruritus
- Assessment:**
- one of the most urgent and life threatening situations in practice
 - may be immediate result of obvious injection or may be delayed after ingestion of food or drug.
 - history — what has been injected or taken
 - previous history
 - Medic-Alert disc/bracelet
- What is it:**
- diagnosis of anaphylaxis is usually obvious.
 - no time to waste in endeavouring to pinpoint causal factors — the management is the same for all.
- What to do:**
- lay in head down - feet up position
 - clear air passages
 - insert airway if necessary
 - inject adrenaline (1:1000) slowly 0.5ml sc
repeat every 5 minutes if necessary
 - inject hydrocortisone hemisuccinate 100mg iv

Cardiac Arrest Regime

Patient is unconscious, cyanosed, dilated pupils and is not breathing.

1. Place patient flat on his back on the floor or a hard surface.
2. **Open the airway**
 - lift up the neck
 - push forehead back
 - clear out mouth
3. **If no breathing**
 - pinch nostrils
 - blow firmly into mouth. The chest must rise and fall
 - repeat once every 5 seconds
 - use Ambu bag and oxygen 4l/min. when available
4. Check **carotid pulse**
 - if absent **commence external cardiac compression**
 - heel of hand over lower half of sternum
 - depress sternum 1½-2 inches
 - keep arms straight
 - keep fingers off chest wall
 - one compression each second
 - If one person.** Give 15 compressions at 80 per minute, then 2 quick lung inflations.
 - If two persons.** 5 compressions at 60 per minute, then 1 lung inflation.
5. **Defibrillate the heart** (if portable defibrillator available). One unsynchronised shock of 400 Joules should be given unless immediate monitoring shows asystole or rhythm other than ventricular fibrillation (V.F.). Otherwise assume V.F. to be present. Continue C.P.R. after first shock and then establish E.C.G. diagnosis.

Drug treatment (by second assistant)

Establish I.V. line and give appropriate drugs.

- Sodium bicarbonate**, 1 mEq/kg body weight. Repeat half dose every 10 minutes.
- Adrenaline**, 0.5 mg (0.5 ml of 1/1000 solution. Dilute in 10 ml). Repeat every 5 minutes. Consider intracardiac injection.
- Lignocaine**. Dose 50-100 mg (5-10 ml of 1% soln I.V. followed by I.V. infusion of 1-3 mg/min. defibrillation or with recurrent V.F.
- Isoprenaline**, 0.2 mg (1 ml of 1/5000 solution) indicated for asystole or low amplitude V.F.
- Calcium chloride or gluconate**, 5 ml of 10% calcium chloride or 10 ml of 10% calcium gluconate.

After recovery

- define course
- instruct patient and family on future prevention
- enter sensitivity on medical records
- arrange for Medic-Alert disc/bracelet.

Acute Back

What might it be: More than 9 out of 10 acute backs have no underlying cause and recover with simple measures within 2 - 3 weeks.
Acute backs tend to recur. They are most frequent in 30 - 60 age period.

Possible more serious causes

- prolapsed intervertebral disc
- vertebral collapse secondary to
 - neoplasia (usually secondaries)
 - osteoporosis
 - trauma
 - infection (T.B.)

Assessment:

History

- causal incident — often minor
- previous history — recurrences common
- radiation -- leg
- aggravating factors — cough, strain
- bladder function
- sensory symptoms

Examination

- back
 - movements
 - tenderness
- sacro-iliacs
- straight leg raise
- reflexes
 - knee
 - ankle
 - plantar
- sensation
 - leg
 - perineum
- motor
 - power
 - wasting
- abdomen
- rectal
- pelvic

Investigations

Unnecessary in majority of attacks

If no improvement after 2 - 3 weeks (or other indications)

- X-Rays of back and chest
- FBC and ESR
 - if Ca prostate suspected — serum acid phosphatase
 - if myelomatosis suspected
 - electrophoresis
 - Bence Jones proteinuria

What is it:

Assume it is a “**minor non-specific acute back**” unless —

- radiation down leg and SLR (knee and ankle reflexes altered)
- severe pains with local tenderness
- bladder function disturbed
- persists and recurs ++

What to do:

Most begin to settle in 2 - 3 days with:

- strict bed rest on boards
- analgesics
 - aspirin/paracetamol usually adequate

If no improvement

- re-assess and investigate
- consider epidural injection
- consider manipulation
- consider corset support

If severe and prolonged then —

- refer to consultant
 - domiciliary consultation
 - OPD
- assess personal - family problems.

Acute Lower Limb Ischaemia

What might it be: Sudden occlusion of lower limb artery may result from —
 thrombosis in atheromatous artery
 embolism from L. heart in auricular fibrillation, mitral valve disease or myocardial infarction.

Effects

- sudden onset (or increase) in intermittent claudication
- sudden severe pain in leg
- coldness
- loss of power
- loss of sensation

Assessment:

Leg

- pale
- cold
- pulseless (beyond site of occlusion).

What is it:

Differentiate from DVT where leg is —

- swollen
- blue
- warm
- pulses present

Differentiation of embolism or thrombus is academic.

What to do:

- emergency admission to vascular unit
- relief for pain with morphine or pethidine
- expose and cool affected leg
- heparin i.v. or s.c.

Acute Sore Throat

What might it be:

Two peak periods of prevalence

- children (4 - 8)
- teenagers — young adults (15 - 21)

Causes (on throat swab)

- two thirds — no pathogenic organisms isolated ? viral
- less than one third — Strep. pyogenes
- others — glandular fever, blood diseases (leukaemia, etc.)

Recurrences are usually at peak periods followed by natural remission.

Assessment:

Age non-specific viral infections — more frequent in children

- Strep. pyogenes infections more frequent in young adults
- glandular fever at 15-25

PH

- previous attacks and severity
- associated illness

General

- Condition**
- degree of illness
 - TPR
 - rash

- Tonsils**
- swelling
 - exudate
 - peritonsillar swelling

- Glands**
- palpable
 - tender

What is it:

A decision has to be taken before results of throat swabs available.

In children

- most likely **cause** is non-bacterial (viral)
- most likely **course** is for resolution within 3 - 4 days.

In teenage - young adult

- Strep. pyogenes more likely
- glandular fever possible.

In adults (over 30)

- most likely **cause** is part of URI (flu etc.)
- peritonsillitis (quinsy) more likely than in children
- may be secondary to blood disease (leukaemia, etc.)
or NG of tonsil or pharynx.

What to do:

- specific pathogenic bacteria in less than one third
- most resolve naturally in 3 - 4 days.

Children

- explain nature and course to parents
- relieve discomfort with analgesics
- oral penicillin V or penicillin i.m. if child —
 - severely ill
 - frequent attacks
 - does not improve in 3 - 4 days.
- routine throat swabs not necessary. Take swab if —
 - you are still learning about sore throats
 - unusual appearances
 - other cases in family or area
- blood examination —
 - if course prolonged
 - if glandular fever suspected

Teenagers/young adults

- explain nature and course
- relieve symptoms with analgesics
- oral penicillin V or penicillin i.m. if —
 - severely ill
 - follicular tonsillitis+
 - cervical glands + tender
 - epidemic of Strep. pyogenes
- (do **not** give ampicillin — rash with glandular fever)
- throat swab if —
 - unusual appearance
 - epidemic
- blood examination (for glandular fever) if —
 - prolonged (over 7 days)
 - glands +

Deep Vein Thrombosis (DVT)

What might it be:

DVT can occur in veins of lower limbs.

Significance is great.

- mortality — thrombus detached can lead to massive pulmonary embolism
- morbidity — chronic swelling and venous insufficiency of leg
- associated with
 - bed rest
 - varicose veins
 - oral contraceptives
 - cardiac failure
 - dehydration
 - neoplasia
 - pregnancy
 - surgery

Assessment:

DVT may be silent and become evident by its effects, i.e. pulmonary embolism and chronic fat leg.

When apparent —

- pain and swelling
- blue and swollen leg (measure calf)
- skin shiny and warm
- dilated superficial veins
- positive Homan's sign (dorsiflexion at ankle).

What is it:

High index of suspicion is essential in —

- bed bound patients
- CCF on diuretics

Superficial thrombo-phlebitis in VV's is much less likely to lead to pulmonary embolism.

What to do:

- emergency hospitalisation
- anticoagulant therapy with heparin.

Acute Vertigo

What might it be:

There is considerable confusion over the clinical definition of vertigo because of uncertainty about the nature and causes.

In general practice types are —

	%
Positional vertigo	80 (5-6 cases per year)
Ménière's syndrome	15 (1-2 cases per year)
Mini-strokes	3 (1 every 2 years)
Chronic otitis media	1 (1 every 5-10 years)
Others, e.g. acute infection, trauma, multiple sclerosis	1
	100

Assessment:

General examination

- TPR
- BP

Ears

- normal
- chronic otitis media
- hearing

CNS

- nystagmus
- reflexes
- power and movement

What is it:

Positional vertigo

- went to bed well
- on awakening in morning
 - sensation of rotation on moving head
 - falls on standing
 - nausea and vomiting
 - victim usually lies still in bed with eyes shut
 - vertigo worse on moving head
 - nystagmus may be present
 - no other abnormal signs
 - attack passes within few days
 - return of vertigo on sudden movements,
(e.g. looking up, on getting up and going to bed)
 - recurrent attacks not uncommon
 - cause unknown (no evidence that it is an infection)
 - young and middle aged adults affected.

Ménière's Syndrome

- cause unknown
- pathology said to be —
 - dilatation membranous labyrinth
 - destruction of sensory cells in cochlea and ampulla
 - middle aged adults
 - attacks (few hours - days) —
 - vertigo
 - nausea and vomiting
 - tinnitus
 - deafness (may become permanent).

What to do:

Make a diagnosis!

- most likely are positional vertigo or Ménière's syndrome
- no specific therapy available
- general measures
 - reassure ++ that **not** due to —
 - tumours
 - blood pressure
 - strokes
- explain nature and course
- avoid sudden quick movements
- possible relief with promethazine, prochlorperazine.

Earache

What might it be:

Children

- acute otitis media (the most usual cause)
- foreign body
- external otitis (rare in children)

Adults

- acute otitis media
- acute/chronic otitis media
- external otitis
- dry hard wax
- referred pain from —
 - dental causes
 - throat infection
 - neuralgia

Assessment:

Ears

- external ear
 - swelling of walls
 - boil
 - dermatitis
 - foreign body
 - wax
- ear drum

(if there is external otitis or wax it may not be possible to visualise drum and it may be too painful to remove wax).

- normal
- red

Mouth

- dental state
- tonsils
- buccal ulcers

General

- degree of illness
 - TPR
 - Severity of pain

What is it:

NOTE: infants and young children do not complain of “earache”. Present as sick feverish child with abdominal pains.

- examination of ears will reveal —
 - cause in ears
 - no cause in ears
 - consider referred pain.

What to do:

Acute otitis media

- more than one half have non-bacterial causes (? viral)
- most likely bacterial causes
 - pneumococci
 - H. influenzae
 - Strep. pyogenes
- much less dangerous condition than in past.
 - less virulent organisms
 - more healthy children
- many attacks will resolve completely without antibiotics.
- relieve pain with adequate analgesics, (e.g. soluble aspirin)
- reassess in 1 - 2 days
 - if earache improved continue to observe and follow-up. (ear drum will take up to 3 weeks to return to normal).
 - if earache still present and child unwell give —
 - penicillin V
 - amoxicillin
 - ampicillin
 - co-trimoxazole
 - essential to follow-up until drum and hearing return to normal.

Acute otitis externa

- if localised boil (furuncle)
 - oral antibiotics
- if diffuse dermatitis
 - cleanse out meatus
 - steroid-antibiotic eardrops

Fits and Faints

What might it be:

Vasovagal (commonest)

- emotion
- heat
- standing still
- drugs

Cardiac

- myocardial infarction
- dysrhythmias
- emboli
- cough syncope

Cerebral

- epilepsy
- cerebrovascular accident
- tumour
- alcohol
- drugs
- infection
- injury
- hypertensive encephalopathy
- toxæmia of pregnancy

Metabolic

- hypoglycaemia
- myxoedema

Psychomotor

- hysteria

Assessment:

History (of most importance)

- age
- previous history of fits. When. How often.
- previous medical history — diabetes, head injuries, etc.
- ?medication
- when was last meal
- alcohol
- what was patient doing at onset of episode. e.g. rising from sitting position, prolonged standing, etc.
- onset — sudden, gradual
- recent symptoms
- depression/anxiety
- pregnant

Obtain eye witness report if possible.

Question relatives or neighbours about known illness, drugs, recent behaviour.

Examination

- general behaviour, cooperation
- appearance — disarranged clothing, eccentricities, etc.
- level of consciousness
- orientation in time and space
- memory for past events
- emotional state
- delusions, hallucinations, etc.
- evidence drugs/alcohol use
- temperature, skin, colour

CNS

- cranial nerves
- cerebellar function
- motor system
- sensory system
- reflexes
- signs of meningeal irritation

CVS

- blood pressure
- pulse rate and rhythm
- heart rate, sounds, rhythm
- peripheral pulses
- carotid bruit

What is it:**Syncope**

- Cardiac**
- dysrhythmias
- standstill
- Vasomotor**
- haemorrhage
- pulmonary embolus
- pain
- drugs — hypotensives
- simple faint — never occurs when prone, rarely sitting, usually standing
- emotion, hot rooms
- feel sick, sweaty, faint
- during faint patient is pale and flaccid, eyes may be open and reflexes lost. Recovery usually rapid when supine.
Main distinction is from epilepsy.

Fits

- Epileptic**
- aura
- tonic, clonic, flaccid stages
- tongue biting
- urinary incontinence
- Diabetic**
- hypoglycaemia
- sweaty
- normal pulse and blood pressure
- usually known diabetic on treatment
- missed meal, unaccustomed exercise
- Other**
- cerebrovascular accident (see stroke)
- alcohol — usually during withdrawal, stigmata, liver disease
- drugs — pill bottles, notes, venepuncture
- hypertensive encephalopathy — hypertension, fundal changes
- toxæmia of pregnancy — hypertension, oedema, albuminuria
- infections — pyrexia, meningeal irritation
- space occupying lesion — focal neurological signs, raised intracranial pressure
- myxoedema — low temp. pale dry skin, thin coarse hair, etc.
- hyperventilation — neurotic personality, carpopedal spasm, lack of physical signs

What to do:

- airway
- loosen clothing
- coma position if necessary
- if continue to fit — i.v. diazepam
- if unconscious — admit to hospital
- first fit
- head injuries } — hospital
- known epileptics can usually be treated at home
- hypoglycaemia can be treated at home.

Cold Injury

What might it be:

- exposure to damp cold causes trench foot, chilblains
- exposure to dry cold causes frostbite, exposure
- vulnerability is increased by cardiovascular disease, alcohol, exhaustion, hunger. Very young and very old more vulnerable

Assessment:

Frostnip

firm, white, cold areas on face, ears or extremities

Frostbite

cold, hard, white, anaesthetic areas becoming red, swollen, painful on rewarming

Exposure

partial or total loss of consciousness, rectal temperature below 93° F

What to do:

Frostnip

- rapid rewarming

Frostbite

- best method is warm bath, hot drinks
- relieve pain by adequate analgesia
- tetanus boost later

What not to do:

- do not rub or massage the frozen part
- do not use grease or snow on the frozen part
- do not expose to open fire or really hot water
- do not give alcohol

Hyperpyrexia

- What might it be:**
- serious threat to life
 - mortality may be up to 20%
 - rectal temperature $>41^{\circ}\text{C}$ (106°F)
 - old age, cardiac disease, renal disease and chronic alcoholism lessen the probability of recovery

Assessment:

History

- onset may be sudden
- may follow prodromal weakness
- cessation of sweating before attack

Examination

- temperature 106° or above
- skin burning hot and dry
- polyuria
- diminished sweating
- muscular twitching
- diminished tendon reflexes
- pulse may exceed 160/min.

What to do:

- presumptive diagnosis of hyperpyrexia must be made
- consider meningitis, malaria, urinary tract infection
- pneumonia may be suspected
- hyperpyrexia is always an emergency

Heroic measures

immediately

- cover with blanket soaked in cold water
- massage skin vigorously
- cool, well ventilated room
- check rectal temperature every 10 minutes — should not fall below 38.5°C (101°F)
- constant attendance
- drugs contraindicated except for control of convulsions
- admit to hospital

Convulsions in Children

- What might it be:**
- febrile convulsion
 - CNS infection — meningitis, brain abscess
 - epilepsy
 - trauma
 - cerebrovascular accident
 - tumour
 - drugs, poisons (e.g. lead)
 - hypoglycaemia
 - progressive degenerative disease (Tay-Sach's, tuberose sclerosis, etc.)
 - hyperventilation

Assessment:

History

- past medical history
- past history of fits
- past history of trauma
- recent symptoms — fever, malaise, etc.
- any recent medication
- onset, duration, pattern of fit
- tongue biting, incontinence of urine, etc.

Examination

- level of consciousness
- temperature
- evidence of infectious illness — rash, tonsillitis, neck stiffness, etc.
- evidence of injury
- urinary incontinence
- focal neurological signs
- pupils, fundi
- pulse, B.P., heart rate and rhythm

What is it:

Febrile Convulsion

- usually occurs with rapid rise in temperature
- most often in 1-3 year age group
- rare after 5 years
- associated with intercurrent infection, e.g., otitis media, tonsillitis, pneumonia, pyelonephritis, meningitis, infectious disease
- family history of fits commonly present
- fit short-lived, not more than 10 minutes
- tonic → clonic → stuporose stages
- stupor may be brief
- incontinence of urine
- tongue or lips may be bitten

What to do:

If still fitting

- free airway
- mouth gag (not hard object or finger)
- do not restrain
- diazepam i.v. if possible
- diazepam rectally otherwise

Control of pyrexia

- aspirin
- remove clothing
- tepid sponging
- decide on care at home or in hospital
- if cause obvious, e.g. measles, otitis media, treat at home
- if not — admit to hospital.

Chest Pain

What might it be:

Pain which is central and prolonged is likely to be serious; brief or lateral chest pain is not. The most important potentially life-threatening causes are

- myocardial infarction
- dissecting aortic aneurysm
- pulmonary embolism

Other causes of chest pain include:

Cardiovascular

- angina
- pericarditis

Pulmonary

- infections
- spontaneous pneumothorax

Digestive tract

- oesophageal reflux/oesophagitis
- gastritis
- Mallory-Weiss syndrome

Musculo-skeletal

- Bornholm disease
- muscle strain
- bone pain

Psychological

- hysteria
- cardiac neurosis

Assessment:

History

- how old is the patient
- has he had the pain before
- onset
- character
- site and radiation
- duration
- accompanying symptoms
- does anything make the pain better
- does anything make the pain worse
- is the patient on any medication

Examination

- general condition. ? shock
- pulse
- B.P.
- heart sounds
- chest movement
- percussion
- lung sounds
- localised tenderness
- temperature

Investigations

Not helpful at this stage. The diagnosis is a clinical one.

What is it:**Myocardial infarction**

- central chest pain
- 'tightness' radiating to neck, jaw, arms
- sweating
- nausea, vomiting
- onset on effort
- prolonged pain, lasting up to 1 hour
- shock
- dysrhythmias

Pulmonary embolus

- dyspnoea
- tachypnoea
- cough
- haemoptysis
- tachycardia
- relevant history e.g. operation, Pill, phlebitis

Dissecting aortic aneurysm

- sudden 'shearing' pain, worst at onset
- signs of cardiac tamponade

What to do:

Give diamorphine 10 mg. i.v. (or equivalent) and an anti-emetic e.g. cyclizine

Pulmonary embolus or dissecting aneurysm — admit to hospital

Myocardial infarction

- home or hospital depending on the patient's condition
- home circumstances
- availability of domiciliary medical care

For dysrhythmias following M.I.

- bradycardia — atropine 0.6 mg. i.v.
- tachycardia causing deterioration in patient's condition — lignocaine 100 mg i.v.

Follow up

- if patient is to remain at home, arrange to visit next day
- confirm diagnosis by ECG and/or cardiac enzymes
- control dysrhythmias, cardiac failure, post-infarct angina, as necessary
- advise on gradual mobilisation depending upon age, complication, etc.
- advise on future life-style — occupation, smoking, exercise, etc.

Dental Emergencies

What might it be:

Pain

- caries
- pulpitis
- abscess
- dry socket (alveolar osteitis)

Bleeding

- post-extraction haemorrhage

Ulceration

- herpetic
- aphthous
- Vincent's stomatitis
- manifestation of systemic disease or dermatosis

Swelling

- trauma
- infection
- glandular obstruction
- allergy

Assessment:

History

- previous dental problems
- recent dental treatment
- medication
- known dermatosis or systemic illness
- onset, duration, course of symptoms

Examination

- general condition
- temperature
- skin rashes, etc.

Mouth

- mucous membranes, tongue
- gums
- teeth
- extraction sites

Salivary glands

- swelling
- tenderness
- discharge from ducts

What is it:

Caries and pulpitis (common or garden toothache)

- evidence of destruction of enamel
- sharp shooting pain which persists for short time after removal of stimulus (e.g. hot, cold or sweet food)
- very sensitive to hot or cold stimuli
- non-tender to percussion

Advanced pulpitis/abscess

- in early stages, sharp pain which lingers after removal of stimulus
- later intense, persistent throbbing pain
- usually aggravated by heat and relieved by cold
- tender to percussion

Dry Socket

- commonest cause of delayed post-operative pain
- throbbing pain, often referred especially to ear

Post-Extraction Haemorrhage

- obvious bleeding tooth socket soon after extraction

What is it:
continued

Herpetic Ulceration

- most commonly in children
- patients usually pyrexial
- preceded by sore throat, enlarged submandibular nodes
burning sensation of oral mucosa
- vesicular eruption ruptures to form ulcers on mucosa
- ulcers may coalesce to form large area with serpiginous border
- causes difficulties talking, eating, swallowing
- lasts 7-10 days

Aphthous ulceration

- commonest form of mouth ulceration
- may be **minor, major** or **herpetiform**.

minor

- usually between 10 and 20 years of age
- usually confined to mucosa of lips and cheeks
- preceded by burning or itching
- 1-4 shallow ulcers, 3-10 mm in diameter, surrounded by erythema
- exquisitely painful
- heal 7-10 days without scarring

major

- affects lips, cheeks, tongue, soft palate, pharynx
- more than 10mm diameter
- deeper than minor variety
- regional lymphadenopathy
- take up to 6 weeks to heal, often with scarring

herpetiform

- resemble the ulcers of herpetic gingivostomatitis
- may be crops of 5-100
- shallow ulcers, 2-5 mm in diameter
- occasionally ulcers coalesce
- heal 7-10 days without scarring

Vincent's stomatitis

- mainly in adolescents and young adults
- fuso-spirochaetal infection
- affects papillary portion of gum
- appears flattened, bleeds spontaneously
- greyish slough
- foetor
- regional lymphadenopathy
- pyrexia
- intense pain

Trauma

- should be easily established from history
- continuing haemorrhage
- shock
- interference with respiration due to swelling
- associated intra-cranial damage

Infection

Periapical osteitis

- infection confined within bone
- tooth extruded from socket painful to percussion

Diffuse cellulitis

- swelling not sharply demarcated
- tissue has doughy consistency, no fluctuation

Abscess

- swelling distinctly outlined tissues, firm consistency
- fluctuation usually elicited

What is it:
continued

Glandular duct obstruction

- commonly submandibular or parotid
- swelling of gland
- tenderness of gland, fever, pain, discharge if infection supervenes

Allergy

- see programme on angio-neurotic oedema

What to do:

Toothache caused by caries, pulpitis, abscess

- analgesics
- refer to dental surgeon

Dry socket

- irrigation of socket
- insert topical analgesic paste
- analgesics
- refer

Post-Extraction Haemorrhage

- remove surplus clot
- insert folded gauze and ask patient to bite on it for 15 minutes
- if bleeding not controlled, suture indicated
- local infiltration of 2 ml of lignocaine and adrenaline (1:80,000).
insert sterispon or calgitex into socket.
insert horizontal mattress suture.

Non-Accidental Injury

What might it be: 8,000 cases of non-accidental injury reported each year in England.
Over 100 deaths annually.

In a suspected case, consider also:

- accidental injury
- a bleeding diathesis
- osteogenesis imperfecta
- skin infections
- birth injury

Assessment:

History

- previous frequent attendances at surgery
- recurrent minor illnesses
- failure to thrive
- injuries to siblings
- delay between accident occurring and your help being requested
- explanation of injury inadequate
- explanation too plausible
- history of disturbed parental behaviour

Examination

- examine child from head to foot
- keep detailed notes
- make sketches if possible
- note child's general appearance —
 - nutritional status
 - cleanliness
 - apprehensive expression, etc.
- note apparent age of any injuries

Look for

- bruises around mouth, on ears, on chin
- pinch marks on cheeks, body, limbs
- grip marks on body
- bruising on body
- bite marks
- strap marks
- imprints, e.g. hair brush
- burns
 - scalds to hands
 - feet
 - buttocks
 - cigarette burns
- localised swellings
- black eyes
- mouth injuries, e.g. torn frenulum
- bone injuries
- evidence of internal injuries —
 - subdural haematoma
 - ruptured liver, etc.

Remember that poisoning may be non-accidental.

What is it:

- relate injuries to child's age — falls and lumps common in toddlers
- is non-accidental injury likely in view of what you know of the family
- non-accidental injury commoner when —
 - previous accidents have occurred
 - there is social stress, e.g. housing problems
 - there is marital stress
 - parents are of low intelligence, alcoholic, of violent propensity, etc.
 - child is a result of unwanted pregnancy
 - mother is aged under 20
 - parents were themselves battered
 - there is isolation from the extended family
 - mother-infant bonding was deficient

Children particularly at risk are —

- youngest or first-born
- premature infants
- illegitimate children
- 'difficult' children
- children in foster homes
- mentally or physically handicapped
- female children in certain ethnic groups

What to do:

- ensure child's safety
- admit to hospital
- inform admitting doctor of your suspicions
- if lack of parental co-operation, child can be removed from home through Place of Safety Order (arranged by Social Services Dept. and NSPCC).
- inform Social Services Dept. of your suspicions in any case

Follow-Up

- attend case conference
- note results of investigations carried out in hospital
- on-going support for family.

Stroke

What might it be:

'Stroke' is the common end-result of cerebrovascular catastrophes whatever their aetiology. The possibilities are:

- haemorrhage
- infarction
- embolus

Predisposing factors include:

- atherosclerosis
- hypertension
- cardiac abnormalities
- vascular malformations
- blood disorders

Other conditions which may present a clinical picture similar to that of stroke are:

- cerebral tumour
- chronic subdural haematoma
- infection of the brain or meninges
- cerebral abscess
- hypertensive encephalopathy
- metabolic disturbances

If the **patient is unconscious**, remember:

- head injuries
- drug overdose
- metabolic disturbances
- epilepsy

Assessment:

History

- how old is the patient
- any relevant history — hypertension, diabetes, etc
- onset of stroke
- were there any warning signs
- what disability is there
- has condition changed since onset

Examination

- conscious level
- spontaneous movement
- muscle tone
- reflexes
- cranial nerves
- speech
- comprehension
- pulse (including peripheral pulses)
- blood pressure
- fundi, pupils
- carotid bruit
- heart sounds
- is the head turned away from side of hemiplegia?

What is it:**Embolus**

- most rapid onset
- sudden development of signs
- conscious level often preserved
- evidence for source of emboli — cardiac lesions, carotid bruit
- 80 per cent of acute strokes have a thromboembolic origin

Haemorrhage

- also rapid onset
- signs develop over the course of the first few minutes
- may be precipitated by exertion
- subarachnoid haemorrhage characteristically feels like a blow on back of head
- 50 per cent lose consciousness at an early stage
- 20 per cent of acute strokes are haemorrhagic in origin — 12 per cent are intracerebral haemorrhages and 8 per cent subarachnoid
- look for hypertension, signs of meningeal irritation

Infarction

- due to thrombosis or thromboembolism commonest cause of stroke
- acute onset, but picture evolves over a few hours
- often occurs during the night
- patient aware of progressive deficit
- consciousness rarely lost in early stages
- look for other evidence of atherosclerosis

What to do:

- if the patient is unconscious, first ensure that a clear airway is maintained. If the patient is elderly, has a good conscious level, no severe deficits and good home conditions manage at home.
- other cases should be admitted to hospital.
- 15 per cent of cases of subarachnoid haemorrhage die before they reach hospital.
- for patients managed at home — haemoglobin, WBC, urea and electrolytes, glucose, ESR, ECG, CXR.
- exclude anaemia, cranial arteritis, blood dyscrasias, secondary electrolyte disturbances, underlying cardiac abnormalities, an unsuspected neoplasm.

Sexual Assault

What might it be:

Rape

Unlawful sexual intercourse with a woman by force and against her will. 'Intercourse' here constitutes any degree of penetration, from entry of tip of penis between labia majora to full penetration into vagina, with or without emission of seminal fluid.

Intercourse with Children

Intercourse with a girl under the age of 16 years is illegal, even if consent is given.

Intercourse with Mental Defectives

It is an offence for a man to have intercourse with a woman who is classified as being mentally subnormal or severely abnormal.

Incest

It is an offence for a man to have intercourse with his granddaughter, daughter, sister, half-sister or mother.

A woman may not have intercourse with her grandson, son, brother, half-brother or father.

Indecent Assault

May be committed by either a man or a woman.

Range of possible acts very wide.

Assessment:

The person you are most likely to be required to examine is alleged victim of sexual offence.

Aim is to determine whether intercourse has taken place and to note any injuries, not to act as judge.

Examination must be conducted in surgery or hospital. Consent required from victim or parents/guardians if under 16.

History

- place of incident
- course of events
- resistance used
- loss of consciousness
- menstruating

Examination

- general appearance
- distressed
- dishevelled
- clothes
 - stains
 - tears, etc.
- retain for forensic examination
- examine whole body for injuries

Look for

- bruises and abrasions, particularly on thighs, arms, back, face and neck
- bites or suction marks on breast or neck
- bitten nipples

Genitalia

- pubic hair
 - matting by semen
 - comb for foreign hairs
 - pluck sample for forensic examination
- vulva — bruising swelling, etc.
- hymen — fresh tears
- vagina — bruising, swelling, laceration

Assessment:
continued

Samples

- vaginal fluid for spermatozoa
- swabs for sexually transmitted disease
- pubic hair (see above)
- blood for grouping

Keep copious notes.

Headaches

What might it be:

- psychogenic majority. Usually no physical signs.
- migrainous
- vascular
- meningitis
- raised intracranial pressure
- post traumatic
- local pathology — skull, spine, orbits, sinuses, etc.

Assessment:

History

- age
- family history
- past medical history — known migraine, hypertension, previous head injury, etc.
- medication
- depressed/anxious
- recent symptoms e.g. fever, malaise, nausea
- change in personality
- site of headache
- onset
- duration
- accompanying symptoms — visual disturbances, etc.

Examination

- general behaviour
- level of consciousness
- signs of injury
- blood pressure, pulse
- temperature
- respiratory rate
- scalp
- neck rigidity
- eyes — pupils, fundi
- signs of focal neurological lesion
- temporal arteries
- sinuses

What is it:

Psychogenic

- described as severe, continuous sense of pressure or tightness
- usually over vault, less frequently occipito-frontal
- worse under stress
- look for symptoms of depression
 - loss of weight
 - sleep disturbance
 - libido, etc.

Migraine

- recurrent episodes lasting 2 hours to 2 days
- usually unilateral
- photophobia, nausea, vomiting
- aura — usually visual disturbances
- paraesthesiae at angle of mouth or hand
- precipitated by certain foods, contraceptive pill

Vascular

- hypertension
- arteriosclerosis
 - raised blood pressure
- arteritis
 - sclerotic pulse
 - fundal changes
 - tender temporal arteries

Meningitis

- pyrexia
- photophobia
- nausea vomiting
- neck rigidity

Raised intracranial pressure

- raised blood pressure
- tumour — slow pulse
- abscess — vomiting
- haematoma — signs of focal lesion common on waking worsened by coughing, sneezing, straining throbbing, bursting in character
- sometimes worse on lying down
- papilloedema
- visual impairment is late feature

Post-Traumatic

- severe, continuous, poorly localised
- made worse by exertion, noise, emotion
- giddiness
- inability to concentrate
- most likely to occur if original injury trivialised
- following lumbar puncture

Extracranial causes

- acute and chronic sinusitis
- eye disease — glaucoma, iridocyclitis
- cervical spondylosis

What to do:**Psychogenic**

- reassure
- simple analgesics and tranquillisers not much help
- is it a sign of depression? — tricyclics might help
- social manipulation

Migraine

- prophylaxis — clonidine
- ergot compounds
- analgesias
- Maxolon
- rest in darkened room
- referral to migraine clinic

Vascular

- steroids immediately if ESR raised
- treat hypertension
- ? biopsy for temporal arteritis

Raised intracranial pressure and meningitis

- hospital admission

Post-Traumatic

- rest, sedation
- convalescence must be gradual after head injury

Extracranial

- specific treatment

The Unconscious Patient

What might it be:

Neurological

- cerebrovascular accident
- cerebral tumour
- head injury
- meningitis
- epilepsy

Metabolic

- hypoglycaemia
- ketoacidosis
- uraemia
- hepatic failure
- adrenal failure
- hypothyroidism

Other

- hypothermia
- poisoning — drugs, alcohol
- hysteria

Assessment:

History

- try to obtain a history from neighbours or relatives if possible
- is the patient known to be diabetic/hypertensive/epileptic, etc.
- has he/she been on any medication
- has the patient complained of any symptoms, e.g. headache, recently
- has his recent behaviour been normal
- has there been any recent injury or accident
- was the onset of unconsciousness sudden

Examination

- Examine the situation in which the patient was found
- Look for pill bottles, suicide notes, alcohol, signs of disturbance or attack
- Examine the patient
 - Medic/Alert bracelet
 - obvious injury/haemorrhage
 - colour and temperature of skin
 - any venepuncture marks
 - smell on breath — ketones, alcohol, hepatic foetor
 - is breathing normal in depth and pattern
 - rate and rhythm of pulse
 - any incontinence
 - take temperature with low reading thermometer
- Make a routine examination of the systems, paying particular attention to:
 - blood pressure
 - heart rate, rhythm and sounds
 - peripheral pulses, carotid bruit
 - state of hydration
 - pupils and fundi
 - neck stiffness
 - evidence of focal neurological lesion
 - jaundice, cyanosis, etc.
 - stigmata of liver disease

What is it:

Cerebrovascular accident

- sudden onset
- past history, e.g. hypertension
- evidence of hypertension, atherosclerosis, source of emboli
- focal neurological deficit
- head turned away from side of hemiplegia
- Cheyne-Stokes respiration
- cyanosis

Cerebral tumour

- gradual onset
- papilloedema
- focal neurological signs
- raised blood pressure
- slow pulse
- probably recent history of illness/behavioural disturbance

Meningitis

- gradual onset
- pyrexia
- signs of meningeal irritation
- short history of malaise, headache, etc.

Head injury

- sudden onset
- obvious injury
- pallor
- may be bradycardia, diminished reflexes
- if intracranial haemorrhage — focal neurological signs, ipsilateral dilated pupil

Epilepsy

- sudden onset
- known history
- evidence of injury, tongue-biting, etc.
- urinary incontinence

Hypoglycaemia

- sudden onset
- known diabetic on treatment
- sweating
- shallow respiration
- pulse and B.P. normal
- may be incontinence of urine
- if urine available for testing it will show no ketones
(may show sugar if urine has been in bladder for some time)

Ketoacidosis

- gradual onset
- history of vomiting, malaise, etc.
- dehydration
- low B.P.
- deep sighing (kussmaul respiration)
- weak pulse
- ketones and sugar in urine

Uraemia

- gradual onset
- probably known history of renal disease
- signs of shock and soft depletion
- acute cardiac failure

What is it:
continued

Hepatic failure

- gradual onset
- jaundice — usually not marked
- liver may be palpable
- other stigmata of liver disease — spider naevi, purpura, palmar erythema, etc.
- hepatic foetor

Adrenal failure

- usually acute on chronic onset
- hyperpigmentation
- hypotension
- recent history malaise, gastrointestinal disturbance

Hypothyroidism

- gradual onset
- low temperature
- stigmata of the disease — pale, dry skin; coarse, thin hair, myxoedema, etc.

Hypothermia

- gradual onset
- rectal temperature below 35° C
- may be evidence of injury, e.g. fractured hip
- may be stigmata of hypothyroidism (see above)

Poisoning

- sudden onset
- suicide note
- pills or bottles
- venepuncture marks
- alcohol — bottles in evidence, smell on breath
- signs of specific poisons, e.g.
 - cherry red colour in carbon monoxide poisoning,
 - respiratory depression and blistering of skin in barbiturate poisoning, etc.

Hysteria

- sudden onset
- history of mental/behavioural disturbance
- absence of physical signs

What to do:

- In each of these cases (excluding hysteria) — admit urgently to hospital
- if hypoglycaemia is suspected — give i.v. glucose or glucagon
 - in all unconscious patients — ensure patient airway, place in coma position, keep warm but not overheated

Social Crises

What might it be:

Homelessness

Under the Housing (Homeless Persons) Act 1977 local authorities have responsibilities to **homeless** who —

- have nowhere to live by right
- cannot gain entry to their home
- may be subject to violence at home
- entry to home might lead to violence
- live in a moveable structure (boat or a caravan) and there is no place to put it
- have had **longterm** hospital care

Priority given to homeless —

- with dependent children
- through an emergency, e.g. fire or flood
- vulnerable —
 - aged
 - mentally sick
 - handicapped
 - pregnant

Social workers have access to local emergency housing facilities for homeless

C2

The Distressed Patient

In practice it is important to distinguish:—

- distress in a normal mind: unhappiness → depression
fear → phobias
anxiety → agitation
excitement → hypomania, etc.
- distress in a disordered mind: schizophrenia and allied conditions
manic depressive psychosis
- distress in a diseased mind: dementia
confusional states
- distress in a poisoned mind: drug } { abuse/access
or } { or
alcohol } { withdrawal
- distress associated with fear or presence of physical illness: anxiety and depression might be considered normal experiences when facing life's stresses, especially illness.
 - most patients will, therefore, suffer distress and
 - most will not require specific psychiatric medication provided that
 - most are given acknowledgement of their state of mind, and the opportunity to ventilate it.

Problems may become large when the patient (and enormous when the doctor) fails to acknowledge this distress.

Concepts

- mental disorders are as diverse as the individuals who suffer them.
- classification may only be made by intentionally ignoring this individuality.
- there is no clear cut division between the mind and the body either in the genesis or the expression of illness.
- constantly re-educating ourselves and our patients about these concepts may be our most effective therapy.

Attention

Observe every aspect of the patient's behaviour:—

- how he enters the room
- who he comes with and who he leaves behind
- where and how he sits
- the words he uses as well as what he says
- how he is dressed
- unusual smells, (viz, alcohol or halitosis)
- **acknowledge (to yourself) what you feel about the patient,**
i.e. does he annoy me, depress me
- pay attention to what the patient says.

Facts

In a hypothetical practice of 2,500 we may find (R.C.G.P. 1979):

Acute Major Disorders	Cases per Annum
Neurotic disorders	300
Chronic mental illness	55
Severe depression	12
Severe mental handicap	10
Suicide attempts	4
Completed suicide	1 every 3 years

Social Pathology	
Chronic alcoholism (known cases)	5
Alcoholism probably unknown to G.P.	25
Juvenile delinquency	5 - 7
"Problem" families	5 - 10
One-parent families with children under 15	60

Referral rates to psychiatrists vary enormously from survey to survey, from 17.7 to 160.6 per 10,000 at risk.

Strategies for Management

- consider — "the doctor as drug" and "the doctor as dangerous drug"
- collaboration with
 - other members of practice staff
 - other patients or patients' groups
 - local groups and agencies
 - on the principle "when the going gets tough learn to enjoy it or get someone else to lend a hand"
- pre-emption of crises — adolescence, bereavement
- knowledge of people at risk
- open access wherever possible.

Anxiety

Anxiety is a necessary and normal part of healthy life. The patient presents because it is unpleasant, not because it is abnormal.

In the consulting room it may be seen

- when there is a fear of illness
- in established physical or mental illness
- recurrently or persistently in the "worrying type"
- in tension states
- secondary to an underlying mental illness

The physiology of "fright and fight" is normal but variable

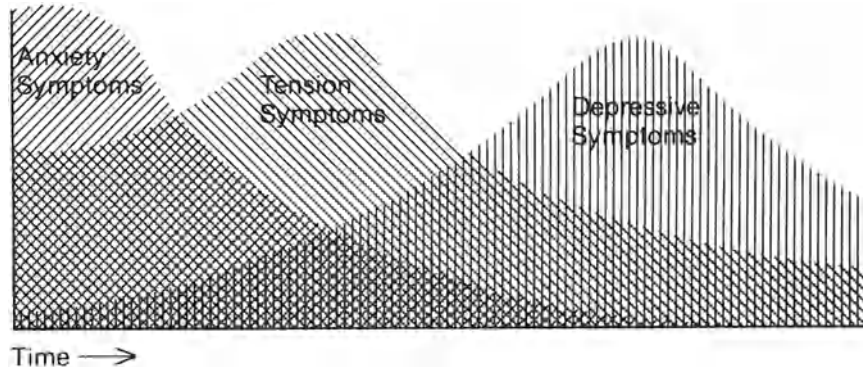
- depends on personality, age and experience, precise location and company, culture and concomitant drug therapy or abuse

"Neuroses" in the broadest sense form over 60% of the G.P.'s workload.

It may be helpful to divide between:—

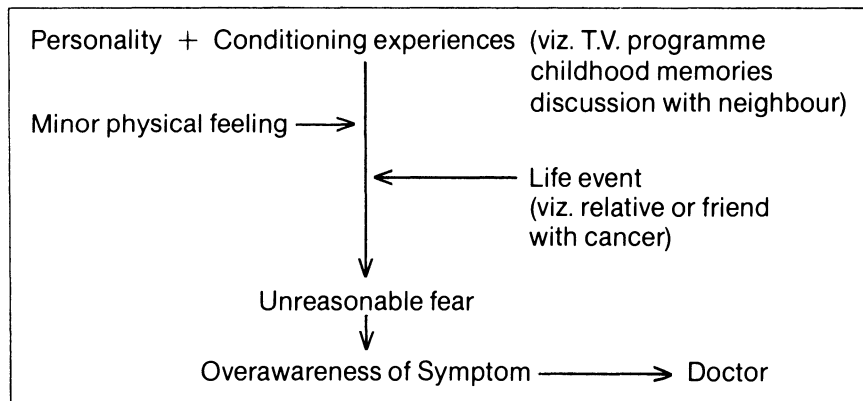
- simple anxiety
- anxiety states and tension states
- depression
- obsessional neuroses and phobias
- all these may be mixed and interwoven, and change with time.

Symptom Peaks



Simple Anxiety

This is the fear (usually of disease) engendered by an experience in a normal person.



Presentation may be influenced by what other people have said to patient, or by the advice he has sought — "the lay referral system".

Conditioning experience or life event may be the most significant point to discover, to enable doctor to understand patients reason for presentation.

-
- If a symptom remains unexplained, it may be necessary to check on:—
- previous experience of illness, personal or second-hand.
 - the diseases currently and in the past, experienced by his family or close friends.
 - his beliefs about physical functions, including cultural beliefs.
 - symbolism of the symptom to the patient.
 - recent life events, anniversaries, dreams.
 - recent change in life circumstances or “passage”.

Ask yourself “Why did the patient come, what did the patient want?”

Ask the patient “What is it that you are worried is the matter with you?”

Reassurance can only follow if these factors are uncovered, and once suitable steps have been taken, telling the patient not only what he has got, but also what he has **not** got. Give accurate and simple explanations. Know common causes of misunderstanding. Listen carefully. Performing an examination is often in itself therapeutic.

Failed Reassurance is indicated by continued questioning, unhappiness, repeated consultations, often with a relative, or suggestion of further action or investigation. Early detection of failure to reassure is important if persistent symptoms or unnecessary investigation are to be avoided.

“Irritation and asperity shown by the doctor under pressure of work are probably the biggest single cause of failure to reassure.” (Keith Hodgkin)

Anxiety and Tension

A state of pure extreme anxiety is rare clinically and what is often put under this heading is usually a result of more longstanding tension or personality factors.

Presentation

- restlessness, frustration, unhappiness, depression, weariness
- disturbed concentration, irritability, nervousness
- excessive sentimentality and loss of emotional control
- decreased appetite and weight loss
- sleeplessness, troubled dreams
- exhaustion, often in spite of sleep
- somatic sensations
 - headaches, dizziness, blackouts
 - weakness, butterflies
 - breathlessness, overbreathing, air swallowing and flatulence
 - increased micturition
 - disturbed bowel function
 - palpitations, nausea

Signs are those of

- adrenergic overactivity
- body language
- surgery behaviour } indicating stress
- frequent attendance

Source of Stress must be sought, but may sometimes be obtained more easily by observation, open ended questions or intuition when conventional “history taking” techniques fail.

Explore

- areas of conflict or frustration
- relationships at work and with family
- previous behaviour
- culmination of small stresses
- sudden removal of stress with latent period

Diagnosis may be aided by:

- good knowledge of local events and family events
- reducing anxiety levels by
 - attitudes of staff
 - attitudes of doctor
 - surgery or waiting room surroundings
- using paramedical help (health visitors, receptionists)
- using counselling methods, if appropriate
- 'flash' technique
- observing **patient** at all times, especially during examination.

Treatment

- ventilation may be enough
- adequate reassurance
- allowing patient to express his expectations for treatment
- doctor as drug first
- tranquillisers last
- avoid
 - barbiturates
 - tranquillisers in long term, with repeat prescription
 - prescribing if dependence a major hazard
- consider
 - depression and antidepressants
 - β -blockers
 - displacement activity
 - counselling sessions — with other agencies if necessary
 - group work
 - relaxation therapy as future aims

Differential diagnosis of anxiety in various forms:

Diagnosis	Suggested by	Confirmed by
Depression	<i>see page 160</i>	
Dementia	disorientation in time, place and person	
Psychotic states	psychotic symptoms	
Thyrotoxicosis	Physical signs of hyperthyroidism	Thyroid function tests
Hypercalcaemia	Cancer with bony secondaries (Hyperparathyroidism)	Calcium levels taken without a cuff
CO ₂ narcosis	Chronic obstructive airways disease Cyanosis, bounding large volume pulse	Blood gases
Alcohol withdrawal	History, including early morning vomiting, recurrent absence from work, symptoms of delirium tremens	Signs of liver disease Disturbed liver tests Alcohol levels
Hypoglycaemia	Usually insulin-dependent diabetic	Blood sugar
Overuse or abuse of stimulant drug	i.e. amphetamines salbutamol	Urine tests or therapeutic withdrawal

Serious organic disease, where fear is predominant and has masked the presentation of more 'important' diagnostic symptoms or signs.

Depression (Affective Illness)

Depression encompasses inappropriate sadness and low mood state. The problem is in distinguishing between **normal** and **marked** depression.

Most persons faced with a physical or mental illness will be anxious or depressed. Though this may be normal in degree, it may alter the presentation and course of the illness and must always be dealt with in management.

Clinical Picture

Endogenous Depression	Reactive Depression
Mood variation slight	Varying from day to day
Worst in mornings	Worst when tired
Complaints unchanged and persistent	Varying complaints
Reassurance no help	Reassurance helps
Obsessed	Distractible
Behaviour underlines statements	Behaviour often belies statements
Retarded and slow	May be overactive and anxious
Concentration poor	may not interfere with normal life
Habits change	
} inter-ference with normal life	
Libido lost	Faulty sexual relationships may precede illness
Suicide likely	Suicide in word but not deed
Wakes early, very tired	Difficulty getting to sleep or sleeps long and wakes tired

There may be a mixture of symptoms.

Significance

Prevalence: 50 per 2500 per year (12 of these will be severe).

Age: more commonly recognised in second half of life, but it is probable that much childhood and adolescent depression goes unrecognised.

NOTE:

- the separation reactions of childhood
- identity crises of adolescence
- stealing in children, adolescents and middle aged women
- sexual deviations in middle aged men
- alcoholism
- confusion and bodily obsessions in old age

There may be **sexual, class and cultural differences** in symptom presentations:

Western women:	palpitations, nausea, crying (F>M in West)
Asian men:	fears and loss of potency (M>F in India)
West Indian men:	fear of loss of strength and inability to work
Middle class:	loneliness and guilt
Working class:	powerlessness, hopelessness

Risk factors

- over 30
- loss of mother before 11
- more than 3 children under 14 years old at home
- no job
- no outside interest
- low income group
- no extended family
- no close confidante
- poor communication with spouse
- loss of close relative or friend within 2 years
- low self-esteem

Severe Depression

- loss of energy, decrease in activity
- loss of sexual drive
- sleep disturbance
- constipation
- loss of weight, or abnormal gain
- headache
- amenorrhoea
- abnormal pains
- loss of diurnal variation in mood and function
- hallucinations
- inability to cope
- retardation
- perplexity
- preoccupation with own symptoms
- self deprecation
- ideas of reference
- delusion of guilt
- hypochondriacal
- facies and position of hands
- watery eyes, red eyes
- signs of abnormal alcohol intake
- anger

Triggers

- behavioural or life events
 - loss or threatened loss of spouse, house, pet, job, prestige
 - small event as 'last straw'
 - sometime (3 weeks - 2 years) after: 'after the ball is over'.
- during a 'passage' or change in life
 - puerperium
 - retirement
 - engagement or marriage
 - move
- symbolically, associated with
 - anniversary of tragic event (viz. death of spouse, etc.)
 - entering a new decade ('life begins at forty')
- physical illness, associated with
 - virus infections, (viz. influenza,) glandular fever
 - organic neurology, (viz. head injury,) stroke, Parkinsonism, dementia
 - otherwise symptomless carcinoma, especially of lung, tuberculosis
 - hypothyroidism
 - anaemia, especially Vit. B12 or folate deficiency
 - hypercalcaemia (often with anxiety)
 - menopause
 - pre-menstrual tension
 - surgical operation, especially hysterectomy
- drug effects or withdrawal, viz.
 - contraceptive pill
 - tranquillisers and sleeping tablets
 - methyl dopa, reserpine and other hypotensives
 - steroids
 - stopping amphetamines or appetite depressants

- life styles, associated with
 - isolation
 - alcoholism
 - institutional living
 - cultural inhibition of aggression
- early stages of
 - schizophrenia
 - dementia

Management of Depression

"Could this be depression?"
 "Can it be helped by me?"
 "Is there a risk of suicide?"

- assess suicide risk, hospitalisation if necessary.
- assess precipitating factors — how can they be altered?
- PAY ATTENTION
- allow ventilation of grief, guilt, anger, etc.
- investigate possible underlying physical causes
- deal sympathetically with symptoms and fear of physical illness.

Drugs

- **Tricyclic Antidepressants:**
 - **small supplies** on each prescription but give effective doses in severe depression.
 - see patient regularly: increase dose gradually.
 - if sleep disturbance, consider main dose at night
e.g. amitriptyline 25mg t.d.s. and 75mg nocte
 - warn about time before drugs work
 - warn about side effects
 - taper off slowly after 3-4 months
- **Mono amine oxidase inhibitors** if strong reactive element.
Use with caution and full understanding of the side effects and interactions.
- **Electro convulsive therapy** if refractive.
Consider side effects and patients and relatives attitudes carefully.

Suicide

- reporting varies from country to country
- 4,300 per year in U.K. (1 per G.P. every 3 years)
- 15% of psychotic depressives will kill themselves
- seasonal incidence — high in spring and late summer

Vulnerables

- men over 70
- women over 60
- urban
- single
- childless
- isolated
- unemployed
- Protestant or irreligious
- recently widowed or divorced
- family history of suicide
- past history of suicide attempt
- beginning and end of depressive illness
- agitation, guilt, inadequacy
- alcohol+
- access to method

- 70% communicate their intentions to someone
- 40% do so by explicit statement to someone
- 40% visit their G.P. in week before they die
- 70% visit their G.P. in three months before they die
- many use the medication prescribed in these consultations

Attempted Suicide

Other names — parasuicide, suicidal gestures, uncompleted suicide.
 For every successful suicide 20 make the gesture.

Sometimes an obvious gesture misfires and results in death.

Attendances at Casualty Departments and admissions to Medical Wards dealing with self-imposed poisoning bear witness to the dramatic increase in this behaviour in the U.K.

Methods often seem to follow a 'fashion' or suicide of public figure.

- 40% have past history of attempts
- 20% will repeat within a year

	Attempted Suicide	Suicide
Incidence	Rising dramatically	Steady or declining
Sex	Women > Men	Men > Women
Age	Younger	Late Middle Age
Social class	Lower	Upper
Childhood	Broken Home	Bereavement
Physical health	Good	Often a terminal illness or handicap
Personality	Poorly adjusted	Often well adjusted
Alcohol	Often drinking before attempt	Alcoholism
Background	Situational illness	Depressive
Precipitation	Acute personal crisis	Guilt, hopelessness, painful or disabling illness
Setting	Impulsive but with forewarning and in presence of others	Carefully planned Giving warning but carried out alone
Methods	Multiple drug self-poisoning or wrist cutting	Massive effective single drug use. Violent methods, e.g. guns or hanging

Pointers for G.P.:

- open access in crisis even with appointment system.
- out of hours service.
- great care in all prescribing, especially psychotropics.
- establishing and using personal relationship to forestall attempt, prevent crisis if attempt made, and prevent pattern of recurrent attempts being established by arranging suitable help, regular 'ventilation' or psychotherapy.
- in the very disturbed personality, avoid being trapped into response to manipulative threat, by creating a contract, i.e. constructive responses to stress. rather than reverse.
- keep in contact with elderly bereaved, etc., who may be at special risk: ancillary staff very important here.

**Manic Depressive
(or Bipolar) illness**

Classically, cyclothymic personality, pyknic physique, family history.
Hypomanic or manic phase alternates with depressed phase — the former is more damaging and difficult to deal with. Recurrent episodes. Attack lasts 3 - 6 weeks.

Signs

- self assertion
- extravagance
- unduly secretive
- irritability
- overspending
- religious obsession
- sexual disinhibition
- campaigns
- elation
- pressure of speech
- flights of ideas
- grandiose ideas
- violence if restrained
- rejection of suggestion of mental illness

Management

- use bargaining or symptoms of physical illness to gain patient's acceptance of hospital admission, if possible.
- if not, suggest removal from emotionally charged atmosphere + drugs: haloperidol 1.5mg - 10mg t.d.s. or chlorpromazine. May need police powers (section 136) or section 29.
- Long term lithium: 800-1,600mg daily initially, reducing to 400-800 daily as maintenance. Control with serum estimation. Use psychiatric backup where possible. May need antidepressants during depressed phase. Side effects: cardiac arrhythmias, renal damage, thyroid damage, excessive weight gain, acute reversible dementia. Signs of lithium toxicity: anorexia, coarse tremor, diarrhoea and vomiting, thirst.

Section D

CLINICAL CARE

Ischaemic Heart Disease

What is it

Ischaemic heart disease (IHD) is the result of a local manifestation, occlusion of coronary arteries, of a more generalised pathological process, atherosclerosis.

The **effects** may be:—

- sudden death
- acute myocardial infarction
- angina
- cardiac failure
- dysrhythmias

Causes and Risk Factors

Atherosclerosis is a condition associated with ageing — its causes are uncertain

IHD has a number of **risk factors**

- males** are more often affected and do less well than females
- age** — IHD increases with age and the outlook is worse in the elderly
- family history** — of sudden deaths and heart disease
- raised blood cholesterol and lipids** — especially in the young and middle aged
- raised blood pressure** — especially in younger males
- diabetes**
- overweight, lack of exercise and stress — anxiety**
- cigarette smoking**

Preventive Measures

- regular exercise
- NO smoking
- weight control
- control of high blood cholesterol and lipids
- control of diabetes
- control of raised blood pressure

Significance

Frequency in a practice of 2500 persons

- 10 **new** IHD cases per year
- 50 **total** IHD cases per year (new and on-going)

Outcome

- 25 per cent early death (first month)
- 20 per cent alive and well (after 5 years)
- 20 per cent alive and disabled (after 5 years)

Early deaths (of those who die in first month)

- 20 per cent on first day ($\frac{1}{2}$ instant deaths and another $\frac{1}{3}$ in first hour)
- 10 per cent in first week (after first day)

Clinical Types

- sudden instant death
- acute myocardial infarction
 - severe — cardiac shock+
 - moderate — persistent pain but fair GC
 - mild — often with a retrospective history of chest pain
- angina
- silent IHD with resulting cardiac failure and dysrhythmias

Assessment**Acute**

- is it an acute myocardial infarction?
 - history?
 - ECG?
- what is general condition?
 - shock?
 - appearance?
- what is C.V.S. state?
 - pulse?
 - BP?
 - lung bases?
 - breathlessness?
- what immediate treatment?
 - resuscitation
 - oxygen
 - pain control
 - morphine or diamorphine
- dysrhythmias
 - lignocaine?
 - atropine?
- home or hospital?

Angina

- confirm diagnosis
 - best confirmation is response to glyceryl trinitrate
 - ECG of limited value
- how frequent the attacks and how much disabled?
- check
 - BP
 - blood cholesterol and fats
 - haemoglobin level
- treat with
 - glyceryl trinitrate
 - β -blockers
- general advice
 - reduce weight (if excessive)
 - stop smoking
 - avoid trigger situations
- surgery (coronary artery by-pass graft)
 - probably necessary in less than 5 per cent of cases

Planned Care**Preventive**

- general health education of all patients
 - avoid smoking
 - control weight
 - regular exercise
- at-risk groups
 - family history of sudden deaths at early age then check blood cholesterol and lipids
 - hypertensives — control with β -blockers

Rehabilitation

- optimistic encouragement of patients who are fearful of suddenly dropping down dead
- early ambulation
- progressive graded exercises
- return to normal work at earliest opportunity

Migraine

What is it

Headache

- unilateral or bilateral
- intermittent and recurrent

Visual

- may be preceded or associated with visual disturbances

GI symptoms

- often anorexia, nausea, vomiting

Significance

- incidence — 3 per 1000 (7-8 new patients per year)
- prevalence — 20 per 1000 (50 patients per GP)
- age of onset — usually starts in childhood, adolescence or early adult life
- course — tendency for attacks to go on for 10-15 years and then become less frequent

Assessment

- diagnosis — on clinical grounds (see chart)
 - any persistent neurological signs demand further investigation
 - local examination to exclude pain from:
 - cervical spine
 - paranasal sinuses
 - eyes
 - hypertension
- trigger factors (see chart)
- other causes of similar headaches
 - tension headaches
 - intracranial lesions e.g. aneurysm, tumours

Clinical Types

	Prodromata	Headache	Associated Symptoms	Signs	Notes
Common Migraine	nil	Often unilateral	Anorexia, nausea, vomiting	nil	♀ > ♂
Classical Migraine	visual, paraesthesiae, ophthalmoplegia, hemiplegia, dysarthria, tinnitus, ataxia	Usually unilateral	Anorexia, nausea, vomiting	nil	♀ > ♂
Symptomatic Migraine	Any of above	Strictly unilateral	Anorexia, nausea, vomiting	Persistent Neurological	Beware late onset
Cluster Headaches	nil	Unilateral Facial Neuralgia	Unilateral — epiphora — nasal blockage	Unilateral red eye	♂ > ♀
Abdominal Migraine	nil	Absent or mild	Abdominal pain anorexia, nausea vomiting → ketosis	nil	Usually children "Periodic syndrome"
Tension Headache	nil	Usually bilateral — top of head — frontal — occipital	nil	Localised Muscular	NOT responsive to ergotamine

Planned Care**Patient and Self-Care**

Knowledge of possible “trigger factors” and subsequent avoidance

- | | | |
|---|--------------------------------------|-------------------------------------|
| <input type="radio"/> anxiety | <input type="radio"/> fatigue | <input type="radio"/> travel |
| <input type="radio"/> worry | <input type="radio"/> stooping | <input type="radio"/> climate |
| <input type="radio"/> emotion | <input type="radio"/> lifting | <input type="radio"/> sunshine |
| <input type="radio"/> depression | <input type="radio"/> late rising | <input type="radio"/> glare |
| <input type="radio"/> shock | <input type="radio"/> hypoglycemia | <input type="radio"/> visual strain |
| <input type="radio"/> excitement | <input type="radio"/> alcohol | <input type="radio"/> noise |
| <input type="radio"/> change of routine | <input type="radio"/> hypnotics | <input type="radio"/> smells |
| <input type="radio"/> foods | <input type="radio"/> pre- and para- | |
| —chocolate | menstrum | |
| —citrus fruit | <input type="radio"/> hypertension | |
| —cheese | | |
| —pastry | | |
| —fried food | | |

Understanding of **personal prodromata** and institution of prompt self-treatment

Visual

- diplopia
- failure to focus
- scotomata
- scintillata (lights, spots, lines, colours)

Neurological

- vertigo
- paraesthesiae
- paralysis
- yawning
- trembling
- weakness
- dysarthria
- pallor

Psychological

- depression
- irritability
- anxiety
- excessive well-being
- excitability
- talkativeness

Physiological

- weight gain
- oedema
- diuresis

Patient should:

- keep diary
- understand pattern of attacks
- prevent where possible
- self treat early

G.P. + Disease Management

- help patient to understand and manage his/her own problem
- confirm diagnosis
- exclude serious disease
- prescribe, if necessary (see list)

Preventive Drugs	Clonidine Propranolol Methysergide
Analgesics	Aspirin Paracetamol
Tranquillising Muscle Relaxants	Diazepam
Specific Drugs	Ergotamine
Anti-emetics	Metoclopramide Prochlorperazine

Hospital and Other Sources

- referral** if persistent neurological signs
- referral** if frequent, severe, debilitating attacks uncontrolled by usual measures
- referral** for social, emotional or financial help, if indicated.
- Migraine Trust provides:
 - help and advice to sufferers
 - promotes research
 - promotes education

High Blood Pressure

What is it

- diagnosis of high blood pressure is an exercise in mensuration
- levels of over 160/100 on at least 3 separate occasions for diagnosis (some accept 140/90)
- Over 90 per cent of high blood pressure is “**essential**” or of **unknown cause**

Possible causes of high blood pressure (in less than 10 per cent CASSIUS)

- coarction of aorta (femoral pulses?)
- aldosteronism (Conn's syndrome Serum K?)
- suprarenal disease (Cushing's syndrome, phaeochromocytoma appearance history?)
- stenosis of a renal artery (abdominal bruits?)
- inflammation or infection of kidneys (nephritis or pyelonephritis urine?)
- unilateral kidney disease (urine? serum creatinine?)
- steroids (iatrogenic hypertension). (drug history? pill? liquorice?)

Malignant hypertension — very high blood pressure, severe complications and rapid death if untreated

Significance

- incidence
 - 10 - 15 per cent of population are hypertensive
 - 20 - 30 per cent of adults
 - 250 - 375 patients in a practice population of 2500
 - 6 - 7 million in UK
- condition of ageing — one half are over 60 when first diagnosed
- sex distribution — F>M
- high blood pressure
 - a 50 per cent increased risk to life
 - increased risk of strokes
 - possible damage to eyes, kidneys and heart
- course related to
 - age at diagnosis (worse in younger)
 - sex (worse in males)
 - level of BP (worse in high BP)
 - FH (worse when FH of strokes or heart disease)
- effective anti-hypertensive drugs are available
- early diagnosis of vulnerables is important
 - vulnerables
 - males
 - young (under 60)
 - high BP
 - FH+ (CVS — CNS deaths)
 - blacks
 - diabetics
 - smokers

Clinical Types

- raised BP is the only common sign
- majority have no abnormal symptoms
- majority have no abnormal signs

Assessment

- has patient sustained high BP?
- is there any underlying cause?
- are investigations necessary?
 - to exclude primary cause?
 - to provide base lines?
 - urinalysis
 - ECG
 - chest X-Ray
 - IVP
 - other?
- what prognosis?
 - age
 - sex
 - BP level
 - FH
 - organ involvement
 - other risk factors

Planned Care**Not all hypertensives need treatment**

- better prognosis in
 - F>M
 - over 60's
 - mild BP levels<160/105

Treatment when indicated must be life-long

- patient compliance is important
- inform and instruct patient
- regular review
- practice nurse's role in surveillance

General

- self-help
- compliance
- weight control
- low salt diet
- stop smoking
- stop 'Pill'
- correct hyperlipidaemia
- more exercise

Practice plan

- all adults to have BP check every 3 - 5 years
- practice register of hypertensives
- compliance checks for those under care
- regular BP checks and surveillance

Anti hypertensives

- diuretic
- β -blocker
- vasodilator

Some Drugs useful in the Management of Hypertension

(a) Diuretics

Drug	Dose	Route of Administration	Comments
Bendrofluzide (thiazide diuretic)	2.5-10 mg daily, with or without potassium supplementation.	Oral	Diuresis lasts about 12-18 hours.
Chlorthalidone (thiazide diuretic)	50 mg daily or 100-200 mg on alternate days, with or without potassium supplementation.	Oral	Prolonged salt and water diuresis (over 48 hours). Thiazide diuretics should not be given to patients with renal insufficiency or to those in a precomatose state due to hepatic cirrhosis. Breast feeding should be avoided during therapy.
Cyclopentiazide (thiazide diuretic)	0.25-0.5 mg daily (1.5 mg max.), with or without potassium supplementation.	Oral	Diuresis lasts about 12 hours.

(b) β -Blockers

Drug	Dose	Route of Administration	Comments
Atenolol	100 mg daily	Oral	Atenolol is a "cardio-selective" β -blocker.
Labetalol	100 mg t.d.s. after food, increasing to 200 mg t.d.s. if required. (max. 2.4 g daily). 50 mg i.v. over at least 1 minute or by infusion. Total max. 200 mg.	Oral Intravenous	Labetalol blocks peripheral α -adrenoceptors in addition to the β -adrenoceptors. Labetalol injection is intended for hospital use only. The patient should be in the supine position during administration.
Oxprenolol	80 mg b.d. increasing as necessary by 160 mg daily every 1 or 2 weeks.	Oral	
Propranolol	80 mg b.d. increasing to 160 mg b.d. after 1 or 2 weeks as necessary.	Oral	
Do not use a β -blocking drug: <ol style="list-style-type: none"> 1) if 2nd or 3rd degree heart block is present 2) if there is a history of bronchospasm 3) after prolonged fasting 4) in metabolic acidosis 5) with verapamil 			

(c) Vasodilators

Drug	Dose	Route of Administration	Comments
Guanethidine (adrenergic neurone-blocking drug).	20 mg daily increasing in 10 mg amounts if necessary	Oral	Contra-indicated in phaeochromocytoma.
	10-20 mg. May be repeated after 3 hours.	Intramuscular	
Hydralazine	25 mg b.d. or t.i.d. (max. 200 mg daily) in combination with a β -blocker and a thiazide diuretic.	Oral	Avoid in patients with tachycardia.
	20-40 mg 8-hourly or by infusion.	Intravenous	For hypersensitive emergencies. Do not administer in dextrose.
Methyldopa	500 mg-2g daily in divided doses.	Oral	Do not give in active hepatic disease.
	250-500 mg 6-hourly (max. 1 g 6-hourly).	Intravenous	The injectable form may be used to initiate treatment in acute hypertensive crisis. Do not give intramuscularly.
Prazosin (directly acting vasodilator)	0.5 mg t.d.s. increasing to 1 mg t.d.s. after 1 week. Thereafter increase gradually as required (max. 20 mg daily).	Oral	It is recommended that the starting dose of 0.5 mg be given with food, preferably with the evening meal, at least 2-3 hours before retiring.

Anaemia

What is it

Anaemia is a deficiency of blood haemoglobin level below 12g per 100ml.

Anaemia always is secondary to some underlying process

Anaemia is never a primary "disease" to be treated *per se*

Anaemias may be **classified**:—

- defective production of blood cells due to deficiency of essential factors
- iron deficiency
 - loss through bleeding
 - inadequate intake
 - excessive requirement
- vitamin B₁₂/Folic acid (megaloblastic) deficiency
- excessive blood destruction
 - haemolysis
 - intrinsic
 - extrinsic
- non-production in blood marrow
 - hypoplastic
 - idiopathic
 - drugs
 - radiation
- miscellaneous
 - cancers
 - rheumatoid arthritis
 - kidney/liver diseases

In general practice more than 90 per cent of anaemias are due to iron deficiency, 9 per cent are megaloblastic and 1 per cent the rest

Significance

- incidence — 10 per 1000 per annum (25 new cases in a practice of 2500)
- sex distribution — F : M = 10 : 1 (more common in females++)
- course — early diagnosis depends on awareness of doctor
- vulnerables — infancy
 - women
 - 15 - 50 (menses+)
 - pregnancy
 - food fadists
 - elderly
 - diet
 - underlying disease

Assessment

Awareness+

- is there anaemia?
 - check
 - HB
 - MCV
 - MCHC
 - RBC
- underlying cause
 - disease?
 - drugs?
 - diet?

Planned Care

- suspicion index+ — cannot rely on appearances
- diagnosis by blood check
- definitive treatment
- follow up
 - long term follow-up and regular assessment is essential to prevent relapse

Dosages of Iron Preparations

Iron Salt	Adult Therapeutic Dosage	Adult Prophylactic Dosage	Dosage in Children	Comments
Ferrous fumarate	400-600mg daily in divided doses.	200mg daily	Up to 1 yr: 35 mg 1-5 yr: 70 mg 6-12 yr: 140 mg (all t.d.s.)	Large doses of all iron preparations may have an irritant effect on the stomach.
Ferrous gluconate	1.2-1.8g daily in divided doses.	600mg daily	6-12 yr: 300 mg t.d.s.	
Ferrous succinate	400-600mg daily in divided doses.	200mg daily		Ferrous succinate is claimed to cause fewer gastro-intestinal side-effects than ferrous sulphate
Ferrous sulphate	600-900mg daily in divided doses.	300mg daily	Up to 1 yr: 60 mg t.d.s., 1-5 yr: 120 mg t.d.s., 6-12 yr: 300 mg b.d.	
Dried ferrous sulphate	400-600mg daily in divided doses	200mg daily	6-12 yr: 20 mg b.d.	

Rheumatoid Arthritis

What is it

A **chronic polyarthritis** which:—

- mainly affects the peripheral joints
- usually runs a prolonged course
- exhibits exacerbations and remissions
- may be accompanied by general systemic disturbances

Characterised by

- inflammation/swelling of synovial membrane and periarticular tissue
- subchondral osteoporosis
- erosion of cartilage and bone
- wasting of associated muscles
- pain is worse in morning

Caused by

- ? autoimmune disorder

Significance

- incidence — 1 per 1000 (2 - 3 new patients per GP per year)
- prevalence — 5 - 8 per 1000 (12 - 20 patients per GP)
- sex distribution — 3 females: 1 male
- age of onset — childhood → old age. Usually 25 - 55 years
- course — long duration, usually years
 - 30 per cent become severely disabled
 - 30 per cent become moderately disabled
 - 30 per cent become mildly disabled
 - 10 per cent have no disability
 - a few patients die of the disease

Methods of Prevention

Nil known.

Opportunities for Early Diagnosis

Clinical acumen — often commences in a single joint with general malaise.

Diagnostic Features

Precursors

- carpal tunnel syndrome
- fleeting joint pains
- transient muscle stiffness
- generally "off colour" and depression

Onset

- normally insidious
- occasionally acute

Pattern of arthritis

- often symmetrical
- proximal M-P joints
- wrists
- knees
- elbows
- shoulders
- foot joints
- hips
- neck

↓
descending
order
of
frequency
affected

Diagnostic Features

continued

joint and muscle stiffness

- characteristically prolonged after sleep or inactivity.
i.e. worse in mornings

limitation of movement**swelling and deformity**

- ulnar deviation
 - spindling of fingers
- systemic disturbances**
- (20 per cent of cases)

- anorexia
- weight loss
- fatigue
- malaise
- sweating
- tachycardia

subcutaneous nodules (10 - 20 per cent of cases)**other manifestations**, e.g. uveitis, vasculitis, neuropathy.
lymphadenopathy, amyloid**Investigations:**

- ESR raised in active stages
- R.A.Latex, Rose Waaler or similar
 - positive in 80 per cent eventually
 - high titres → bad prognosis
- full blood count
 - hypochromic
 - normocytic anaemia
 - mild polymorphonuclear leucocytosis
- plasma protein pattern
 - increased globulin
 - decreased albumin
- radiology
 - demineralisation of bone-ends (early)
 - narrowing of joint space
 - marginal erosions
 - secondary osteoarthritis (late)
- synovial fluid
 - turbid, yellow/green, diminished viscosity
 - many leucocytes
 - raised enzymes

Planned Care**Patient and family**

- understanding of condition
- knowledge of services available
(Arthritis & Rheumatism Council Handbook)
- rest and exercise as advised
- compliance with therapy

G.P.

- confirm diagnosis
- assess patient and family
- choose therapy
- consider referral
- review regularly
- optimistic support

Hospital

- admission
- specialist opinion
- physiotherapy
- occupational therapy
- social work support

Planned Care
continued

Community Services

- district nurse
- health visitor
- social services
 - structural alterations to house
 - day care
 - aids
 - residential care
 - casework

Employment Services

- DRO

Financial Support

- social security
- attendance allowance
- disabled housewife's allowance
- mobility allowance

Principles of Management

Relief of pain and suppression of inflammation

- bedrest
- splints
- drug therapy
- local steroid injections
- synovectomy

Maintenance of general health

- diet
- specific therapy

Maintenance of function and correction of deformity

- splints
- physiotherapy
- occupational therapy
- surgery

Rehabilitation

- physical
- psychological
- physiotherapy
- occupational therapy
- social therapy
- employment

Table of some commonly used non-steroidal anti-inflammatory drugs.

These drugs have a common mode of action, viz. they inhibit prostaglandin biosynthesis and all possess analgesic, anti-inflammatory and anti-pyretic properties to varying degrees.

Drug	Dose	Route of Administration	Comments
Aspirin	4-6g daily (up to 10g max) in divided doses.	Oral	All these drugs should not, in general, be administered: to children, during pregnancy, labour or lactation; to a patient with active peptic ulceration, a history of recurrent gastric lesions or a sensitivity to any other drug in the same group
Benorylate	4-8g daily (up to 10g max) in divided doses.	Oral	
Flurbiprofen	50-100 mg t.d.s. (up to 1600 mg daily max.)	Oral	
Ibuprofen	400 mg t.d.s. (up to 1600 mg daily max.)	Oral	
Indomethacin	50-200 mg daily in divided doses with milk or food.	Oral	
	One 100 mg suppository nocte, to be repeated in morning if required.	Rectal	
Ketoprofen	100-150 mg daily in divided doses, with food.	Oral	
	100 mg nocte.	Rectal	
Naproxen	250 mg-500 mg b.d.	Oral	
	500 mg nocte	Rectal	
Phenylbutazone	400-600 mg daily (max.) in divided doses. normally reduced to a maintenance dose of 200-300 mg daily.	Oral	Do not administer intravenously.
	250-500 mg daily. 600 mg every 2 or 3 days less frequently as improvement occurs	Rectal Intramuscular (gluteal muscle) only recommended	

Corticosteroids and some other agents such as gold, penicillamine, azathioprine and chloroquine should be used only on the advice of a rheumatologist.

The use of steroids should be avoided in the management of ankylosing spondylitis.

Gout

What is it

An **acute arthritis** which:—

- usually affects only one or two joints
- has an acute onset
- causes severe localised pain
- may be associated with tophi or renal damage

Characterised by

- crystal deposition (uric acid)
- foreign-body inflammatory reaction of synovium, synovial fluids and articular cartilage

Caused by

- hyperuricaemia
 - primary (↓excretion of uric acid)
 - secondary to
 - leukaemias
 - chronic renal failure
 - drugs, e.g. diuretics
 - hyperparathyroidism

Significance

- incidence — 0.5 per 1000 (1 new patient per GP per year)
- prevalence — 2 per 1000 (5 patients per GP)
- sex distribution — males ≫ females (10:1)
- age of onset — 40 years onwards
- course — eminently treatable

Methods of Prevention

- prophylactic use of allopurinol in conditions predisposing to gout
- care in prescribing certain drugs, e.g. diuretics

Opportunities for Early Diagnosis

- clinical acumen, e.g. consider all sudden painful joints in middle aged men as gout

Diagnostic Features

Onset

- sudden

Arthritis

- single joint
- most often big toe
- reddening of skin over affected joint

Tophi

- over joints
- on the ears
- in the nasal cartilage
- late and not common

Underlying disease

- e.g. treated leukaemia

Underlying drugs

- e.g. thiazides

Renal colic

- uric acid calculi (uncommon)

Renal failure and hypertension

- due to nephropathy (rare)

Some Drugs useful in the Management of Gout

(a) Drugs which reduce body Uric Acid levels

Drug	Dose	Route of Administration	Comments
Allopurinol	Initially 100-300 mg daily as a single dose, adjusting according to serum or urine uric acid levels to a max. of 900 mg daily in divided doses.	Oral	Allopurinol treatment should not be commenced during an acute attack of gout.
Probenecid	500 mg b.d. (250 mg b.d. in first treatment week).	Oral	Probenecid treatment should not be commenced during an acute attack of gout. Do not give to patients with a history of blood dyscrasias or in renal failure. Salicylates are contra-indicated in patients taking probenecid.

(b) Non-Steroidal Anti-Inflammatory Drugs

Drug	Dose	Route of Administration	Comments
Indomethacin	50-200 mg daily in divided doses with milk or food. One 100 mg suppository nocte, to be repeated in morning if required.	Oral Rectal	Indomethacin suppositories should not be given to a patient with recent proctitis.
Phenylbutazone	400-600 mg daily (max.) in divided doses, reduced to a maintenance dose of 200-300 mg daily. 250-300 mg daily. 600 mg every 2 or 3 days less frequently as improvement occurs.	Oral Rectal Intramuscular (gluteal muscle)	Do not administer intravenously.

(c) Other Agents

Drug	Dose	Route of Administration	Comments
ACTH	40 i.u. q.i.d., reducing weekly until drug withdrawal.	Intramuscular or subcutaneous	ACTH should not be administered to patients with active T.B., peptic ulcer, acute psychosis, hypertension, diabetes, congestive heart failure, Cushing's syndrome, osteoporosis or during pregnancy.

Polymyalgia Rheumatica

What is it	<p>A chronic myalgia which:—</p> <ul style="list-style-type: none">○ mainly affects shoulder and hip girdles○ runs a prolonged course○ may be associated with cranial arteritis○ may be secondary to malignant disease○ in old persons <p>Characterised by</p> <ul style="list-style-type: none">○ ? inflammatory changes in affected muscles○ arteritis, especially temporal which may lead to blindness (often sub-clinical) <p>Caused by</p> <ul style="list-style-type: none">○ ? autoimmune disorder
Significance	<ul style="list-style-type: none">○ incidence — 1 per 3-4000 (1 new patient per GP every 1 - 2 years)○ prevalence — 1 per 2-3000 (1 patient per GP)○ age of onset — over 60○ course — long duration, over year or longer— good response to treatment— risk of sudden blindness if associated cranial arteritis not adequately controlled
Methods of Prevention	Nil known
Opportunities for Early Diagnosis	Clinical acumen, e.g. generalised stiffness and pains in neck and back, worse on rising in morning
Diagnostic Features	<p>Onset</p> <ul style="list-style-type: none">○ usually acute○ occasionally insidious <p>Pain and stiffness</p> <ul style="list-style-type: none">○ shoulder and hip girdles and back and neck affected○ prolonged morning stiffness <p>Associated symptoms</p> <ul style="list-style-type: none">○ malaise and depression○ headache○ visual problems beware temporal arteritis <p>Exclude possible underlying neoplasia, e.g. ca. breast, lung, prostate, myeloma</p> <p>Investigations</p> <ul style="list-style-type: none">○ ESR > 50 mm/hr (if very high consider arteritis or myelomatosis)○ FBC — often low haemoglobin○ serum proteins — raised globulin (exclude myelomatosis)○ CXR (to exclude underlying disease)○ R.A. latex or similar (to exclude seropositive arthritis)<ul style="list-style-type: none">○ biopsy temporal artery if indicated

Planned Care**Patient and family**

- understanding of condition
- compliance with therapy

G.P.

- confirm diagnosis
- advise patient
- choose therapy
- consider referral
- review regularly

Hospital

- specialist opinion
- physiotherapy

Community Services

- home help
- aids
- district nurse

Principles of Management**Relief of pain and stiffness**

- steroids (20 mg or more prednisolone daily initially — reduce gradually)
- analgesics

Maintenance of general health

- diet
- specific therapy

Prevent serious complication, i.e. temporal arteritis

- close observation (if suspected)
- immediate** high-dose steroids (50 mg prednisone daily)
- then** urgent referral for biopsy and advice

Suggested Drug Treatment in the Management of Polymyalgia Rheumatica

Drug	Dose	Route of Administration
Prednisolone	Large doses of up to 60 mg or more daily at first and once controlled go onto a maintenance dose of 5-10 mg daily. Steroids should be continued for a year or longer.	Oral

Osteoarthritis (Osteoarthrosis)

What is it

A **degenerative joint disease**

Predisposed by

- chronic trauma
- inflammatory arthritis, e.g. gout, RA

Characterised by

- hydroxyapatite crystals in cartilage leading to inflammatory reaction
- osteophyte formation
- joint deformity and displacement

Significance

- disease of ageing — 95 per cent of people over 65 have OA (radiologically)
- prevalence — 25 per 1000 (62 patients per GP)
— many cases not reported to doctor (patient accepts symptoms)
- sex distribution — 2 females : 1 male
- course — usually slow progression

Methods of Prevention

- weight control
- prevention of trauma to joints
- effective treatment of joint injury and underlying joint diseases

Opportunities for Early Diagnosis

- clinical acumen and awareness

NOTE
referred pains from affected joints
e.g. hip > knee, spine > leg

Diagnostic Features

painful impairment of function

- usually affects one joint predominantly
- pain usually on movement
- pain in response to weight-bearing
- pain at maximum range of movement
- movement of joint restricted
- worse at end of day

Crepitus

- palpable (in superficial joints)

Pattern of Arthritis

- hands (especially distal IP joints)
- feet
- knees
- shoulders
- cervical spine
- elbows
- lumbar spine
- wrists

Descending
order
of
frequency
affected

Joint and muscle stiffness

- particularly after rest ("joints get set")

Swelling and deformity

- effusion
- synovial thickening
- osteophyte formation
- Heberden's nodes

Investigations

- full blood count and ESR = normal
- radiology
 - marginal osteophytes
 - narrowing of the joint space
 - densification of subchondral bone
 - remodelling of joint (late)

Diagnostic Features
continued

Investigations

- synovial fluid
 - clear, amber, normal viscosity
 - few leucocytes
 - normal enzymes

Planned Care

Patient

- understanding condition
- rest and exercise as advised
- weight reduction where necessary

G.P.

- confirm diagnosis
- reassure patient **not** inflammatory arthritis
- choose therapy
- consider referral

Hospital

- specialist opinion ? surgery
- physiotherapy
- occupational therapy
- rheumatologist's support for patient

Community Services

- district nurse, health visitor
- social services
 - aids
 - day care
 - residential care
 - casework
- employment services
 - D.R.O.
- financial support
 - Social Security
 - disabled housewife's allowance
 - mobility allowance
 - attendance allowance

Principles of Management

General measures to prevent deterioration

- weight reduction
- avoidance of trauma
 - work
 - sport
- use of stick

Pain relief

- drug therapy
- local steroid injections
- physiotherapy
- surgery
 - osteotomy
 - arthrodesis
 - joint replacement

Rehabilitation

- physical
 - physiotherapy
- psychosocial
 - occupational therapy
 - social therapy
 - employment

Ankylosing Spondylitis

What is it	<p>A chronic arthritis which:—</p> <ul style="list-style-type: none">○ mainly affects the spine and sacro-iliac joints○ usually runs a prolonged course○ causes chronic backache and stiffening of the spine <p>Characterised by</p> <ul style="list-style-type: none">○ inflammation of the spinal joints (T₁₂ - L₁ region)○ sacroilitis○ ligamentous calcification○ high prevalence of HLA-B.27 histocompatibility antigen <p>Caused by</p> <ul style="list-style-type: none">○ not known
Significance	<ul style="list-style-type: none">○ incidence — 1 per 10,000 (1 new patient per GP every 5 years)○ prevalence — 1 per 2000 (1 per GP)○ sex distribution — Males ≧ Females○ age of onset — usually under 30 years, may occur up to 50 years○ course — usually good with treatment — small proportion (<10%) develop serious complications
Methods of Prevention	<p>Nil known — ? genetic counselling</p>
Opportunities for Early Diagnosis	<p>Clinical acumen <i>e.g. beware of labelling young man with persistent stiff back as a malingerer or a neurotic</i></p>
Diagnostic Features	<p>Onset</p> <ul style="list-style-type: none">○ usually insidious○ occasionally acute <p>Back pain</p> <ul style="list-style-type: none">○ diffuse or localised to lumbosacral area○ worse in morning○ may develop pain in thoracic or cervical spine later○ may radiate to buttocks <p>Stiffness</p> <ul style="list-style-type: none">○ worse in morning○ improves with exercise○ limited mobility on examination <p>Associated arthritis</p> <ul style="list-style-type: none">○ involvement of small joints uncommon○ may affect hips or knees <p>Systemic disturbances (usually absent)</p> <ul style="list-style-type: none">○ malaise○ fatigue○ loss of weight○ fever <p>Other manifestations</p> <ul style="list-style-type: none">○ depression○ enteropathic colitis○ Reiter's syndrome○ psoriasis○ iritis○ valvular heart disease <p>} may represent separate entities</p>

Investigations

- ESR usually raised (may be normal)
- R.A. latex, Rose-Waaler or similar
 - persistently negative
- full blood count normal
- HLA-B27 antigen present in over 90 per cent of cases
- Radiology
 - may be negative initially
 - sacroilitis
 - progressive calcification of ligaments → bamboo spine

Planned Care

Patient

- understanding of condition
- compliance with therapy
- exercise, especially swimming

G.P.

- confirm diagnosis
- assess patient
- choose therapy
- consider referral
- review regularly

Hospital

- admission
- specialist opinion
- physiotherapy

Community Services

- employment
 - DRO
 - house alterations

Principles of Management

Relief of pain and suppression of inflammation

- Drug therapy
 - phenylbutazone
 - indomethacin
 - other anti-inflammatory drugs (avoid steroids)
- Radiotherapy no longer recommended — because of risks of leukaemia later
- avoid bed rest

Relief of stiffness and improvement of mobility

- own exercises
- physiotherapy
- breathing exercises
- surgery very rarely required

Avoidance of permanent spinal deformity (kyphosis)

- as above

Stroke

What is it

Disturbance of the CNS resulting from an area of brain damage caused by decreased cerebral blood flow. Neurological dysfunction is generally of rapid onset and lasts for more than one hour.

Type	Pathophysiology	Presentation
Thrombo-embolic infarction	Accounts for over 50% of strokes Arises from occlusion of arteries often already atheromateous. Extracranial vessel occlusion (especially in normotensives) and emboli from diseased carotids or heart are as important as primary intracranial occlusion.	Often evolves over a period of hours and patient usually aware of progressive deficit. May have been preceded by brief focal neurological disturbances with abrupt onset and full recovery (transient Ischaemic attacks).
Haemorrhage	Especially in hypertensives. Vessel rupture and massive bleed or small microaneurysmic bleeds giving areas of brain softening. Rarely from blood diseases, SBE, anticoagulants. If main bleeding into subarachnoid space then called subarachnoid haemorrhage.	May be precipitated by exertion or emotion. Rapid onset with loss of consciousness on 50%. Hemiplegia or hemiparesis. Far higher mortality than infarction. Sudden onset severe headache often rapidly into coma or fitting. Associated vomiting, neck stiffness and backache.
Differential diagnosis: cerebral tumour (3-5% of those diagnosed as stroke); chronic subdural haematoma; hypertensive encephalopathy; cerebral abscess; meningococcal infection; hypoglycaemia.		

Significance

- incidence — annually 2-3 new cases per 1,000 of the population (5-8 new patients per G.P. each year)
- prevalence — 5-6 per 1,000 (15-20 patients per G.P.)
- 70 per cent occur over the age of 70 but equal sex incidence
- 50 per cent die in the first month, 25 per cent have severe disability and only 25 per cent will recover with minor or no disability.
- In GB about 100,000 are living with the residual effects of strokes imposing a tremendous social and management burden on their families and on the community
- No effective treatment
- prevention must be the GP's aim
- early diagnosis and effective treatment of hypertension is the most important measure that can be taken

Multiple Sclerosis

What is it

Relapsing and remitting disorder in which plaques of demyelination may affect any part of the white matter of the CNS
Symptoms which are due to demyelination are irreversible but as oedema in the surrounding tissue is reabsorbed there is a substantial return of function which may obscure the underlying deficit

Significance

- peak age of onset 30 years
- prevalence 1 per 1000 (2-3 patients per G.P.)
- may be due to inherited predisposition causing CNS to react abnormally to a virus infection
- very variable clinical course but onset at time of marriage/young family and average duration of about 25 years emphasises the tremendous social as well as medical implications
- early diagnosis may be difficult and no means of prevention or effective long-term treatment

Assessment

Diagnosis is almost entirely a clinical problem

Presenting symptoms	Notes
Weakness (40% of cases)	Tiredness or heaviness of one or both legs due to spastic weakness. Accompanying dull ache and tendency to trip on rough ground. Upper motor neurone lesion on examination.
Visual symptoms (25% of cases)	Optic neuritis. Loss of vision usually uniocular with IVA and central scotoma on examination. May see optic atrophy after about one month.
Sensory symptoms (20% of cases)	Paraesthesia, dysaesthesia. Proprioceptive disorders with sensory ataxia and incoordination. Mild symptoms not always accompanied by signs.
Brain stem syndromes	Vertigo, diplopia, facial palsy, dysarthria. Ataxic nystagmus highly suggestive of DS.
Others	Rarely sphincter disturbances, dementia or euphoria/depression may occur early.

No relevant GP investigations and all presenting cases should be seen by neurologist for confirmation of diagnosis.

Difficult to predict the clinical course in an individual patient.

- benign — one or two attacks in lifetime or only discovered at PM
- relapsing — increasingly poor recovery from successive relapses with significant disability within 10 years of onset
- progressive — rapid progressive course with early death

Planned Care**Hospital management**

- initial investigation/diagnosis
- referral if unmanageable acute episode or serious mental or physical difficulties
- in general long-term hospital care facilities for the young disabled are poor and community care has potentially far more to offer.

GP management

After initial episode diagnosis may not be certain or, if it is, there may be prolonged remission so probably unwise to inform patient that he has MS. Once repeated episode, however, relatives and patient should be fully informed with (optimistic) explanation of implications.

During relapses

Rest	Sensible during attack but no real evidence avoiding undue fatigue will help stop relapse occurring.
Antispasticity agents	Such as baclofen, dantrolene help prevent painful spasms in bed bound patients.
Physiotherapy	May improve ability to walk but of little value in acute or advanced disease.
ACTH IM or prednisolone oral	No strong reason to prefer ACTH to prednisolone. Prednisolone 30 mg daily (descending over 2 weeks) hastens recovery from individual relapse but does not effect eventual outcome. Long term steroid therapy is of no value.
Watch urinary tract	UTI very likely and important to keep urine sterile with antibiotics if appropriate. If recurrent infection then regular rotating antibiotic therapy may help. Urine incontinence may be helped by frequent visits to toilet and pressing abdominal wall to help emptying.

Long term

- family needs help as well as patient
 - primary care team involvement in trying to improve quality of life of patient and prevent loneliness and deprivation
- e.g.
- day centres
 - social gatherings for the handicapped
 - occupational therapy or sheltered employment
 - physical aids
 - home adaptations

Patient self-help

- determination to lead as normal a life as possible
- information and point of contact supplied by
The Multiple Sclerosis Society
4 Tachbrook Street
London SW1V 1SJ
- local groups for support and aid.

Epilepsy

What is it

Epilepsy is a symptom and not a disease
It is characterised by recurrent paroxysmal disorders of brain function which produce a fit or seizure, either focal or generalised, usually accompanied by a disturbance of consciousness.

Type	Characteristics
Grand mal	By far the commonest type. Sudden loss of consciousness with tonic phase followed by clonic phase and postical drowsiness or confusion.
Petit mal	Condition of childhood with tendency to remit in adolescence. Always idiopathic. Frequent brief interruptions of consciousness with immediate recovery and no sequelae.
Focal epilepsy Motor Sensory Temporal lobe	Nature of attack depends on primary site of lesion. Jacksonian seizure. May be short lived weakness of part involved in fit (Todd's paralysis). As motor but originating in precentral cortex. Complex disorders of sensation which may be followed by generalised fits.
Febrile fits	Affects 3% of children. Defined as fit associated with axillary temperature of over 38° C. 1 in 5 will go on to have afebrile attacks.

Significance

- incidence — less than 1 per 1000 (1 new patient every 2 - 3 years)
- prevalence — 3 per 1000 of the population (7 - 10 patients per GP)
- in 95 per cent of cases is idiopathic
- diagnosis carries far reaching social consequences and should not be made unless there is definite evidence for it
- generally life long condition which requires long term anticonvulsant therapy and also management and care of many social problems of suitable employment and acceptance by general population

Assessment

Ideally all presenting cases should be referred for hospital assessment (EEG etc) to exclude any potentially remediable organic neurological disease and to confirm the diagnosis.

Planned Care**Hospital management**

- for initial investigation and confirmation of diagnosis
- referral if control difficulties or serious mental or physical difficulties

GP management

- information
- reassurance
- instruction
- regular review

Anticonvulsant therapy

- anticonvulsant drugs are semispecific in their effects on different types of epilepsy
- one drug should be used alone whenever possible with its dose being adjusted to yield a serum concentration within the accepted therapeutic range. Aim is to achieve optimum control with minimum of adverse effects.
- important to avoid polytherapy as interactions with anti-epileptic drugs occur frequently
- patient understanding of condition and aims of therapy is essential as poor compliance is a major control problem

Self help

- comprehension and insight into condition essential
- avoidance of potentially dangerous situations (working at heights, or with machinery, swimming alone, driving within 3 years of last fit, etc.) while leading as normal a life as possible
- information from
British Epilepsy Association
3 - 6 Alfred Place
London WC1E 7ED
- local groups for support and mutual aid

Planned Care
continued

Type of Epilepsy	Drugs of choice	Dosage	Adverse effects
Grand mal especially if with difficult personality traits	Phenytoin (first choice especially in the young and old)	Start 200 mg once daily in adults or up to 8 mg/kg in children. Serum levels in 2-4 weeks with adjustment of dosage to produce level in optimum range 40-80µmol/l	Rashes gingival hyperplasia coarse facies acne hirsutism megaloblastic anaemia rarely hypocalcaemia and osteomalacia
	Phenobarbitone (poorly tolerated by children)	Limit dose to 120 mg per day in adults. Half life of 2-6 days so give as one dose at night. Therapeutic serum range 42-105µmol/l.	Rashes Depression of cognitive functions and memory, rarely megaloblastic anaemia.
	Carbamazepine (may be tried in chronic epilepsy if other drugs have failed)	200 mg once or twice daily in adults (100 mg children) increasing to maximum of 20 mg/kg. Therapeutic serum range 15-50µmol/l	diplopia nystagmus drowsiness/dizziness ataxia nausea/vomiting aplastic anaemia
	Sodium Valproate	Will control but probably not as effective as standard drugs	
Petit mal	Ethosuximide (drug of choice)	Start 250 mg once daily increasing as necessary to a maximum of 30 mg/kg	Drowsiness Gastric upset
	Sodium Valproate (is active against grand mal seizures which may coexist)	Start 200 mg BD regardless of age (as long as over 3 years old)	Nausea Transient hair loss Occasional tremor Thrombocytopenia
Temporal lobe (other partial seizures treated with same range of drugs as primary grand mal)	Sulthiame Carbamazepine	Start 100 mg BD in adults 3-5 mg/kg in divided doses in children. 200 mg TID optimum in adults More useful in temporal lobe than Grand mal.	Drowsiness Parasthesia Overbreathing
Myoclonic seizures	A variety of syndromes in childhood occur with myoclonic jerking. Sodium Valproate (first choice) and Clonazepam are effective.		

Dyspepsia and Functional Disorders of the GI Tract

What are they	<p>A mixed bag of symptoms of disordered function relating to the GI tract. They include from above downwards — heartburn, flatulence, nausea, upper abdominal discomfort, mid and lower pains, constipation and loose frequent stools.</p> <p>Although classified together their causes, nature, course and outcome are far from clear.</p>
Possible Causes	<p>Organic (to be excluded)</p> <ul style="list-style-type: none"><input type="radio"/> hiatus hernia<input type="radio"/> peptic ulcer<input type="radio"/> neoplasms<input type="radio"/> GB and liver disease<input type="radio"/> Crohn's disease<input type="radio"/> diverticulosis<input type="radio"/> post-infective <p>Non-organic (to be considered)</p> <ul style="list-style-type: none"><input type="radio"/> emotion of psychosomatic and stress factors<input type="radio"/> diet- such as lack of roughage, or too much roughage, and sensitivities to sugar, milk, coffee, tea, tobacco, etc.<input type="radio"/> iatrogenic factors — such as laxatives, aspirin, codeine, etc.<input type="radio"/> family history
Significance	<p>Frequency — annual prevalence</p> <ul style="list-style-type: none"><input type="radio"/> heartburn, flatulence, nausea and upper abdo. discomfort — 21 per 1000 (55 patients per GP)<input type="radio"/> abdominal pains — 15 per 1000 (45 per GP)<input type="radio"/> constipation — diarrhoea — 8 per 1000 (20 per GP)<input type="radio"/> sex distribution — roughly equal
Assessment	<ul style="list-style-type: none"><input type="radio"/> first steps are to consider possibility of non-organic disorder<input type="radio"/> second step must be to exclude possible organic disorders and series of investigations are necessary<input type="radio"/> third step must be to avoid going on and on with more and more investigations.
Planned Care	<p>Bear in mind that —</p> <ul style="list-style-type: none"><input type="radio"/> disorders are common<input type="radio"/> since causes are unclear there can be no effective specific treatment<input type="radio"/> they are benign with a tendency to remit spontaneously and naturally <p>Therefore no satisfactory planned care is possible.</p> <p>Each GP should develop his own understanding of these patients and of possible advice and medication.</p>

Peptic Ulcers

- What are they** Symptom-complexes plus evidence of duodenal or gastric ulceration
Ulceration may be demonstrated by
- radiography
 - endoscopy
 - at surgery
 - at autopsy
- Significance**
- incidence — 3 per 1000 per year (7 - 8 new cases per GP)
 - prevalence — 15 per 1000 per year (35 - 40 patients per GP)
 - duodenal : gastric ulcers = 4 > 1
 - sex distribution — DU - M > F = 3 : 1
GU - M > F = 1 : 1
- Natural History**
- Duodenal ulcers**
- onset usually at 20 - 40 years
 - recurrent bouts of symptoms for 5 - 10 years
 - 70 per cent tend to remit naturally and cease to suffer symptoms
 - 30 per cent will become chronic or develop complications and require surgery
- Gastric ulcers**
- onset usually at 40 - 60
 - 75 per cent tend to heal spontaneously
 - 25 per cent need surgery
- Assessment**
- Diagnostic features**
- central epigastric pain related to meals and relieved by food and antacids
 - vomiting if pyloric spasm or obstruction
 - reflux and heart — if hiatus hernia or lax gastro-oesophageal sphincter
 - periodic bouts of pain
- Complication**
- bleeding
 - haematemesis
 - melaena
 - perforation
 - malignant change in GU
 - stenosis of pylorus
- Investigations**
- Confirm by**
- barium meal radiography
 - endoscopy (if indicated)
- Differentiate from**
- “non-ulcer dyspepsia”
 - hiatus hernia
 - gall bladder disease
 - pancreatic cancer
 - large gut cancers
- Associated diseases**
- Note special tendency for DU patients to suffer from
- GIHD
 - chronic bronchitis
 - pulmonary TB
 - anxiety — depression

Planned Care**Patient**

- understand nature and course of condition
- trigger and aggravating factors
- diet control (by trial and error)
- relief measures (medication)

GP

- understand natural history
- confirm diagnosis (by Ba. Meal)
- therapeutic plans
- consider referral

Specialist

- physician or surgeon?
- to confirm diagnosis by endoscopy
- to advise on therapy (in problem cases)
- to carry out surgery

Principles of Management

- inform patient of diagnosis, nature and course of disorder
- advise on life-style and habits
- advise on trigger factors
- diet
 - be as simple, clear and flexible as possible
 - avoid foods known to upset
 - frequent small meals
- antacids
 - very effective in controlling pain
 - huge choice of drugs
 - select a few from BNF or MIMS and stick to them
- antispasmodics
 - no good evidence that they work
 - carbenoxolone and deglychirrhizined liquorice shown to work well in gastric ulcers
 - note side effects — fluid retention
- histamine (H₂) antagonists (cimetidine and ranitidine)
 - major advance and effective in reducing acid production
 - expensive new drug — apparently few side effects
 - use with sense and sensibility
- surgery
 - very effective in selected cases
 - vagotomy now in fashion
 - partial gastrectomy in some
 - surgical mortality now 0.1 - 1 per cent (depends on unit).

Chronic Bronchitis

What is it

Epidemiologically defined as existing in any person who regularly expectorates sputum for at least 3 months of the year and has done so for 2 years. Once this is established there is an increased liability to acute chest infections and variable but progressive reduction of respiratory efficiency leading to severe respiratory failure in some.

Pathologically the primary feature is the increased secretion of sticky mucus caused by hypertrophy of the mucous glands and an increase in size and number of the goblet cells.

Significance

Commonest chest disorder seen in general practice with 20 per cent of males and 5 per cent of females over the age of 40 having symptoms to justify this diagnosis.

In any year in a practice of 2500

- 100 will consult G.P.
- 60 will be simple cases
- 30 will suffer acute infective episodes
- 10 will be invalids
- 5 will be hospitalised
- 2 will die

Risk factors

- constitutional predisposition
- increasing age
- males
- urban living/atmospheric pollution
- social class IV and V
- occupational dust and fumes
- cigarette smoking

Important cause of morbidity and mortality

- 50 per cent persistent cough but no appreciable functional disability
- 25 per cent moderately disabled with recurrent chest infections, increasing absences from work and appreciable loss of respiratory function
- 25 per cent severely disabled over 5 - 10 year period

Early diagnosis possible in smokers with morning cough and decreased PEFr during exacerbation. Attention to risk factors at this stage may have some effect on future disability

Special risk of developing progressive airways obstruction in

- those with FH chronic bronchitis
- heavy smokers who inhale deeply
- those with a history of recurrent bronchitis during childhood or adulthood

Assessment

Is the diagnosis accurate?

- late onset asthma
- carcinoma lung
- TB (in old men)
- chronic left sided heart failure
- chronic chest disease, e.g. bronchiectasis, pneumoconioses

What is the functional state?

By the use of peak flow meter or Vitalograph the G.P. can identify those with irreversible airways obstruction that has not given rise to breathlessness. Disability is seldom found in patients with $PEF > 250$ L/min.

Are there any risk factors present that may be alleviated?

- stop smoking at any stage
- occupational history
- assess overweight

Assessment
continued

Investigations

- chest X-ray — initially to exclude other chronic chest disease periodically in heavy smokers to exclude carcinoma
- PEFr/lung function — initially to assess degree of obstruction and regularly thereafter to provide objective assessment of disability
- sputum culture — to exclude TB. Of limited value in exacerbations since findings do not often help in deciding choice of antibiotic (assume infection predominantly H.influenzae or Strep. pneumoniae)

Planned Care

Hospital management

- during acute exacerbations may need admission for social or medical reasons. Especially in those developing any degree of respiratory failure (shallow respiration, cyanosis, drowsiness, headache, irritability, coarse tremor → admit as emergency)
- referral to local chest physician may result in a more comprehensive degree of care that the G.P. can offer, if G.P. denied open access to physiotherapy department

G.P. Management

- forceful anti-smoking propaganda during or immediately after an acute exacerbation
- demonstration of decreased function on peak flow meter
- regular follow-up and review of chronic cases with disability

Antibiotics	Oxytetracycline for 1 week has advantage that has some effect on some adenoviruses and mycoplasma. Contraindicated if renal impairment present. Amoxycillin probably penetrates sputum more effectively than ampicillin and possibly better than co-trimoxazole to which some strains of H. influenzae are resistant. Supply patient with antibiotics to take at first sign of flare up. No evidence that long term antibiotic therapy reduces number of exacerbations though may shorten their duration.
Bronchodilators	Only helpful if element of reversible airways obstruction present can be given by inhaler, orally or by suppository.
Corticosteroids	Asthmatic type of bronchitis may respond well to oral steroids. Should only be given if objective evidence of benefit.
Mucolytics	Prolonged use rarely beneficial.
Oxygen	Only for relief of hypoxia and only at low concentration (e.g. 24% by Venturi mask). Use for short periods has no demonstrable therapeutic benefit. Can be prescribed on FP 10.
Physiotherapy	Usually only available at hospital. Can help in assisting patient clear his chest of sticky mucous.
Diuretics	Needed for treatment of cor pulmonale which may develop.

- Consider problems of rehabilitation and employment (light job at work or disablement register or early retirement)
- Consider need for rehousing and social services aid and assistance that may be given (home helps, meals on wheels, financial supplements, social visiting, etc.)

Self Help

- stop smoking
- do not go out in cold and damp weather
- maintain an even temperature in the home.

Some Drugs useful in the Management of Chronic Bronchitis

(a) Antibiotics

Drug	Dose	Route of Administration	Comments
Amoxycillin	250 mg t.d.s. (dosage may be doubled in more severe cases).	Oral	Amoxycillin is a penicillin and should not be given to patients allergic to the penicillin group of antibiotics. Amoxycillin is also available for intramuscular or intravenous administration.
Ampicillin	250 mg q.i.d. (routine therapy) 1 g q.i.d. (high dosage therapy).	Oral	Ampicillin is a penicillin and should not be given to patients allergic to the the penicillin group of antibiotics. Ampicillin is also available for intramuscular or intravenous administration.
Cotrimoxazole	160 mg trimethoprim and 800 mg sulphamethoxazole b.d. In more severe cases 240 mg trimethoprim/1200 mg sulphamethoxazole b.d. (max.) may be given	Oral	Cotrimoxazole is a combination of trimethoprim and sulphamethoxazole in a 1:5 ratio. Cotrimoxazole should not be given to patients allergic to trimethoprim or to the sulphonamide drugs, nor to those with marked hepatic parenchymal damage, severe renal insufficiency, serious haematological disorders nor during pregnancy. Cotrimoxazole is also available for intramuscular or intravenous administration.
Oxytetracycline	250 mg q.i.d. (dosage may be doubled in more severe cases).	Oral	Oxytetracycline is also available for intramuscular or intravenous administration.

(b) Mucolytics

Drug	Dose	Route of Administration	Comments
Acetylcysteine	Normally 2-5 ml of a 20% w/v solution 3 or 4 times daily.	Nebulization	Mechanical suction may be required to maintain an open airway in those patients unable to expectorate the relatively large amounts of sputum resulting from acetyl-cysteine treatment.
	1-2 ml of a 20% w/v solution every 1-4 hours.	Direct Instillation	
Bromhexine	8 mg t.d.s. — 16 mg q.d.s.	Oral	Bromhexine is also available for intramuscular or intravenous administration.
Carbocisteine	Initially 750 mg t.d.s. reducing to 1.5 g daily in 3 or 4 divided doses following a satisfactory response.	Oral	

(c) Bronchodilators

Drug	Dose	Route of Administration	Comments
Aminophylline	100-300 mg as necessary, after food.	Oral	Sustained release preparations of aminophylline can also be useful. Dosage is 225 mg b.d. morning and evening, increasing to 450 mg b.d. (max.) if necessary.
Choline theophyllinate	100-400 mg q.i.d.	Oral	Do not give in patients having a hypersensitivity to the xanthine group of drugs.
Salbutamol	1 or 2 inhalations of 100 mg as a single dose. Prophylactically, two 100 mg inhalations 3 or 4 times daily.	Inhalation	Salbutamol stimulates β_2 -adrenoceptors in the bronchial musculature. The duration of action of salbutamol inhalations is at least 4 hours.
	4 mg 3 or 4 times daily, increasing to 8 mg (max.) per dose if necessary.	Oral	

Asthma

What is it

Disease characterised by increased responsiveness of the bronchial tree to a number of stimuli and manifested by a widespread narrowing of the airways that changes in severity either spontaneously or as a result of treatment.

Up to 25 per cent of children have wheezing episodes before the age of 10 but only one in four of them will have symptoms persisting beyond that age.

Asthma developing in childhood or early adult life is usually type I immediate hypersensitivity mediated by IgE (extrinsic asthma) whereas asthma developing later in life is characterised by a type III delayed hypersensitivity reaction mediated by IgC (intrinsic asthma) following a type I reaction but with no external allergens identifiable.

Significance

- incidence — 2 per 1000 (5 new patients per year)
- prevalence — 15 per 1000 (50 patients per G.P.)
- probably 5 per cent of people have been subjected to attacks of asthma at some time
- is a cause of sudden and unexpected death and when attacks occur causes appreciable disability and interference with normal activities. Produces much anxiety among patients and relatives.
- in about 5 - 10 per cent of cases permanent disability ensues after 10 - 20 years.
- genetic factors involved in development with triggering of attacks by allergies, infection, exercise, irritants, mechanical factors (deep breaths), chemicals, psychological factors.
- majority of deaths occur outside hospital and in many cases terminal episode not considered serious by G.P.

Assessment**Is diagnosis accurate?**

Are there definable causes or triggers and, if so, can they be prevented?

What investigations?

How good is patient's psychological adjustment to asthma and can they be relied on to properly use, and not abuse, therapy?

What programme of management for now and the future?

Diagnostic/Investigative considerations	
History	FH or PH atopy. Seasonal or diurnal (early morning dippers) variation. Occupation. Chronic night cough/wheeze. Wheeze with URTI's. Any provocative factors — foods, pets, exercise, dusting, drugs.
Examination	Neither pitch nor loudness of wheeze is indicative of severity of obstruction. Hyperinflation, poor expansion, use of accessory muscles suggest severe obstruction. Structural changes in chest may arise from long term obstruction.
Lung function tests	Confirm degree of airways obstruction and confirm its reversibility. Allows objective monitoring of progress and PEFr should be regarded as a routine part of each clinical examination. FEV ₁ and FVC may be used as assessment criteria if practice has vitelograph.
Chest X-ray	Exclusion of other lung conditions — otherwise of little value.
Eosinophils	In blood or sputum may be found in type I especially if associated aspergillosis.
Prick skin testing	No value in diagnosis but may demonstrate allergenic cause to patient and improve compliance. Negative results may allow diagnosis of type III which has treatment/prognosis implications.
Bronchogram	Proximal bronchiectasis in Aspergillosis.
Response to steroids	Refractory obstruction responds to several days of high dose steroids while irreversible obstruction will not.

Planned Care**Hospital management**

For severe acute attacks:

Clinical signs of danger
<ul style="list-style-type: none"><input type="checkbox"/> sudden decrease exercise tolerance<input type="checkbox"/> difficulty in speaking<input type="checkbox"/> use of accessory muscles<input type="checkbox"/> tachycardia > 110 (in absence of sympathomimetics)<input type="checkbox"/> pulsus paradoxus<input type="checkbox"/> PEFr < 100 litres/min.<input type="checkbox"/> 'silent' chest (absence adventitious sounds due to overinflation)
ADMIT AS EMERGENCY

GP management

- treat effectively and with confidence to minimise psychological problems.
- educate patient (and parents/family) to promote good understanding of nature of disease, course, prognosis, likely therapy and how to manage acute attacks. Emphasise which therapy preventive and which for symptomatic relief
- rationally plan drug therapy to use as few drugs as possible at any one time
- regularly monitor PEFr

Acute attack — see page 113

Preventive Treatment

Chronic asthma

AVOID	Known allergens and trigger factors
Desensitisation	On whole unsuccessful. May help if clearly provoked by pollens or moulds. No evidence mite desensitisation of value.
Disodium cromoglycate	Stabilises mast cell membrane so stops type I reaction with release histamine etc. Works in $\frac{2}{3}$ children but much less in adults. Preventive only and will stop exercise induced attacks if taken before exercise starts. Trial for $\frac{2}{12}$ with plain (not Co variety) and keep record of number of attacks. If Intal not effective then stop.
Steroid aerosols	Provide maintenance steroid therapy (2 puffs QID \equiv 7 - 10 mg prednisolone) without same likelihood of systemic side effects as oral therapy. Valueless for treatment of severe attack as action not immediate and cannot be inhaled deeply if bronchoconstriction present. For latter reason those on this therapy must have supply of oral prednisolone to switch to (at least 20 mgs per day for 3 or 4 days) at onset of lower respiratory infection.
Oral prednisolone	Tends to be used in severe cases. Start at 40-60 mg daily and after 3-5 days (when responding) cut by 5 mg every 3 days until minimum effective maintenance dose. If maintenance of about 5-10 mg per day then should be able to transfer to aerosol. If not then prednisolone on alternate days cuts risk of long term side effects. If no effect within 7 days of starting then therapy should be stopped as obstruction irreversible.
Oral antispasmodics	Work much better in early stages of acute attack than over long periods.

**Alleviation
of Symptoms**

Self referral of patient should be encouraged early especially when bronchodilator aerosols are no longer effective.

Oral	<p>Theophylline derivatives, e.g. Phyllocontin, Choledyl, Thean are effective but may cause nausea and vomiting.</p> <p>Sympathomimetics, e.g. Ventolin, Alupent, Bricanyl act by stimulating β adrenergic receptors in the bronchial wall and will often produce muscle tremors.</p> <p>These groups are working at different intracellular sites and may have valuable additive effects.</p> <p>In general longer to act, less effective, more side effects than aerosols.</p>
Aerosol bronchodilators	<p>Sympathomimetics with rapid relief of symptoms.</p> <p>MUST tell patient not to exceed the required dose which should be stated in terms of the number of inhalations at one time, the frequency of dosage and the maximum number of doses allowed in 24 hours. In acute exacerbation aerosol delivery is impaired and oral or parenteral therapy obligatory.</p> <p>NB the dose of active drug varies in different aerosol preparations.</p>
Steroids	<p>If on steroid aerosol therapy then MUST switch to oral therapy with onset of wheezing.</p> <p>Remember that in acute attacks action of oral steroids is slow and IV steroids may be needed.</p>
Antibiotics	<p>If attack is associated with infection then appropriate antibiotic should be given.</p>
Rectal Aminophylline	<p>Often of value for the prevention of nocturnal symptoms. If used over prolonged period may give proctitis.</p>

Self help

- lead as normal a life as possible
- avoid precipitating factors where possible
- use drugs sensibly without abusing them
- do **not** underestimate the severity of an attack and seek medical help early rather than late.

Hay fever

What is it Seasonal exposure to grass pollens or, more rarely, tree pollens or moulds producing a hypersensitivity reaction of the respiratory tract.

- Significance**
- at one time or another will effect 7 per cent of the population especially those with a family history of atopy
 - prevalence — 15 per 1000 (30 - 40 patients will be seen in a season)
 - usually begins in teen or twenties with annual seasonal symptoms for some 5 - 15 years before natural resolution occurs
 - source of discomfort and personal misery but not a significant cause of morbidity and in no way life threatening.

- Assessment**
- good clinical history (nasal obstruction, excess nasal discharge, sneezing, irritation of the eyes and sometimes wheezing) of symptoms between May and August gives diagnosis
 - skin testing of little value

- Planned Care**
- Hospital Management**
- may need referral for removal associated nasal polyps

GP management

- social factors, e.g. type of employment, driving, important forthcoming events are as important as severity of symptoms in deciding therapy
- disadvantages of proposed treatment must be fully explained to patient

Antihistamines	Trial of different compounds may be necessary to find most suitable one for patient. Side effects may be appreciable. Must warn re driving, using machinery.
Disodium cromoglycate	Regular nasal inhalation may help some patients though treatment is expensive and tedious.
Local steroids	Costly and not always well tolerated though this can be very successful in some patients.
Systemic steroids	Use of such powerful potentially dangerous drugs for a benign condition is only justified for severe symptoms (including asthma) or to tide patient over an important event. Can be orally for a short time or single injection of depot preparation. NB full explanation/ Steroid card.
Desensitisation	Preseasonal courses over 2 - 3 years will give complete control in about $\frac{1}{3}$ of cases. Expensive and time consuming with serious risk of sudden collapse, shock and even death.

Self help

- accept all symptoms don't need drug therapy and that treatment may well be more dangerous than original condition
- avoid high pollen concentration where possible (long grass; car or train journeys with open windows; house windows open on hot, humid, windy days)
- do not go camping
- do not walk through long grass

Irritable Bowel Syndrome (spastic colon, mucous colitis)

What is it	A stress disorder in a susceptible individual with small and large bowel excessive motility associated with abdominal pain ranging from slight discomfort to severe colic, constipation or diarrhoea.
Aetiology	Appears to be closely related to emotional conflict and associated with depression. Marital conflict, bereavement, obsessional worry over often trivial matters.
Significance	<ul style="list-style-type: none">○ symptoms may be similar in early ulcerative colitis, diverticulosis, intestinal malignancy or infection. May be presenting symptoms of a functional disorder such as depression and/or anxiety○ failure to diagnose correctly may lead to severe iatrogenic reactions
Assessment	<ul style="list-style-type: none">○ diagnosed by very careful study of history and response to treatment with anxiolytics and anti-cholinergics plus patient listening by doctor○ radiological investigation such as <i>Barium enema</i> indicated at least once to reassure patient (and doctor)○ bear in mind paucity of symptoms and signs of early colonic malignancy
Clinical Types	<ul style="list-style-type: none">○ spastic type with variable bowel movements (constipation or diarrhoea) and colonic type pain in one or more areas. Relieved by bowel movement and often 'triggered off' by meal. Associated with depression, anxiety and fatigue○ painless loose stools. Urgent diarrhoea after meals or on rising
Planned Care	<ul style="list-style-type: none">○ explain 'cause and effect' to patient○ advise normal diet. Encourage bulk cereal such as muesli base, bran and wheat germ○ may be necessary to give anti-cholinergic agents such as propanthelene with or without a tranquillizer such as diazepam○ may have to treat with an anti-depressant such as amitriptyline○ sympathy and understanding from doctor most important

Gall Bladder Disease

- What is it** Chronic or acute inflammation of the mucosal lining often associated with the presence of stones.
 Many theories as to cause. Insoluble cholesterol made soluble in gall bladder by mixing with bile acids and phospholipids.
 Precipitation leads to stone formation which in turn may, by mechanical obstruction and trauma to mucosa, facilitate infection thus sustaining chain of pathological changes within the organ.
- Significance**
- incidence — 0.5% per 1000 (1 new patient per year per G.P.)
 - prevalence — 2 per 1000 (5 patients per G.P.)
 - more common in females. May mimic disease of cardiac origin, e.g. angina or infarction, may present like peptic ulcer or appendicitis
- Assessment**
- history important.
 - flatulent dyspepsia
 - pain and tenderness
 - R. upper quadrant
 - positive Murphy's sign
 - straight X-ray and cholecystogram
- Clinical Types**
- | Gall stones | Acute cholecystitis | Chronic cholecystitis |
|---|---|--|
| 60% asymptomatic
upper abdominal discomfort
belching and food intaken | pain night or early AM
localised tenderness
nausea & vomit
fever | very ill defined
flatulence may be only symptoms
pain usually not colicky |
- Treatment**
- many patients live asymptotically with gall stones and gall bladders
 - surgical referral if symptoms persist or complications such as jaundice and if diagnosis is uncertain

Diabetes Mellitus

What is it

A diabetic has a persistent abnormally high blood glucose concentration. Such a person will usually have glycosuria but not everyone with glycosuria has diabetes nor does every diabetic have glycosuria at all times because of varying thresholds.

Significance

- incidence — 1.5 per 1000 (3-4 new patients per G.P. in year)
- prevalence — 7 per 1000 (15-20 patients per G.P.)

Main types of diabetes and presenting features

	Insulin dependant (Juvenile onset)	Non-Insulin dependant (Maturity onset)
Thirst and polyuria	Usual	Unusual
Loss of weight	Usual	Unusual
Obesity	Uncommon	Frequent
Ketosis	Usual	Unusual
Onset	Acute	Gradual
Incidence	<40 years (peak 12-14 years) Seasonal (peak during winter)	>40 years (rises with age)
Genetic Predisposition	Strong: linked to HLA type	Present: not linked to HLA type

Assessment

Insulin dependent: In the young, the condition usually presents as an emergency with thirst, polyuria, loss of weight and ketosis with pallor, sweating, air hunger and smell of acetone.

Non-Insulin dependent: May present with complications such as leg ulcers or retinopathy or be found by routine urine or blood test.

Blood Glucose Concentrations

	Fasting	Random	2 hours after 50g glucose by mouth (e.g. 235 ml Lucozade)
Normal	<90 mgm/100 ml (5.0 mmol/l)	<160 mgm/100 ml (8.9 mmol/l)	<110 mgm/100 ml (6.1 mmol/l)
Diabetes	>120 mgm/100 ml (6.7 mmol/l)	>180 mgm/100 ml (10 mmol/l)	>180 mgm/100 ml (10 mmol/l)

Concentrations between these levels may indicate impaired glucose tolerance and require an oral glucose tolerance test (G.T.T.)

Complications

The exact mechanism is not clear but all seem to be related to hyperglycaemia and so strict control is worth striving for.

Organ	Pathology	Effect	Management
Eyes	Retinopathy	Loss of vision	Improve control + photo-coagulation in suitable cases.
	Cataract	Loss of vision	Improve control + surgery in suitable cases
	Ocular nerve palsies	Diplopia	Improve control
Kidneys	Glomerular disease	Proteinuria Nephrotic syndrome	Improve control Low protein diet if uraemic
		Hypertension	Hypotensives when necessary
	Arterial disease Pyelonephritis	Renal failure Hypertension Renal failure Loss of diabetic control Fever, pain, malaise	Improve control Antibiotics
C.V.S.	Generalised atheroma of both small and large arteries		Improve control. Stop smoking. Reduce dietary animal fats
	Ischaemic heart disease	Angina, cardiac infarction	As in non-diabetic
	Cerebrovascular disease	C.V.A., dementia	
	Peripheral vascular disease	Intermittant claudication Peripheral gangrene	Foot care Amputation may be necessary
C.N.S.	Neuropathies		
	Sensory	Parasthesiae Trophic ulcers	Improve control
	Motor	Peripheral nerve palsies	
Autonomic	Impotence G.I. disturbance		
Skin	Infection		
	○ bacterial	Foot sepsis	Improve control
	○ fungal	Ulcers	Foot care. Chiropody
	Ischaemia	Peripheral gangrene	Local treatment of infection
	Trophic ulcers		
	Necrobiosis		

Planned Care

Aims:

- to maintain blood sugar as near normal as possible
- to prevent, delay and ameliorate complications
- to enable the patient to live as normal a life as possible

Initial Stabilisation

Insulin Dependent	Non-Insulin Dependent
In hospital Acute illness controlled by frequent doses of short-acting insulin preparation and treatment of electrolyte imbalance	At home Target weight agreed Diet laid down
Basic dosage regime established	Oral hypoglycaemic agents needed only if diet alone inadequate. Unlikely to be needed if patient overweight and dieting. May become necessary once target weight has been reached
Injection technique taught	
Experience of hypoglycaemia arranged	
Principles of diet explained	Urine testing taught
Urine (or blood) testing taught	

Insulin

















































- always needed by anyone who has ever had ketosis
- insulin is available in its original form (obtained from either beef or pig) or in highly purified (monocomponent) form; also in preparations of varying length of action.

	Original (standard)	Highly purified (Monocomponent)
Short acting	Soluble insulin	Neutral insulin, e.g. Actrapid MC
Intermediate length of action	Globin zinc insulin	Isophane insulin (NPH) e.g. Insulin Leo Retard Zinc suspension semilente e.g. Semitard MC
Long acting	Protamine zinc insulin (PZI)	Zinc suspension ultralente e.g. Ultratard MC
Fixed mixtures of the above	Zinc suspension lente	Biphasic insulin, e.g. Rapitard MC Zinc suspension lente e.g. Monotard MC

The best control is usually obtained with twice daily injections: before breakfast and before the evening meal. These should each contain a short acting preparation. In addition, the morning injection may have a long acting insulin or an intermediate acting preparation may be added to either or both. The exact relative dosage can only be worked out after the patient has left hospital, has reached his target weight and is leading a normal life.

More accurate control can be achieved by combinations of preparations mixed by the patient than by using standard preparations of mixtures. The patient can then alter the dose to allow for times of varying activity such as sport or lazy weekends.

Types and strengths of insulin, with a guide to onset and length of action. Those insulins labelled 'conventional' are purified to the normal standard. BIM = British insulin manufacturers.

Approved name	Trade name <i>manufacturer</i>	Standard	Source	pH	Approximate time relationships (shaded area = maximum activity)			
					0 (hours)	12	24	36
Insulin BP	Soluble <i>BIM Weddel</i>	Conventional		3				
Neutral insulin BP	Nuso <i>BIM</i>	Conventional		7				
	Neusulin <i>BIM Wellcome</i>	Highly purified		7				
	Actrapid MC <i>Novo</i>	Highly purified		7				
	Insulin Leo <i>Neutral Nordisk</i>	Highly purified		7				
	Hypurin <i>Neutral Weddel</i>	Highly purified		7				
Insulin zinc suspension (amorphous) BP	Semilente <i>BIM</i>	Conventional		7				
	Semitard MC <i>Novo</i>	Highly purified		7				
Biphasic insulin BP	Rapitard <i>Novo</i>	Highly purified		7				
No approved name	Insulin Leo <i>Mixtard Nordisk</i>	Highly purified		7				
Insulin zinc suspension BP	Lente <i>BIM</i>	Conventional		7				
	Neulente <i>BIM Wellcome</i>	Highly purified		7				
	Lentard <i>Novo</i>	Highly purified		7				
	Monotard <i>MC Novo</i>	Highly purified		7				
	Hypurin Lente <i>Weddel</i>	Highly purified		7				
Globin zinc insulin BP	Globin <i>BIM</i>	Conventional		3				
Isophane insulin BP (NPH)	Isophane <i>BIM Weddel</i>	Conventional		7				
	Neuphane <i>BIM Wellcome</i>	Highly purified		7				
	Insulin Leo <i>Retard Nordisk</i>	Highly purified		7				
	Hypurin Iso- phane <i>Weddel</i>	Highly purified		7				
Protamine zinc insulin BP (PZI)	Protamine <i>BIM Weddel</i>	Conventional		7				
	Hypurin Protamine Zinc <i>Weddel</i>	Highly purified		7				
Insulin zinc suspension (crystalline) BP	Ultralente <i>BIM</i>	Conventional		7				
	Ultratard MC <i>Novo</i>	Highly purified		7				

Oral hypoglycaemic agents

- should not be used until target weight has been reached and treatment with diet alone has been continued for at least three weeks
- should be used in conjunction with diet.
- not suitable for anyone who has ever had ketosis
- interactions with other drugs are common.

	Action	Advantages	Disadvantages
Sulphonyl ureas	Mainly by stimulating insulin release.	Well tolerated.	Increase in weight. Risk of hypoglycaemia.
Biguanides	Mixture of actions including delay of glucose absorption from bowel.	Decrease in weight.	Gastrointestinal disturbance. Risk of lactic acidosis.

Group	Name	Daily Dose	Characteristics
Sulphonyl ureas	Tolbutamide	1 - 3 g	Shortest acting: least potent: least likely to cause hypoglycaemia: suitable for elderly.
	Chlorpropamide	100-375 mgm	Long acting (24 hours or more): more potent: may cause hypoglycaemia: may cause flushing with alcohol: mildly antidiuretic.
	Glibenclamide	2.5 - 25 mgm	As potent as chlorpropamide: shorter acting than chlorpropamide: mildly diuretic.
Biguanides	Phenformin	50-150 mgm	Especially useful in obese patient or in conjunction with sulphonylureas.
	Metformin	0.5 - 2 g	

Education: continues throughout the life of the patient.

<p>For all diabetics:</p>	<p>Principles of diet:</p> <ul style="list-style-type: none"><input type="radio"/> no sugar<input type="radio"/> restriction of other carbohydrates and animal fats<input type="radio"/> regular meals of equal calorie content evenly spaced<input type="radio"/> no binges <p>Importance of weight control</p> <p>Urine testing for glucose with Clinitest tablets if renal threshold normal (Diastix can be used but less accurate). Several tests during an occasional typical day at different times are more use than one every day at the same time.</p> <p>Blood testing with dextrostix and meter allows more accurate control than urine testing. Essential if renal threshold abnormal. Useful in pregnancy.</p> <p>Importance of accurate control and follow-up.</p> <p>Recognition of danger signs, e.g. vomiting.</p> <p>Foot care.</p> <p>No smoking.</p>
<p>For insulin dependant:</p>	<p>Siting and technique of injections.</p> <p>Adjustment of dosage according to tests and needs.</p> <p>Factors affecting insulin requirement, e.g. illness and reduced exercise increase requirement: increased exercise and reduced calorie intake reduce requirement.</p> <p>Types of insulin being used and their length of action.</p> <p>Symptoms of hypoglycaemia: sweating, shakiness, pallor, forceful heart beat, fearfulness, irritability, acute intense hunger, nightmares, poor concentration.</p> <p>Factors likely to cause hypoglycaemia, e.g. increased exertion, missed meals, increased insulin dosage (or wrong strength).</p> <p>Management of hypoglycaemic attacks:</p> <ul style="list-style-type: none"><input type="radio"/> emergency — sugar<input type="radio"/> long-term — reduce insulin <p>NOTE: The emergency use of sugar for the treatment of hypoglycaemia may cause glycosuria and lead the patient to think he needs more insulin and not less.</p> <p>Maintenance of target weight:</p> <ul style="list-style-type: none"><input type="radio"/> if underweight — increase dietary intake especially of protein foods, fruit and vegetables; increase dose of insulin as necessary, adjudged by tests.<input type="radio"/> if overweight — reduce calorie intake and dose of insulin. When target weight is reached, insulin dose will need to be increased again.
<p>For non-insulin dependant:</p>	<p>Tablet taking routine.</p> <p>Drug interaction.</p>

**Planned
Long-term Care**

- collaboration between G.P., diabetes health visitor or hospital diabetic clinic, plus ophthalmologist.
- intervals may need to be shorter in the unstable, unintelligent or those with complications.

Every 6 months

- education
- check patient's chart for urine (or blood) tests
- enquire for hypoglycaemic symptoms
- review diet
- record weight
- examine feet in middle-aged and elderly
- test urine for albumen
- take blood for random blood sugar.

Once a year

- eye check (by ophthalmologist)
- check peripheral circulation
- blood pressure
- examine injection sites
- examine tendon reflexes and deep pain sensation
- MSU and dip inoculum (early morning).

Urinary Tract Infection

What is it

Urethral syndrome:

Over 50 per cent of women complaining of frequency and dysuria do not have significant bacteriuria. They suffer from the urethral syndrome. It is not possible to distinguish them clinically. An early morning MSU and dip-inoculum slide is necessary to exclude cystitis. This is important especially in those presenting with recurrent attacks as the management is different. Advice as for cystitis should be given but antibiotics should be withheld.

Cystitis:

Pus cells and bacteria are present in the urine. They may be missed if an MSU is taken during the day. An early morning specimen is more likely to prove positive. It must be carefully taken. The use of dip-inoculum slide increases the likelihood of identifying the organism.

Tuberculosis: should be borne in mind if pus cells are persistently found in the absence of bacteria. (Note: sterile acid pyuria).

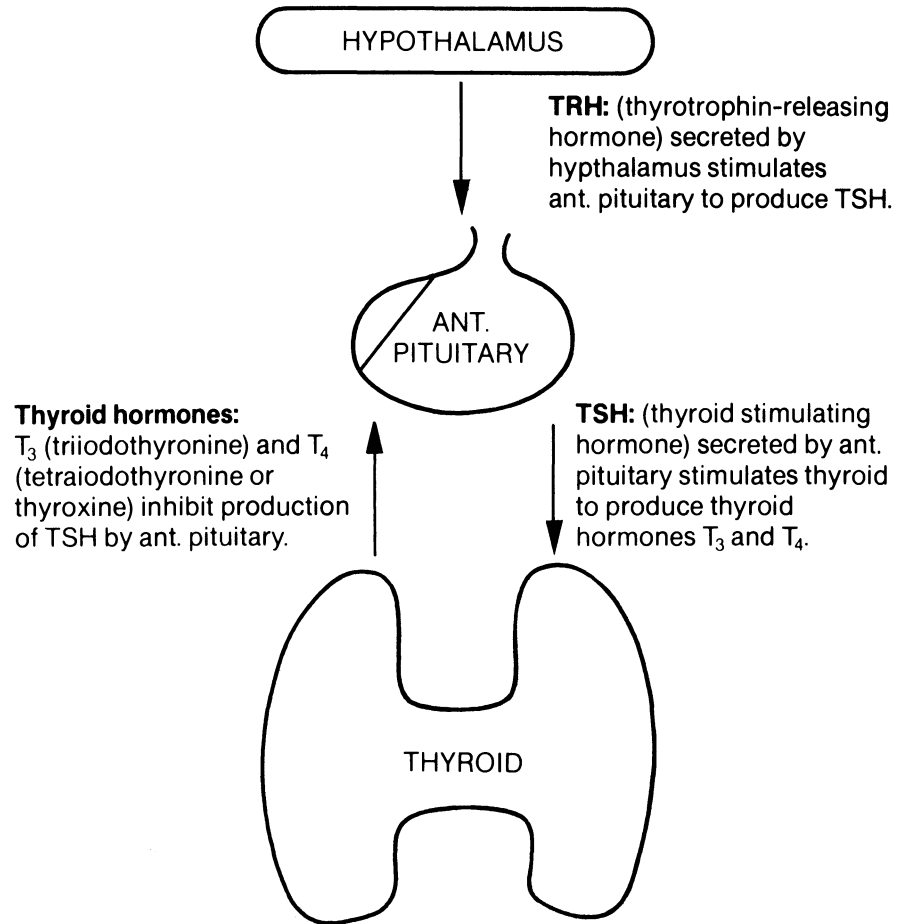
	Acute Cystitis	Acute Pyelonephritis
Symptoms	Mainly local: frequency, dysuria, haematuria, lower abdominal pain. Some general: nausea, malaise, fever.	Mainly general: fever, rigours, abdominal pain, headache, vomiting, (failure to thrive in infants). Some local: frequency, loin pain.
Incidence	Common in sexually active women and anyone with abnormal urinary tract. Common in elderly women.	In infants : more common in boys than girls. In adults : more common in women especially in pregnancy. Often associated with abnormal urinary tract.
Pathogenesis	Bacterial infection ascending from vulva via urethra. >75% E. coli.	Sometimes ascending, i.e. secondary to cystitis. Sometimes haematogenous (especially in infants).
Predisposing Factors	Poor hygiene resulting in high population of pathogens around Urethral meatus. Poor sexual technique causing trauma to urethral meatus. Infrequent voiding. Residual urine, e.g. associated with bladder neck obstruction, vesico-ureteric reflux, foreign bodies or diverticula.	Obstruction to lower urinary tract. Vesico-ureteric reflux. Renal damage, e.g. scars, analgesic nephropathy, ischaemia. Bacteriuria during pregnancy. Calculi.

Planned Care

Acute Cystitis	Acute Pyelonephritis
<p>Single acute attack Early morning MSU and dip-inoculum before starting treatment. Course of antibiotic: seven days usual. (Cotrimoxazole probably best reserved for more serious problems) Advice: <input type="checkbox"/> high fluid intake <input type="checkbox"/> frequent voiding <input type="checkbox"/> local hygiene</p> <p>Recurrent attacks Repeated MSU and dip-inoculum (early morning) to confirm bacteriuria. Advice: <input type="checkbox"/> high fluid intake <input type="checkbox"/> frequent voiding (especially after intercourse) <input type="checkbox"/> sexual technique: premature penetration (i.e. before full vulval distension) may damage urethral meatus. <input type="checkbox"/> local hygiene. Antibiotics: prolonged low dose course, e.g. nitrofurantoin 50mgm. nightly for six months. Prophylactic single doses, e.g. after intercourse. I.V.P. Micturating cystogram if residual urine on I.V.P. Cystoscopy.</p>	<p>Immediate MSU and dip-inoculum. Course of antibiotic. Advice: as for cystitis + bed rest. Repeat MSU and dip-inoculum (early morning) before end of course of antibiotic.</p> <p>Later: I.V.P. in all cases. Micturating cystogram if residual urine found on I.V.P. Cystoscopy and retrograde pyelography in certain cases.</p> <p>Long term: Watch blood pressure. Repeat MSU and dip-inoculum at intervals. Check blood urea at intervals.</p>

Thyroid

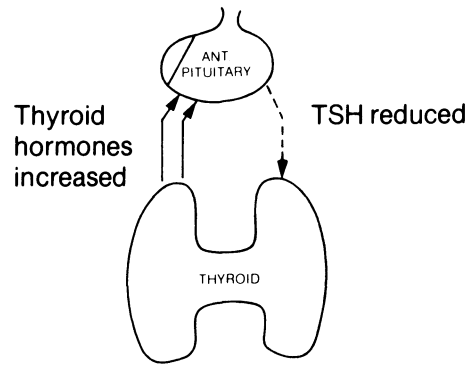
The Normal State



The feedback mechanism: the thyroid gland produces two main hormones: thyroxine (tetraiodothyronine or T₄) and T₃ (triiodothyronine). In the normal state, the production of these and their release into the circulation is under the control of the anterior pituitary by means of thyroid stimulating hormone (TSH) which in turn is controlled by thyrotrophin-releasing hormone (TRH) from the hypothalamus. When the circulating levels of T₃ and T₄ rise the anterior pituitary produces less TSH and the thyroid gland becomes less active, producing and releasing less T₃ and T₄.

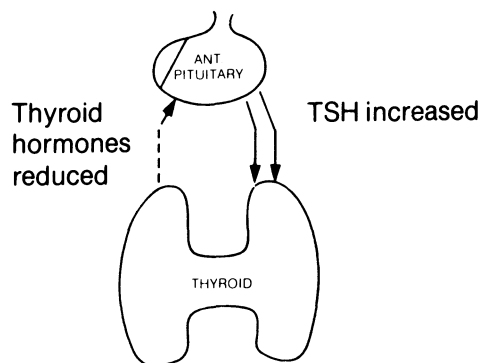
Most of the thyroid hormones in the circulation are bound to proteins. It is only the free (unbound) hormones which are metabolically active.

Hyperthyroidism



In hyperthyroidism, the thyroid gland is autonomous and no longer under the control of TSH. The level of the circulating free thyroid hormones (T_3 and T_4) is increased and the anterior pituitary therefore produces little or no TSH.

Hypothyroidism



In hypothyroidism, the thyroid gland fails to respond to TSH. The circulating level of free thyroid hormones is reduced and that of TSH increased.

Diseases of the Thyroid Gland

Goitre	Hyperthyroidism	Hypothyroidism
<p>Physiological in puberty and pregnancy.</p> <p>In hyperthyroidism e.g. Grave's disease (an autoimmune disease)</p> <p>Toxic nodular goitre.</p> <p>In hypothyroidism e.g. Iodine deficiency.</p> <p>Benign — adenomata and cysts.</p> <p>Carcinoma</p>	<p>Abnormally high circulating free thyroid hormones (mostly T_3)</p> <p>Goitre may or may not be present.</p>	<p>Abnormally low circulating free thyroid hormones</p> <p>Goitre may or may not be present.</p> <p>Primary:</p> <ul style="list-style-type: none"> <input type="radio"/> iodine deficiency <input type="radio"/> agenesis of thyroid gland. <input type="radio"/> antithyroid drugs. <input type="radio"/> autoimmune thyroiditis (e.g. Hashimoto's) <input type="radio"/> Following ^{131}I iodine treatment <input type="radio"/> Following surgery. <p>Secondary:</p> <ul style="list-style-type: none"> <input type="radio"/> to pituitary disease (rare) <input type="radio"/> to hypothalamic disease (very rare)

**Significance —
What happens?**

Hyperthyroidism	Hypothyroidism
Increase in oxygen consumption, basal metabolic rate and metabolism of carbohydrates, proteins and fats. Increased activity of sympathetic nervous system accounts for many of the symptoms and signs. Untreated, the increase in cardiac output and hyperpyrexia cause the main problems.	In children — failure of growth, development and maturation (Cretinism) In adults — general retardation of all systems, depositing of mucoid substance in skin, tongue and vocal cords

**Assessment —
Diagnosis**

The diagnosis is made on clinical grounds, but tests may help.

	Hyperthyroidism	Hypothyroidism
Commonest Symptoms	<p>Feeling warm — intolerance of heat</p> <p>Loss of weight, increased appetite, diarrhoea</p> <p>Palpitations, shortness of breath (especially important in the elderly)</p> <p>Increased fatigueability</p> <p>Feeling fidgety</p> <p>Irritability, nervousness</p>	<p>Lethargy</p> <p>Feeling cold</p> <p>Weight gain</p> <p>Loss of hair</p> <p>Dryness of skin</p> <p>Hoarseness of voice</p> <p>Amenorrhoea (especially in young)</p> <p>Menorrhagia (especially in aged)</p> <p>Constipation</p> <p>Puffy eyelids</p>
Most Important Physical Signs	<p>Warm skin, sweating</p> <p>Evidence of loss of weight</p> <p>Tachycardia</p> <p>Systolic hypertension with high pulse pressure</p> <p>Systolic murmur</p> <p>Fine tremor</p> <p>Exophthalmos, lid retraction (appearance of sclera between upper lid and limbus of cornea when patient is looking straight ahead) In the elderly, signs of heart failure or arterial fibrillation be the only findings</p> <p><i>Goitre</i>: may be difficult to detect or retrosternal — presence of thyroid bruit helpful</p>	<p>Movement and thought slow</p> <p>Voice hoarse and speech slow</p> <p>Skin coarse and thickened, sallow</p> <p>Hair dry and brittle</p> <p>Periphery cyanosed and cold</p> <p>Relaxation of tendon jerks delayed</p> <p>(less common: psychosis (myxoedema madness), coma, carpal tunnel syndrome, deafness, aches and pains, cardiac ischaemia, anaemia, hypothermia)</p>

Tests of Thyroid Function**Serum T4 Concentration**

Raised in hyperthyroidism, lowered in hypothyroidism. Simple, cheap, and reliable but it is a measure of the total circulating thyroxine and not just of the free thyroxine. It depends on the concentration of binding proteins especially thyroxine-binding globulin (TBG). The level of serum TBG may be affected by a number of different conditions, and especially by drugs, making the serum T4 concentrations alone an inaccurate measure of thyroid function. Some drugs occupy TBG binding sites normally available to thyroxine reducing the total serum T4 concentration.

Free Thyroxine Index

This may be useful if an alteration of TBG is suspected of influencing the serum T4 concentration. It is calculated from the serum T4 and the residual binding capacity of the TBG (i.e. the amount of TBG not bound to thyroxine) expressed in terms of "serum T3 uptake" or "resin uptake." The significance of the result depends on the type of test used. It is important to check with the laboratory the expected direction of change in each condition.

Serum TBG

Can be measured but test not yet generally available. May replace T3 uptake tests in future.

Serum TSH

Very low or undetectable in normal people and in hyperthyroidism; high or very high in hypothyroidism. Reverts to normal with treatment.

Serum T3

More difficult and expensive than Serum T4 and not to be requested lightly. High in hyperthyroidism when T4 also raised. Raised in T3 toxicosis when T4 normal (rare).

Summary

Hyperthyroidism:	Serum T4 increased (usually)
Hypothyroidism:	Serum T4 reduced (usually) TSH raised (always)

- important to state clinical details on pathology request form.
- if diagnosis uncertain, wait a few months and re-assess.
- hyperthyroidism may become more obvious during hot weather.
- cancer should always be suspected in non-toxic nodular goitre.

Planned Care**Hyperthyroidism:**

May be undertaken entirely by general practitioner except for surgery and radioactive iodine for which appropriate referrals are required.

Immediate:

If severely affected:

- rest
- β -blocker: e.g. propranolol 40 mg b.d. increasing to 160 mg b.d. if necessary within a few days to control tachycardia, tremor, sweating, etc.

NOTE: check no symptoms or signs of heart failure or history of asthma.

- carbimazole: check WBC before starting. 10 mg t.d.s. until euthyroid (4-6 weeks). warn patient to report any sore throat immediately.
- in mild cases the rest and β -blocker may not be needed.

Planned Care
continued

Medium-term

When patient euthyroid:

- tail off β -blocker
- reduce carbimazole to 5-15 mg daily (monitor dose on basis of clinical signs, not on blood tests).
- check WBC every two weeks for first two months.
- decide on longer-term management:
 - antithyroid drugs
 - surgery
 - radioactive iodine.

Long-term:

Antithyroid drugs: (carbimazole or propylthiouracil).

- Agranulocytosis is a rare toxic effect occurring only during the first two months. Sensitivity may occur in the form of rashes, arthralgia, jaundice.
- treatment is continued for 12 - 18 months.
- relapse is common and the patient should be reviewed regularly after cessation of treatment.

Surgery (partial thyroidectomy)

- treatment of choice if goitre large, causing pressure symptoms or the patient is sensitive to or unwilling to take carbimazole.
- patient should be euthyroid before operation.
- hyperthyroidism may recur or hypothyroidism develop so long term follow up is necessary.

Radioactive iodine (^{131}I).

- treatment of choice for most patients over 45 years. Previously held fears of cancer or leukaemia appear to be unfounded. May be 6 -10 weeks before fully effective. Second or third dose may be needed but not less than 4 months between.
- many patients eventually become hypothyroid.
- all should be reviewed by general practitioner at intervals for twenty years (every three months for one year, every five months for next two years, then annually).

Thyrotoxicosis in pregnancy:

- treat as in the non-pregnant patient but radioactive iodine cannot be used.

Hypothyroidism:

Ambulant treatment by general practitioner usually best unless the patient is in heart failure or coma when hospital referral may be necessary.

L-thyroxine sodium (Eltroxin) tablets: 100-200 μg once a day. The dose should be monitored on the basis of the clinical response.

Thyroid function tests cannot be used for this purpose. The serum TSH falls to normal when the condition is treated but no further falls may be detected if the dose of thyroxine is too high.

In the elderly or anyone with angina or heart failure, treatment must be started with a very low dose, e.g. 50 μg daily and increased gradually every 2-3 weeks.

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