

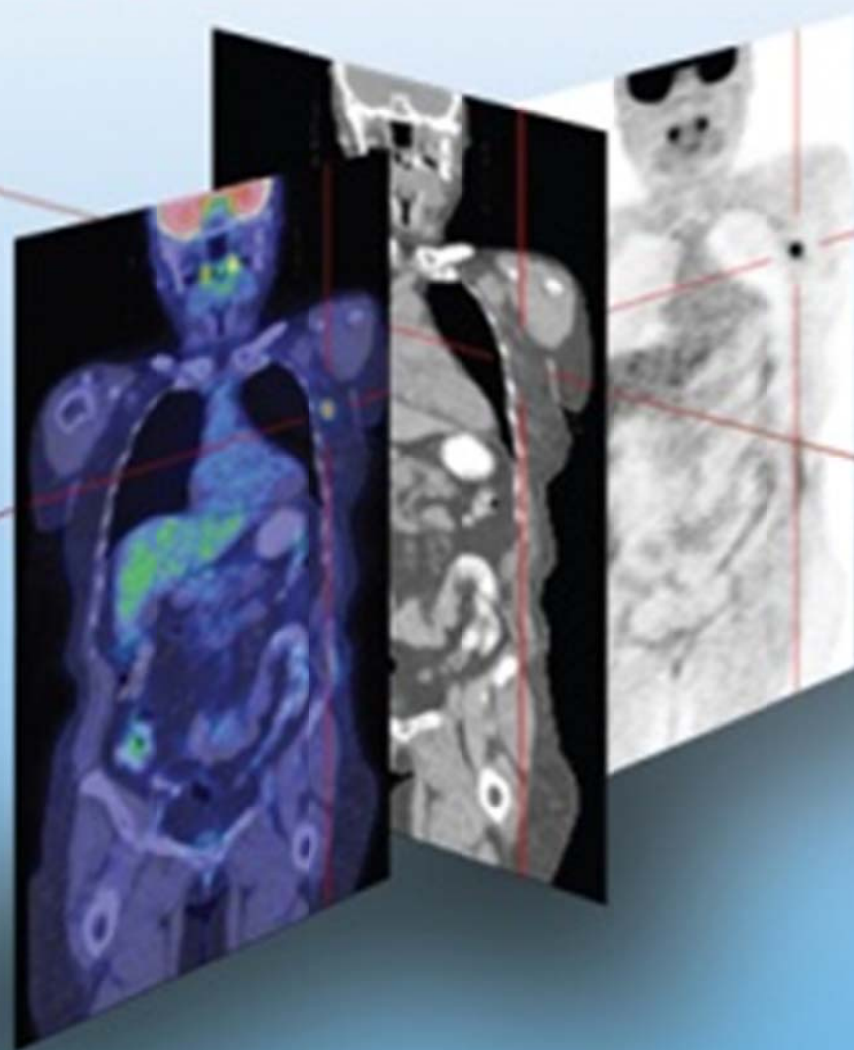
# Introduction to Sectional Anatomy


# WORKBOOK and

# BOARD REVIEW GUIDE

Second Edition

**Michael E. Madden**



 Wolters Kluwer Health | Lippincott Williams & Wilkins

thePoint 



Introduction to Sectional Anatomy  
**WORKBOOK** and  
**REVIEW GUIDE**

Second Edition

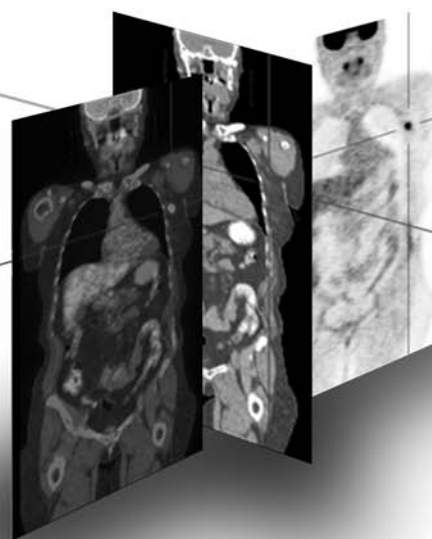


# Introduction to Sectional Anatomy **WORKBOOK** and **REVIEW GUIDE**

Second Edition

**Mike E. Madden, PhD, RT(R) (CT) (MR)**

*Director  
Medical Diagnostic Imaging Programs  
Fort Hays State University  
Hays, Kansas*



 **Wolters Kluwer** | Lippincott Williams & Wilkins  
Health  
Philadelphia • Baltimore • New York • London  
Buenos Aires • Hong Kong • Sydney • Tokyo

*Acquisitions Editor:* Peter Sabatini  
*Managing Editor:* Andrea M. Klingler  
*Marketing Manager:* Allison Noplock  
*Production Editor:* Kevin P. Johnson  
*Designer:* Teresa Mallon  
*Compositor:* Aptara, Inc.

Second Edition

Copyright © 2008 Lippincott Williams & Wilkins, a Wolters Kluwer business.

351 West Camden Street  
Baltimore, MD 21201

530 Walnut Street  
Philadelphia, PA 19106

All rights reserved. This book is protected by copyright. No part of this book may be reproduced or transmitted in any form or by any means, including as photocopies or scanned-in or other electronic copies, or utilized by any information storage and retrieval system without written permission from the copyright owner, except for brief quotations embodied in critical articles and reviews. Materials appearing in this book prepared by individuals as part of their official duties as U.S. government employees are not covered by the above-mentioned copyright. To request permission, please contact Lippincott Williams & Wilkins at 530 Walnut Street, Philadelphia, PA 19106, via email at [permissions@lww.com](mailto:permissions@lww.com), or via website at [lww.com](http://lww.com) (products and services).

9 8 7 6 5 4 3 2 1

#### DISCLAIMER

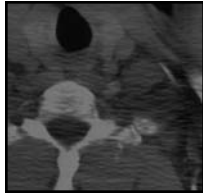
Care has been taken to confirm the accuracy of the information present and to describe generally accepted practices. However, the authors, editors, and publisher are not responsible for errors or omissions or for any consequences from application of the information in this book and make no warranty, expressed or implied, with respect to the currency, completeness, or accuracy of the contents of the publication. Application of this information in a particular situation remains the professional responsibility of the practitioner; the clinical treatments described and recommended may not be considered absolute and universal recommendations.

The authors, editors, and publisher have exerted every effort to ensure that drug selection and dosage set forth in this text are in accordance with the current recommendations and practice at the time of publication. However, in view of ongoing research, changes in government regulations, and the constant flow of information relating to drug therapy and drug reactions, the reader is urged to check the package insert for each drug for any change in indications and dosage and for added warnings and precautions. This is particularly important when the recommended agent is a new or infrequently employed drug.

Some drugs and medical devices presented in this publication have Food and Drug Administration (FDA) clearance for limited use in restricted research settings. It is the responsibility of the health care provider to ascertain the FDA status of each drug or device planned for use in their clinical practice.

To purchase additional copies of this book, call our customer service department at **(800) 638-3030** or fax orders to **(301) 223-2320**. International customers should call **(301) 223-2300**.

Visit Lippincott Williams & Wilkins on the Internet: <http://www.lww.com>. Lippincott Williams & Wilkins customer service representatives are available from 8:30 am to 6:00 pm, EST.



# Introduction

Using the images from the corresponding text, this workbook allows students to work through a series of questions to evaluate their knowledge of sectional anatomy. In this second edition of *Introduction to Sectional Anatomy Workbook and Review Guide*, the cases have been expanded to include ultrasound images and updated to include the latest imaging technology including 3D and PET/CT. The organization of the patient images has been revised to enable the reader to more quickly compare images between the text and workbook. The images are numbered to correspond with the same image in the textbook.

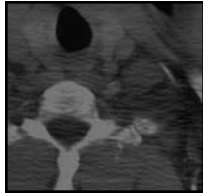
Like the text, the workbook begins with an introductory chapter, followed by a chapter on the chest, since most students already have a basic knowledge and this chapter is relatively simple as compared to subsequent

chapters. The chest is followed by the lower parts of the trunk, the abdomen, and pelvis. Once the students have become accustomed to learning sectional anatomy in the trunk, the more difficult regions of the body (head, neck, spine, and joints) are covered in the second half of the workbook.

To evaluate the students' knowledge, the series of multiple choice questions follow the format used on CT and MR registry examinations. After the extensive multiple choice questions, new Clinical Application questions have been added, including short answer and essay. Approximately eight case studies per chapter have also been added to give students samples of how their knowledge of sectional anatomy can be applied to patient exams, including CT, MR, PET/CT, and ultrasound (3D) images.







# Contents

<i>Introduction</i> .....	v
<b>Chapter 1</b> Introduction .....	1
<b>Chapter 2</b> Chest .....	5
<b>Chapter 3</b> Abdomen .....	47
<b>Chapter 4</b> Male and Female Pelvis .....	79
<b>Chapter 5</b> Head .....	145
<b>Chapter 6</b> Neck .....	191
<b>Chapter 7</b> Spine .....	221
<b>Chapter 8</b> Joints .....	247



# Introduction

## LABELING EXERCISES

Fill in the blanks with the appropriate label.

A. The aortic arch demonstrating differences in axial sections taken at several levels (text Fig. 1-4).

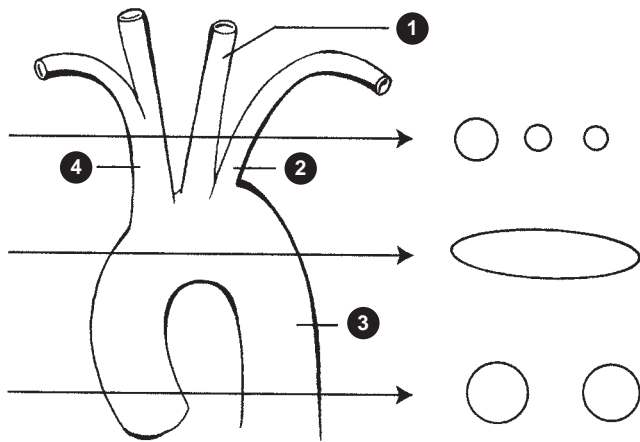


Figure 1-1

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

B. The human body demonstrating planes of section (text Fig. 1-5).

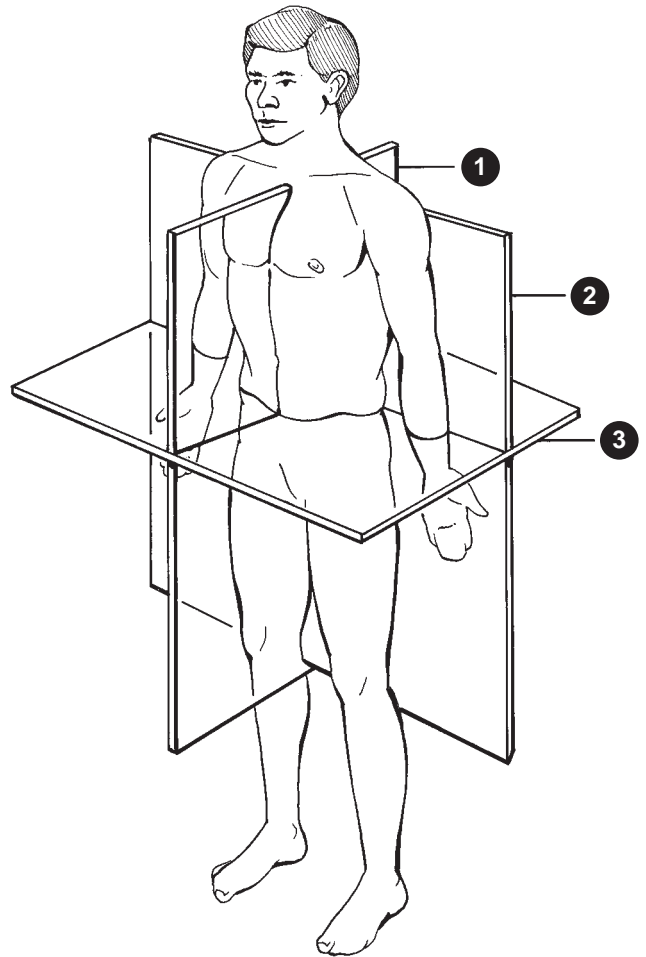


Figure 1-2

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

## 2 Introduction to Sectional Anatomy Workbook and Review Guide

C. Absorption values common to clinical radiology. The values shown are for the Electric and Musical Industries (EMI) and Hounsfield scales (text Fig. 1-6).

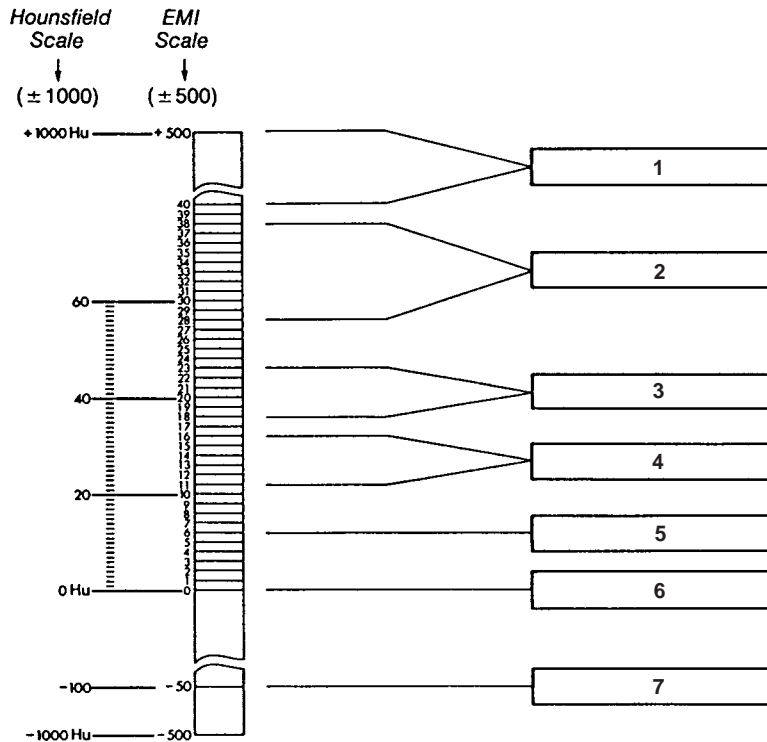


Figure 1-3

1. \_\_\_\_\_

5. \_\_\_\_\_

2. \_\_\_\_\_

6. \_\_\_\_\_

3. \_\_\_\_\_

7. \_\_\_\_\_

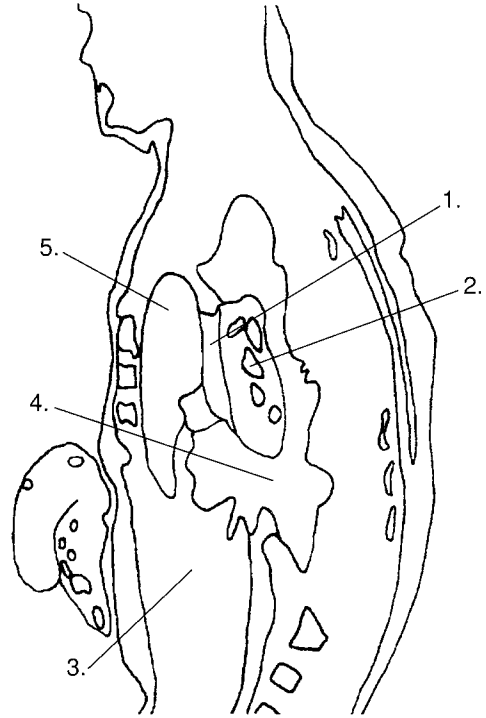
4. \_\_\_\_\_

## CLINICAL APPLICATIONS

---

1. A plane or section dividing the body into upper and lower parts is classified as \_\_\_\_\_.
2. A plane or section dividing the body into equal right and left halves is classified as \_\_\_\_\_.
3. \_\_\_\_\_ is the classification of a hinge joint that allows movement in only one plane.
4. The hip and shoulder joints would be classified as \_\_\_\_\_.
5. Examples of the joint classification \_\_\_\_\_ include the sutures of the cranium and sternocostal joints.
6. Examples of the joint classification arthrodia include the \_\_\_\_\_ and \_\_\_\_\_ joints.
7. The wrist joint would be classified as \_\_\_\_\_.
8. Please list in order (from the most radiodense to the least radiodense) the following: fat, white matter, water, bone, and gray matter.  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
9. In a magnetic resonance (MR) image, a \_\_\_\_\_-weighted image will have a bright or high signal from water.
10. In a \_\_\_\_\_ scan, the metabolic activity and radiodensity of tissues are fused to create diagnostic images.





**Figure 2-1**

1. Which of the following is illustrated by 4?

- A. Liver
- B. Right lung lower lobe
- C. Left lung lower lobe
- D. Hilar region

2. Which of the following is illustrated by 2?

- A. Aortic arch
- B. Superior vena cava
- C. Hilar region
- D. Heart

3. What number illustrates the upper lobe of the lung?

- A. 3
- B. 1
- C. 4
- D. 5

4. Which of the following is illustrated by 3?

- A. Stomach
- B. Liver
- C. Right lung lower lobe
- D. Left lung lower lobe

5. What number illustrates the superior vena cava?

- A. 1
- B. 5
- C. 4
- D. 2

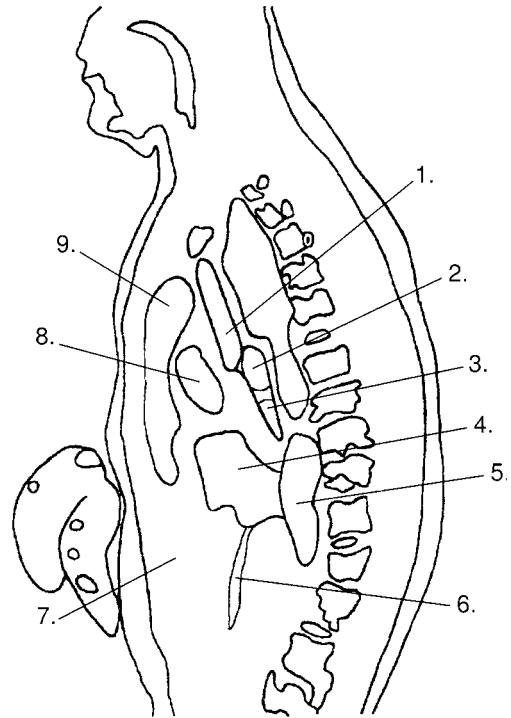


Figure 2-2

1. Which of the following is illustrated by 2?
  - A. Superior vena cava
  - B. Right pulmonary artery
  - C. Right pulmonary vein
  - D. Wall of the aortic arch
2. What number illustrates the inferior vena cava?
  - A. 5
  - B. 4
  - C. 3
  - D. 6
3. Which of the following is illustrated by 3?
  - A. Right pulmonary artery
  - B. Right pulmonary vein
  - C. Right atrium
  - D. Superior vena cava
4. What number illustrates the wall of the aortic arch?
  - A. 9
  - B. 7
  - C. 8
  - D. 1
5. Which of the following is illustrated by 4?
  - A. Liver
  - B. Right atrium
  - C. Right lung lower lobe
  - D. Inferior vena cava



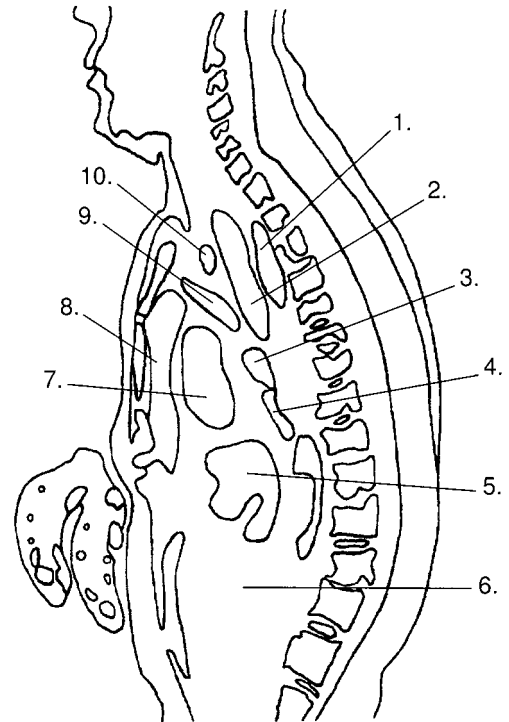
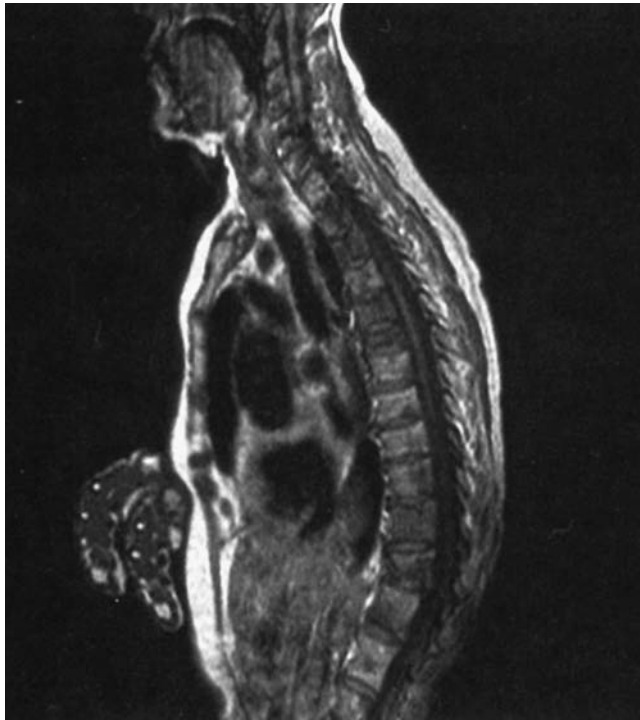
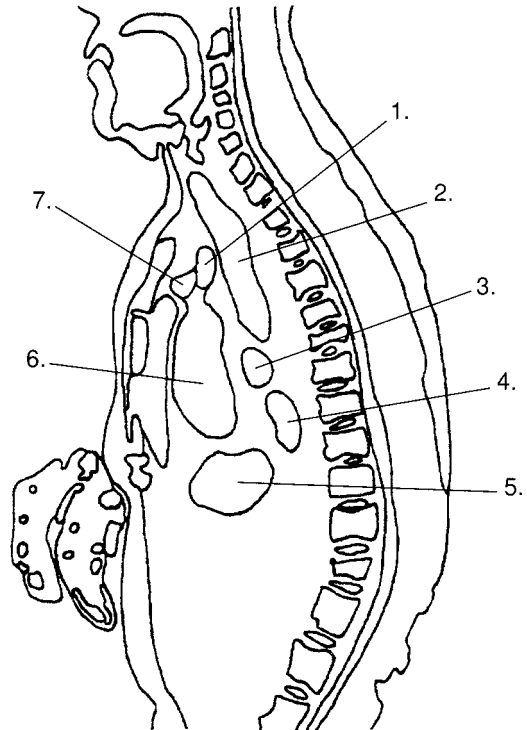


Figure 2-3

1. Which of the following is illustrated by 2?
  - A. Esophagus
  - B. Brachiocephalic artery
  - C. Trachea
  - D. Left brachiocephalic vein
2. What number illustrates the right lung upper lobe?
  - A. 7
  - B. 3
  - C. 8
  - D. 9
3. Which of the following is illustrated by 10?
  - A. Left brachiocephalic vein
  - B. Right brachiocephalic vein
  - C. Brachiocephalic artery
  - D. Left subclavian artery
4. Which of the following is illustrated by 4?
  - A. Right pulmonary artery
  - B. Left atrium
  - C. Right atrium
  - D. Left ventricle
5. What number illustrates the left brachiocephalic vein?
  - A. 10
  - B. 2
  - C. 9
  - D. 1



**Figure 2-4**

1. Which of the following is illustrated by 7?
  - A. Brachiocephalic artery
  - B. Left brachiocephalic vein
  - C. Aortic arch
  - D. Pulmonary artery
2. Which of the following is illustrated by 6?
  - A. Right pulmonary artery
  - B. Left atrium
  - C. Aortic arch
  - D. Left brachiocephalic vein
3. What number illustrates the brachiocephalic artery?
  - A. 1
  - B. 7
  - C. 3
  - D. 2
4. Which of the following is illustrated by 5?
  - A. Right pulmonary artery
  - B. Left atrium
  - C. Right atrium
  - D. Aortic arch
5. What number illustrates the right pulmonary artery?
  - A. 3
  - B. 6
  - C. 5
  - D. 4

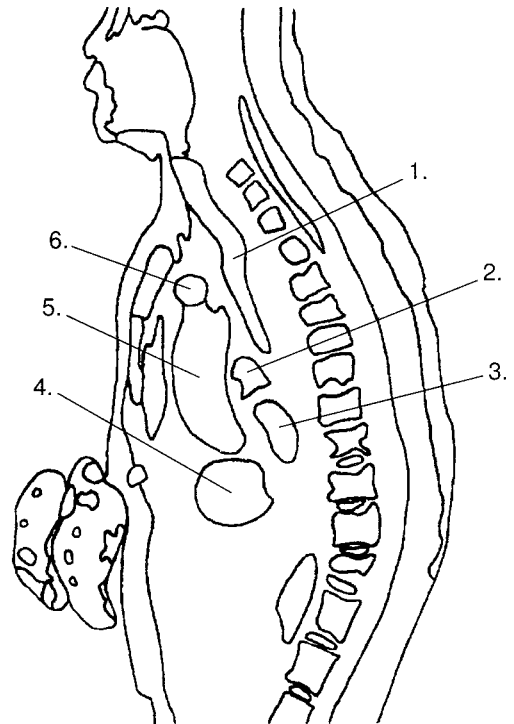


Figure 2-5

1. What number illustrates the right ventricle?

- A. 6  
 B. 3  
 C. 4  
 D. 2

2. Which of the following is illustrated by 6?

- A. Right pulmonary artery  
 B. Brachiocephalic artery  
 C. Aortic arch  
 D. Left brachiocephalic vein

3. Which of the following is illustrated by 5?

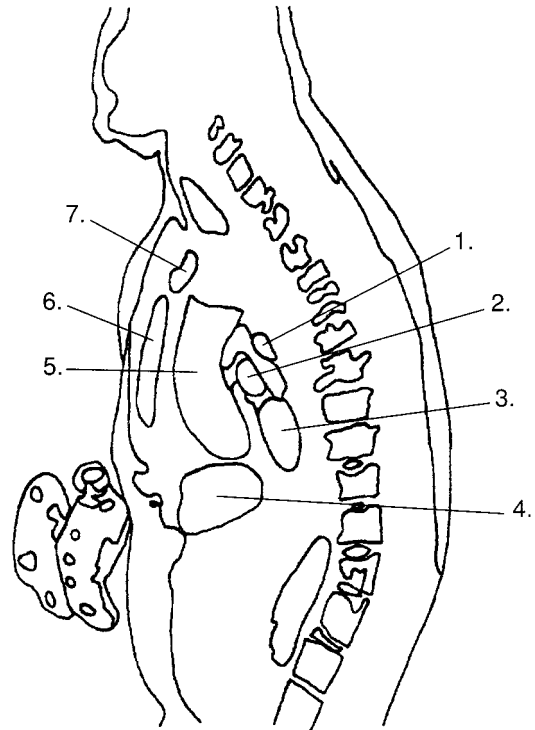
- A. Left atrium  
 B. Right atrium  
 C. Aortic arch  
 D. Right ventricle

4. What number illustrates the right pulmonary artery?

- A. 2  
 B. 6  
 C. 5  
 D. 3

5. Which of the following is illustrated by 3?

- A. Right ventricle  
 B. Left atrium  
 C. Aortic arch  
 D. Right atrium



**Figure 2-6**

1. Which of the following is illustrated by 5?

- A. Pleural cavity
- B. Right atrium
- C. Aortic arch
- D. Left atrium

2. What number illustrates the left bronchus?

- A. 1
- B. 2
- C. 5
- D. 3

3. What number illustrates the pleural cavity?

- A. 3
- B. 4
- C. 6
- D. 5

4. Which of the following is illustrated by 2?

- A. Left bronchus
- B. Right pulmonary artery
- C. Left atrium
- D. Aortic arch

5. Which of the following is illustrated by 3?

- A. Pleural cavity
- B. Right ventricle
- C. Left atrium
- D. Aortic arch

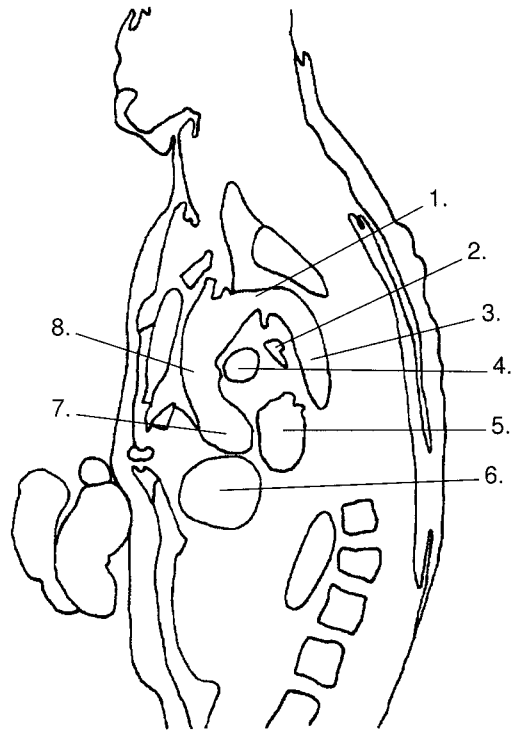
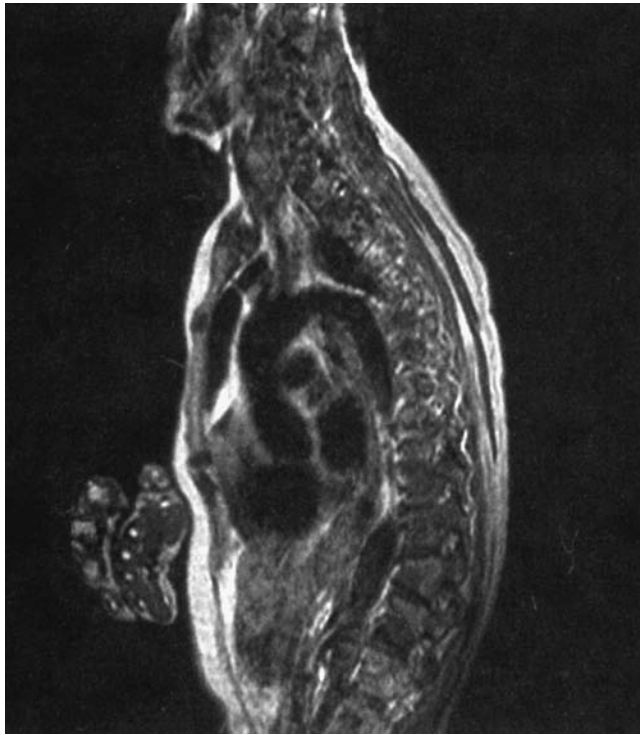


Figure 2-7

1. Which of the following is illustrated by 3?

- A. Aortic arch
- B. Left bronchus
- C. Descending aorta
- D. Pulmonary artery

2. What number illustrates the aortic arch?

- A. 1
- B. 4
- C. 3
- D. 2

3. Which of the following is illustrated by 7?

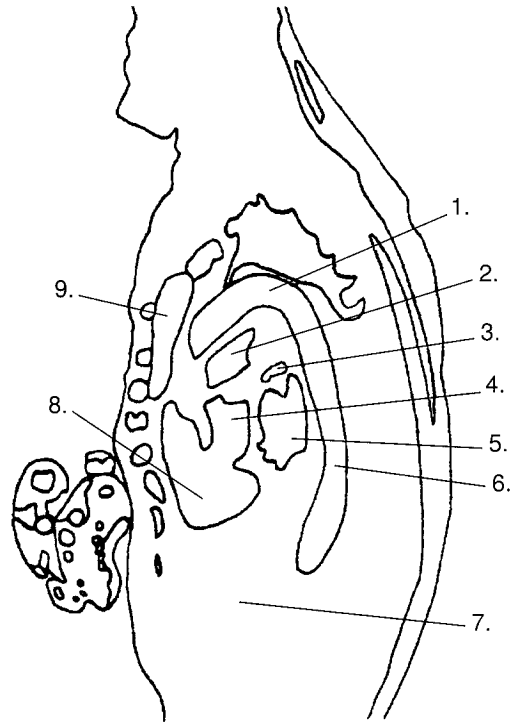
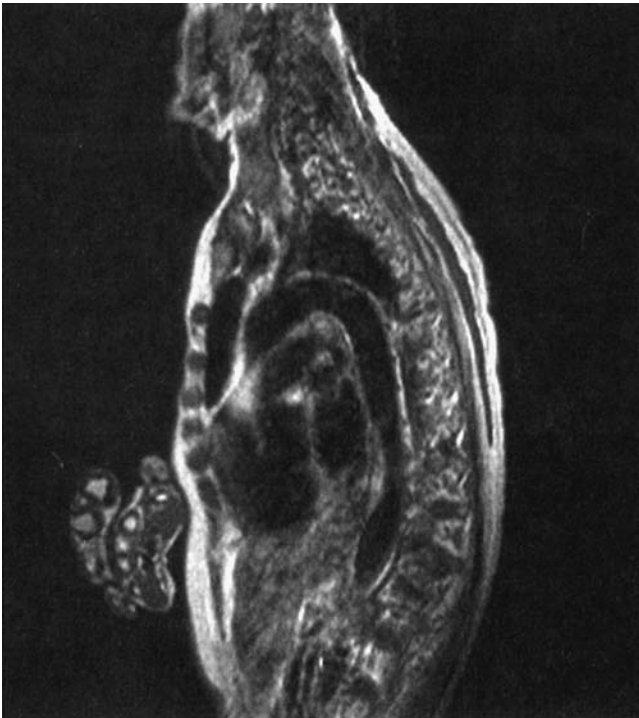
- A. Left atrium
- B. Right ventricle
- C. Left ventricle
- D. Ascending aorta

4. Which of the following is illustrated by 4?

- A. Left bronchus
- B. Descending aorta
- C. Pulmonary artery
- D. Left atrium

5. What number illustrates the ascending aorta?

- A. 7
- B. 5
- C. 4
- D. 8



**Figure 2-8**

1. Which of the following is illustrated by 2?

- A. Aortic arch
- B. Pulmonary trunk
- C. Right atrium
- D. Left atrium

2. What number illustrates the right ventricle?

- A. 2
- B. 4
- C. 8
- D. 5

3. Which of the following is illustrated by 5?

- A. Aortic arch
- B. Left ventricle
- C. Right ventricle
- D. Left atrium

4. Which of the following is illustrated by 3?

- A. Left bronchus
- B. Left ventricle
- C. Left atrium
- D. Pulmonary trunk

5. What number illustrates the left ventricle?

- A. 2
- B. 5
- C. 4
- D. 8

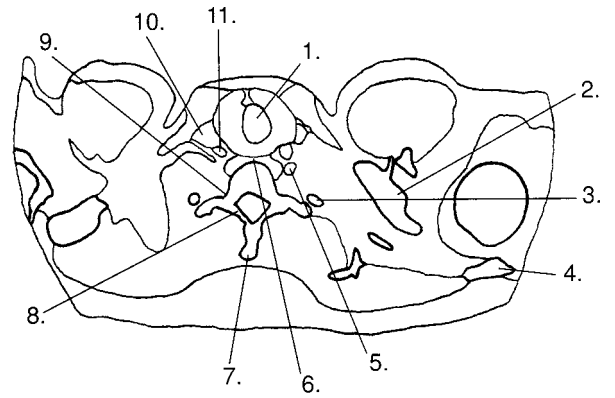


Figure 2-9

1. What number illustrates the right common carotid artery?

- A. 10
- B. 5
- C. 3
- D. 11

2. Which of the following is illustrated by 10?

- A. Right external jugular vein
- B. Right internal jugular vein
- C. Right common carotid artery
- D. Right subclavian artery

3. What number illustrates the clavicle?

- A. 2
- B. 4
- C. 1
- D. 8

4. Which of the following is illustrated by 9?

- A. Spinous process of T1
- B. Pedicle of T1
- C. Transverse process of T1
- D. Lamina of T1

5. Which of the following is illustrated by 6?

- A. Thyroid
- B. Trachea
- C. Esophagus
- D. Larynx

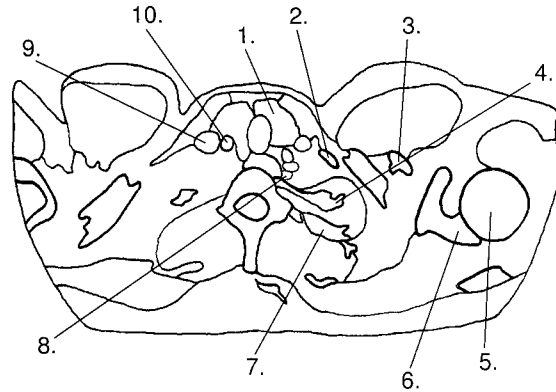


Figure 2-10

1. Which of the following is illustrated by 9?
  - A. Right internal jugular vein
  - B. Left subclavian vein
  - C. Left vertebral artery
  - D. Right common carotid artery
2. What number illustrates the first rib?
  - A. 6
  - B. 4
  - C. 7
  - D. 3
3. Which of the following is illustrated by 8?
  - A. Left subclavian vein
  - B. Left subclavian artery
  - C. Left vertebral artery
  - D. Left axillary vein

4. Which of the following is illustrated by 7?
  - A. Glenoid process of scapula
  - B. First rib
  - C. Second rib
  - D. Head of the humerus
5. What number illustrates the right common carotid artery?
  - A. 9
  - B. 8
  - C. 2
  - D. 10



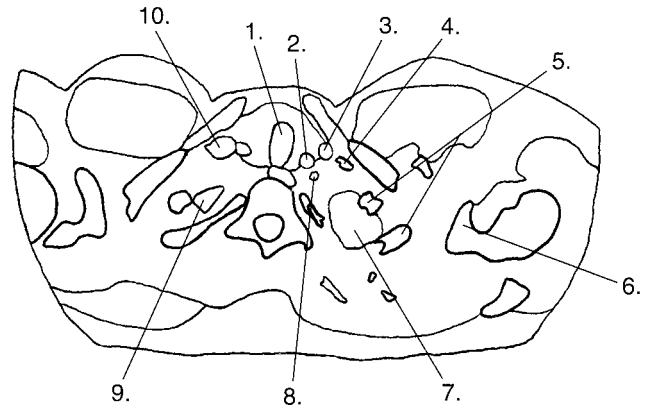
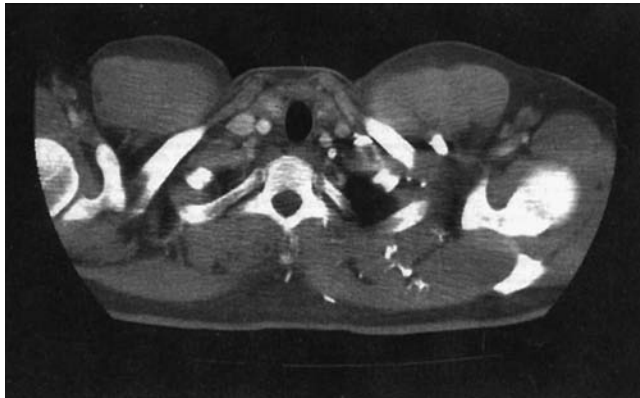


Figure 2-11

1. Which of the following is illustrated by 9?
  - A. Axillary vein
  - B. Upper lobe left lung
  - C. Upper lobe of right lung
  - D. Internal jugular vein
  
2. What number illustrates the coracoid process of the scapula?
  - A. 9
  - B. 6
  - C. 5
  - D. 1
  
3. What number illustrates the left vertebral artery?
  - A. 2
  - B. 8
  - C. 4
  - D. 3
  
4. Which of the following is illustrated by 4?
  - A. Left internal jugular vein
  - B. Left common carotid artery
  - C. Left axillary artery
  - D. Left subclavian vein
  
5. Which of the following is illustrated by 2?
  - A. Left common carotid artery
  - B. Trachea
  - C. Left subclavian vein
  - D. Left vertebral artery

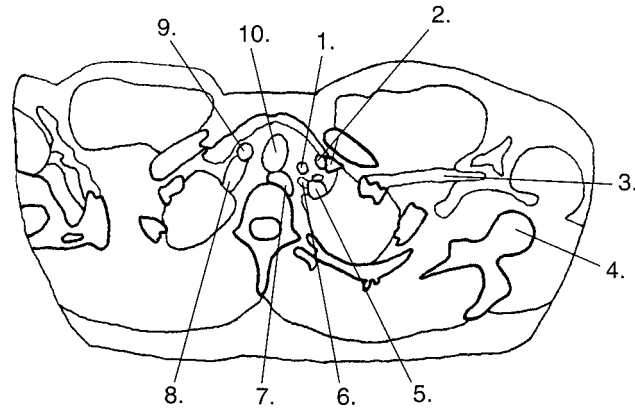
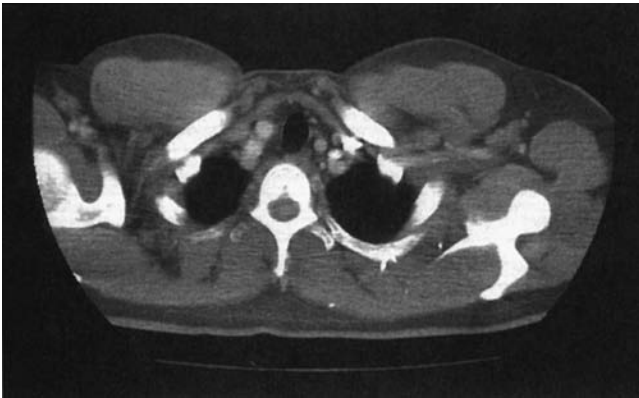


Figure 2-12

1. Which of the following is illustrated by 2?
  - A. Left common carotid artery
  - B. Left brachiocephalic vein
  - C. Left axillary artery
  - D. Left vertebral artery
2. What number illustrates the left axillary artery?
  - A. 3
  - B. 7
  - C. 6
  - D. 5
3. Which of the following is illustrated by 6?
  - A. Left subclavian artery
  - B. Left subclavian vein
  - C. Left vertebral artery
  - D. Left common carotid artery
4. What number illustrates the right common carotid artery?
  - A. 9
  - B. 10
  - C. 1
  - D. 8
5. Which of the following is illustrated by 1?
  - A. Left brachiocephalic vein
  - B. Left vertebral artery
  - C. Left subclavian artery
  - D. Left common carotid artery

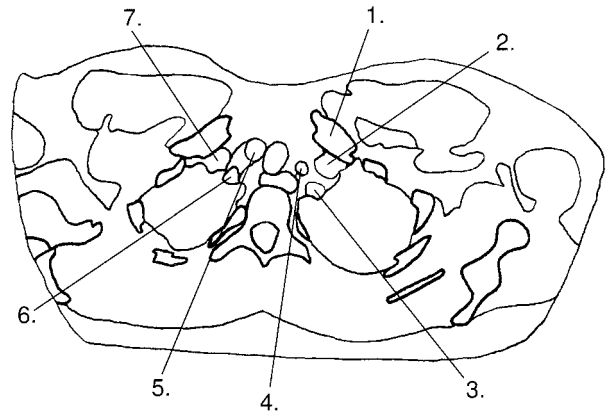
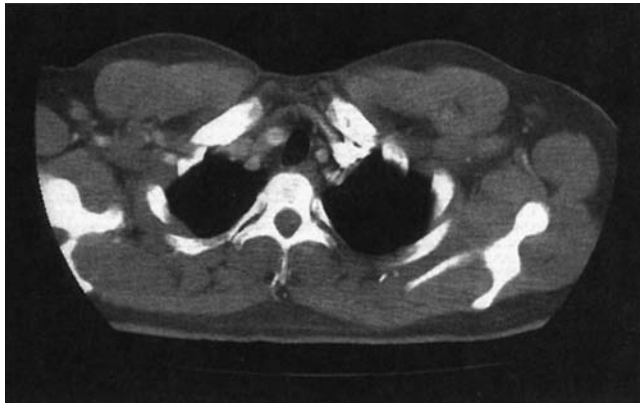
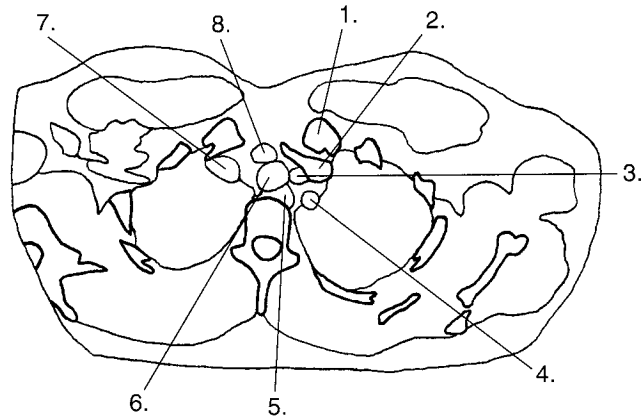


Figure 2-13

1. Which of the following is illustrated by 2?
  - A. Left clavicle
  - B. Left brachiocephalic vein
  - C. Left subclavian artery
  - D. Left common carotid artery
2. What number illustrates the origin of the right common carotid artery?
  - A. 7
  - B. 5
  - C. 6
  - D. 4
3. Which of the following is illustrated by 1?
  - A. Left clavicle
  - B. Left brachiocephalic vein
  - C. Left subclavian artery
  - D. Left common carotid artery
4. Which of the following is illustrated by 6?
  - A. Origin of the right vertebral artery
  - B. Origin of the right common carotid artery
  - C. Origin of the right subclavian artery
  - D. Right brachiocephalic vein
5. What number illustrates the left common carotid artery?
  - A. 2
  - B. 6
  - C. 4
  - D. 3



**Figure 2-14**

1. What number illustrates the brachiocephalic artery?

- A. 7
- B. 6
- C. 4
- D. 8

2. Which of the following is illustrated by 6?

- A. Left subclavian artery
- B. Esophagus
- C. Trachea
- D. Right brachiocephalic vein

3. Which of the following is illustrated by 4?

- A. Left common carotid artery
- B. Left subclavian artery
- C. Left vertebral artery
- D. Left axillary artery

4. What number illustrates the left brachiocephalic vein?

- A. 2
- B. 8
- C. 1
- D. 4

5. Which of the following is illustrated by 7?

- A. Left brachiocephalic vein
- B. Right subclavian vein
- C. Brachiocephalic artery
- D. Right brachiocephalic vein

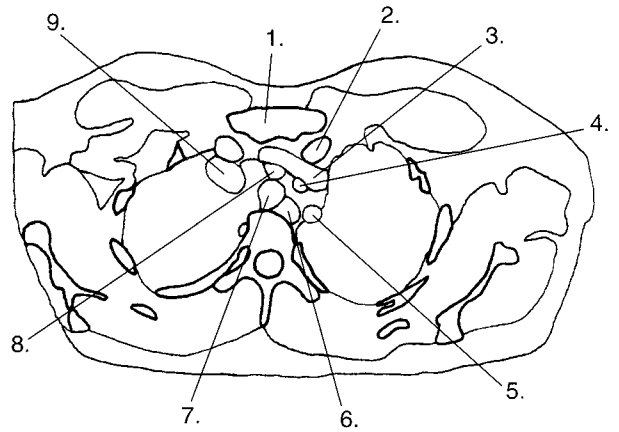
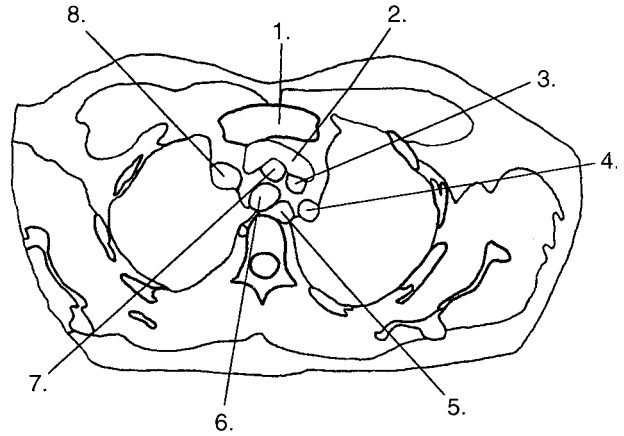


Figure 2-15

1. Which of the following is illustrated by 6?
  - A. Left subclavian artery
  - B. Esophagus
  - C. Trachea
  - D. Left common carotid artery
2. What number illustrates the right brachiocephalic vein?
  - A. 8
  - B. 7
  - C. 4
  - D. 9
3. Which of the following is illustrated by 1?
  - A. Clavicle
  - B. Trachea
  - C. Left brachiocephalic vein
  - D. Manubrium
4. Which of the following is illustrated by 4?
  - A. Left subclavian vein
  - B. Subclavian artery
  - C. Left common carotid artery
  - D. Left brachiocephalic vein
5. What number illustrates the brachiocephalic artery?
  - A. 9
  - B. 6
  - C. 8
  - D. 4



**Figure 2-16**

1. What number illustrates the left brachiocephalic vein?
  - A. 2
  - B. 8
  - C. 7
  - D. 4
2. Which of the following is illustrated by 5?
  - A. Left common carotid artery
  - B. Esophagus
  - C. Trachea
  - D. Manubrium
3. Which of the following is illustrated by 4?
  - A. Left vertebral artery
  - B. Brachiocephalic artery
  - C. Left subclavian artery
  - D. Left common carotid artery
4. What number illustrates the brachiocephalic artery?
  - A. 4
  - B. 2
  - C. 3
  - D. 7
5. Which of the following is illustrated by 6?
  - A. Right brachiocephalic vein
  - B. Esophagus
  - C. Trachea
  - D. Right internal jugular vein

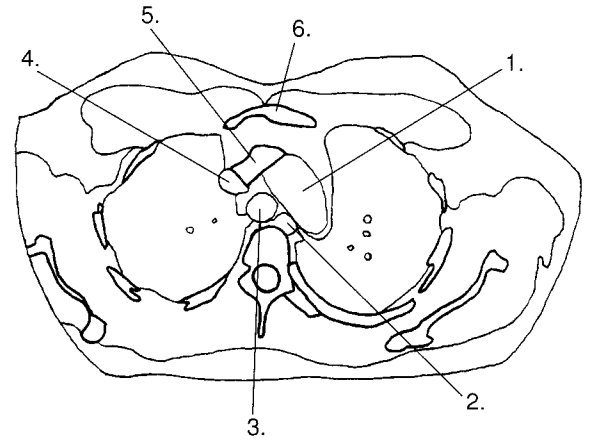
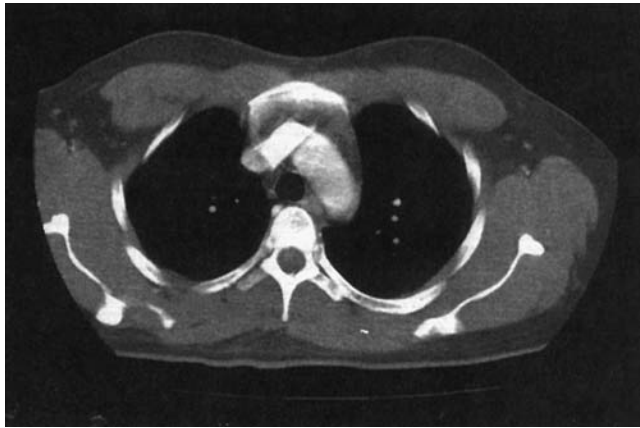


Figure 2-17

1. Which of the following is illustrated by 2?

- A. Trachea
- B. Vertebral artery
- C. Aortic arch
- D. Esophagus

2. What number illustrates the right brachiocephalic vein?

- A. 5
- B. 3
- C. 4
- D. 2

3. What number illustrates the aortic arch?

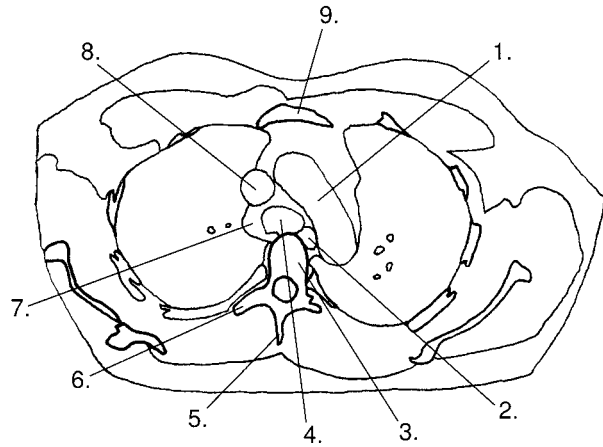
- A. 1
- B. 4
- C. 5
- D. 2

4. Which of the following is illustrated by 5?

- A. Aortic arch
- B. Left brachiocephalic vein
- C. Brachiocephalic artery
- D. Right brachiocephalic vein

5. Which of the following is illustrated by 3?

- A. Aortic arch
- B. Trachea
- C. Esophagus
- D. Left main bronchus



**Figure 2-18**

1. What number illustrates the azygos arch?  
 \_\_\_\_\_ A. 7  
 \_\_\_\_\_ B. 8  
 \_\_\_\_\_ C. 2  
 \_\_\_\_\_ D. 1

2. Which of the following is illustrated by 3?  
 \_\_\_\_\_ A. Esophagus  
 \_\_\_\_\_ B. Vertebral body  
 \_\_\_\_\_ C. Trachea  
 \_\_\_\_\_ D. Azygos arch

3. Which of the following is illustrated by 5?  
 \_\_\_\_\_ A. Pedicle  
 \_\_\_\_\_ B. Lamina  
 \_\_\_\_\_ C. Spinous process  
 \_\_\_\_\_ D. Transverse process

4. What number illustrates the transverse process?  
 \_\_\_\_\_ A. 7  
 \_\_\_\_\_ B. 5  
 \_\_\_\_\_ C. 6  
 \_\_\_\_\_ D. 1

5. Which of the following is illustrated by 8?  
 \_\_\_\_\_ A. Inferior vena cava  
 \_\_\_\_\_ B. Ascending aorta  
 \_\_\_\_\_ C. Azygos arch  
 \_\_\_\_\_ D. Superior vena cava



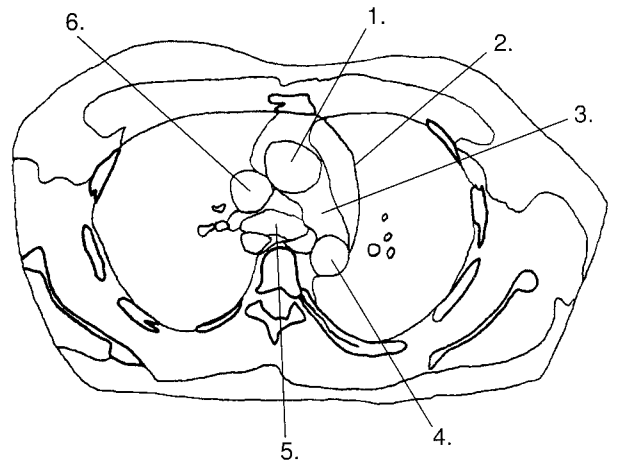


Figure 2-19

1. Which of the following is illustrated by 2?

- A. Right atrium
- B. Mediastinal pleura
- C. Left atrium
- D. Right ventricle

2. What number illustrates the tracheal bifurcation?

- A. 6
- B. 3
- C. 5
- D. 2

3. Which of the following is illustrated by 4?

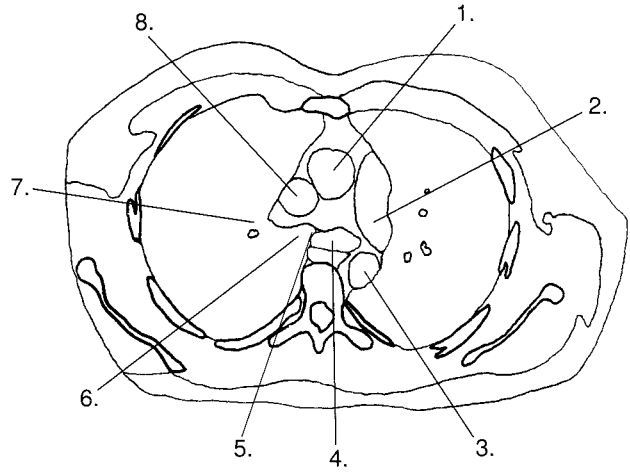
- A. Mediastinal pleura
- B. Ascending aorta
- C. Bottom of the aortic arch
- D. Descending aorta

4. Which of the following is illustrated by 1?

- A. Ascending aorta
- B. Bottom of the aortic arch
- C. Superior vena cava
- D. Descending aorta

5. What number illustrates the bottom of the aortic arch?

- A. 5
- B. 3
- C. 4
- D. 1



**Figure 2-20**

1. Which of the following is illustrated by 7?
  - A. Right main bronchus
  - B. Right lower lobe bronchus
  - C. Right upper lobe bronchus
  - D. Carina
2. What number illustrates the left main bronchus?
  - A. 7
  - B. 4
  - C. 5
  - D. 6
3. Which of the following is illustrated by 5?
  - A. Descending aorta
  - B. Carina
  - C. Left pulmonary artery
  - D. Ascending aorta
4. Which of the following is illustrated by 6?
  - A. Right main bronchus
  - B. Left main bronchus
  - C. Right lower lobe bronchus
  - D. Right upper lobe bronchus
5. What number illustrates the left pulmonary artery?
  - A. 8
  - B. 2
  - C. 3
  - D. 1

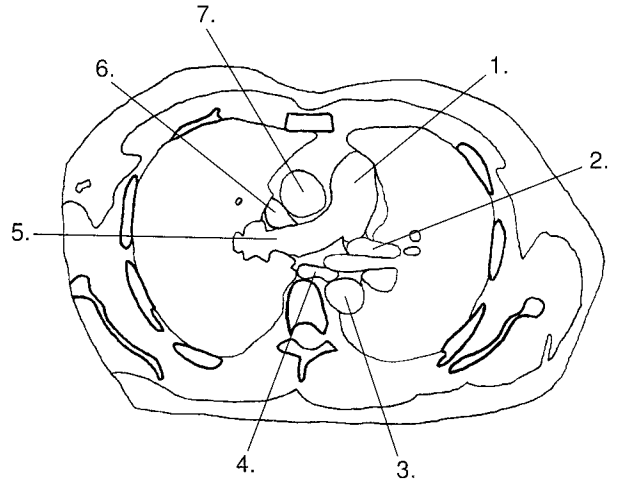
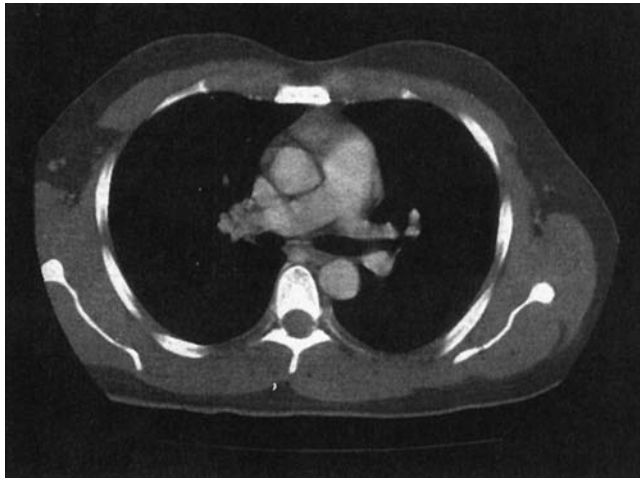


Figure 2-21

1. What number illustrates the esophagus?
  - A. 7
  - B. 4
  - C. 3
  - D. 2
  
2. Which of the following is illustrated by 5?
  - A. Pulmonary trunk
  - B. Left superior pulmonary vein
  - C. Ascending aorta
  - D. Right pulmonary artery
  
3. What number illustrates the left superior pulmonary vein?
  - A. 1
  - B. 2
  - C. 5
  - D. 3
  
4. Which of the following is illustrated by 1?
  - A. Left pulmonary artery
  - B. Ascending aorta
  - C. Pulmonary trunk
  - D. Descending aorta
  
5. Which of the following is illustrated by 6?
  - A. Ascending aorta
  - B. Left superior pulmonary vein
  - C. Descending aorta
  - D. Superior vena cava

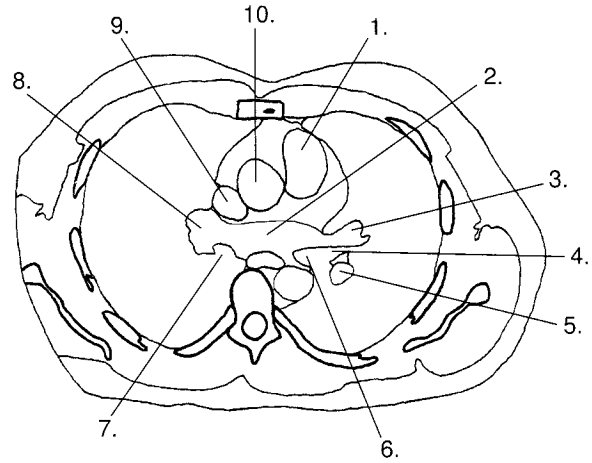
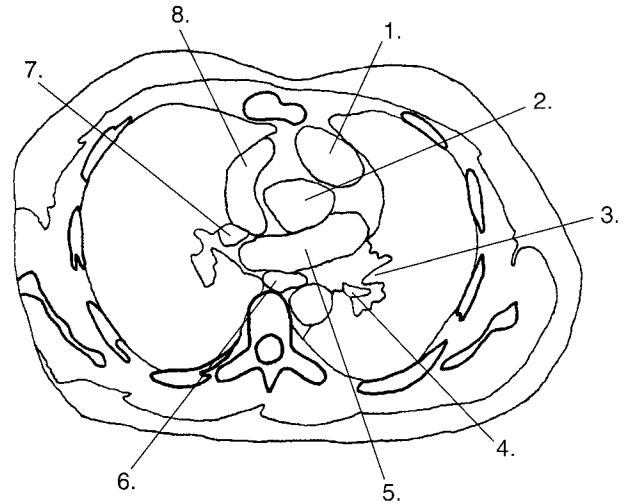


Figure 2-22

1. What number illustrates the left atrium?
  - A. 2
  - B. 9
  - C. 1
  - D. 10
  
2. Which of the following is illustrated by 7?
  - A. Left main bronchus
  - B. Bronchus intermedius
  - C. Superior pulmonary vein
  - D. Left upper lobe bronchus
  
3. What number illustrates the descending branch of the left pulmonary artery?
  - A. 6
  - B. 4
  - C. 5
  - D. 3
  
4. Which of the following is illustrated by 1?
  - A. Left superior pulmonary vein
  - B. Superior vena cava
  - C. Origin of the pulmonary trunk
  - D. Ascending aorta
  
5. Which of the following is illustrated by 4?
  - A. Left main bronchus
  - B. Descending branch of the left pulmonary artery
  - C. Left superior pulmonary vein
  - D. Left upper lobe bronchus



**Figure 2-23**

1. What number illustrates the ascending aorta?

- A. 8
- B. 2
- C. 7
- D. 1

2. Which of the following is illustrated by 4?

- A. Left lower lobe bronchus
- B. Left upper lobe bronchus
- C. Left main bronchus
- D. Carina

3. Which of the following is illustrated by 8?

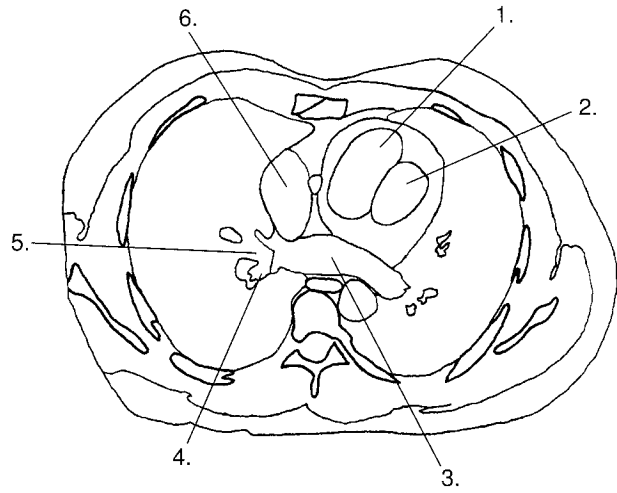
- A. Right ventricle
- B. Right atrium
- C. Right superior pulmonary vein
- D. Left atrium

4. Which of the following is illustrated by 1?

- A. Left atrium
- B. Left ventricle
- C. Right atrium
- D. Right ventricle

5. What number illustrates the left atrium?

- A. 8
- B. 6
- C. 5
- D. 2



**Figure 2-24**

1. What number illustrates the left atrium?

- A. 6
- B. 2
- C. 3
- D. 1

2. Which of the following is illustrated by 4?

- A. Right lower lobe bronchus
- B. Right upper lobe bronchus
- C. Right middle lobe bronchus
- D. Carina

3. Which of the following is illustrated by 5?

- A. Right upper lobe bronchus
- B. Right lower lobe bronchus
- C. Right middle lobe bronchus
- D. Carina

4. What number illustrates the chamber within the heart responsible for pumping blood to the lungs?

- A. 1
- B. 6
- C. 2
- D. 3

5. Which of the following is illustrated by 6?

- A. Left atrium
- B. Right ventricle
- C. Left ventricle
- D. Right atrium

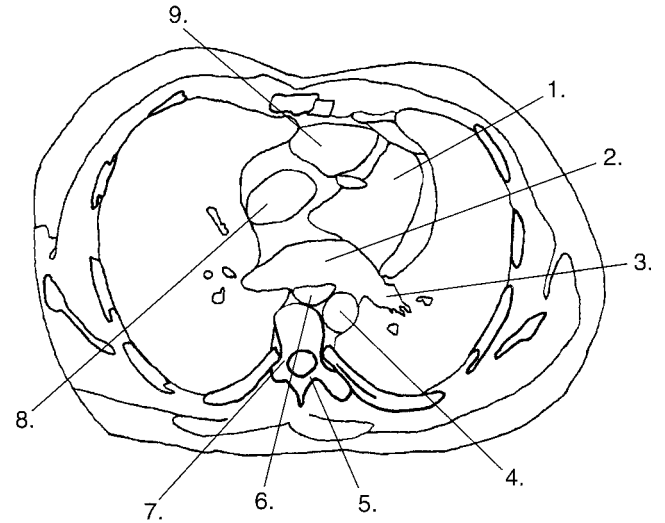
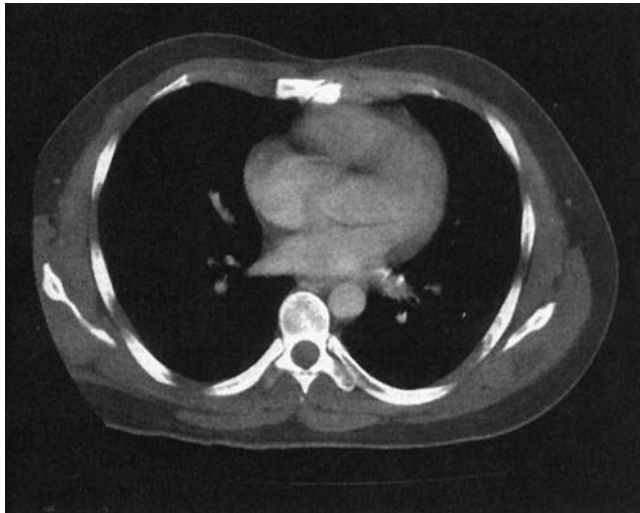
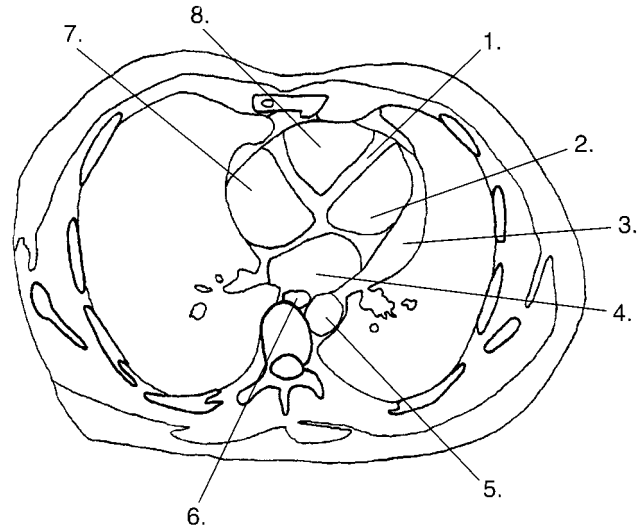
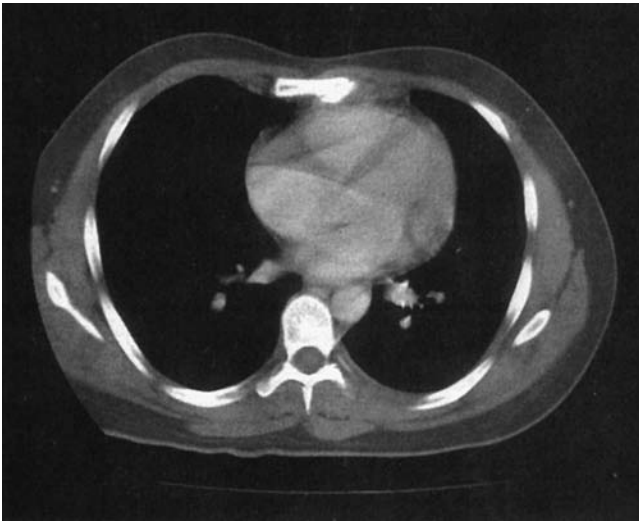


Figure 2-25

1. What number illustrates the lamina?
  - A. 7
  - B. 5
  - C. 6
  - D. 3
2. Which of the following is illustrated by 3?
  - A. Left atrium
  - B. Left inferior pulmonary vein
  - C. Left upper pulmonary vein
  - D. Hemiazygos vein
3. What number illustrates the right ventricle?
  - A. 8
  - B. 4
  - C. 1
  - D. 9
4. Which of the following is illustrated by 7?
  - A. Esophagus
  - B. Lamina
  - C. Pedicle
  - D. Descending aorta
5. Which of the following is illustrated by 1?
  - A. Left atrium
  - B. Right atrium
  - C. Left ventricle
  - D. Right ventricle



**Figure 2-26**

1. Which of the following is illustrated by 7?

- A. Left atrium
- B. Right atrium
- C. Left ventricle
- D. Right ventricle

2. Which of the following is illustrated by 8?

- A. Right atrium
- B. Left ventricle
- C. Left atrium
- D. Right ventricle

3. What number illustrates the descending aorta?

- A. 4
- B. 2
- C. 5
- D. 6

4. What number illustrates the ventricular wall?

- A. 4
- B. 3
- C. 1
- D. 6

5. Which of the following is illustrated by 4?

- A. Left ventricle
- B. Left atrium
- C. Esophagus
- D. Descending aorta



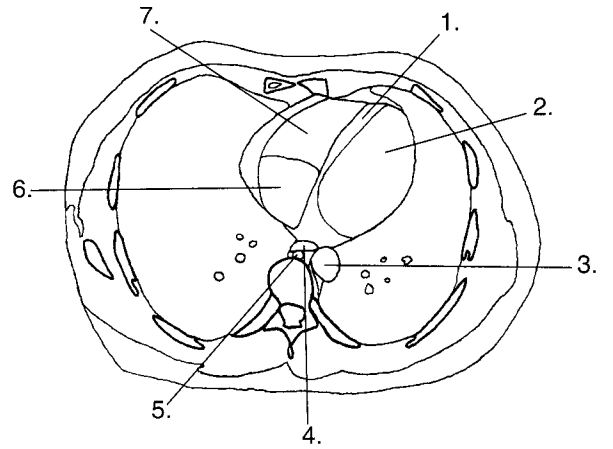
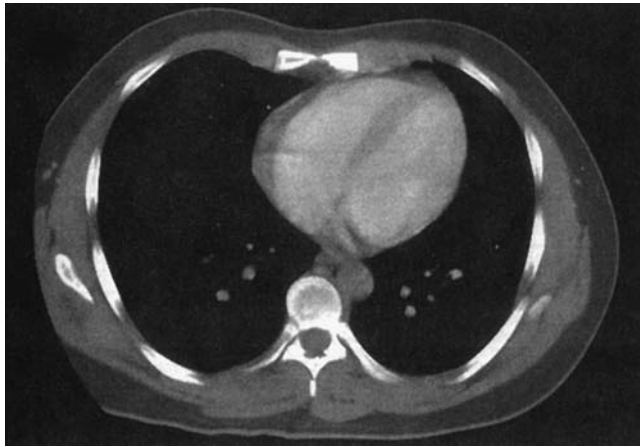
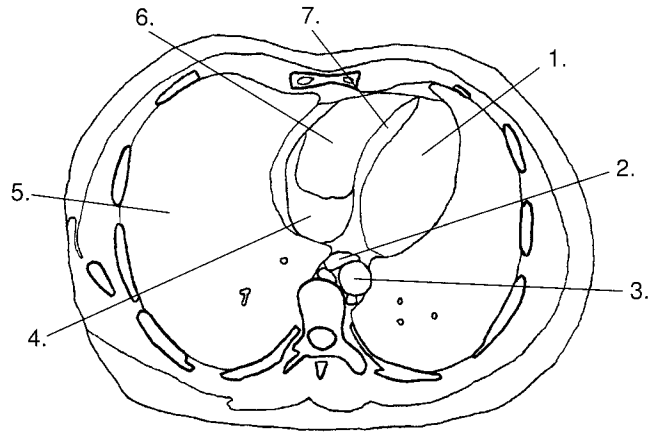


Figure 2-27

1. Which of the following is illustrated by 2?
  - A. Interventricular septum
  - B. Esophagus
  - C. Descending aorta
  - D. Left ventricle
  
2. What number illustrates the chamber of the heart receiving venous blood from the inferior vena cava?
  - A. 3
  - B. 2
  - C. 6
  - D. 7
  
3. Which of the following is illustrated by 5?
  - A. Accessory hemiazygos vein
  - B. Esophagus
  - C. Azygos vein
  - D. Hemiazygos vein
  
4. Which of the following is illustrated by 3?
  - A. Descending aorta
  - B. Hemiazygos vein
  - C. Azygos vein
  - D. Accessory hemiazygos vein
  
5. What number illustrates the right ventricle?
  - A. 2
  - B. 6
  - C. 3
  - D. 7



**Figure 2-28**

1. Which of the following is illustrated by 1?
  - A. Left atrium
  - B. Right ventricle
  - C. Left ventricle
  - D. Right atrium
2. Which of the following is illustrated by 5?
  - A. Left lung
  - B. Right lung
  - C. Right atrium
  - D. Right ventricle
3. What number illustrates the alimentary structure connecting the pharynx to the stomach?
  - A. 2
  - B. 3
  - C. 6
  - D. 4
4. What number illustrates the interventricular septum?
  - A. 2
  - B. 5
  - C. 4
  - D. 7
5. Which of the following is illustrated by 4?
  - A. Right atrium
  - B. Right ventricle
  - C. Left atrium
  - D. Left ventricle

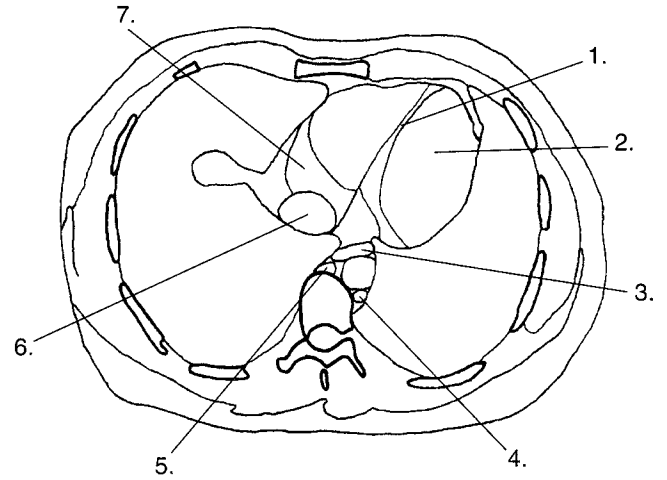
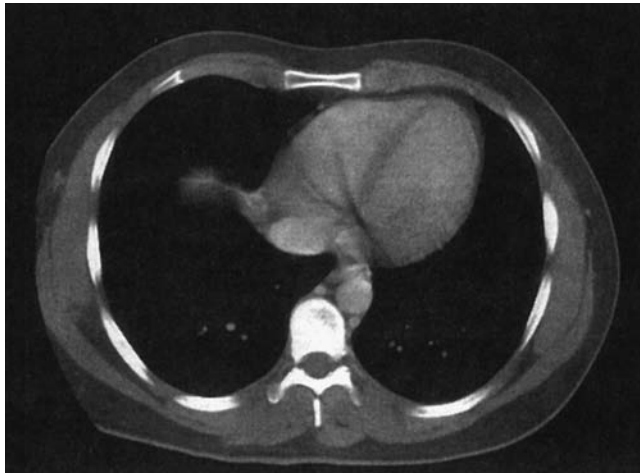


Figure 2-29

1. What number illustrates the inferior vena cava?

- A. 3
- B. 5
- C. 4
- D. 6

2. Which of the following is illustrated by 7?

- A. Right ventricle
- B. Right atrium
- C. Inferior vena cava
- D. Left ventricle

3. Which of the following is illustrated by 4?

- A. Hemiazygos vein
- B. Inferior vena cava
- C. Azygos vein
- D. Accessory hemiazygos vein

4. Which of the following is illustrated by 1?

- A. Visceral peritoneum
- B. Mediastinal pleura
- C. Parietal peritoneum
- D. Interventricular septum

5. What number illustrates the azygos vein?

- A. 4
- B. 3
- C. 1
- D. 5

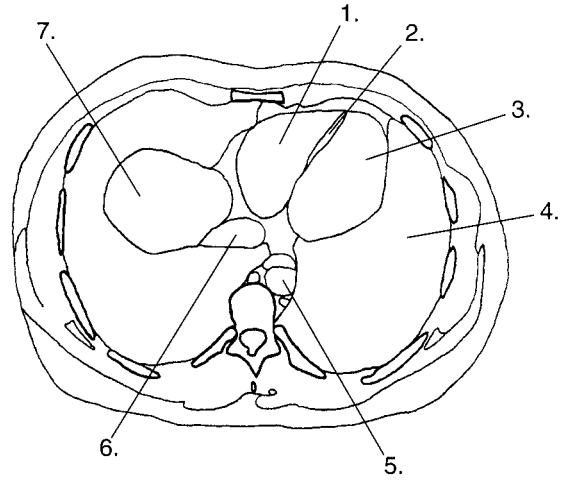
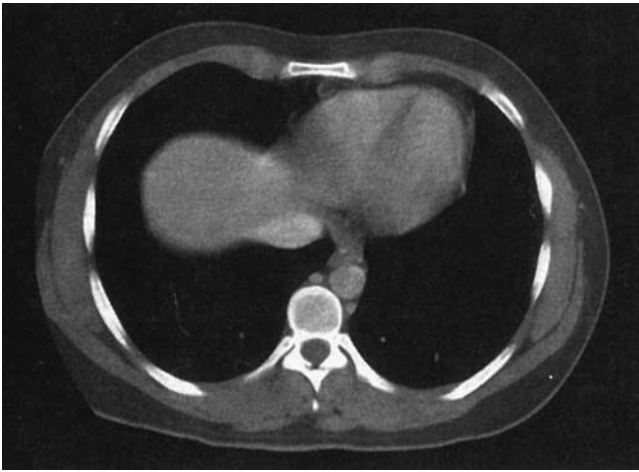


Figure 2-30

1. Which of the following is illustrated by 6?
  - A. Superior vena cava
  - B. Inferior vena cava
  - C. Right ventricle
  - D. Descending aorta
2. What number illustrates the interventricular septum?
  - A. 2
  - B. 6
  - C. 5
  - D. 4
3. What number illustrates the descending aorta?
  - A. 7
  - B. 3
  - C. 5
  - D. 6
4. Which of the following is illustrated by 7?
  - A. Left ventricle
  - B. Right ventricle
  - C. Stomach
  - D. Liver
5. Which of the following is illustrated by 3?
  - A. Left atrium
  - B. Left ventricle
  - C. Right ventricle
  - D. Liver

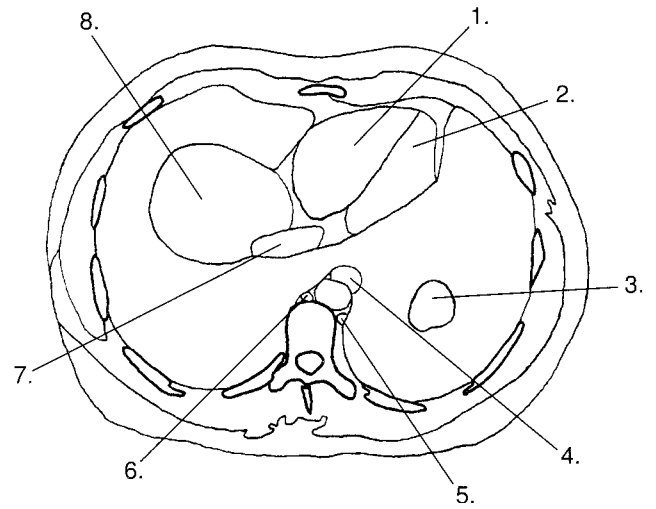
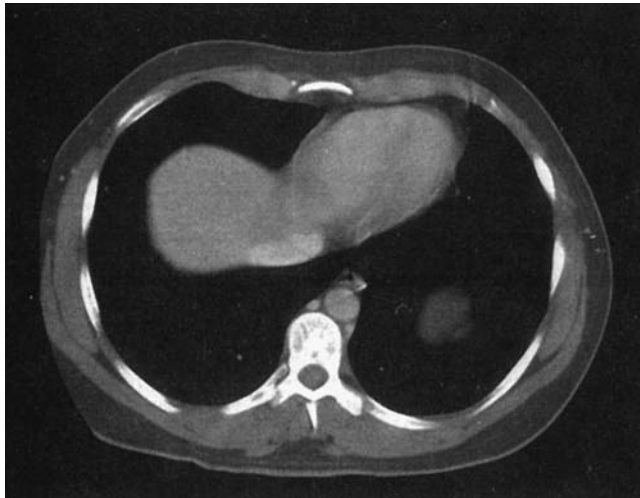


Figure 2-31

1. Which of the following is illustrated by 3?
- A. Right ventricle
  - B. Left ventricle
  - C. Fundus of the stomach
  - D. Liver

2. What number illustrates the inferior vena cava?
- A. 4
  - B. 6
  - C. 5
  - D. 7

3. Which of the following is illustrated by 6?
- A. Azygos vein
  - B. Inferior vena cava
  - C. Hemiazygos vein
  - D. Accessory hemiazygos vein

4. What number illustrates the esophagus?
- A. 3
  - B. 7
  - C. 6
  - D. 4

5. Which of the following is illustrated by 5?
- A. Inferior vena cava
  - B. Accessory hemiazygos vein
  - C. Hemiazygos vein
  - D. Azygos vein

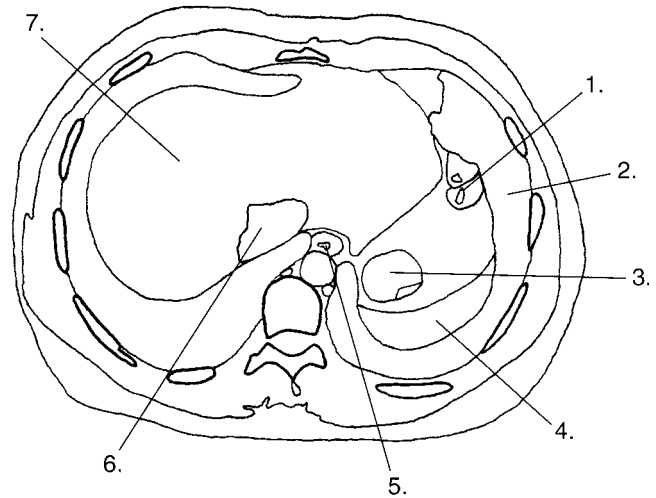


Figure 2-32

1. Which of the following is illustrated by 4?
  - A. Left lung
  - B. Spleen
  - C. Liver
  - D. Fundus of stomach
2. What number illustrates the vein transporting blood from the liver to the heart?
  - A. 5
  - B. 1
  - C. 3
  - D. 6
3. Which of the following is illustrated by 1?
  - A. Splenic flexure of the colon
  - B. Fundus of the stomach
  - C. Transverse colon
  - D. Spleen
4. Which of the following is illustrated by 3?
  - A. Spleen
  - B. Inferior vena cava
  - C. Esophagus
  - D. Fundus of the stomach
5. What number illustrates the left lung?
  - A. 2
  - B. 7
  - C. 6
  - D. 3

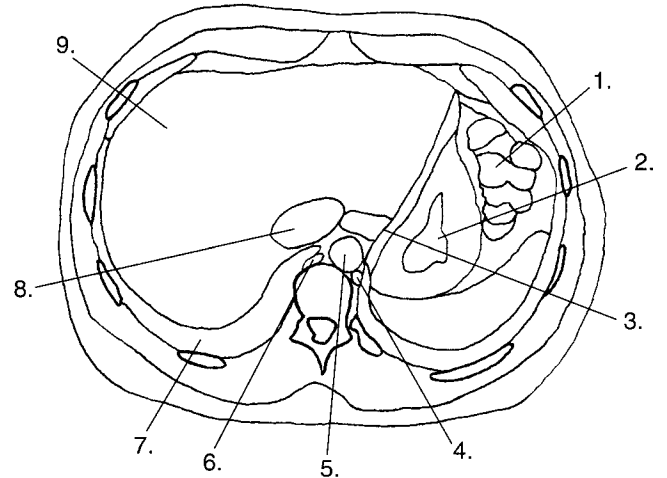


Figure 2-33

1. Which of the following is illustrated by 3?

- A. Gastroesophageal junction
- B. Spleen
- C. Splenic flexure of colon
- D. Liver

2. What number illustrates the splenic flexure of the colon?

- A. 1
- B. 8
- C. 6
- D. 3

3. Which of the following is illustrated by 6?

- A. Accessory hemiazygos vein
- B. Azygos vein
- C. Hemiazygos vein
- D. Inferior vena cava

4. Which of the following is illustrated by 5?

- A. Esophagus
- B. Inferior vena cava
- C. Descending aorta
- D. Azygos vein

5. What number illustrates the hemiazygos vein?

- A. 5
- B. 4
- C. 8
- D. 6

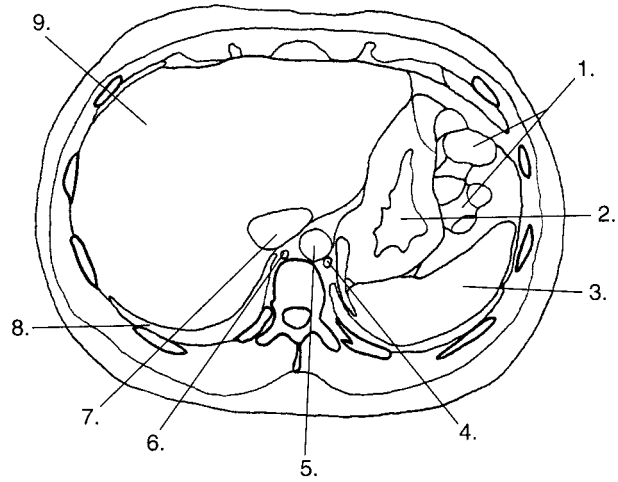


Figure 2-34

1. Which of the following is illustrated by 2?
  - A. Splenic flexure of colon
  - B. Fundus of stomach
  - C. Spleen
  - D. Body of stomach
2. What number illustrates the descending aorta?
  - A. 4
  - B. 2
  - C. 5
  - D. 6
3. Which of the following is illustrated by 3?
  - A. Spleen
  - B. Body of stomach
  - C. Liver
  - D. Splenic flexure of colon
4. Which of the following is illustrated by 7?
  - A. Spleen
  - B. Gallbladder
  - C. Descending aorta
  - D. Inferior vena cava
5. What number illustrates the splenic flexure of the colon?
  - A. 1
  - B. 5
  - C. 3
  - D. 2



## CLINICAL APPLICATIONS

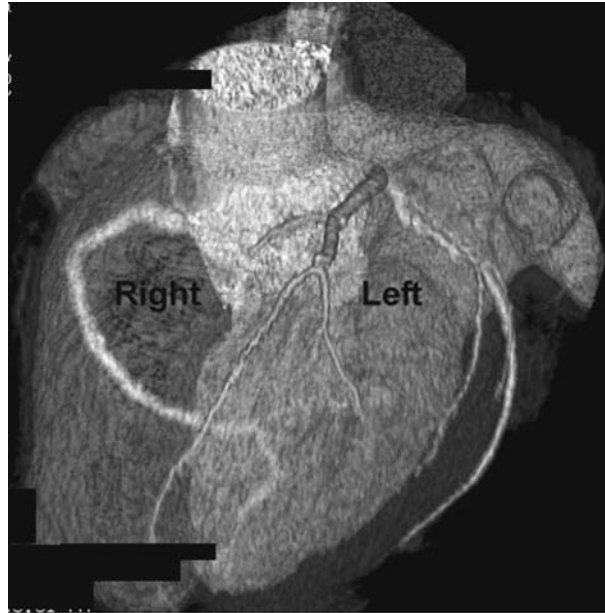
---

1. Which of the following does not originate from the aorta?
  - \_\_\_\_\_ A. Brachiocephalic artery
  - \_\_\_\_\_ B. Left subclavian artery
  - \_\_\_\_\_ C. Left vertebral artery
  - \_\_\_\_\_ D. Left common carotid artery
  
2. The pulmonary arteries carry deoxygenated blood. True or False?
  
3. The ascending aorta originates from what part of the heart?
  - \_\_\_\_\_ A. Left ventricle
  - \_\_\_\_\_ B. Left atrium
  - \_\_\_\_\_ C. Right ventricle
  - \_\_\_\_\_ D. Right atrium
  
4. Which of the following structures is located anterior to the hilum of the lungs?
  - \_\_\_\_\_ A. Superior vena cava
  - \_\_\_\_\_ B. Esophagus
  - \_\_\_\_\_ C. Descending aorta
  - \_\_\_\_\_ D. Accessory hemiazygos vein
  
5. The aorta arches over all of the following structures except the
  - \_\_\_\_\_ A. Pulmonary trunk
  - \_\_\_\_\_ B. Left brachiocephalic vein
  - \_\_\_\_\_ C. Left main bronchus
  - \_\_\_\_\_ D. Left pulmonary vein
  
6. In an axial section through the oblique fissure of the left lung, which lobe of the lung would be most anterior?
   
\_\_\_\_\_
   
\_\_\_\_\_
   
\_\_\_\_\_
  
7. Which of the following structures is most posterior in the chest?
  - \_\_\_\_\_ A. Trachea
  - \_\_\_\_\_ B. Esophagus
  - \_\_\_\_\_ C. Ascending aorta
  - \_\_\_\_\_ D. Pulmonary trunk
  
8. Describe the left subclavian vein.
   
\_\_\_\_\_
   
\_\_\_\_\_
   
\_\_\_\_\_
  
9. The vertebral arch consists of \_\_\_\_\_ pedicles, \_\_\_\_\_ laminae, and \_\_\_\_\_ processes (\_\_\_\_\_ transverse, \_\_\_\_\_ articular, and \_\_\_\_\_ spinous).
  
10. In a magnetic resonance (MR) image of the median sagittal chest, which chamber of the heart would be located most posteriorly?
   
\_\_\_\_\_
   
\_\_\_\_\_
   
\_\_\_\_\_

## CLINICAL CORRELATIONS

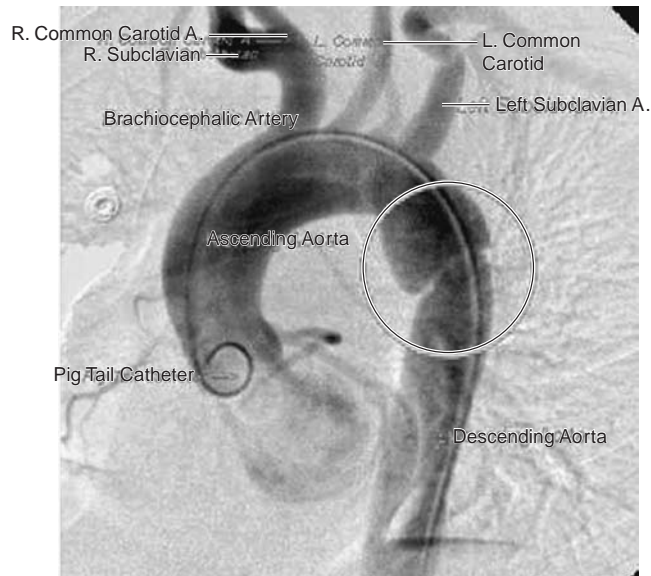
---

### ■ Clinical Case 2-1



1. This image would best be described by which of the following:  
 A. Computed tomography angiography (CTA)  
 B. Magnetic resonance angiography (MRA)  
 C. Ultrasound  
 D. Positron emission tomography/computed tomography (PET/CT)
2. The anterior interventricular coronary artery originates from which of the following:  
 A. Right coronary artery  
 B. Left coronary artery
3. The right and left coronary arteries originate from which of the following:  
 A. Superior vena cava  
 B. Pulmonary veins  
 C. Pulmonary trunk  
 D. Ascending aorta
4. The \_\_\_\_\_ artery wraps around the heart to extend down the posterior side.  
 A. Anterior interventricular  
 B. Marginal  
 C. Circumflex  
 D. Posterior interventricular
5. The right coronary artery is found wrapping around the outside of the heart between the right atrium and \_\_\_\_\_ to reach the posterior side of the heart.  
 A. Right ventricle  
 B. Left atrium  
 C. Left ventricle  
 D. Aorta

## ■ Clinical Case 2-2



1. Describe the location of the false aneurysm resulting from trauma to the chest during a motor vehicle accident (MVA). The injury is shown with digital angiography (left) and axial CT (right) images.

---



---



---

2. Describe the changes in adjacent tissues.

---



---



---

3. Describe the consistency, shape, and border.

---

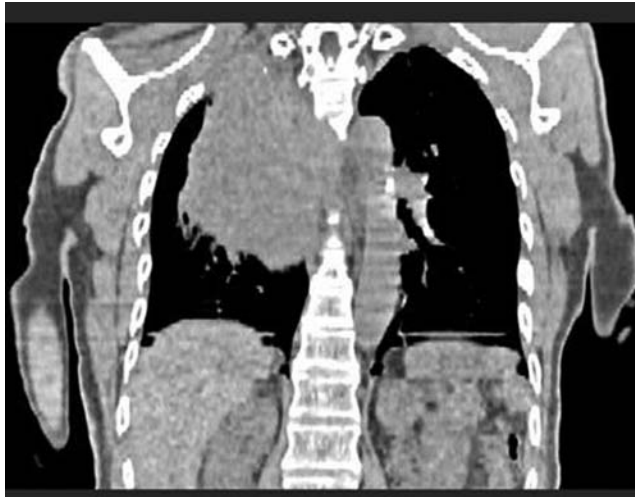


---



---

### ■ Clinical Case 2-3



1. Describe the location of the non-small cell lung carcinoma (NSCLC) in this reconstructed coronal CT image.

---

---

---

3. Describe the consistency, shape, and border.

---

---

---

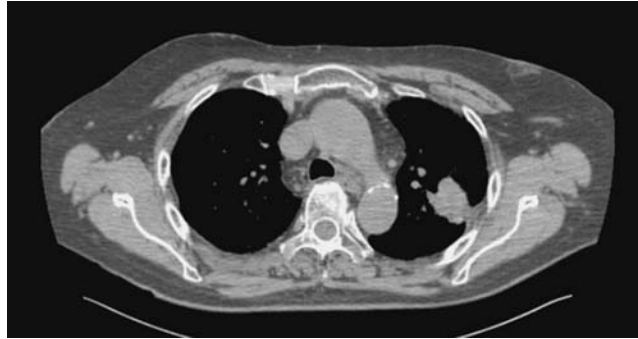
2. Describe the changes in adjacent tissues.

---

---

---

### ■ Clinical Case 2-4



1. Describe the location of the primary pulmonary adenocarcinoma in this selected axial CT image.

---

---

---

3. Describe the consistency, shape, and border.

---

---

---

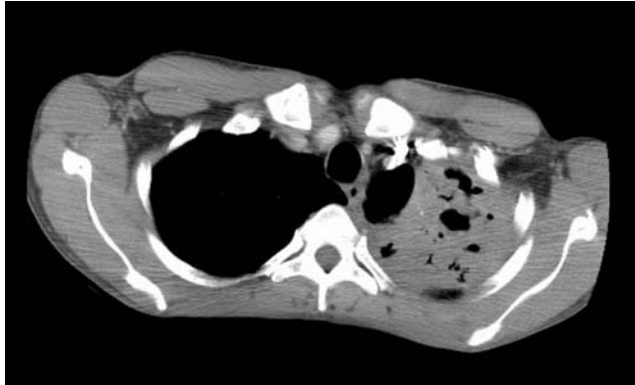
2. Describe the changes in adjacent tissues.

---

---

---

■ **Clinical Case 2-5**



1. Describe the location of the necrotizing pneumonia as shown in this axial CT image.

---

---

---

3. Describe the consistency, shape, and border.

---

---

---

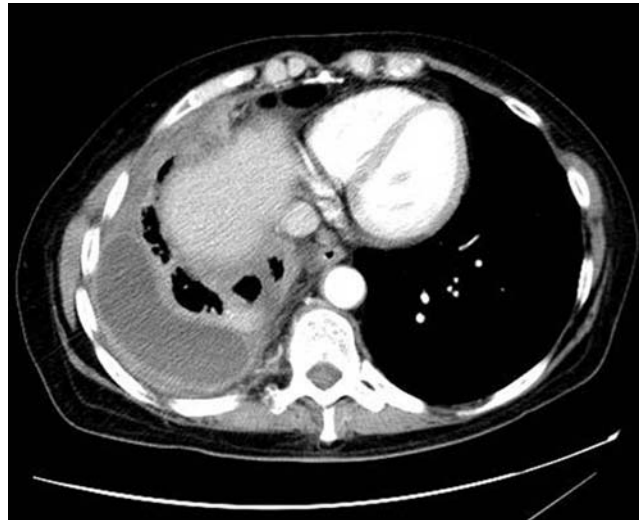
2. Describe the changes in adjacent tissues.

---

---

---

■ Clinical Case 2-6



1. Describe the location of the pleural effusion found in this axial CT image.

---

---

---

2. Describe the changes in adjacent tissues.

---

---

---

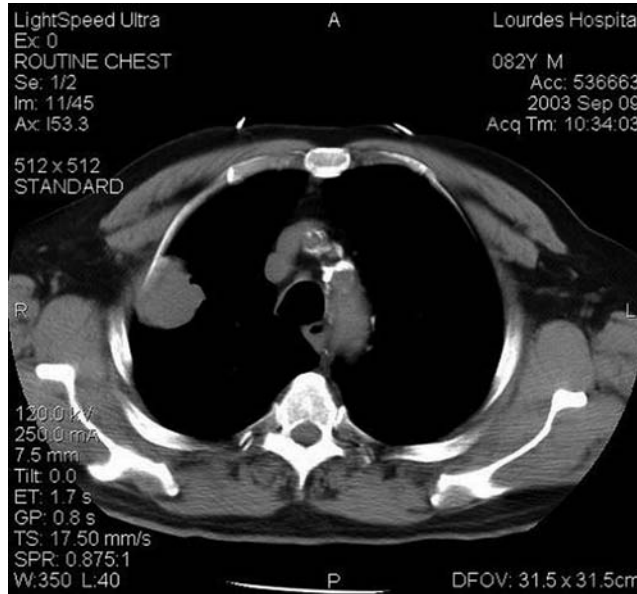
3. Describe the consistency, shape, and border.

---

---

---

### ■ Clinical Case 2-7



1. Describe the location of the malignant lung mass.  
Please note that the scan was done without contrast  
because the patient had a prior reaction to iodine.

---

---

---

2. Describe the changes in adjacent tissues.

---

---

---

3. Describe the consistency, shape, and border.

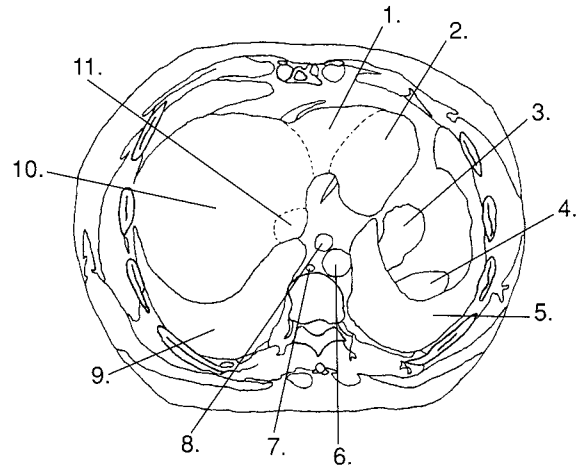
---

---

---



# Abdomen



**Figure 3-1**

1. Which of the following is illustrated by 3?

- A. Left ventricle
- B. Inferior vena cava
- C. Fundus of stomach
- D. Spleen

2. Which of the following is illustrated by 10?

- A. Left ventricle
- B. Spleen
- C. Right lung
- D. Liver

3. What number illustrates the azygos vein?

- A. 11
- B. 6
- C. 7
- D. 3

4. What number illustrates the inferior vena cava?

- A. 6
- B. 8
- C. 3
- D. 11

5. Which of the following is illustrated by 4?

- A. Spleen
- B. Descending aorta
- C. Esophagus
- D. Inferior vena cava

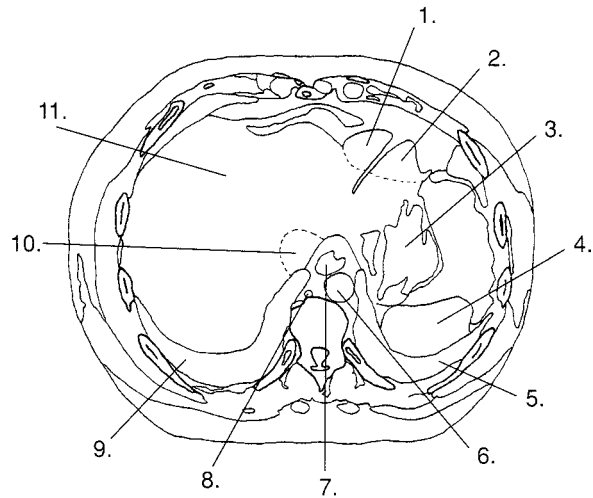


Figure 3-2

1. What number illustrates the chamber of the heart that pumps blood to most of the body?
  - A. 6
  - B. 2
  - C. 3
  - D. 1
2. Which of the following is illustrated by 5?
  - A. Right lung
  - B. Spleen
  - C. Left lung
  - D. Inferior vena cava
3. Which of the following is illustrated by 7?
  - A. Inferior vena cava
  - B. Esophagus
  - C. Descending aorta
  - D. Azygos vein
4. What number illustrates the liver?
  - A. 9
  - B. 4
  - C. 3
  - D. 11
5. Which of the following is illustrated by 1?
  - A. Quadrate lobe of liver
  - B. Right ventricle
  - C. Left ventricle
  - D. Gallbladder

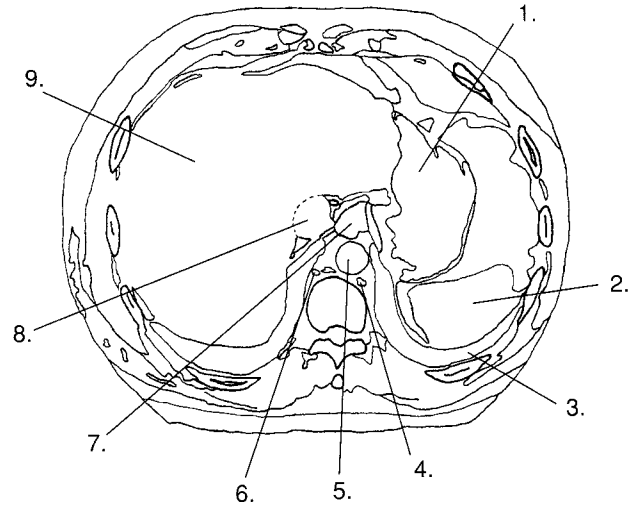


Figure 3-3

1. Which of the following is illustrated by 6?

- A. Hemiazygos vein
- B. Portal vein
- C. Accessory hemiazygos vein
- D. Azygos vein

2. Which of the following is illustrated by 1?

- A. Spleen
- B. Fundus of stomach
- C. Quadrate lobe of liver
- D. Esophagus

3. What number illustrates the hemiazygos vein?

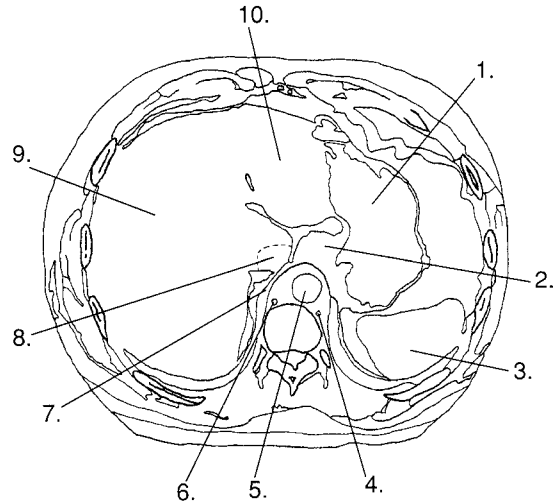
- A. 4
- B. 7
- C. 6
- D. 5

4. Which of the following is illustrated by 8?

- A. Descending aorta
- B. Fundus of stomach
- C. Inferior vena cava
- D. Esophagus

5. What number illustrates the left lung?

- A. 9
- B. 2
- C. 3
- D. 1



**Figure 3-4**

1. What number illustrates the body of the stomach?
  - A. 1
  - B. 9
  - C. 5
  - D. 2
2. Which of the following is illustrated by 7?
  - A. Hemiazygos vein
  - B. Right crus of diaphragm
  - C. Azygos vein
  - D. Right adrenal gland
3. What number illustrates the right lobe of the liver?
  - A. 10
  - B. 3
  - C. 9
  - D. 1
4. Which of the following is illustrated by 2?
  - A. Pancreas
  - B. Portal vein
  - C. Inferior vena cava
  - D. Gastroesophageal junction
5. Which of the following is illustrated by 6?
  - A. Hemiazygos vein
  - B. Azygos vein
  - C. Portal vein
  - D. Right crus of diaphragm

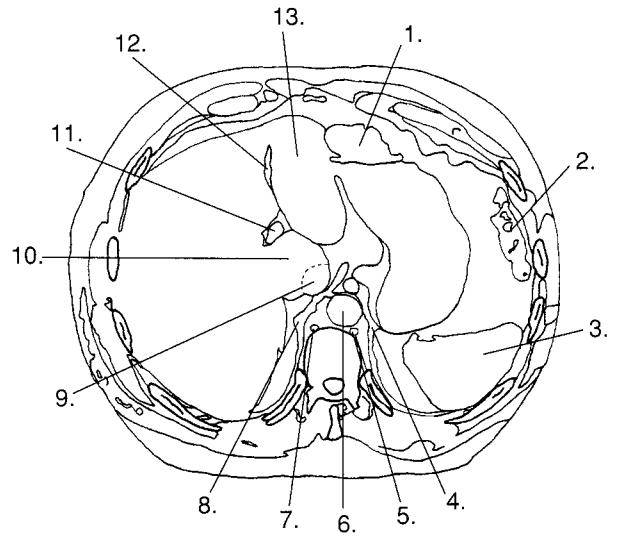


Figure 3-5

1. Which of the following is illustrated by 12?

- A. Quadrate lobe of liver
- B. Caudate lobe of liver
- C. Inferior vena cava
- D. Ligamentum teres fossa

2. What number illustrates the caudate lobe of liver?

- A. 13
- B. 3
- C. 10
- D. 1

3. Which of the following is illustrated by 2?

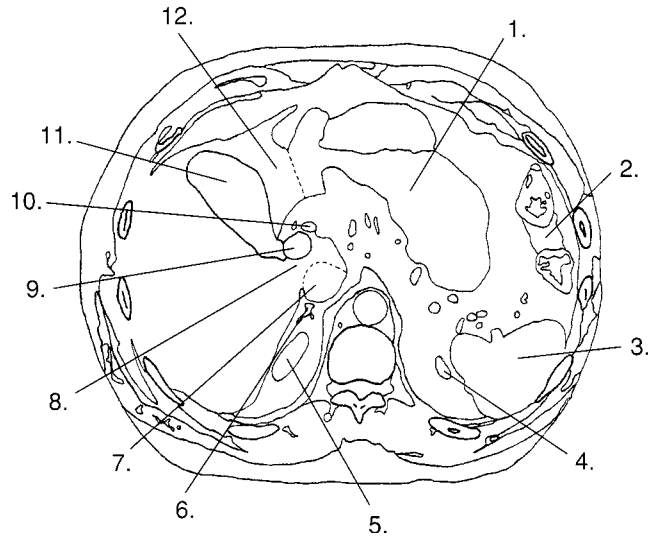
- A. Air in stomach
- B. Transverse colon
- C. Ascending colon
- D. Splenic flexure of colon

4. Which of the following is illustrated by 6?

- A. Descending aorta
- B. Celiac trunk
- C. Inferior vena cava
- D. Portal vein

5. What number illustrates the left lobe of liver?

- A. 1
- B. 10
- C. 6
- D. 13



**Figure 3-6**

1. Which of the following is illustrated by 4?

- A. Splenic vein
- B. Upper pole of left kidney
- C. Left adrenal gland
- D. Inferior mesenteric vein

2. What number illustrates the adrenal gland?

- A. 6
- B. 9
- C. 7
- D. 5

3. What number illustrates the gallbladder?

- A. 7
- B. 9
- C. 12
- D. 11

4. Which of the following is illustrated by 12?

- A. Left lobe of liver
- B. Caudate lobe of liver
- C. Gallbladder
- D. Quadrate lobe of liver

5. Which of the following is illustrated by 10?

- A. Common hepatic artery
- B. Proper hepatic artery
- C. Portal vein
- D. Gastroduodenal artery

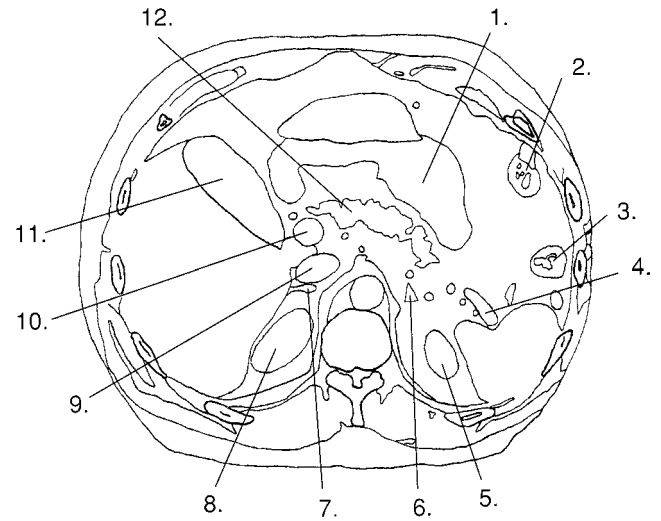
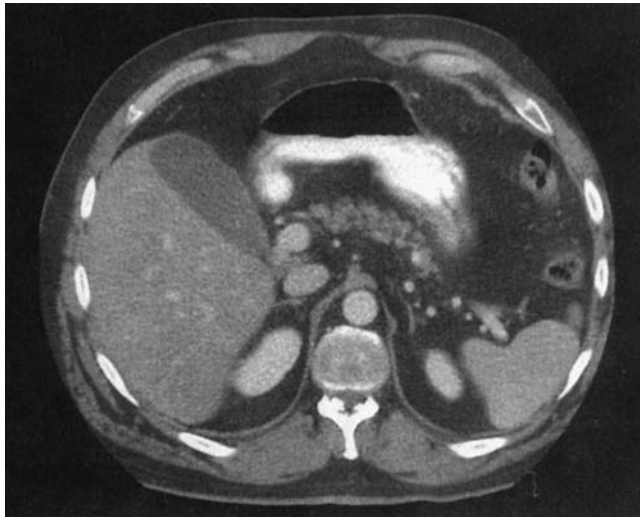


Figure 3-7

1. What number illustrates the descending colon?

- A. 9
- B. 3
- C. 1
- D. 2

2. Which of the following is illustrated by 7?

- A. Upper pole of right kidney
- B. Inferior vena cava
- C. Splenic vein
- D. Right adrenal gland

3. Which of the following is illustrated by 10?

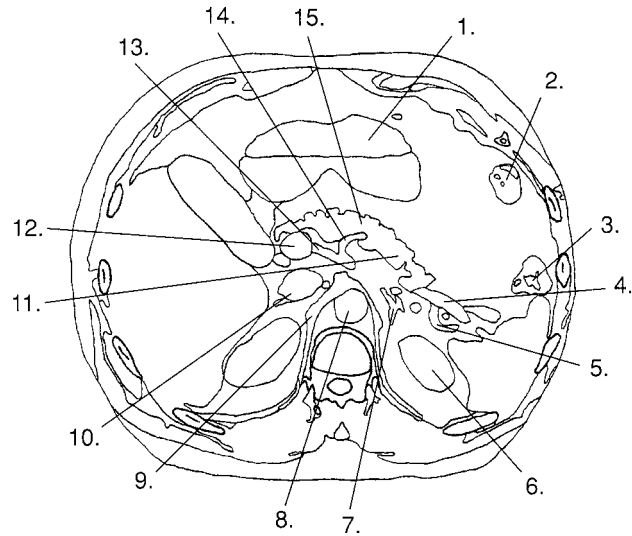
- A. Transverse colon
- B. Inferior vena cava
- C. Portal vein
- D. Proper hepatic artery

4. Which of the following is illustrated by 2?

- A. Descending colon
- B. Splenic vein
- C. Transverse colon
- D. Left adrenal

5. What number illustrates the body of the pancreas?

- A. 11
- B. 1
- C. 8
- D. 12



**Figure 3-8**

1. Which of the following is illustrated by 13?

- A. Hepatic artery
- B. Splenic artery
- C. Celiac trunk
- D. Cystic duct

2. What number illustrates the transverse colon?

- A. 2
- B. 3
- C. 1
- D. 15

3. Which of the following is illustrated by 11?

- A. Body of pancreas
- B. Stomach
- C. Duodenum
- D. Tail of pancreas

4. Which of the following is illustrated by 6?

- A. Left adrenal gland
- B. Left kidney
- C. Splenic flexure of colon
- D. Spleen

5. What number illustrates the splenic artery?

- A. 13
- B. 5
- C. 4
- D. 7



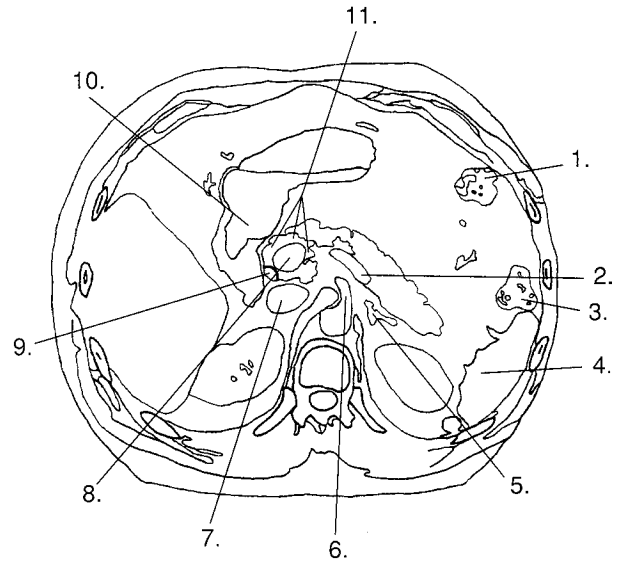
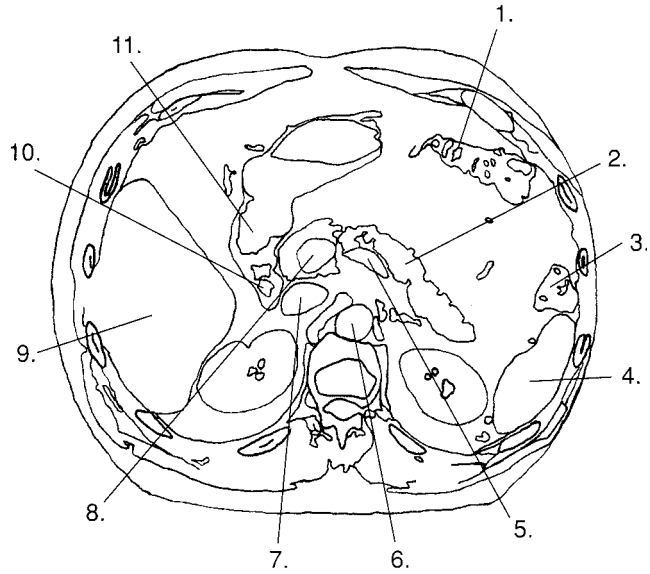


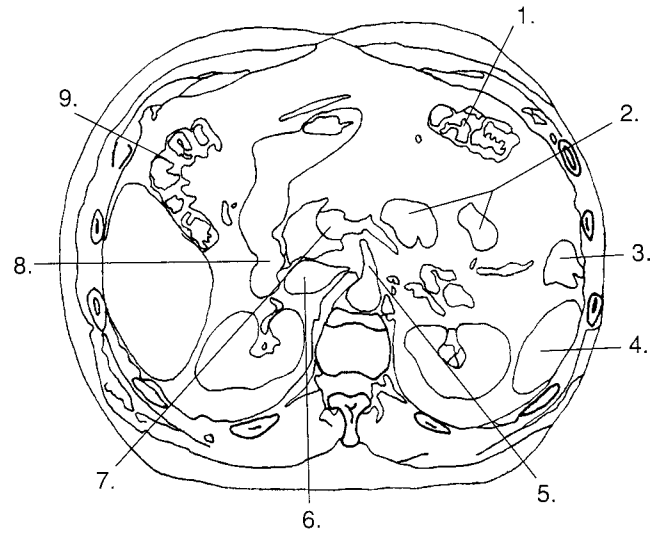
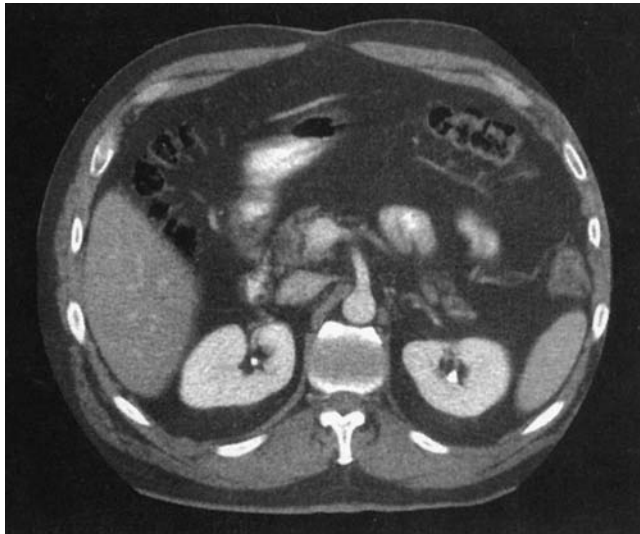
Figure 3-9

1. Which of the following is illustrated by 9?
  - A. Superior mesenteric artery
  - B. Hepatic artery
  - C. Portal vein
  - D. Common bile duct
2. What number illustrates the celiac trunk?
  - A. 8
  - B. 6
  - C. 5
  - D. 7
3. Which of the following is illustrated by 4?
  - A. Left adrenal gland
  - B. Inferior vena cava
  - C. Spleen
  - D. Head of pancreas
4. What number illustrates the pyloric antrum of the stomach?
  - A. 6
  - B. 1
  - C. 3
  - D. 10
5. Which of the following is illustrated by 11?
  - A. Head of pancreas
  - B. Pyloric antrum of stomach
  - C. Common bile duct
  - D. Duodenum



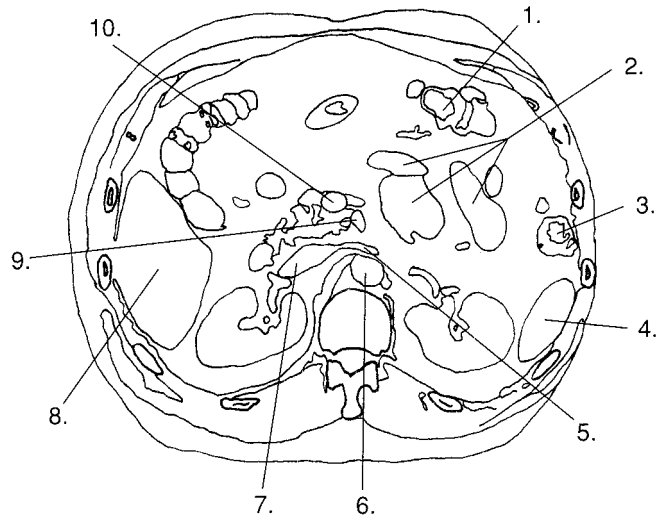
**Figure 3-10**

1. Which of the following is illustrated by 2?
  - A. Splenic vein
  - B. Body of pancreas
  - C. Portal vein
  - D. Duodenum
2. What number illustrates the first part of the small bowel?
  - A. 7
  - B. 2
  - C. 11
  - D. 10
3. What number illustrates the descending or abdominal aorta?
  - A. 7
  - B. 2
  - C. 6
  - D. 5
4. Which of the following is illustrated by 9?
  - A. Liver
  - B. Spleen
  - C. Body of pancreas
  - D. Pyloric antrum of stomach
5. Which of the following is illustrated by 1?
  - A. Descending colon
  - B. Transverse colon
  - C. Ascending colon
  - D. Duodenum



**Figure 3-11**

1. What number illustrates the vein carrying nutrient-rich venous blood to the liver?
  - A. 6
  - B. 5
  - C. 8
  - D. 7
2. Which of the following is illustrated by 9?
  - A. Transverse colon
  - B. Duodenum
  - C. Hepatic flexure at colon
  - D. Descending colon
3. Which of the following is illustrated by 5?
  - A. Celiac trunk
  - B. Superior mesenteric artery
  - C. Inferior mesenteric artery
  - D. Inferior vena cava
4. What number illustrates the descending colon?
  - A. 3
  - B. 1
  - C. 9
  - D. 4
5. Which of the following is illustrated by 4?
  - A. Adrenal gland
  - B. Ascending colon
  - C. Spleen
  - D. Liver



**Figure 3-12**

1. Which of the following is illustrated by 10?
  - A. Portal vein
  - B. Common bile duct
  - C. Superior mesenteric artery
  - D. Superior mesenteric vein
2. Which of the following is illustrated by 5?
  - A. Inferior mesenteric vein
  - B. Left renal vein
  - C. Crus of diaphragm
  - D. Superior mesenteric vein
3. What number illustrates the loops of the small bowel?
  - A. 3
  - B. 2
  - C. 4
  - D. 1
4. What number illustrates the superior mesenteric artery?
  - A. 10
  - B. 5
  - C. 9
  - D. 7
5. Which of the following is illustrated by 3?
  - A. Loops of small bowel
  - B. Ascending colon
  - C. Transverse colon
  - D. Descending colon

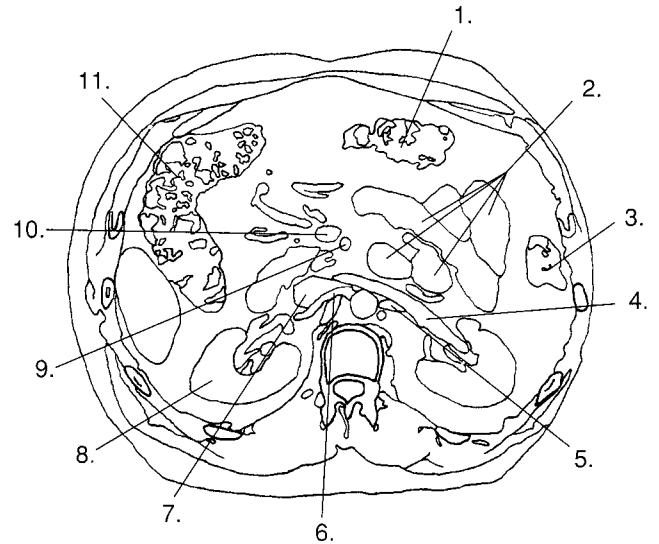


Figure 3-13

1. Which of the following is illustrated by 4?
  - A. Left renal vein
  - B. Renal artery
  - C. Inferior mesenteric vein
  - D. Inferior mesenteric artery
2. What number illustrates the inferior vena cava?
  - A. 6
  - B. 9
  - C. 7
  - D. 5
3. Which of the following is illustrated by 8?
  - A. Adrenal gland
  - B. Kidney
  - C. Loops of small bowel
  - D. Hepatic flexure of colon
4. What number illustrates the hepatic flexure of the colon?
  - A. 3
  - B. 8
  - C. 1
  - D. 11
5. Which of the following is illustrated by 5?
  - A. Renal vein
  - B. Renal artery
  - C. Superior mesenteric vein
  - D. Superior mesenteric artery

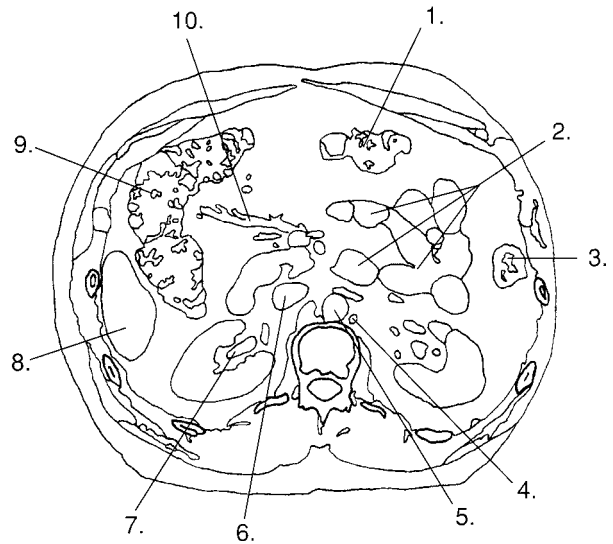


Figure 3-14

1. Which of the following is illustrated by 8?

- A. Descending colon
- B. Spleen
- C. Liver
- D. Adrenal gland

2. What number illustrates the hemiazygos vein?

- A. 4
- B. 5
- C. 7
- D. 6

3. What number illustrates the right renal pelvis?

- A. 8
- B. 6
- C. 7
- D. 5

4. Which of the following is illustrated by 10?

- A. Portal vein
- B. Loops of small bowel
- C. Common bile duct
- D. Mesenteric vessels

5. Which of the following is illustrated by 5?

- A. Hemiazygos vein
- B. Descending aorta
- C. Inferior vena cava
- D. Inferior mesenteric artery

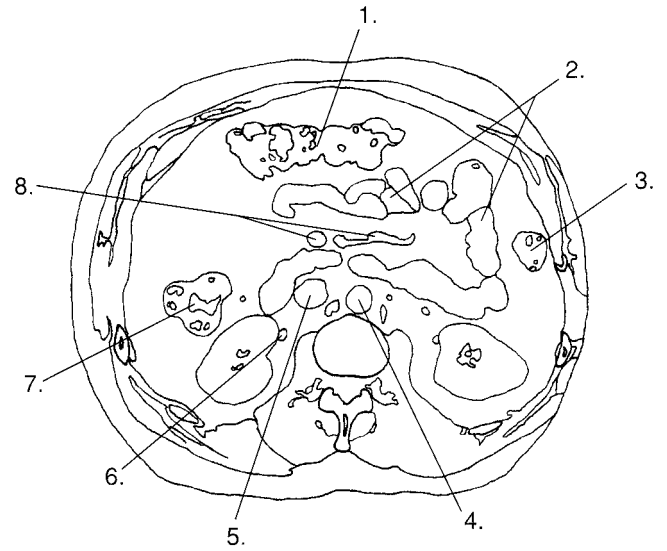


Figure 3-15

1. What number illustrates the abdominal aorta?

- A. 4
- B. 8
- C. 5
- D. 6

2. Which of the following is illustrated by 6?

- A. Right renal vein
- B. Right renal artery
- C. Right ureter
- D. Azygos vein

3. Which of the following is illustrated by 8?

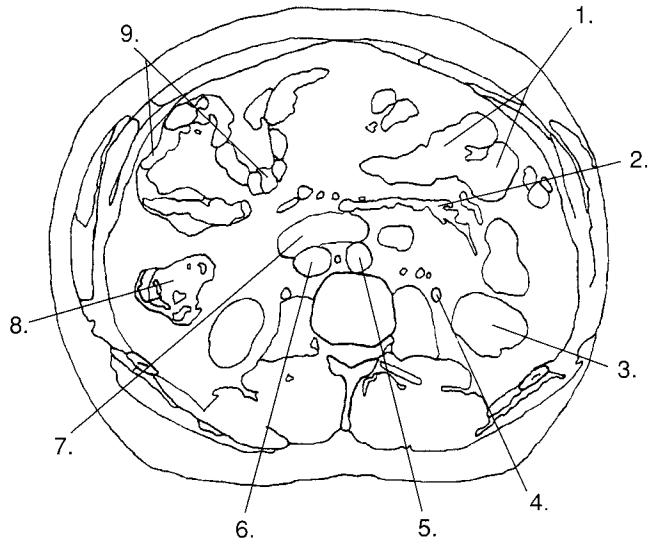
- A. Celiac vessels
- B. Superior mesenteric vessels
- C. Inferior mesenteric vessels
- D. Loops of small bowel

4. Which of the following is illustrated by 3?

- A. Ascending colon
- B. Small bowel
- C. Cecum
- D. Descending colon

5. What number illustrates the ascending colon?

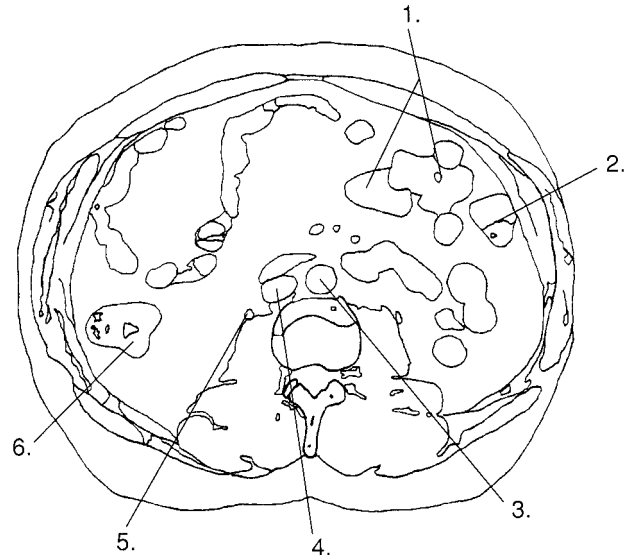
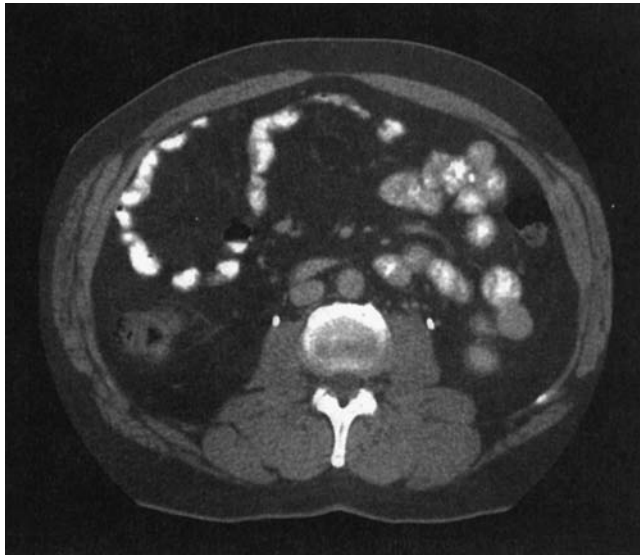
- A. 2
- B. 1
- C. 3
- D. 7



**Figure 3-16**

1. Which of the following is illustrated by 1?
  - A. Ascending colon
  - B. Transverse colon
  - C. Descending colon
  - D. Loops of small bowel
2. Which of the following is illustrated by 3?
  - A. Adrenal gland
  - B. Lower pole of left kidney
  - C. Ascending colon
  - D. Spleen
3. What number illustrates the duodenum?
  - A. 3
  - B. 1
  - C. 6
  - D. 7
4. What number illustrates the inferior vena cava?
  - A. 5
  - B. 4
  - C. 6
  - D. 7
5. Which of the following is illustrated by 4?
  - A. Left ureter
  - B. Left renal vein
  - C. Left renal artery
  - D. Hemiazygos vein





**Figure 3-17**

1. What number illustrates the abdominal aorta?

- A. 3
- B. 6
- C. 5
- D. 4

2. Which of the following is illustrated by 6?

- A. Small bowel
- B. Ascending colon
- C. Descending colon
- D. Cecum

3. What number illustrates the inferior vena cava?

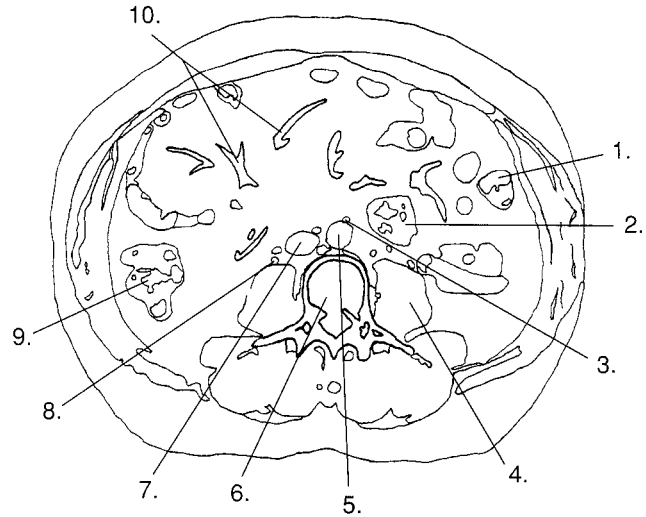
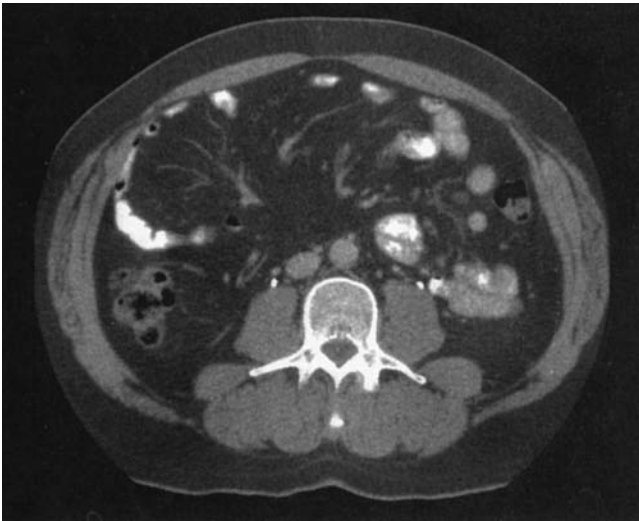
- A. 5
- B. 2
- C. 4
- D. 3

4. Which of the following is illustrated by 2?

- A. Loops of small bowel
- B. Ascending colon
- C. Cecum
- D. Descending colon

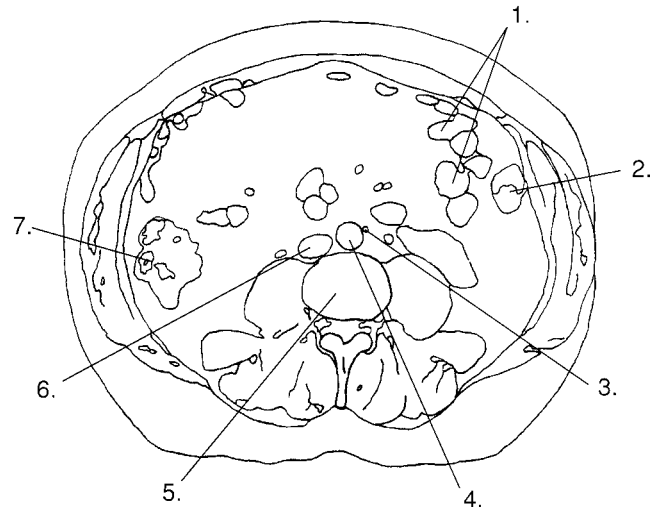
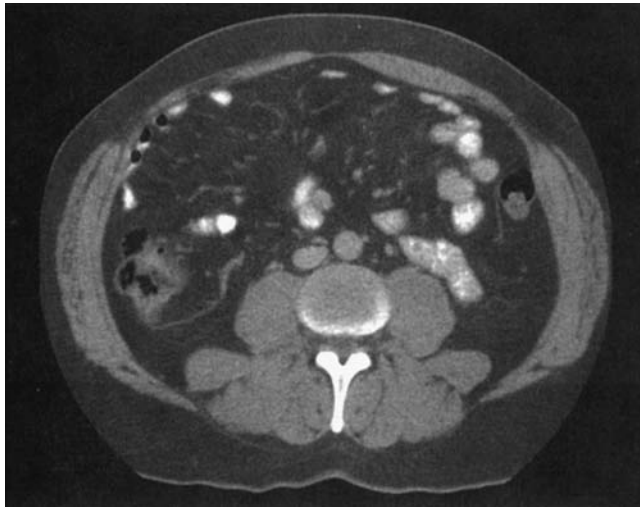
5. Which of the following is illustrated by 5?

- A. Inferior mesenteric artery
- B. Right ureter
- C. Inferior mesenteric vein
- D. Right renal artery



**Figure 3-18**

1. Which of the following is illustrated by 3?
  - A. Superior mesenteric artery
  - B. Inferior mesenteric artery
  - C. Celiac trunk
  - D. Ureter
2. Which of the following is illustrated by 1?
  - A. Ascending colon
  - B. Small bowel
  - C. Descending colon
  - D. Cecum
3. What number illustrates the ascending colon?
  - A. 10
  - B. 1
  - C. 2
  - D. 9
4. Which of the following is illustrated by 2?
  - A. Small bowel
  - B. Descending colon
  - C. Transverse colon
  - D. Ascending colon
5. What number illustrates the inferior mesenteric artery?
  - A. 7
  - B. 10
  - C. 8
  - D. 3



**Figure 3-19**

1. What number illustrates the loops of the small bowel?

- A. 1
- B. 7
- C. 2
- D. 4

2. Which of the following is illustrated by 5?

- A. Psoas muscle
- B. Vertebral body of L3
- C. Intervertebral disk
- D. Vertebral body of L4

3. Which of the following is illustrated by 7?

- A. Descending colon
- B. Ascending colon
- C. Small bowel
- D. Cecum

4. What number illustrates the abdominal aorta?

- A. 2
- B. 1
- C. 4
- D. 6

5. Which of the following is illustrated by 2?

- A. Descending colon
- B. Small bowel
- C. Ascending colon
- D. Cecum

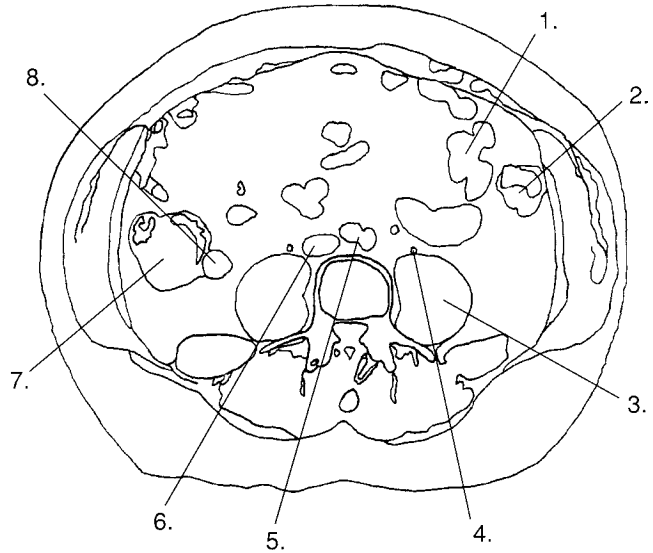
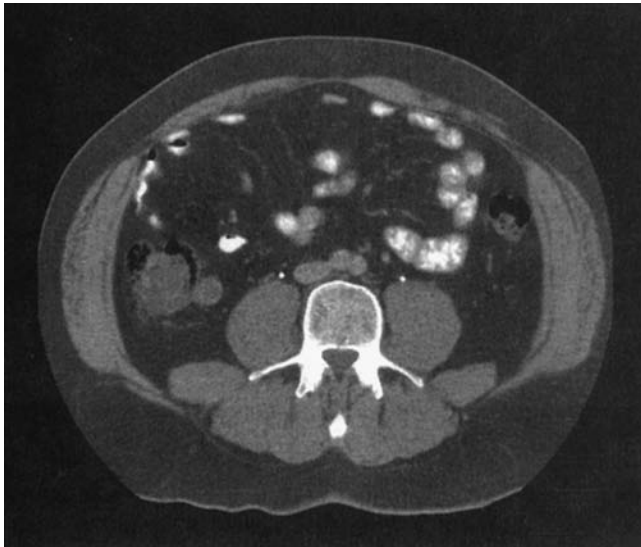


Figure 3-20

1. Which of the following is illustrated by 3?

- A. Iliacus muscle
- B. Psoas muscle
- C. Ascending colon
- D. Cecum

2. What number illustrates the common iliac arteries?

- A. 6
- B. 2
- C. 5
- D. 4

3. Which of the following is illustrated by 8?

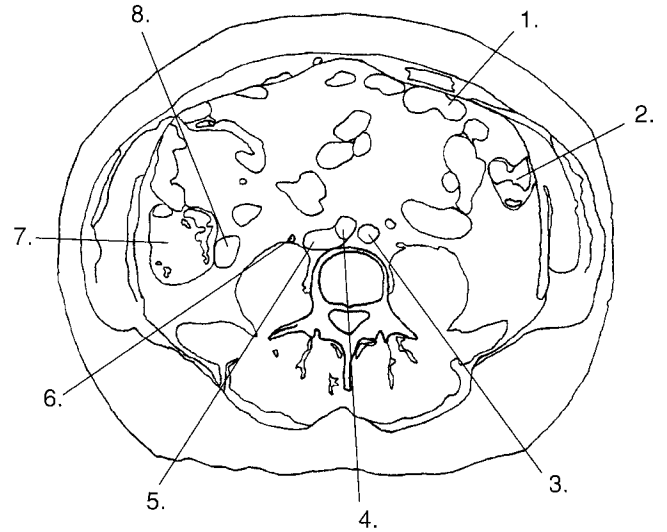
- A. Cecum
- B. Descending colon
- C. Ileum
- D. Jejunum

4. Which of the following is illustrated by 7?

- A. Descending colon
- B. Ascending colon
- C. Small bowel
- D. Cecum

5. What number illustrates the small bowel?

- A. 1
- B. 3
- C. 2
- D. 7



**Figure 3-21**

1. What number illustrates the ureter?

- A. 4
- B. 3
- C. 5
- D. 6

2. Which of the following is illustrated by 8?

- A. Right common iliac artery
- B. Cecum
- C. Ileum
- D. Jejunum

3. Which of the following is illustrated by 4?

- A. Inferior mesenteric artery
- B. Right common iliac artery
- C. Inferior mesenteric vein
- D. Inferior vena cava

4. Which of the following is illustrated by 2?

- A. Small bowel
- B. Descending colon
- C. Ascending colon
- D. Cecum

5. What number illustrates the left common iliac artery?

- A. 3
- B. 8
- C. 4
- D. 5

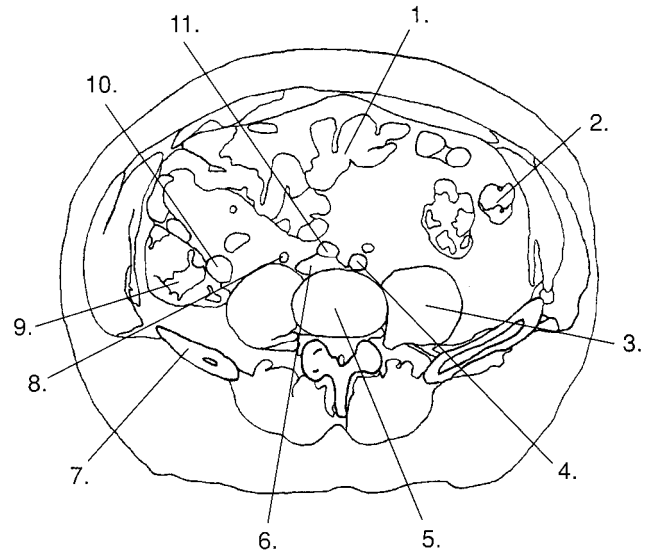
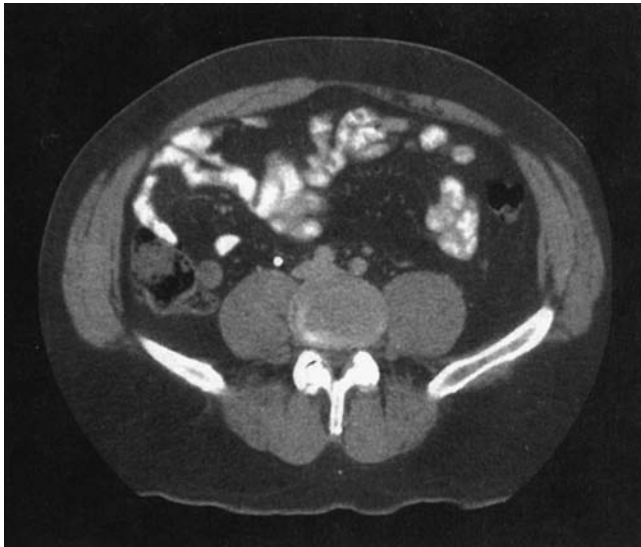


Figure 3-22

1. Which of the following is illustrated by 8?

- A. Left common iliac artery
- B. Ureter
- C. Inferior mesenteric artery
- D. Right common iliac artery

2. What number illustrates the psoas muscle?

- A. 3
- B. 10
- C. 7
- D. 5

3. What number illustrates the iliac crest?

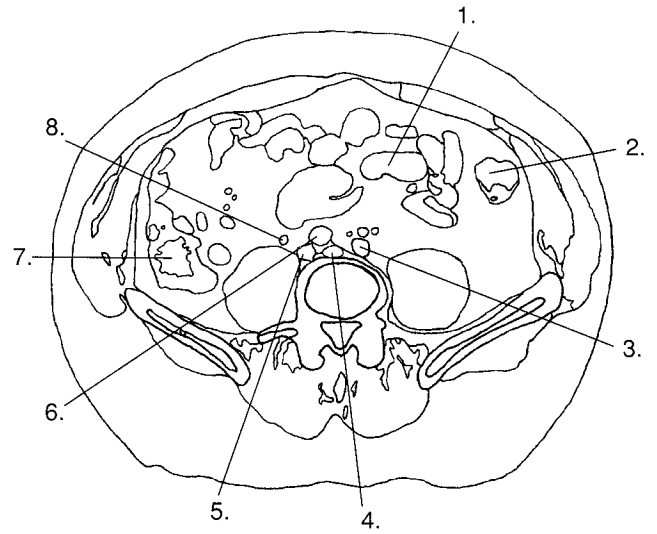
- A. 9
- B. 1
- C. 7
- D. 4

4. Which of the following is illustrated by 5?

- A. Vertebral body of L3
- B. Intervertebral disk
- C. Vertebral body of L4
- D. Sacrum

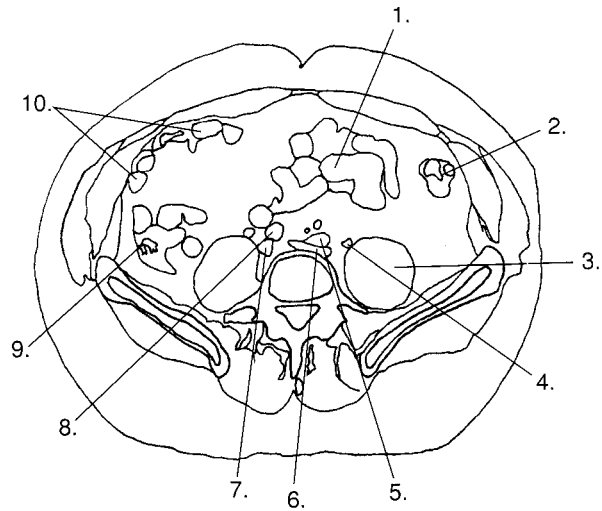
5. Which of the following is illustrated by 6?

- A. Left common iliac artery
- B. Right common iliac artery
- C. Inferior mesenteric vein
- D. Inferior vena cava



**Figure 3-23**

1. What number illustrates the small bowel?
  - A. 1
  - B. 6
  - C. 2
  - D. 7
  
2. Which of the following is illustrated by 4?
  - A. Left common iliac artery
  - B. Right common iliac vein
  - C. Left common iliac vein
  - D. Right common iliac artery
  
3. What number illustrates the right common iliac vein?
  - A. 6
  - B. 4
  - C. 5
  - D. 3
  
4. Which of the following is illustrated by 8?
  - A. Right common iliac vein
  - B. Right common iliac artery
  - C. Right ureter
  - D. Inferior mesenteric vein
  
5. Which of the following is illustrated by 2?
  - A. Cecum
  - B. Ascending colon
  - C. Loops of small bowel
  - D. Descending colon



**Figure 3-24**

1. Which of the following is illustrated by 3?

- A. Small bowel
- B. Psoas muscle
- C. Right common iliac vein
- D. Cecum

2. What number illustrates the cecum?

- A. 2
- B. 3
- C. 1
- D. 9

3. What number illustrates the ureter?

- A. 4
- B. 8
- C. 7
- D. 5

4. Which of the following is illustrated by 1?

- A. Cecum
- B. Left psoas muscle
- C. Small bowel
- D. Transverse colon

5. Which of the following is illustrated by 7?

- A. Ureter
- B. Right common iliac vein
- C. Right internal iliac vein
- D. Right common iliac artery



## CLINICAL APPLICATIONS

---

1. The boundary of the upper abdomen is formed by the \_\_\_\_\_, and the lower abdomen extends into the \_\_\_\_\_.
2. Which of the following is located most superiorly?
  - \_\_\_\_\_ A. Transverse colon
  - \_\_\_\_\_ B. Hepatic flexure
  - \_\_\_\_\_ C. Splenic flexure
  - \_\_\_\_\_ D. Jejunum
3. Which of the following is not supplied by the inferior mesenteric artery?
  - \_\_\_\_\_ A. Sigmoid colon
  - \_\_\_\_\_ B. Ascending colon
  - \_\_\_\_\_ C. Transverse colon
  - \_\_\_\_\_ D. Descending colon
4. Describe where the portal vein lies in relationship to the stomach and pancreas.
   
\_\_\_\_\_
   
\_\_\_\_\_
   
\_\_\_\_\_
5. Which of the following structures is not considered retroperitoneal?
  - \_\_\_\_\_ A. Ileum
  - \_\_\_\_\_ B. Cecum
  - \_\_\_\_\_ C. Descending colon
  - \_\_\_\_\_ D. Kidneys
6. As the superior mesenteric vessels traverse through the head of the pancreas, is the artery or vein located farther to the right?
   
\_\_\_\_\_
   
\_\_\_\_\_
   
\_\_\_\_\_
7. Describe the function and structure of the small intestine.
   
\_\_\_\_\_
   
\_\_\_\_\_
   
\_\_\_\_\_
8. The stomach can be divided into three parts from superior to inferior: \_\_\_\_\_.
9. Describe the structure and function of the mesentery.
   
\_\_\_\_\_
   
\_\_\_\_\_
   
\_\_\_\_\_
10. Which of the following would be located most anteriorly?
  - \_\_\_\_\_ A. Jejunum
  - \_\_\_\_\_ B. Spleen
  - \_\_\_\_\_ C. Transverse colon
  - \_\_\_\_\_ D. Pancreas

## CLINICAL CORRELATIONS

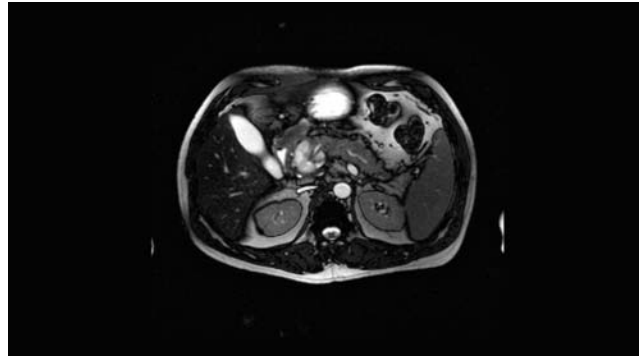
---

### ■ Clinical Case 3-1



1. If this image was generated without radiation, which of the following would best describe the procedure:  
 A. Computed tomography angiography (CTA)  
 B. Magnetic resonance angiography (MRA)  
 C. Ultrasound  
 D. Positron emission tomography/computed tomography (PET/CT)
2. In this patient, the left renal artery originates from which of the following:  
 A. Right common iliac artery  
 B. Left common iliac artery  
 C. Abdominal aorta  
 D. Ascending aorta
3. How many renal arteries can be seen within this patient?  
 A. 1  
 B. 2  
 C. 3  
 D. 4
4. Which of the patient's kidneys appears to have stronger arterial blood flow?  
 A. Right  
 B. Left
5. A narrowing of the renal arteries would best be described by which of the following:  
 A. Dilation  
 B. Stenosis  
 C. Widening  
 D. Thinning

### ■ Clinical Case 3-2



1. Describe the location of the inflammation found during magnetic resonance cholangiopancreatography of this 49-year-old male patient.

---

---

---

3. Describe the consistency, shape, and border.

---

---

---

2. Describe the changes in adjacent tissues.

---

---

---

■ **Clinical Case 3-3**



1. Describe the location of the mass found in this axial CT image of the abdomen.

---

---

---

3. Describe the consistency, shape, and border.

---

---

---

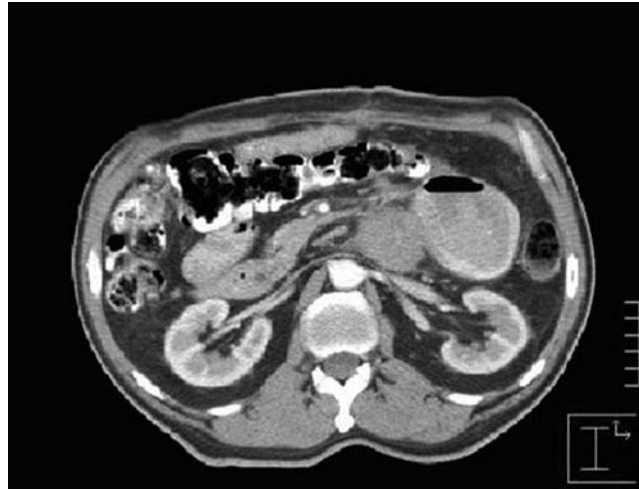
2. Describe the changes in adjacent tissues.

---

---

---

### ■ Clinical Case 3-4



1. In this axial CT image, describe the location of the mass that a biopsy determined to be adenocarcinoma of the duodenum.

---

---

---

2. Describe the changes in adjacent tissues.

---

---

---

3. Describe the consistency, shape, and border.

---

---

---

### ■ Clinical Case 3-5



1. Describe the location of the autosomal dominant polycystic kidney disease in this axial CT image.

---

---

---

3. Describe the consistency, shape, and border.

---

---

---

2. Describe the changes in adjacent tissues.

---

---

---

### ■ Clinical Case 3-6



1. Describe the location of the pancreatic adenocarcinoma in this axial CT image of the upper abdomen.

---

---

---

2. Describe the changes in adjacent tissues.

---

---

---

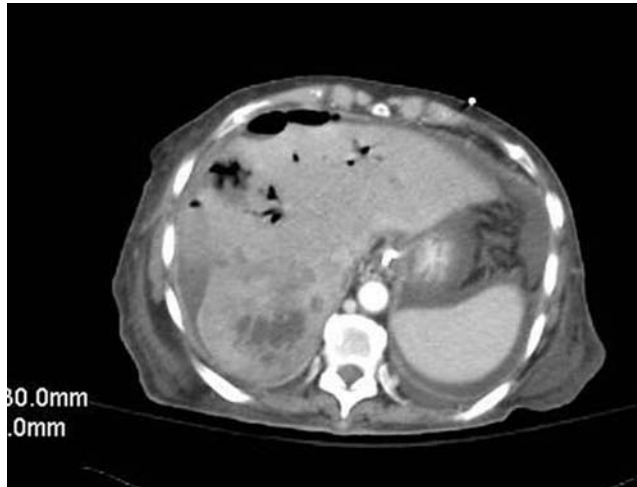
3. Describe the consistency, shape, and border.

---

---

---

### ■ Clinical Case 3-7



1. Describe the location of the liver abscess in this axial CT image of the upper abdomen.

---

---

---

3. Describe the consistency, shape, and border.

---

---

---

2. Describe the changes in adjacent tissues.

---

---

---



Chapter  
4

# Male and Female Pelvis

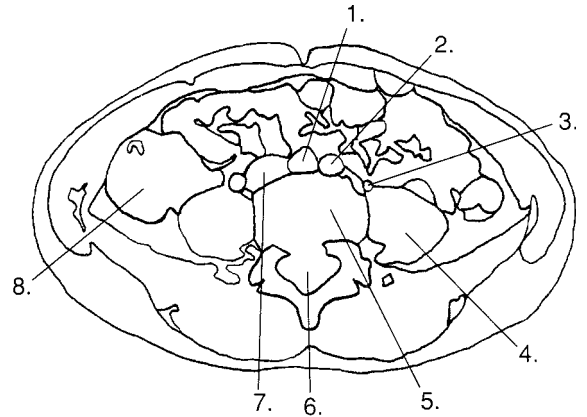
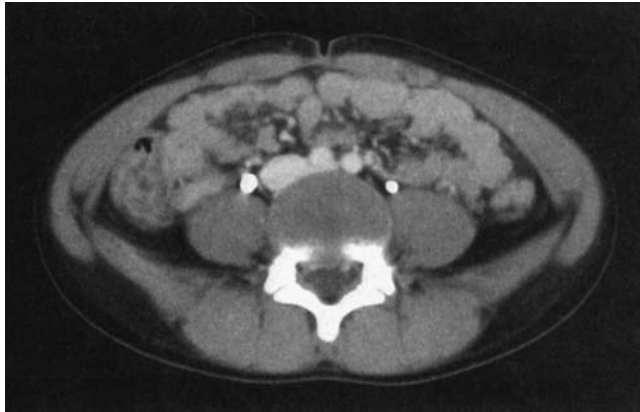


Figure 4-1

1. Which of the following is illustrated by 2?
  - A. Abdominal aorta
  - B. Inferior vena cava
  - C. Common iliac artery
  - D. Common iliac vein
2. Which of the following is illustrated by 6?
  - A. Intervertebral foramen
  - B. Vertebral foramen
  - C. Vertebral body
  - D. Intervertebral disk
3. Which number illustrates the psoas muscle?
  - A. 7
  - B. 8
  - C. 4
  - D. 1
4. Which of the following is illustrated by 7?
  - A. Common iliac vein
  - B. Common iliac artery
  - C. Abdominal aorta
  - D. Inferior vena cava
5. Which number illustrates the intervertebral disk?
  - A. 8
  - B. 5
  - C. 6
  - D. 4

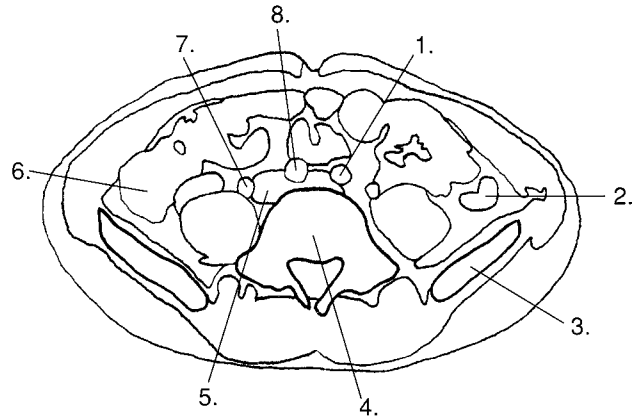


Figure 4-2

1. Which number illustrates the iliac crest?

- A. 4
- B. 2
- C. 3
- D. 1

2. Which of the following is illustrated by 8?

- A. Inferior vena cava
- B. Common iliac artery
- C. Common iliac vein
- D. Abdominal aorta

3. Which of the following is illustrated by 7?

- A. Right ureter
- B. Common iliac artery
- C. Common iliac vein
- D. Inferior mesenteric artery

4. Which number illustrates the inferior vena cava?

- A. 8
- B. 7
- C. 1
- D. 5

5. Which number illustrates the descending colon?

- A. 5
- B. 2
- C. 7
- D. 6

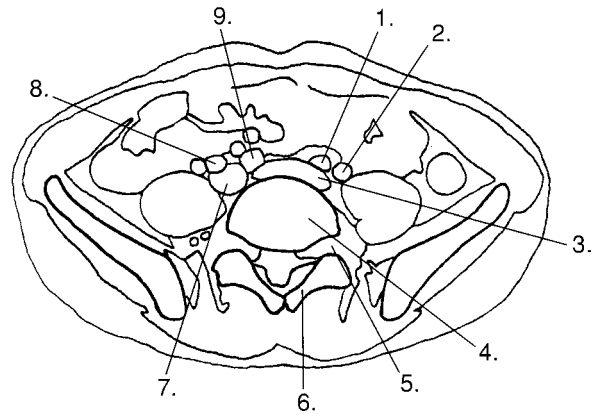
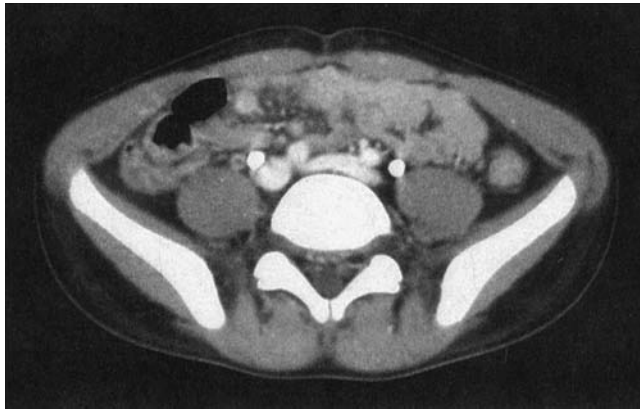


Figure 4-3

1. Which number illustrates the right common iliac artery?

- A. 7
- B. 2
- C. 1
- D. 9

2. Which of the following is illustrated by 7?

- A. Left internal iliac vein
- B. Right common iliac vein
- C. Left external iliac artery
- D. Right common iliac artery

3. Which of the following is illustrated by 3?

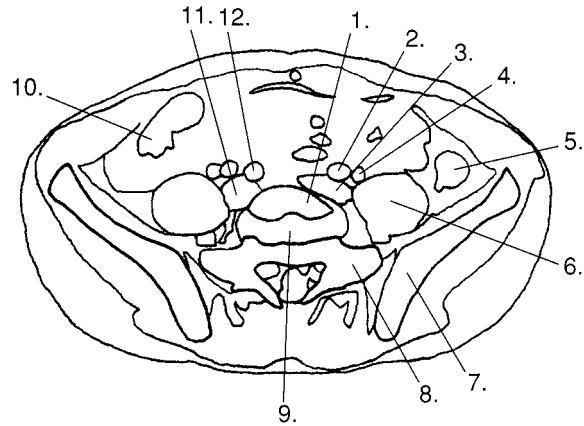
- A. Abdominal aorta
- B. Left common iliac artery
- C. Inferior vena cava
- D. Left common iliac vein

4. Which number illustrates the lamina?

- A. 1
- B. 5
- C. 2
- D. 6

5. Which of the following is illustrated by 8?

- A. External iliac artery
- B. Common iliac artery
- C. Common iliac vein
- D. Ureter



**Figure 4-4**

1. Which number illustrates the ilium?

- A. 6
- B. 5
- C. 10
- D. 7

2. Which of the following is illustrated by 1?

- A. S1
- B. L5
- C. Intervertebral disk
- D. L4

3. Which number illustrates the cecum?

- A. 11
- B. 7
- C. 10
- D. 5

4. Which of the following is illustrated by 2?

- A. Left common iliac artery
- B. Left common iliac vein
- C. Left external iliac artery
- D. Left external iliac vein

5. Which number illustrates the psoas muscle?

- A. 7
- B. 6
- C. 5
- D. 11

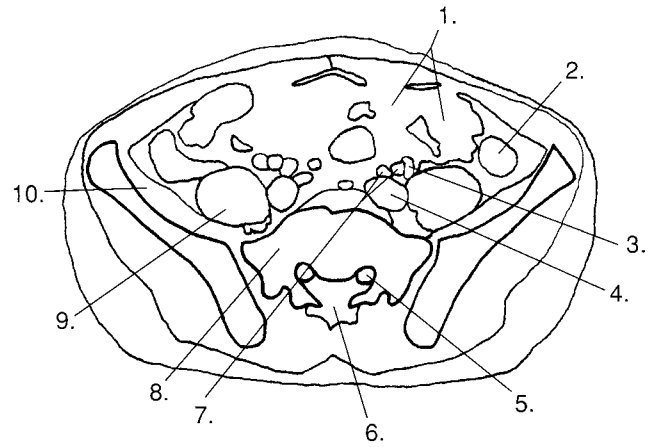


Figure 4-5

1. Which number illustrates the left common iliac vein?
  - A. 5
  - B. 7
  - C. 4
  - D. 3
2. Which of the following is illustrated by 10?
  - A. Loops of small bowel
  - B. Right ilium
  - C. Right iliacus muscle
  - D. Right psoas muscle
3. Which of the following is illustrated by 5?
  - A. Left ureter
  - B. Left vertebral foramen
  - C. Left common iliac vein
  - D. Sacral canal
4. Which number illustrates the left ureter?
  - A. 5
  - B. 3
  - C. 7
  - D. 2
5. Which number illustrates the psoas muscle?
  - A. 10
  - B. 4
  - C. 9
  - D. 6

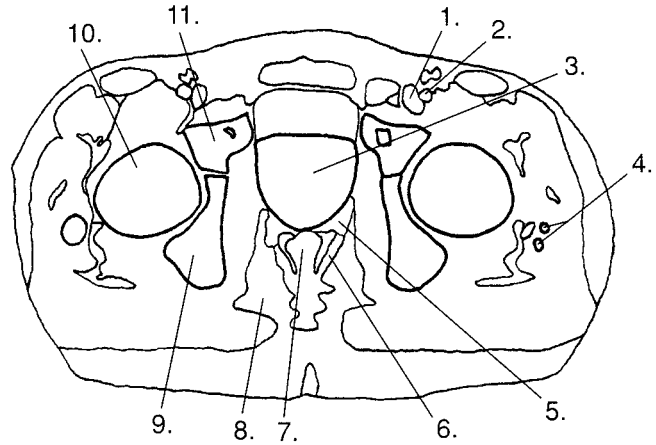


Figure 4-6

1. Which of the following is illustrated by 11?
  - A. Ileum
  - B. Cecum
  - C. Descending colon
  - D. Ascending colon
2. Which number illustrates the left internal iliac artery?
  - A. 5
  - B. 3
  - C. 4
  - D. 1
3. Which number illustrates the left external iliac artery?
  - A. 3
  - B. 4
  - C. 1
  - D. 5
4. Which of the following is illustrated by 2?
  - A. Jejunum
  - B. Ileum
  - C. Cecum
  - D. Descending colon
5. Which of the following is illustrated by 3?
  - A. Left common iliac vein
  - B. Left external iliac artery
  - C. Left internal iliac artery
  - D. Left ureter

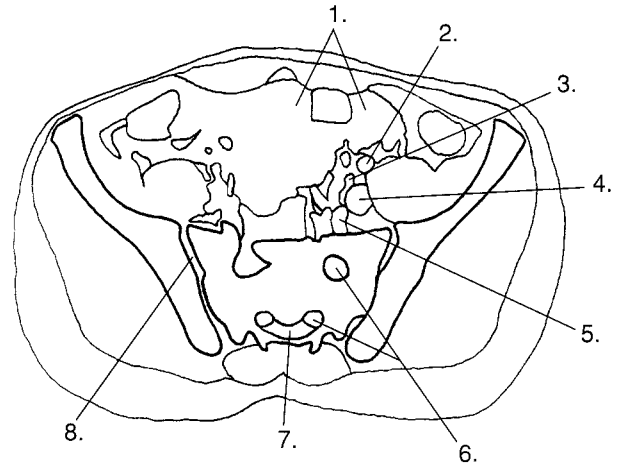


Figure 4-7

1. Which number illustrates the left common iliac vein?
  - A. 3
  - B. 2
  - C. 4
  - D. 5
  
2. Which of the following is illustrated by 7?
  - A. Left sacral foramen
  - B. Left internal iliac artery
  - C. Sacral canal
  - D. Intervertebral foramen
  
3. Which number illustrates the left sacral foramina?
  - A. 8
  - B. 7
  - C. 6
  - D. 5
  
4. Which of the following is illustrated by 5?
  - A. Left internal iliac artery
  - B. Left external iliac artery
  - C. Left common iliac vein
  - D. Left ureter
  
5. Which of the following is illustrated by 3?
  - A. Left external iliac artery
  - B. Left ureter
  - C. Left external iliac vein
  - D. Left internal iliac artery

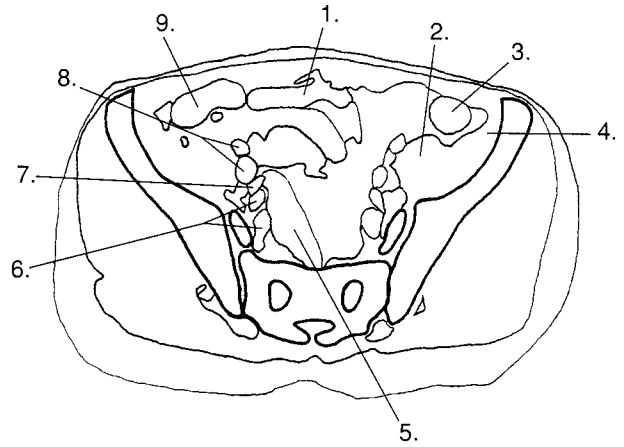


Figure 4-8

1. Which of the following is illustrated by 5?
  - A. Small bowel
  - B. Descending colon
  - C. Top of sigmoid colon
  - D. Top of bladder
2. Which number illustrates the external iliac artery and vein?
  - A. 9
  - B. 7
  - C. 8
  - D. 6
3. Which of the following is illustrated by 6?
  - A. Right common iliac artery and vein
  - B. Right external iliac artery and vein
  - C. Left external iliac artery and vein
  - D. Internal iliac artery and vein
4. Which number illustrates the iliacus muscle?
  - A. 3
  - B. 1
  - C. 2
  - D. 4
5. Which number illustrates the ureter?
  - A. 9
  - B. 8
  - C. 7
  - D. 6



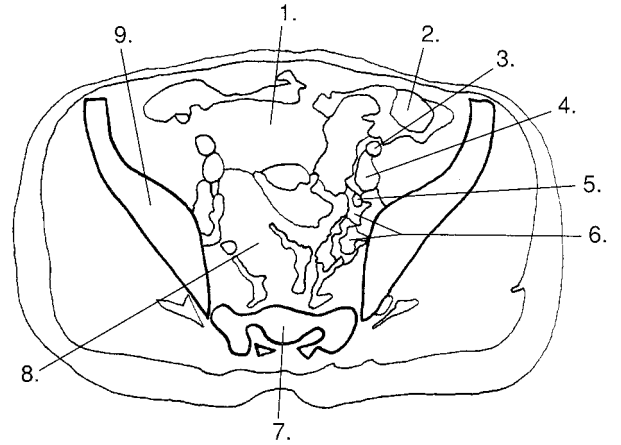
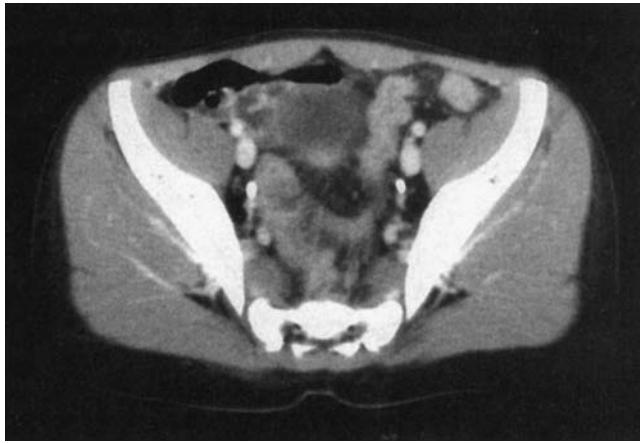


Figure 4-9

1. Which number illustrates the descending colon?

- A. 8
- B. 2
- C. 1
- D. 3

2. Which of the following is illustrated by 1?

- A. Top of sigmoid colon
- B. Top of bladder
- C. Sacrum
- D. Descending colon

3. Which of the following is illustrated by 4?

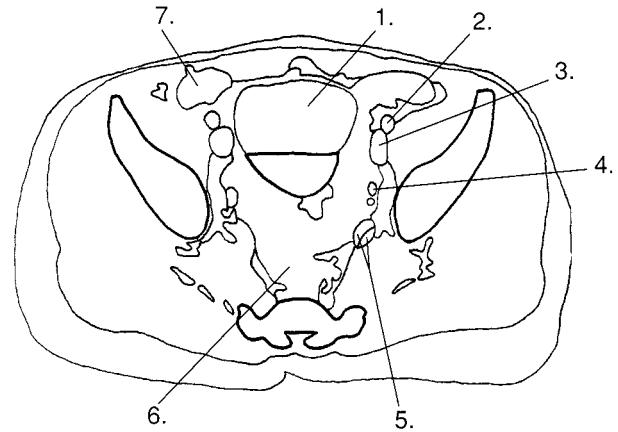
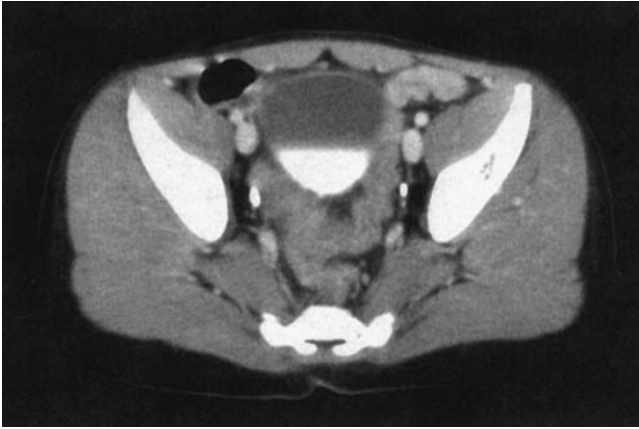
- A. Left external iliac artery
- B. Left ureter
- C. Left common iliac artery
- D. Left external iliac vein

4. Which number illustrates the left external iliac artery?

- A. 4
- B. 3
- C. 5
- D. 2

5. Which of the following is illustrated by 5?

- A. Left ureter
- B. Left external iliac artery
- C. Left common iliac artery
- D. Left external iliac vein



**Figure 4-10**

1. Which number illustrates the left external iliac artery?

- A. 2
- B. 5
- C. 4
- D. 3

2. Which of the following is illustrated by 6?

- A. Bladder
- B. Uterus
- C. Sigmoid colon
- D. Descending colon

3. Which number illustrates the left ureter?

- A. 2
- B. 5
- C. 4
- D. 3

4. Which of the following is illustrated by 1?

- A. Small bowel
- B. Bladder
- C. Sigmoid colon
- D. Descending colon

5. Which of the following is illustrated by 3?

- A. Small bowel
- B. Left ureter
- C. Left external iliac artery
- D. Left external iliac vein

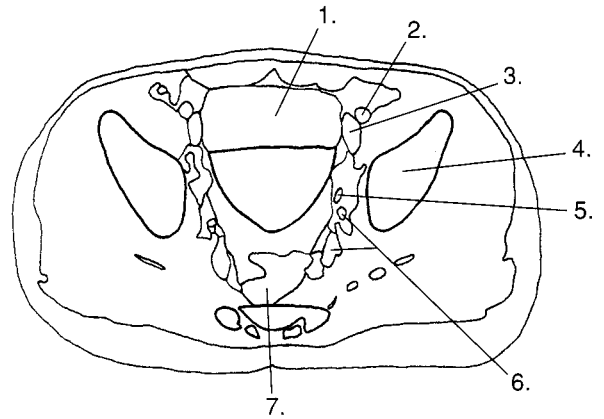
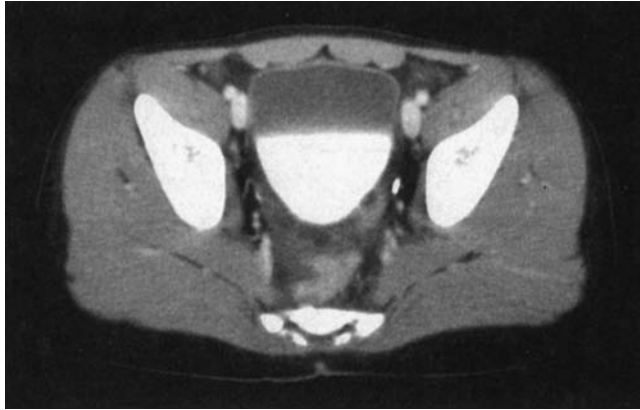


Figure 4-11

1. Which of the following is illustrated by 5?
  - A. Internal iliac vessel
  - B. External iliac vein
  - C. Ureter
  - D. External iliac artery
2. Which number illustrates the left external iliac artery?
  - A. 2
  - B. 5
  - C. 3
  - D. 6
3. Which of the following is illustrated by 7?
  - A. Rectum
  - B. Sigmoid colon
  - C. Descending colon
  - D. Seminal vesicles
4. Which of the following is illustrated by 4?
  - A. Pubic bone
  - B. Iliac bone
  - C. Ischial bone
  - D. Proximal femur
5. Which of the following is illustrated by 3?
  - A. Femoral artery
  - B. Ureter
  - C. External iliac artery
  - D. External iliac vein

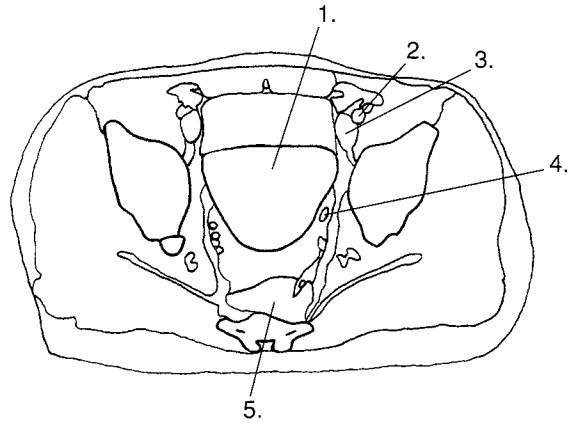
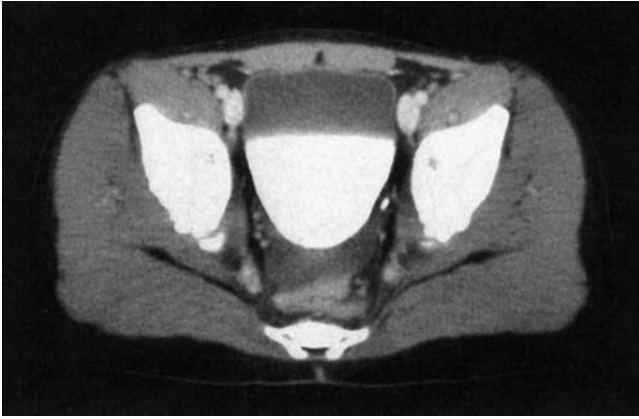
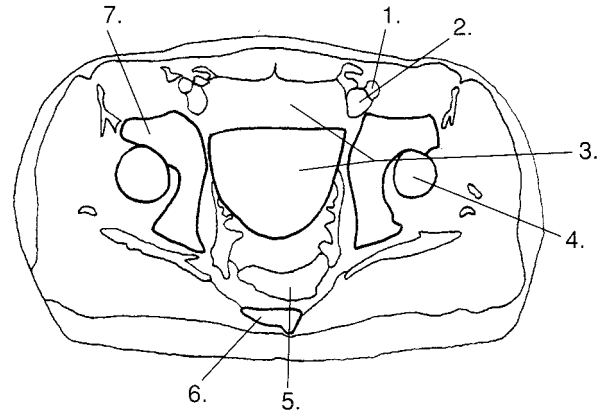
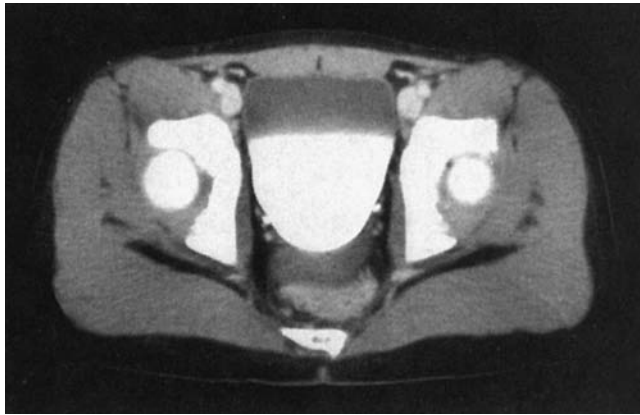


Figure 4-12

1. Which number illustrates the left external iliac vein?
  - A. 5
  - B. 3
  - C. 2
  - D. 4
  
2. Which of the following is illustrated by 5?
  - A. Rectum
  - B. Seminal vesicles
  - C. Sigmoid colon
  - D. Prostate gland
  
3. Which of the following is illustrated by 4?
  - A. Left seminal vesicle
  - B. Left ureter
  - C. Left external iliac artery
  - D. Left external iliac vein
  
4. Which number illustrates the bladder?
  - A. 1
  - B. 5
  - C. 4
  - D. 2
  
5. Which number illustrates the left external iliac artery?
  - A. 4
  - B. 2
  - C. 3
  - D. 1



**Figure 4-13**

1. Which number illustrates the tip of the sacrum?

- A. 2
- B. 5
- C. 4
- D. 6

2. Which of the following is illustrated by 1?

- A. External iliac vein
- B. External iliac artery
- C. Spermatic cord
- D. Femoral artery

3. Which of the following is illustrated by 7?

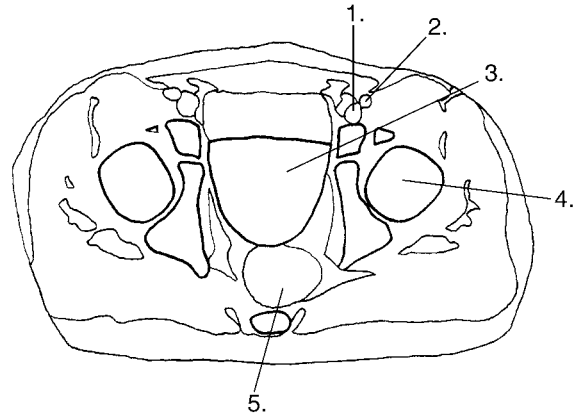
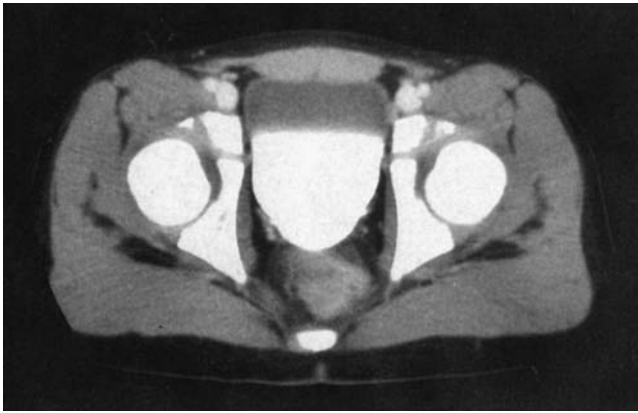
- A. Right ischium
- B. Right ilium
- C. Right pubis
- D. Greater trochanter of femur

4. Which number illustrates the head of the femur?

- A. 7
- B. 4
- C. 6
- D. 1

5. Which number illustrates the external iliac artery?

- A. 1
- B. 2
- C. 7
- D. 5



**Figure 4-14**

1. Which number illustrates the head of the femur?

- A. 3
- B. 2
- C. 1
- D. 4

2. Which of the following is illustrated by 4?

- A. Head of right femur
- B. Head of left femur
- C. Right ilium
- D. Left ilium

3. Which number illustrates the femoral artery?

- A. 3
- B. 2
- C. 4
- D. 1

4. Which of the following is illustrated by 1?

- A. Right external iliac vein
- B. Left external iliac vein
- C. Right femoral vein
- D. Left femoral vein

5. Which of the following is illustrated by 5?

- A. Seminal vesicles
- B. Sigmoid colon
- C. Rectum
- D. Bladder

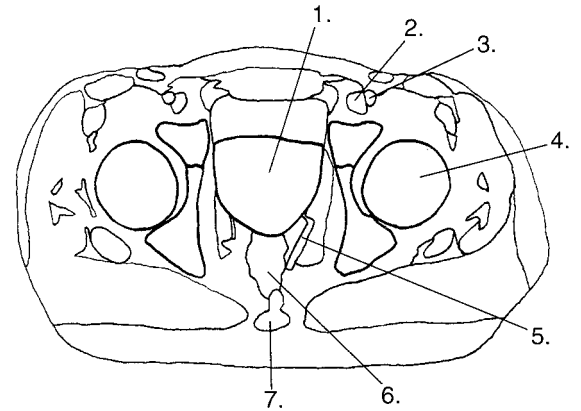
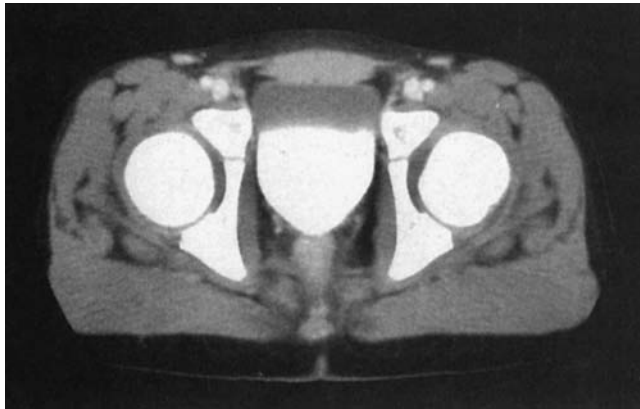


Figure 4-15

1. Which of the following is illustrated by 2?

- A. Right external iliac vein
- B. Left femoral vein
- C. Left external iliac vein
- D. Right femoral vein

2. Which number illustrates the coccyx?

- A. 5
- B. 2
- C. 1
- D. 7

3. Which number illustrates the pelvic diaphragm?

- A. 1
- B. 6
- C. 5
- D. 3

4. Which of the following is illustrated by 1?

- A. Coccyx
- B. Head of the left femur
- C. Bladder
- D. Rectum

5. Which number illustrates the rectum?

- A. 5
- B. 7
- C. 6
- D. 1

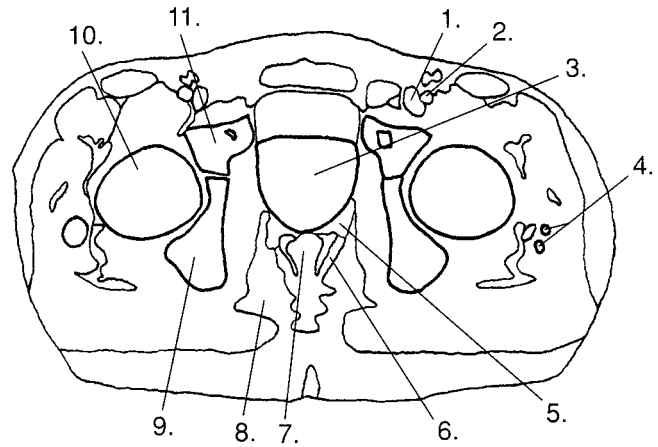
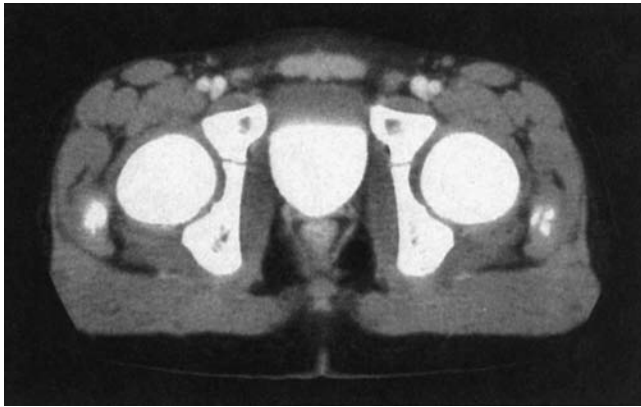
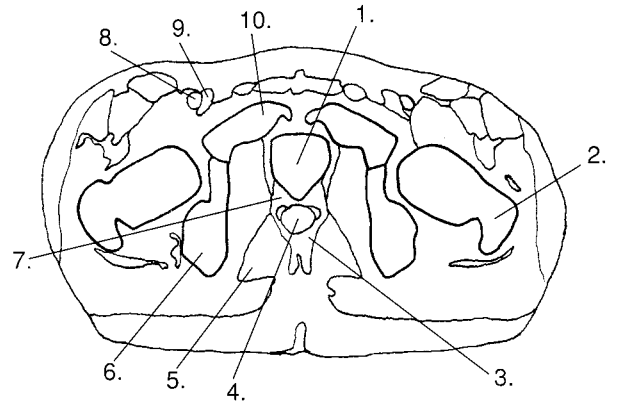
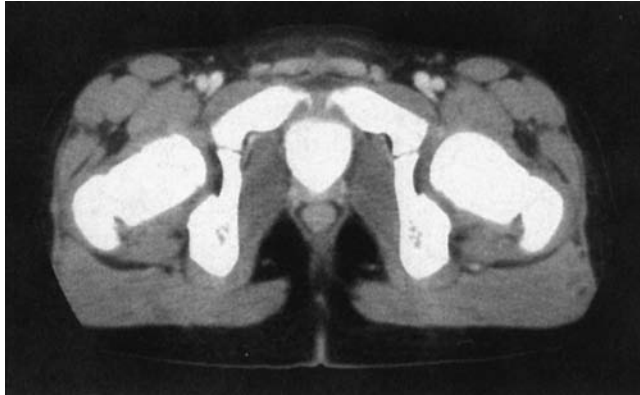


Figure 4-16

1. Which of the following is illustrated by 9?
  - A. Right pubis
  - B. Right ileum
  - C. Right ischium
  - D. Right ilium
2. Which number illustrates the pelvic diaphragm?
  - A. 5
  - B. 7
  - C. 8
  - D. 6
3. Which of the following is illustrated by 1?
  - A. Femoral vein
  - B. Femoral artery
  - C. External iliac artery
  - D. External iliac vein
4. Which number illustrates the pubis?
  - A. 10
  - B. 9
  - C. 11
  - D. 3
5. Which number illustrates the seminal vesicle?
  - A. 7
  - B. 6
  - C. 5
  - D. 8





**Figure 4-17**

1. Which number illustrates the right femoral vein?

- A. 8
- B. 6
- C. 4
- D. 9

2. Which of the following is illustrated by 7?

- A. Seminal vesicle
- B. Adnexal area
- C. Prostate
- D. Ischioanal fossa

3. Which number illustrates the bladder?

- A. 1
- B. 7
- C. 3
- D. 4

4. Which of the following is illustrated by 6?

- A. Pubis
- B. Ileum
- C. Ischium
- D. Ilium

5. Which of the following is illustrated by 4?

- A. Pelvic diaphragm
- B. Rectum
- C. Bladder
- D. Sigmoid colon

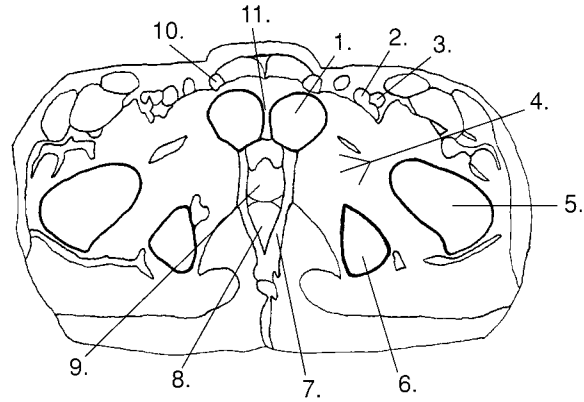
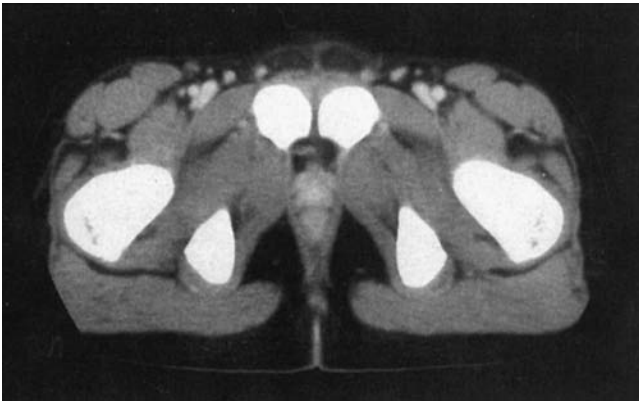


Figure 4-18

1. Which of the following is illustrated by 6?
  - A. Ischial tuberosity
  - B. Pubic bone
  - C. Ischial spine
  - D. Proximal femur
2. Which of the following is illustrated by 1?
  - A. Ilium
  - B. Pubic bone
  - C. Ischial spine
  - D. Ischial tuberosity
3. Which number illustrates the prostate?
  - A. 6
  - B. 8
  - C. 1
  - D. 9
4. Which number illustrates the femoral artery?
  - A. 10
  - B. 2
  - C. 3
  - D. 1
5. Which of the following is illustrated by 5?
  - A. Neck of the left femur
  - B. Greater trochanter of femur
  - C. Lesser trochanter of femur
  - D. Ischial bone

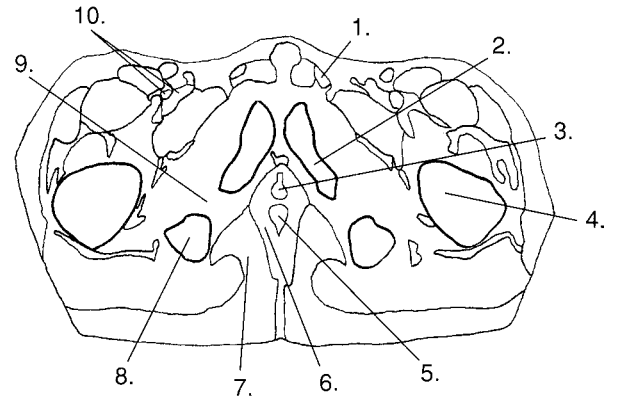
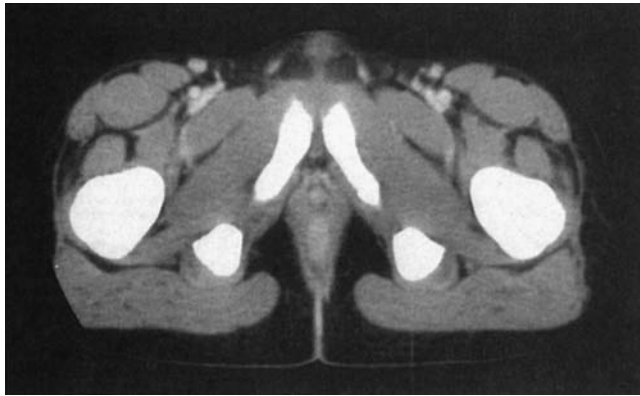


Figure 4-19

1. Which of the following is illustrated by 6?

- A. Pelvic diaphragm
- B. Obturator foramina
- C. Ischiorectal fossa
- D. Prostate

2. Which number illustrates the ischial tuberosity?

- A. 9
- B. 2
- C. 8
- D. 4

3. Which number illustrates the spermatic cord?

- A. 1
- B. 5
- C. 10
- D. 3

4. Which of the following is illustrated by 2?

- A. Superior pubic ramus
- B. Interior pubic ramus
- C. Ischial tuberosity
- D. Ischial ramus

5. Which number illustrates the prostate?

- A. 6
- B. 3
- C. 5
- D. 2

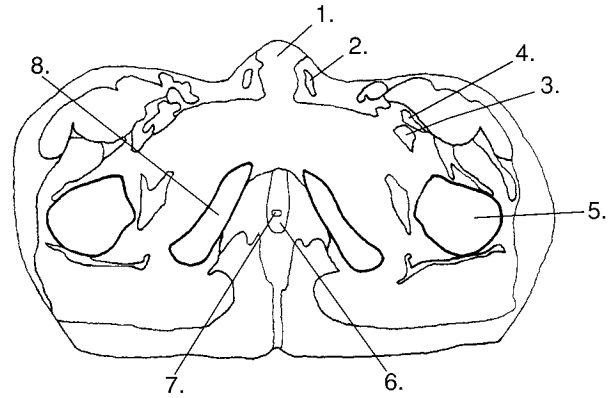
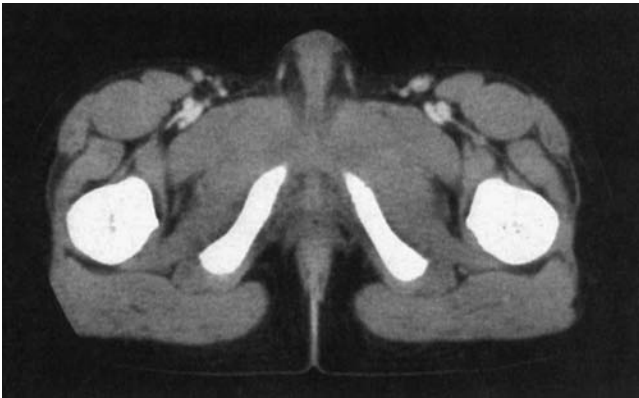


Figure 4-20

1. Which of the following is illustrated by 1?

- A. Corpus spongiosum
- B. Corpus cavernosum
- C. Urethra
- D. Symphysis pubis

2. Which number illustrates the urethra?

- A. 5
- B. 2
- C. 7
- D. 1

3. Which number illustrates the ischial ramus?

- A. 5
- B. 2
- C. 1
- D. 8

4. Which of the following is illustrated by 2?

- A. Femoral artery
- B. Femoral vein
- C. Spermatic cord
- D. Urethra

5. Which of the following is illustrated by 6?

- A. Corpus cavernosum
- B. Left spermatic cord
- C. Urethra
- D. Corpus spongiosum

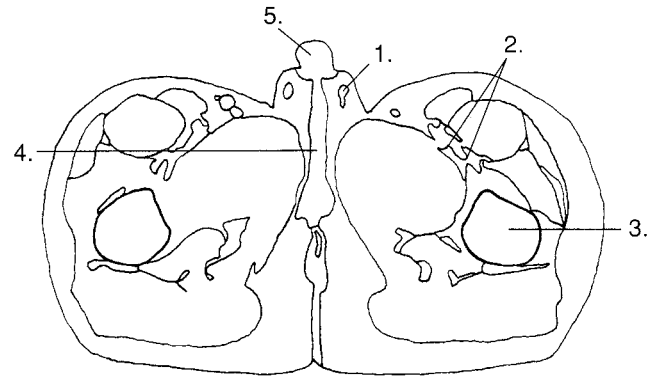
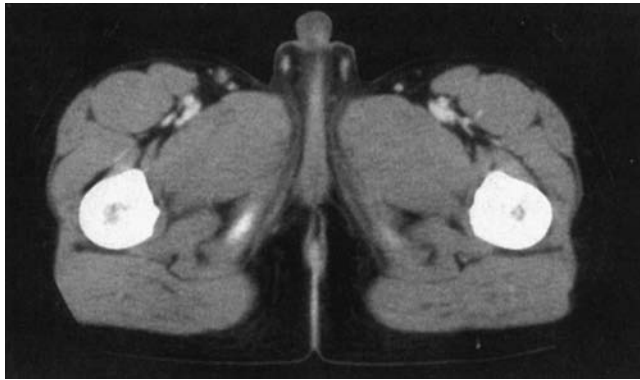


Figure 4-21

1. Which number illustrates the corpus spongiosum?

- A. 5
- B. 2
- C. 4
- D. 1

2. Which of the following is illustrated by 1?

- A. Femoral artery
- B. Spermatic cord
- C. Femoral vein
- D. External iliac artery

3. Which number illustrates the corpus cavernosum?

- A. 3
- B. 1
- C. 4
- D. 5

4. Which of the following is illustrated by 2?

- A. Femoral vessels
- B. Corpus spongiosum
- C. Spermatic cord
- D. External iliac vessels

5. Which of the following is illustrated by 3?

- A. Ischial tuberosity
- B. Head of femur
- C. Shaft of the left femur
- D. Greater trochanter of femur

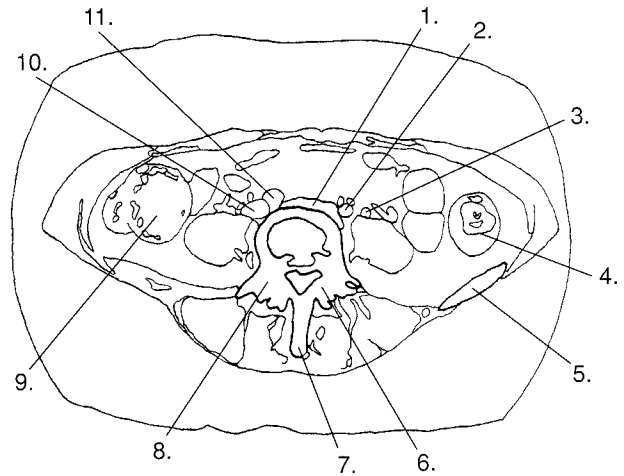
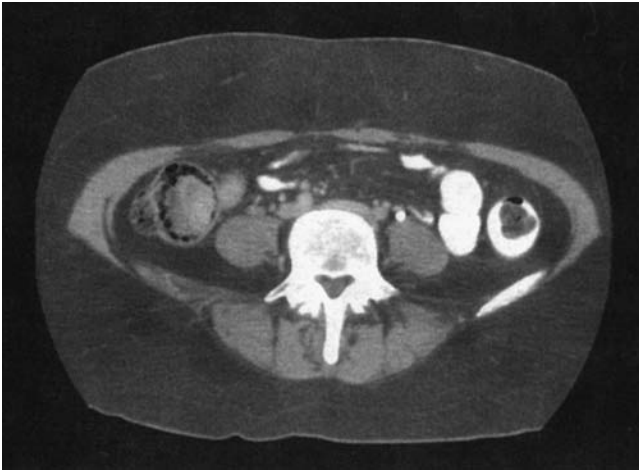


Figure 4-22

1. Which number illustrates the pedicle of L5?

- A. 8
- B. 6
- C. 7
- D. 9

2. Which of the following is illustrated by 2?

- A. Ureter
- B. Internal iliac vein
- C. Common iliac artery
- D. Common iliac vein

3. Which number illustrates the left common iliac vein?

- A. 11
- B. 2
- C. 1
- D. 3

4. Which of the following is illustrated by 6?

- A. Intervertebral foramen
- B. Lamina of L5
- C. Spinous process of L5
- D. Pedicle of L5

5. Which of the following is illustrated by 3?

- A. Common iliac vein
- B. Common iliac artery
- C. External iliac artery
- D. Ureter

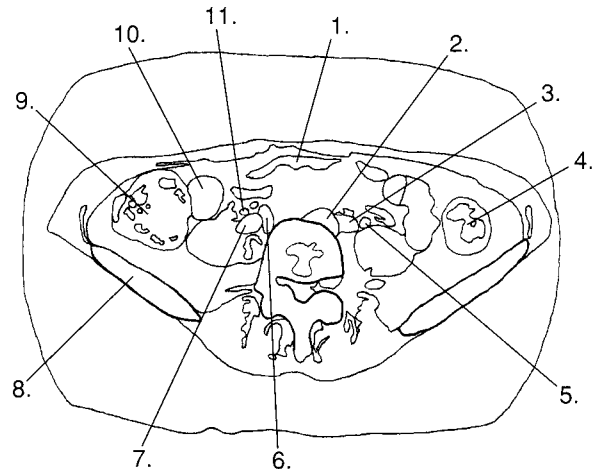
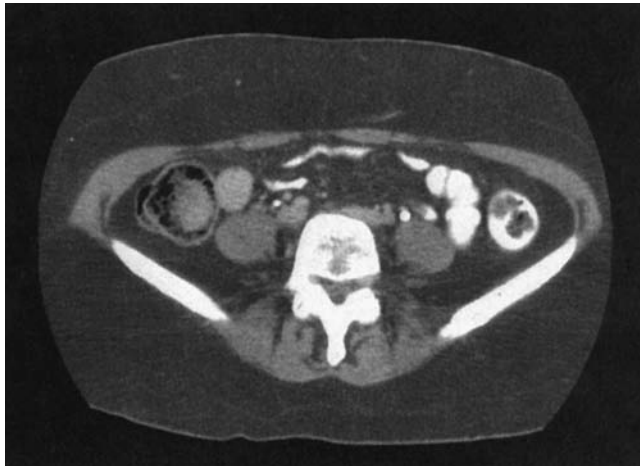


Figure 4-23

1. Which of the following is illustrated by 4?
  - A. Descending colon
  - B. Ascending colon
  - C. Ileum
  - D. Cecum
  
2. Which number illustrates the left common iliac artery?
  - A. 5
  - B. 2
  - C. 3
  - D. 6
  
3. Which of the following is illustrated by 1?
  - A. Cecum
  - B. Transverse colon
  - C. Small bowel
  - D. Sigmoid colon
  
4. Which number illustrates the right common iliac vein?
  - A. 10
  - B. 7
  - C. 11
  - D. 6
  
5. Which of the following is illustrated by 11?
  - A. Ureter
  - B. Common iliac vein
  - C. External iliac artery
  - D. Common iliac artery

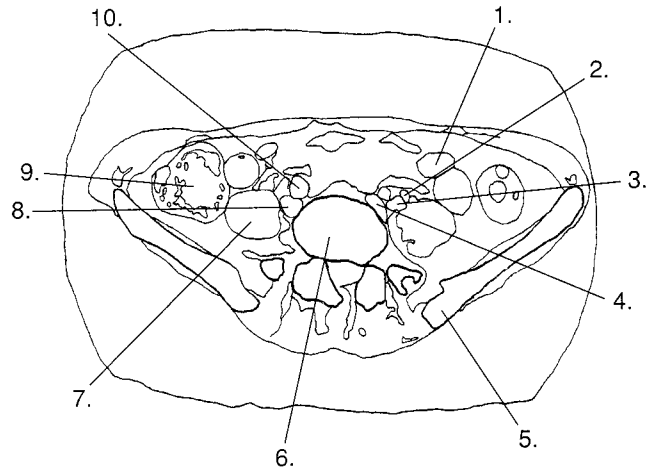


Figure 4-24

1. Which of the following is illustrated by 2?
  - A. Common iliac vein
  - B. Ureter
  - C. Common iliac artery
  - D. External iliac artery
2. Which number illustrates the right common iliac artery?
  - A. 3
  - B. 8
  - C. 2
  - D. 10
3. Which number illustrates the left common iliac artery?
  - A. 2
  - B. 3
  - C. 4
  - D. 10
4. Which number illustrates the left common iliac vein?
  - A. 3
  - B. 2
  - C. 1
  - D. 4
5. Which of the following is illustrated by 10?
  - A. Common iliac vein
  - B. Psoas muscle
  - C. Common iliac artery
  - D. Inferior mesenteric artery



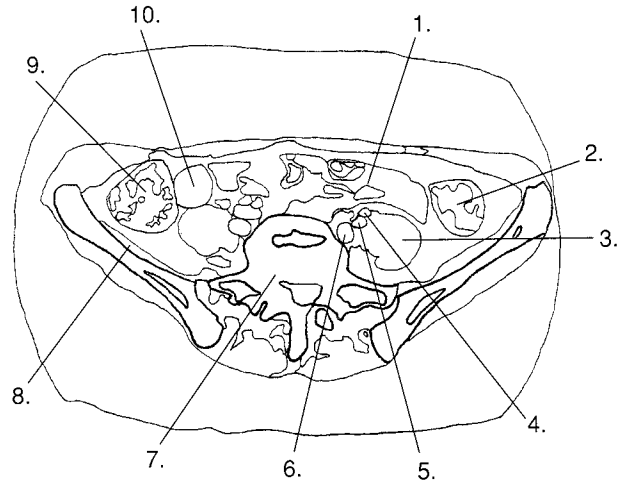


Figure 4-25

1. Which number illustrates the small bowel?

- A. 1
- B. 3
- C. 2
- D. 9

2. Which of the following is illustrated by 4?

- A. Common iliac artery
- B. Ureter
- C. Common iliac vein
- D. External iliac artery

3. Which of the following is illustrated by 8?

- A. Psoas muscle
- B. Iliacus muscle
- C. Ileum
- D. Ilium

4. Which number illustrates the common iliac artery?

- A. 6
- B. 3
- C. 5
- D. 4

5. Which number illustrates the descending colon?

- A. 2
- B. 9
- C. 10
- D. 3

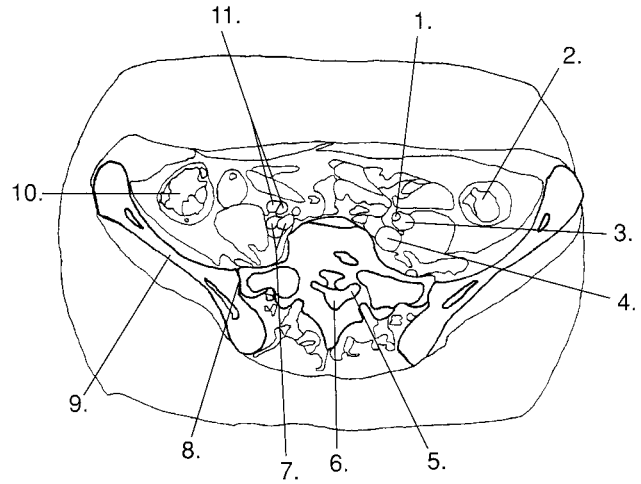


Figure 4-26

1. Which number illustrates the right sacroiliac joint?

- A. 9
- B. 5
- C. 8
- D. 6

2. Which of the following is illustrated by 4?

- A. Common iliac vein
- B. Ureter
- C. Internal iliac artery
- D. Common iliac artery

3. Which of the following is illustrated by 3?

- A. Internal iliac artery
- B. Common iliac artery
- C. Ureter
- D. External iliac vein

4. Which number illustrates the cecum?

- A. 2
- B. 9
- C. 4
- D. 10

5. Which number illustrates the descending colon?

- A. 10
- B. 6
- C. 3
- D. 2

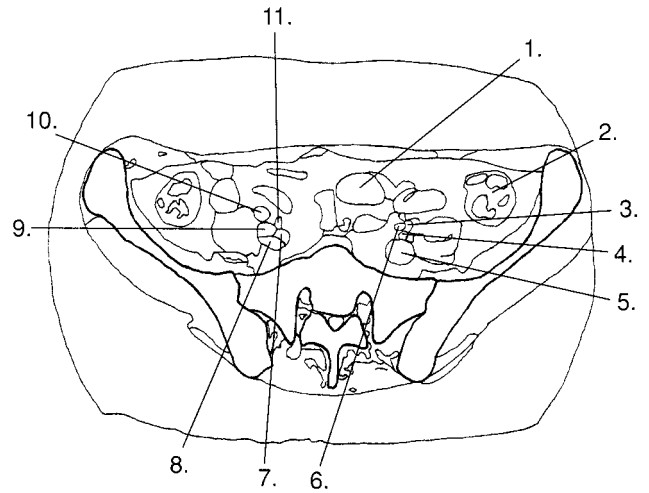


Figure 4-27

1. Which of the following is illustrated by 6?
  - \_\_\_ A. External iliac artery
  - \_\_\_ B. Internal iliac artery
  - \_\_\_ C. Internal iliac vein
  - \_\_\_ D. Ureter
2. Which number illustrates the right external iliac artery?
  - \_\_\_ A. 11
  - \_\_\_ B. 8
  - \_\_\_ C. 10
  - \_\_\_ D. 7
3. Which of the following illustrates the right internal iliac vein?
  - \_\_\_ A. 9
  - \_\_\_ B. 8
  - \_\_\_ C. 7
  - \_\_\_ D. 10
4. Which number illustrates the left common iliac vein?
  - \_\_\_ A. 6
  - \_\_\_ B. 4
  - \_\_\_ C. 5
  - \_\_\_ D. 3
5. Which of the following illustrates the left external iliac artery?
  - \_\_\_ A. 5
  - \_\_\_ B. 4
  - \_\_\_ C. 3
  - \_\_\_ D. 6

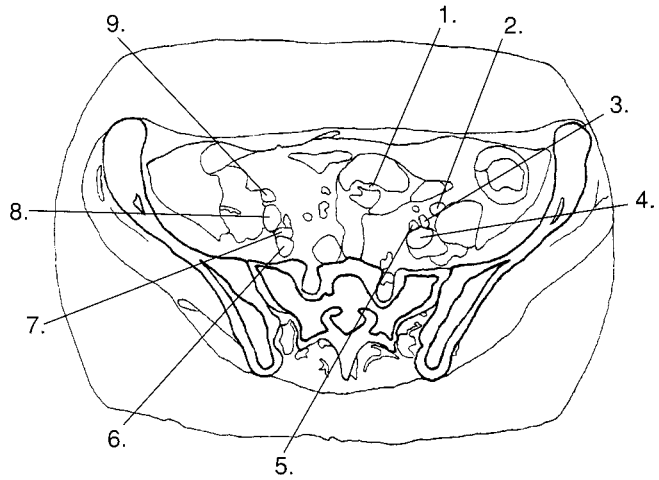
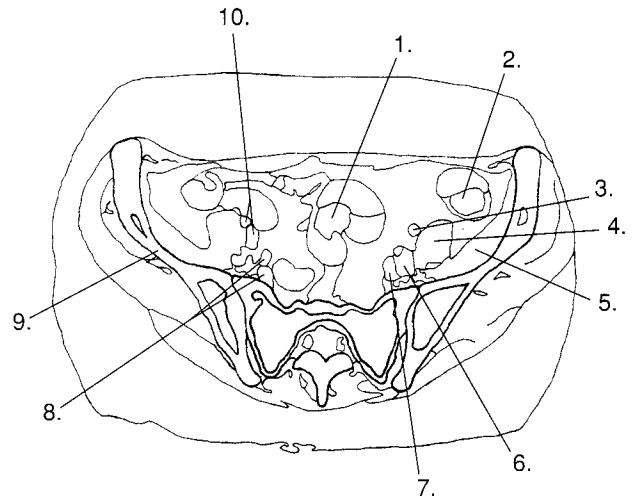


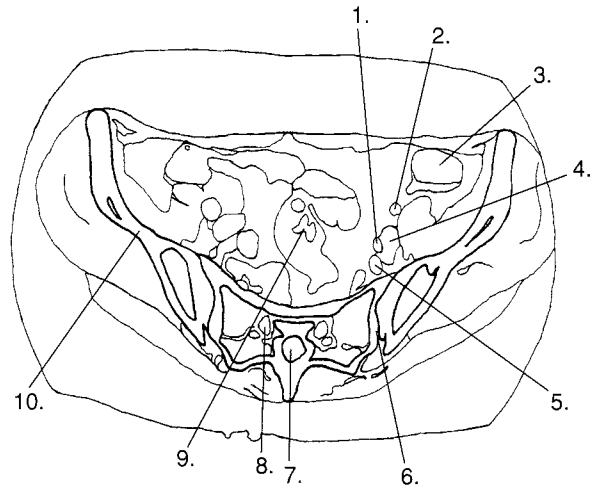
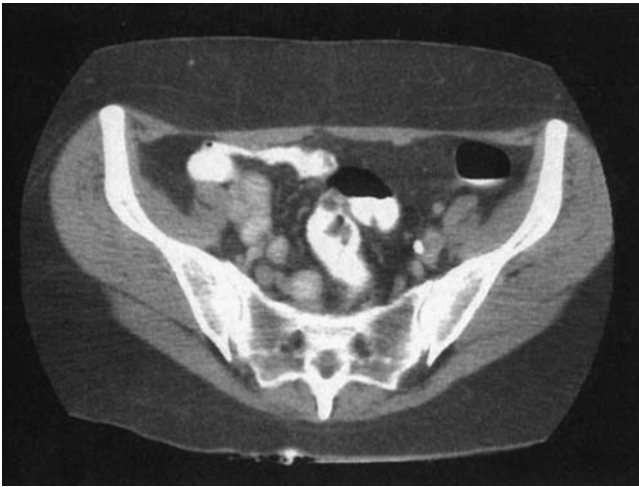
Figure 4-28

1. Which of the following is illustrated by 8?
  - A. External iliac vein
  - B. Internal iliac vein
  - C. External iliac artery
  - D. Internal iliac artery
2. Which number illustrates the external iliac artery?
  - A. 2
  - B. 4
  - C. 3
  - D. 5
3. Which of the following is illustrated by 5?
  - A. Common iliac vein
  - B. Ureter
  - C. Internal iliac artery
  - D. External iliac artery
4. Which number illustrates the internal iliac artery?
  - A. 8
  - B. 7
  - C. 6
  - D. 9
5. Which of the following is illustrated by 3?
  - A. Ureter
  - B. External iliac artery
  - C. Common iliac vein
  - D. Internal iliac artery



**Figure 4-29**

1. Which of the following is illustrated by 2?
  - A. Descending colon
  - B. Sigmoid colon
  - C. Left psoas muscle
  - D. Ascending colon
2. Which number illustrates the left internal iliac artery?
  - A. 6
  - B. 3
  - C. 4
  - D. 7
3. Which number illustrates the iliacus muscle?
  - A. 4
  - B. 2
  - C. 5
  - D. 6
4. Which of the following is illustrated by 4?
  - A. Small bowel
  - B. Psoas muscle
  - C. Internal iliac vein
  - D. Sigmoid colon
5. Which of the following is illustrated by 6?
  - A. External iliac artery
  - B. Internal iliac artery
  - C. Internal iliac vein
  - D. Common iliac vein



**Figure 4-30**

1. Which of the following is illustrated by 4?

- A. External iliac artery
- B. Common iliac vein
- C. Ureter
- D. Internal iliac artery

2. Which number illustrates the sigmoid colon?

- A. 6
- B. 5
- C. 8
- D. 9

3. Which of the following is illustrated by 5?

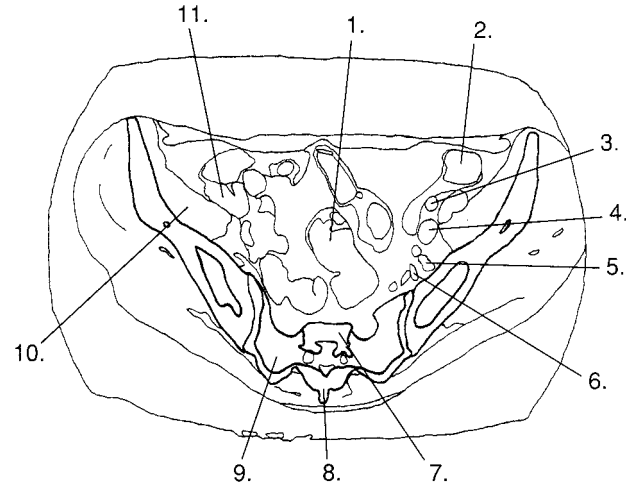
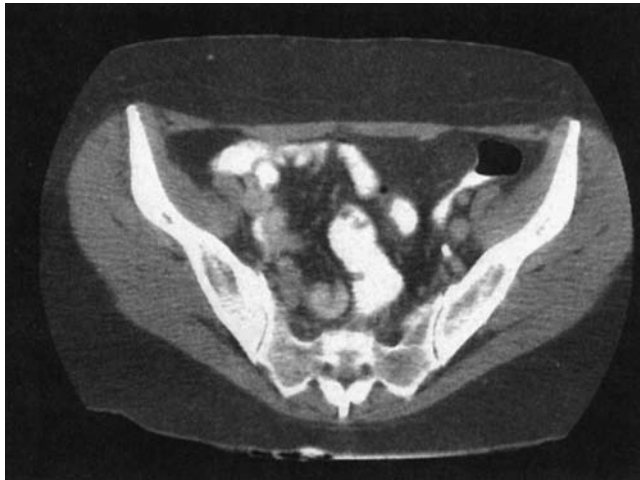
- A. Internal iliac artery
- B. Ureter
- C. Common iliac vein
- D. External iliac artery

4. Which number illustrates the sacral canal?

- A. 7
- B. 9
- C. 8
- D. 10

5. Which number illustrates the sacral foramen?

- A. 10
- B. 7
- C. 8
- D. 6



**Figure 4-31**

1. Which of the following is illustrated by 9?

- A. Lateral part of the sacrum
- B. Spinous process
- C. Vertebral body
- D. Sigmoid colon

2. Which number illustrates the psoas muscle?

- A. 10
- B. 9
- C. 1
- D. 11

3. Which of the following is illustrated by 5?

- A. External iliac artery
- B. Internal iliac vein
- C. External iliac vein
- D. Internal iliac artery

4. Which number illustrates the spinous process?

- A. 9
- B. 8
- C. 7
- D. 11

5. Which of the following illustrates the iliacus muscle?

- A. 11
- B. 9
- C. 10
- D. 8

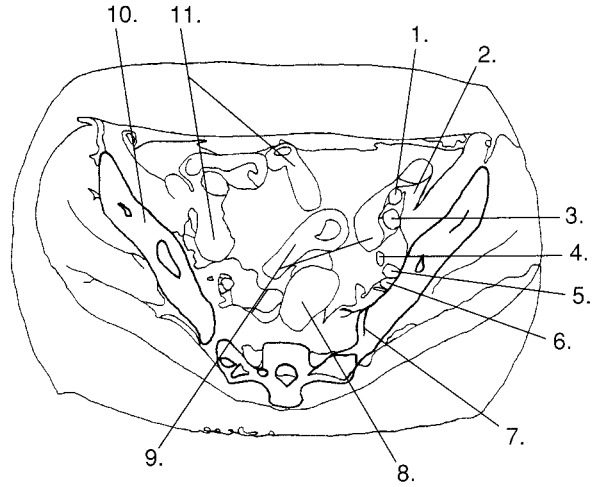


Figure 4-32

1. Which of the following is illustrated by 8?
  - A. Ileum
  - B. Rectum
  - C. Sigmoid colon
  - D. Uterus
2. Which number illustrates the left internal iliac artery?
  - A. 5
  - B. 6
  - C. 3
  - D. 1
3. Which of the following is illustrated by 4?
  - A. Internal iliac vein
  - B. Internal iliac artery
  - C. External iliac vein
  - D. Ureter
4. Which number illustrates the sigmoid colon?
  - A. 8
  - B. 7
  - C. 9
  - D. 11
5. Which of the following is illustrated by 1?
  - A. External iliac artery
  - B. Internal iliac vein
  - C. Internal iliac artery
  - D. External iliac vein



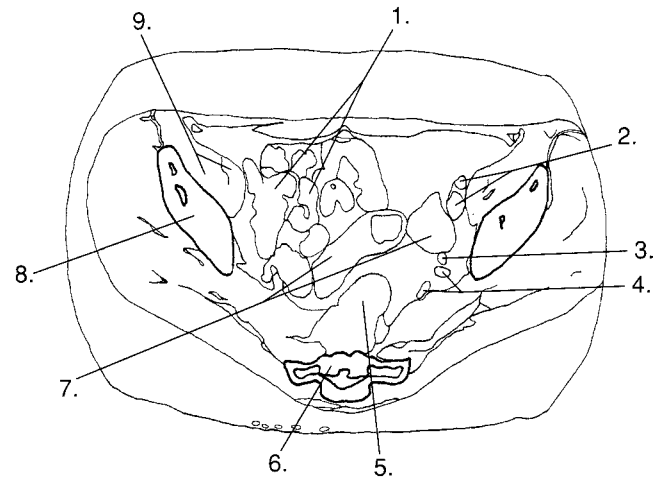
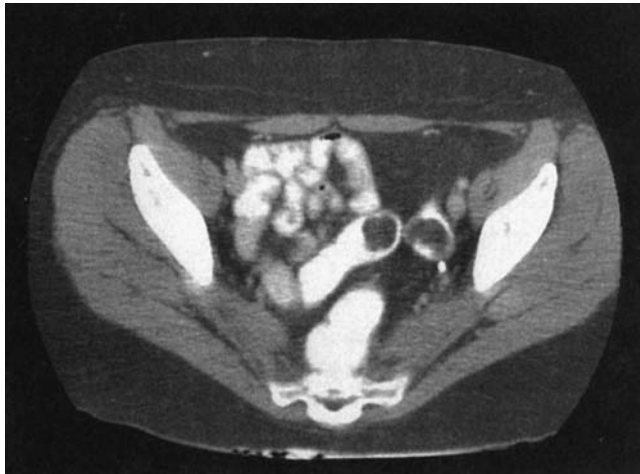


Figure 4-33

1. Which of the following is illustrated by 9?

- A. Loops of the ileum
- B. Iliac muscle
- C. Iliopsoas muscle
- D. Psoas muscle

2. Which number illustrates the rectum?

- A. 5
- B. 9
- C. 1
- D. 7

3. Which of the following is illustrated by 6?

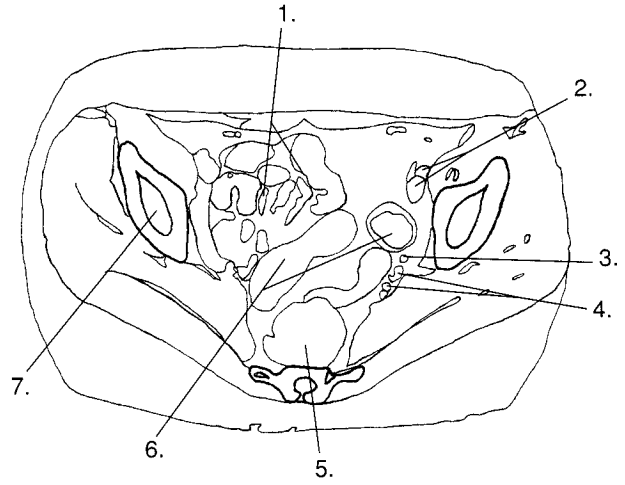
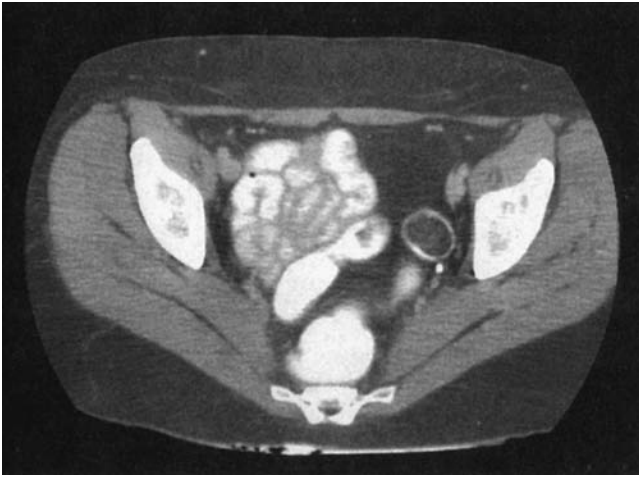
- A. Ilium
- B. Ischium
- C. Coccyx
- D. Sacrum

4. Which of the following is illustrated by 7?

- A. Descending colon
- B. Rectum
- C. Loops of the ileum
- D. Sigmoid colon

5. Which number illustrates the ilium?

- A. 5
- B. 1
- C. 8
- D. 9



**Figure 4-34**

1. Which of the following is illustrated by 2?

- A. Femoral artery and vein
- B. External iliac artery and vein
- C. Gluteal artery and vein
- D. Internal iliac artery and vein

2. Which number illustrates the sigmoid colon?

- A. 4
- B. 1
- C. 5
- D. 6

3. Which number illustrates the left internal iliac artery and vein?

- A. 2
- B. 4
- C. 3
- D. 6

4. Which of the following is illustrated by 1?

- A. Sigmoid colon
- B. Top of bladder
- C. Loops of ileum
- D. Loops of ilium

5. Which number illustrates the rectum?

- A. 7
- B. 5
- C. 6
- D. 3

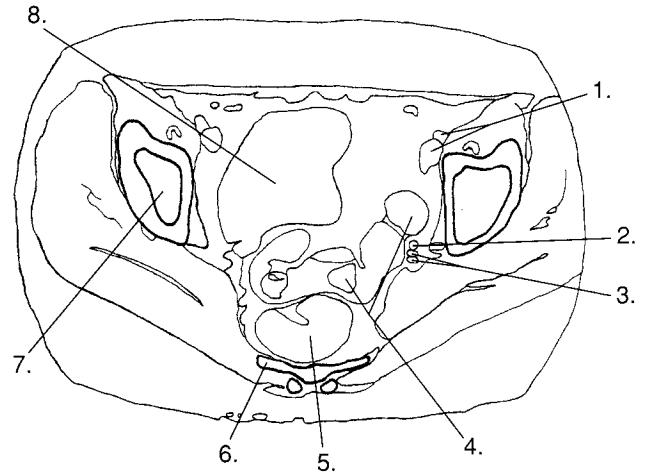
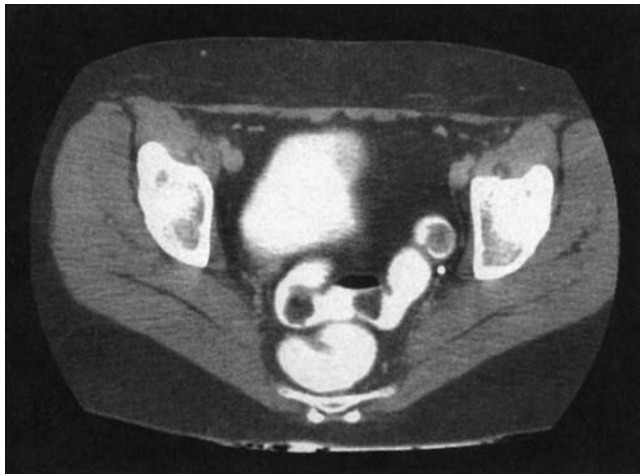


Figure 4-35

1. Which of the following is illustrated by 7?

- A. Ischium
- B. Pubis
- C. Ilium
- D. Ileum

2. Which of the following is illustrated by 4?

- A. Small bowel
- B. Sigmoid colon
- C. Descending colon
- D. Rectum

3. Which number illustrates the rectum?

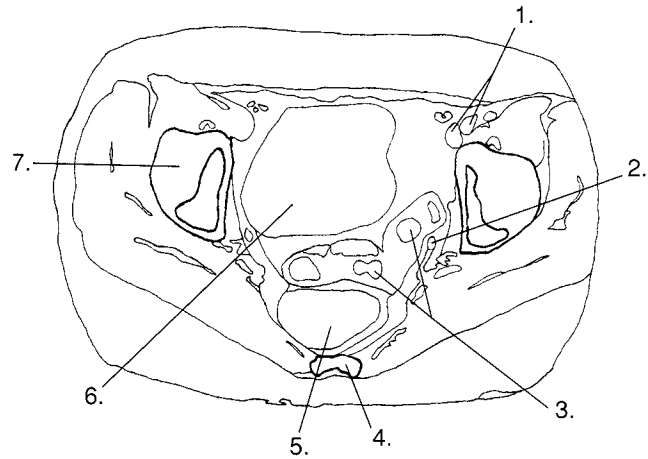
- A. 6
- B. 5
- C. 4
- D. 8

4. Which of the following illustrates the bladder?

- A. 5
- B. 4
- C. 7
- D. 8

5. Which of the following is illustrated by 3?

- A. Gluteal artery and vein
- B. Common iliac artery and vein
- C. External iliac artery and vein
- D. Internal iliac artery and vein



**Figure 4-36**

1. Which of the following is illustrated by 7?

- A. Ileum
- B. Ilium
- C. Ischium
- D. Pubis

2. Which of the following is illustrated by 2?

- A. External iliac artery
- B. Internal iliac artery
- C. Ureter
- D. Internal iliac vein

3. Which of the following is illustrated by 3?

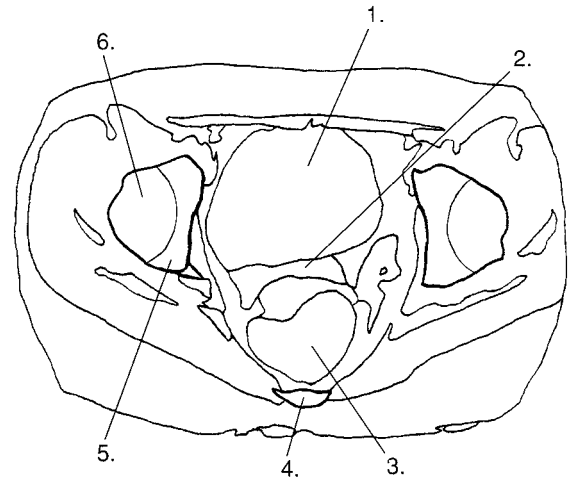
- A. Sigmoid colon
- B. Rectum
- C. Small bowel
- D. Descending colon

4. Which number illustrates the rectum?

- A. 2
- B. 6
- C. 5
- D. 3

5. Which number illustrates the bladder?

- A. 5
- B. 6
- C. 3
- D. 2



**Figure 4-37**

1. Which of the following is illustrated by 2?
  - A. Cervix of uterus
  - B. Vagina
  - C. Adnexal area
  - D. Fundus of uterus
2. Which of the following is illustrated by 4?
  - A. Sacrum
  - B. Coccyx
  - C. Ischium
  - D. Pubis
3. Which of the following is illustrated by 5?
  - A. Ilium
  - B. Ischium
  - C. Pubis
  - D. Femur
4. Which of the following is illustrated by 3?
  - A. Sigmoid colon
  - B. Rectum
  - C. Vagina
  - D. Cervix of uterus
5. Which of the following is illustrated by 6?
  - A. Shaft of femur
  - B. Ilium
  - C. Neck of femur
  - D. Head of femur

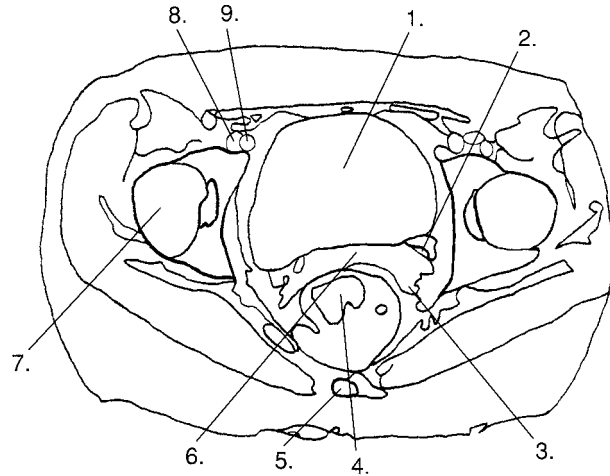
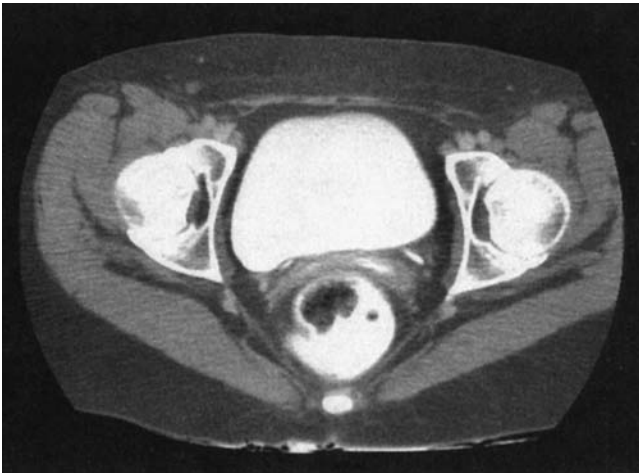


Figure 4-38

1. Which of the following is illustrated by 3?

- A. Adnexal area
- B. Pelvic diaphragm
- C. Body of uterus
- D. Seminal vesicle

2. Which number illustrates the femoral artery?

- A. 2
- B. 9
- C. 8
- D. 5

3. Which number illustrates the femoral vein?

- A. 3
- B. 8
- C. 9
- D. 7

4. Which of the following is illustrated by 2?

- A. Internal iliac artery
- B. Ureter
- C. Femoral nerve
- D. Internal iliac vein

5. Which of the following is illustrated by 5?

- A. Ilium
- B. Ischium
- C. Sacrum
- D. Coccyx

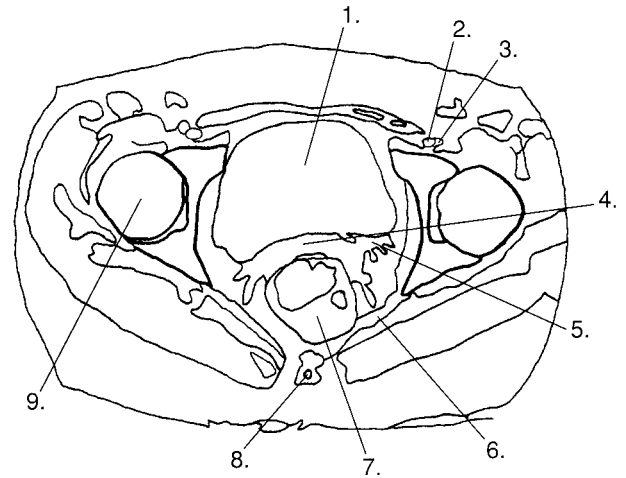
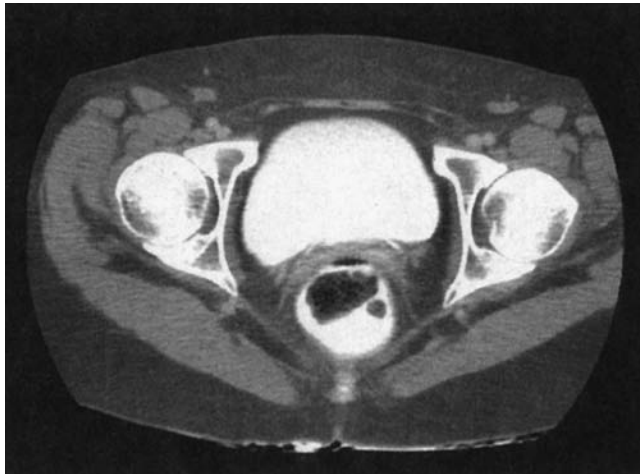


Figure 4-39

1. Which number illustrates the femoral vein?

- A. 8
- B. 2
- C. 3
- D. 9

2. Which of the following is illustrated by 7?

- A. Left adnexal area
- B. Body of the uterus
- C. Bladder
- D. Rectum

3. Which of the following is illustrated by 3?

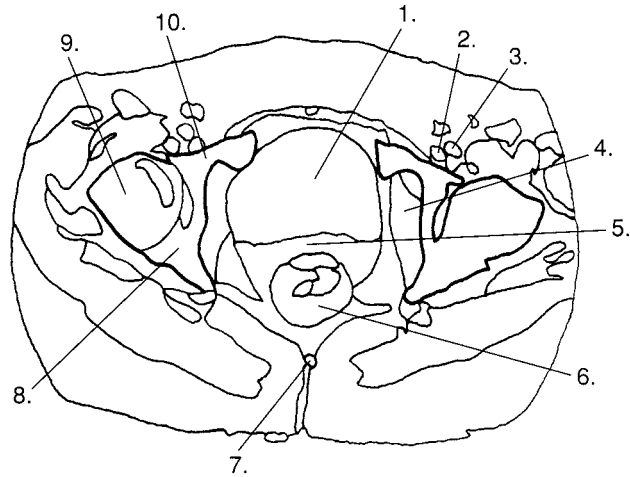
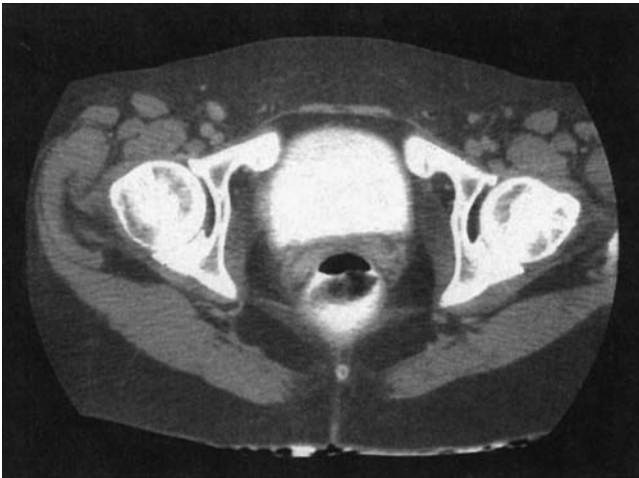
- A. Femoral vein
- B. Femoral artery
- C. External iliac artery
- D. External iliac vein

4. Which number illustrates the pelvic diaphragm?

- A. 4
- B. 7
- C. 6
- D. 5

5. Which of the following is illustrated by 5?

- A. Adnexal area
- B. Body of uterus
- C. Pelvic diaphragm
- D. Ureter



**Figure 4-40**

1. Which of the following is illustrated by 4?

- A. Left adnexal area
- B. Body of uterus
- C. Pelvic diaphragm
- D. Obturator foramen

2. Which number illustrates the pubis?

- A. 5
- B. 9
- C. 8
- D. 10

3. Which of the following is illustrated by 9?

- A. Right pubis
- B. Head of right femur
- C. Right ischium
- D. Greater trochanter of femur

4. Which of the following is illustrated by 7?

- A. Coccyx
- B. Sacrum
- C. Ischium
- D. Pubis

5. Which number illustrates the ischium?

- A. 4
- B. 9
- C. 8
- D. 5



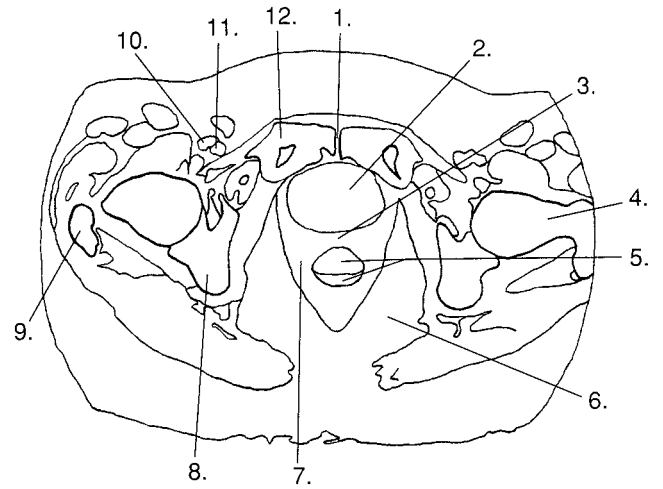


Figure 4-41

1. Which number illustrates the pubis?

- A. 9
- B. 8
- C. 1
- D. 12

2. Which of the following is illustrated by 1?

- A. Right pubis
- B. Left ischiorectal fossa
- C. Symphysis pubis
- D. Obturator foramen

3. Which number illustrates the pelvic diaphragm?

- A. 1
- B. 6
- C. 3
- D. 7

4. Which of the following is illustrated by 3?

- A. Cervix of uterus
- B. Body of uterus
- C. Pelvic diaphragm
- D. Left ischiorectal fossa

5. Which number illustrates the ischiorectal fossa?

- A. 4
- B. 8
- C. 7
- D. 6

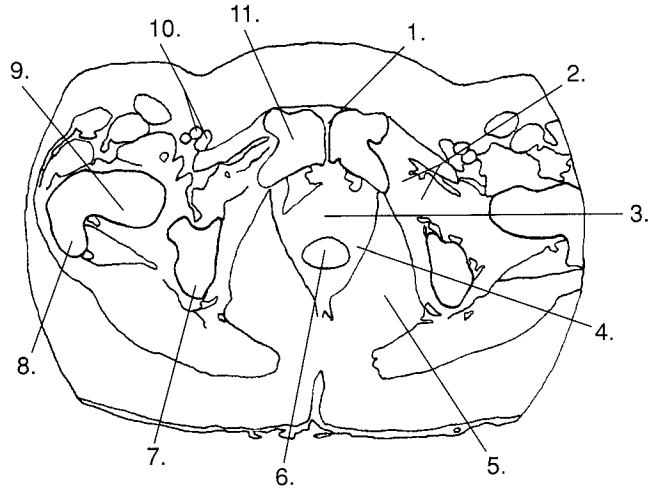
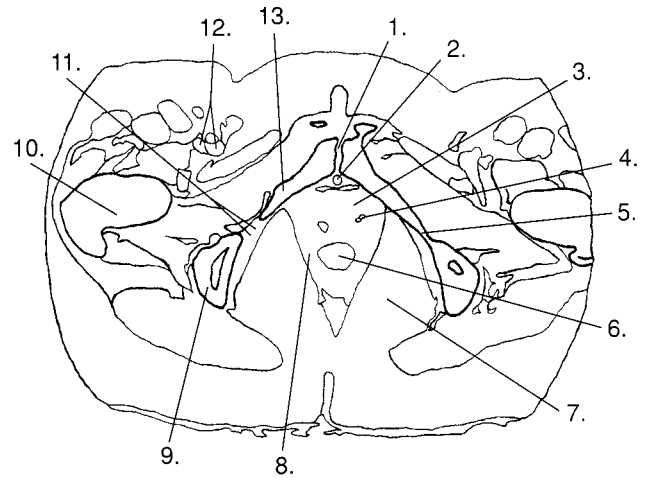
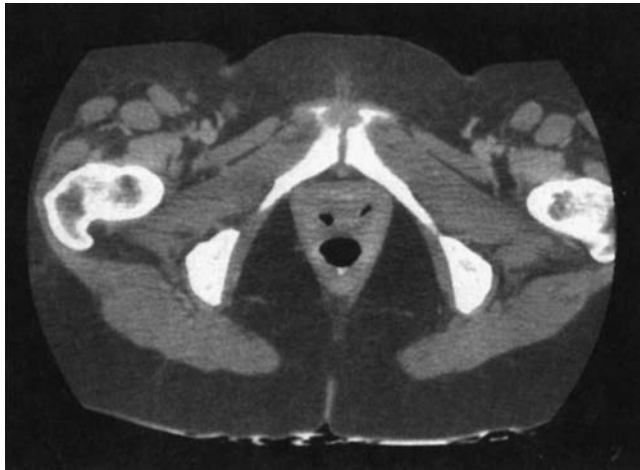


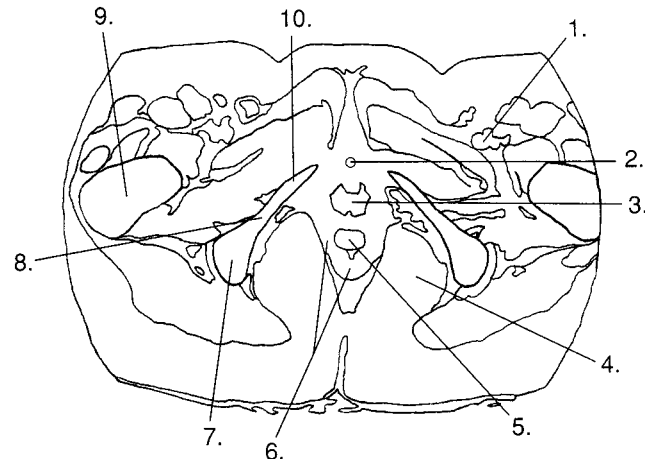
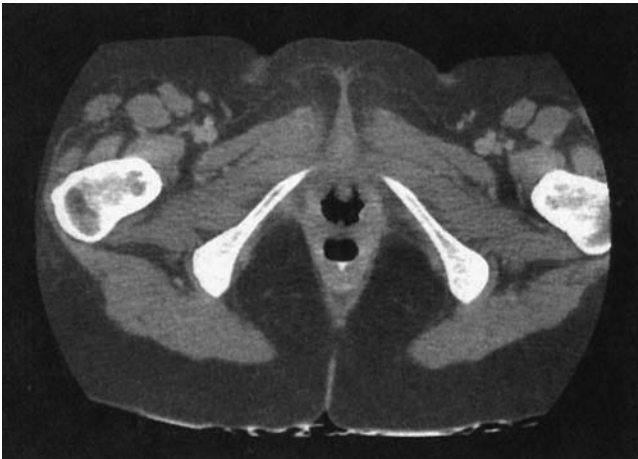
Figure 4-42

1. Which of the following is illustrated by 2?
  - A. Symphysis pubis
  - B. Pelvic diaphragm
  - C. Obturator foramen
  - D. Ischiorectal fossa
  
2. Which number illustrates the ischial tuberosity?
  - A. 9
  - B. 7
  - C. 8
  - D. 6
  
3. Which number illustrates the ischiorectal fossa?
  - A. 2
  - B. 4
  - C. 3
  - D. 5
  
4. Which of the following is illustrated by 8?
  - A. Greater trochanter of right femur
  - B. Neck of right femur
  - C. Lesser trochanter of right femur
  - D. Right ischial tuberosity
  
5. Which of the following is illustrated by 3?
  - A. Body of uterus
  - B. Adnexal area
  - C. Cervix of uterus
  - D. Pelvic diaphragm



**Figure 4-43**

1. Which number illustrates the cervix of the uterus?
  - A. 4
  - B. 3
  - C. 2
  - D. 6
  
2. Which of the following is illustrated by 2?
  - A. Urethra
  - B. Posterior vaginal fornix
  - C. Ureter
  - D. Cervix of uterus
  
3. Which number illustrates the obturator foramen?
  - A. 1
  - B. 2
  - C. 11
  - D. 7
  
4. Which of the following is illustrated by 5?
  - A. Ischial ramus
  - B. Ischial tuberosity
  - C. Superior pubic ramus
  - D. Inferior pubic ramus
  
5. Which of the following is illustrated by 4?
  - A. Symphysis pubis
  - B. Posterior vaginal fornix
  - C. Pelvic diaphragm
  - D. Urethra



**Figure 4-44**

1. Which of the following is illustrated by 1?
  - A. Left ischiorectal fossa
  - B. Left adnexal area
  - C. Contents of femoral sheath
  - D. External iliac vessels
  
2. Which of the following is illustrated by 9?
  - A. Ischial ramus
  - B. Pubic ramus
  - C. Shaft of femur
  - D. Ischial tuberosity
  
3. Which of the following is illustrated by 3?
  - A. Vagina
  - B. Rectum
  - C. Urethra
  - D. Opening within uterus

4. Which of the following is illustrated by 8?
  - A. Ilium
  - B. Ischial tuberosity
  - C. Pubic ramus
  - D. Ischial ramus
  
5. Which number illustrates the ischial tuberosity?
  - A. 7
  - B. 8
  - C. 10
  - D. 9

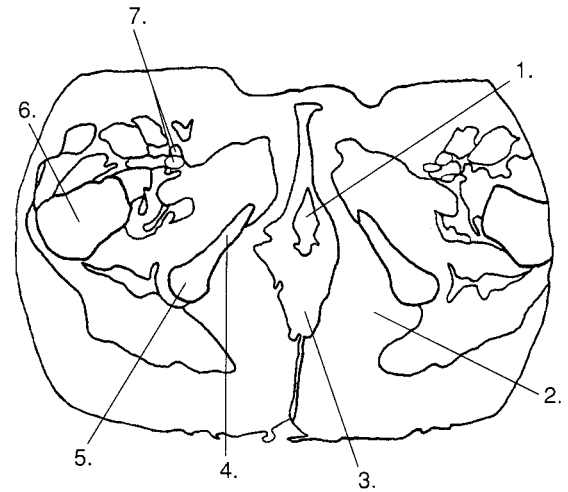
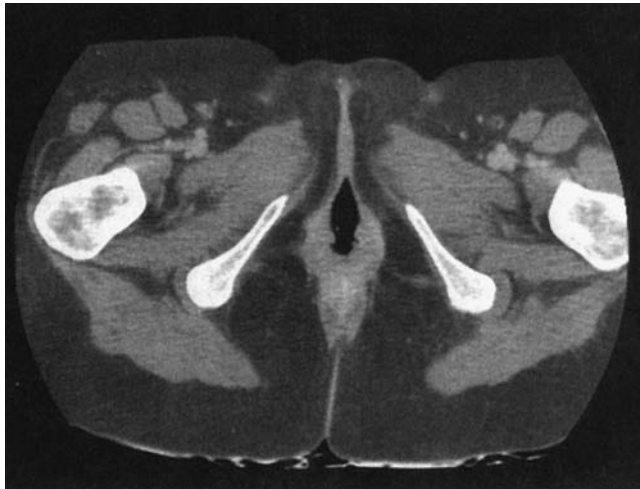


Figure 4-45

1. Which of the following is illustrated by 2?

- A. Pelvic diaphragm
- B. Ischiorectal fossa
- C. Ischial tuberosity
- D. Femoral sheath

2. Which number illustrates the ischial tuberosity?

- A. 4
- B. 1
- C. 5
- D. 6

3. Which of the following is illustrated by 1?

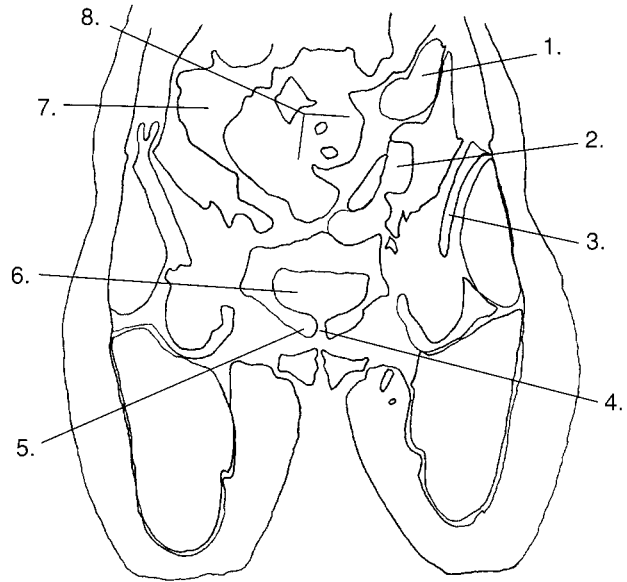
- A. Vagina
- B. Rectum
- C. Opening within uterus
- D. Ischiorectal fossa

4. Which number illustrates the pelvic diaphragm?

- A. 2
- B. 3
- C. 6
- D. 5

5. Which number illustrates the ischial ramus?

- A. 4
- B. 5
- C. 7
- D. 6



**Figure 4-46**

1. Which of the following is illustrated by 5?

- A. Ilium
- B. Ischium
- C. Pubis
- D. Ileum

2. Which of the following is illustrated by 7?

- A. Cecum
- B. Ascending colon
- C. Descending colon
- D. Sigmoid colon

3. Which of the following is illustrated by 2?

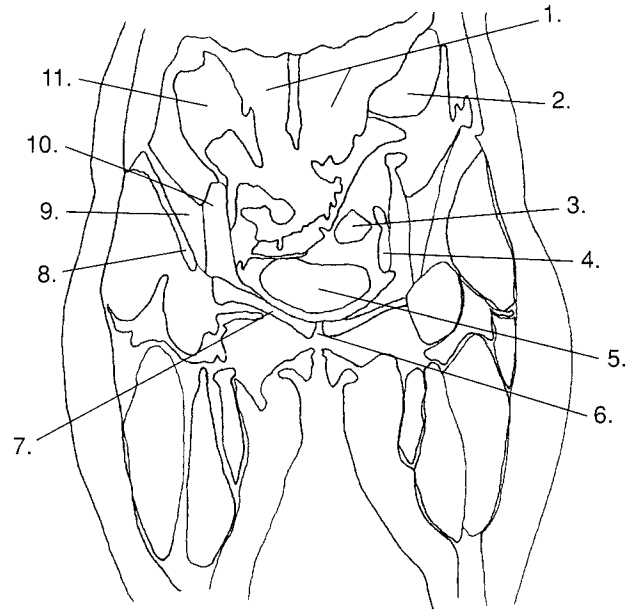
- A. Cecum
- B. Ascending colon
- C. Descending colon
- D. Sigmoid colon

4. Which number illustrates the descending colon?

- A. 7
- B. 2
- C. 1
- D. 8

5. Which number illustrates the ilium?

- A. 5
- B. 4
- C. 3
- D. 8



**Figure 4-47**

1. Which of the following is illustrated by 2?

- A. Cecum
- B. Descending colon
- C. Sigmoid colon
- D. Small bowel

2. Which of the following is illustrated by 3?

- A. Sigmoid colon
- B. Small bowel
- C. Descending colon
- D. Cecum

3. Which number illustrates the psoas muscle?

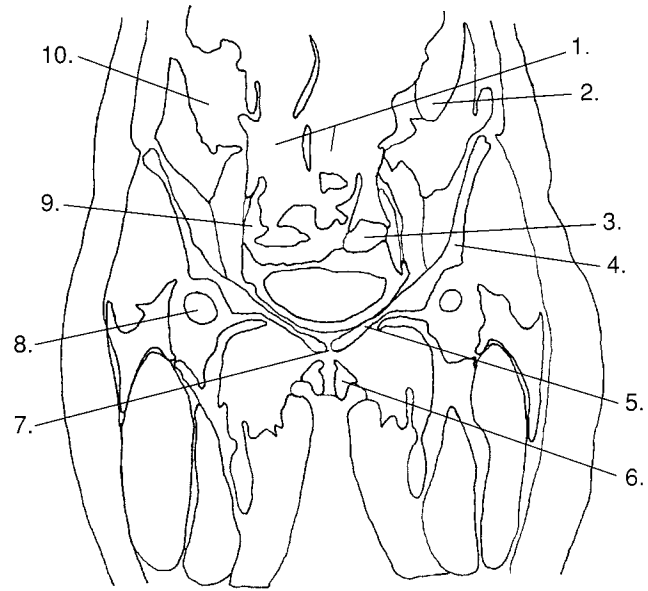
- A. 4
- B. 8
- C. 9
- D. 10

4. Which of the following is illustrated by 4?

- A. Internal iliac artery and vein
- B. External iliac artery and vein
- C. Femoral artery and vein
- D. Common iliac artery and vein

5. Which of the following is illustrated by 1?

- A. Cecum
- B. Descending colon
- C. Sigmoid colon
- D. Small bowel



**Figure 4-48**

1. Which of the following is illustrated by 6?
  - A. Labium minora
  - B. Pelvic diaphragm
  - C. Labium majora
  - D. Ischiorectal fossa
2. Which of the following is illustrated by 9?
  - A. Internal iliac artery and vein
  - B. External iliac artery and vein
  - C. Femoral artery and vein
  - D. Common iliac artery and vein
3. Which number illustrates the descending colon?
  - A. 10
  - B. 1
  - C. 2
  - D. 3
4. Which of the following is illustrated by 5?
  - A. Ilium
  - B. Ischium
  - C. Pubis
  - D. Pelvic diaphragm
5. Which number illustrates the sigmoid colon?
  - A. 10
  - B. 1
  - C. 2
  - D. 3



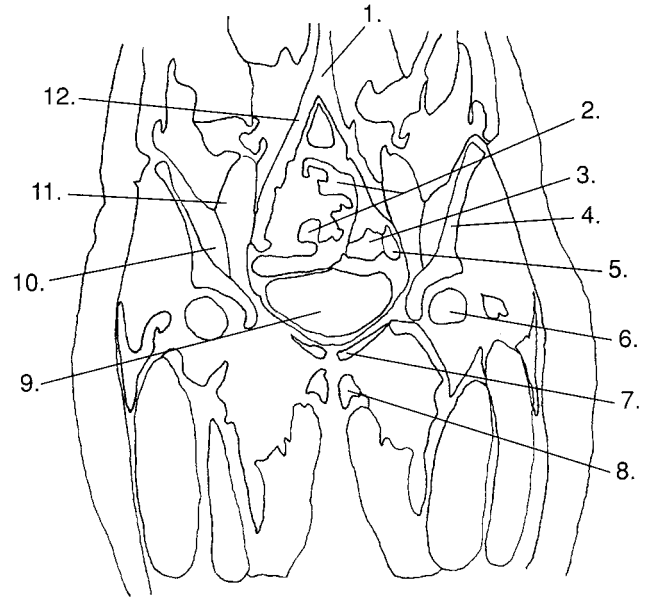


Figure 4-49

1. Which of the following is illustrated by 12?
  - A. Internal iliac artery and vein
  - B. External iliac artery and vein
  - C. Femoral artery and vein
  - D. Common iliac artery
  
2. Which number illustrates the small bowel?
  - A. 3
  - B. 2
  - C. 9
  - D. 11
  
3. Which number illustrates the iliacus muscle?
  - A. 5
  - B. 4
  - C. 11
  - D. 10

4. Which of the following is illustrated by 7?
  - A. Ilium
  - B. Ischium
  - C. Pubis
  - D. Pelvic diaphragm
  
5. Which of the following is illustrated by 5?
  - A. Internal iliac artery and vein
  - B. External iliac artery and vein
  - C. Femoral artery and vein
  - D. Common iliac artery and vein

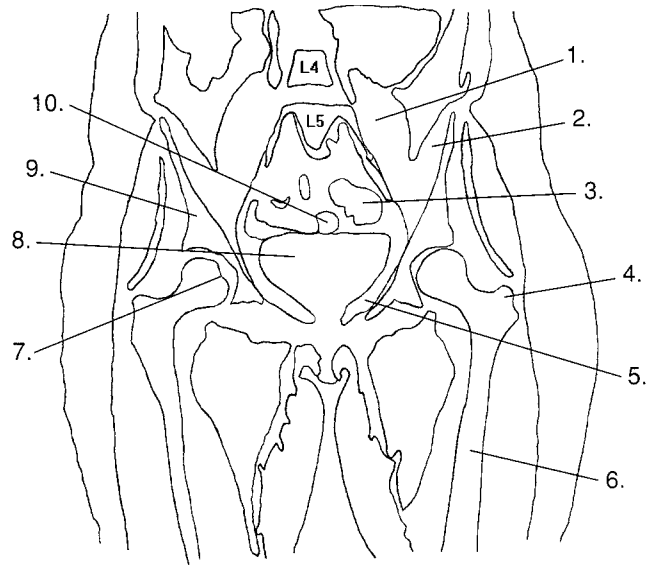


Figure 4-50

1. Which of the following is illustrated by 1?  
 A. Descending colon  
 B. Sigmoid colon  
 C. Psoas muscle  
 D. Iliacus muscle

2. Which of the following is illustrated by 7?  
 A. Greater trochanter of femur  
 B. Shaft of femur  
 C. Fovea capitis femoris  
 D. Lesser trochanter of femur

3. Which of the following is illustrated by 10?  
 A. Small bowel  
 B. Sigmoid colon  
 C. Cecum  
 D. Descending colon

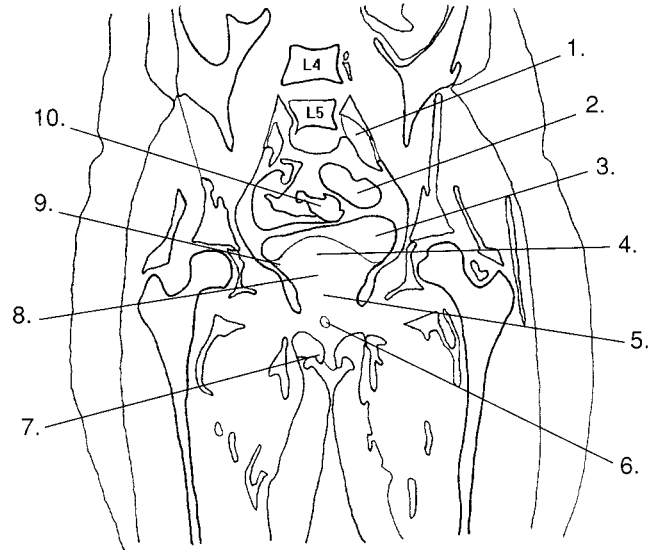
4. Which number illustrates the bladder?  
 A. 3  
 B. 10  
 C. 8  
 D. 9

5. Which number illustrates the ilium?  
 A. 3  
 B. 10  
 C. 9  
 D. 8



**Figure 4-51**

1. Which of the following is illustrated by 1?
  - A. Small bowel
  - B. Sigmoid colon
  - C. Psoas muscle
  - D. Iliacus muscle
  
2. Which of the following is illustrated by 11?
  - A. Internal iliac artery and vein
  - B. External iliac artery and vein
  - C. Femoral artery and vein
  - D. Common iliac artery and vein
  
3. Which of the following is illustrated by 7?
  - A. Uterus
  - B. Wall of bladder
  - C. Pelvic diaphragm
  - D. Cervix
  
4. Which of the following is illustrated by 6?
  - A. Ureter
  - B. Urethra
  - C. Vagina
  - D. Vaginal fornix
  
5. Which number illustrates the urethra?
  - A. 5
  - B. 6
  - C. 7
  - D. 9



**Figure 4-52**

1. Which number illustrates the adnexal area?

- A. 4
- B. 5
- C. 8
- D. 9

2. Which number illustrates the cervix?

- A. 4
- B. 8
- C. 5
- D. 6

3. Which of the following is illustrated by 6?

- A. Urethra
- B. Cervix of uterus
- C. Vagina
- D. Rectum

4. Which of the following is illustrated by 3?

- A. Posterior bladder
- B. Sigmoid colon
- C. Small bowel
- D. Body of uterus

5. Which of the following is illustrated by 4?

- A. Adnexal area
- B. Cervix of uterus
- C. Posterior bladder
- D. Fundus of uterus

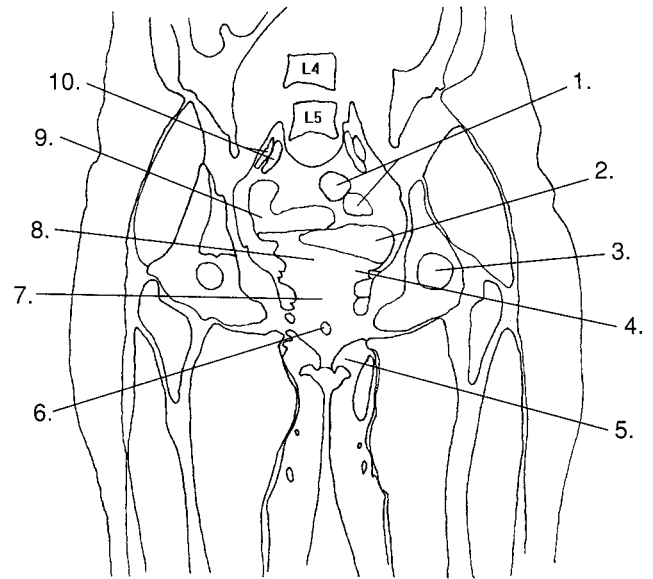


Figure 4-53

1. Which number illustrates the sigmoid colon?

- A. 9
- B. 1
- C. 2
- D. 8

2. Which of the following is illustrated by 7?

- A. Urethra
- B. Cervix of uterus
- C. Vagina
- D. Rectum

3. Which of the following is illustrated by 4?

- A. Adnexal area
- B. Cervix of uterus
- C. Posterior bladder
- D. Fundus of uterus

4. Which of the following is illustrated by 3?

- A. Ischium
- B. Femur
- C. Ilium
- D. Pubis

5. Which of the following is illustrated by 10?

- A. Internal iliac artery and vein
- B. External iliac artery and vein
- C. Common iliac artery and vein
- D. Femoral artery and vein

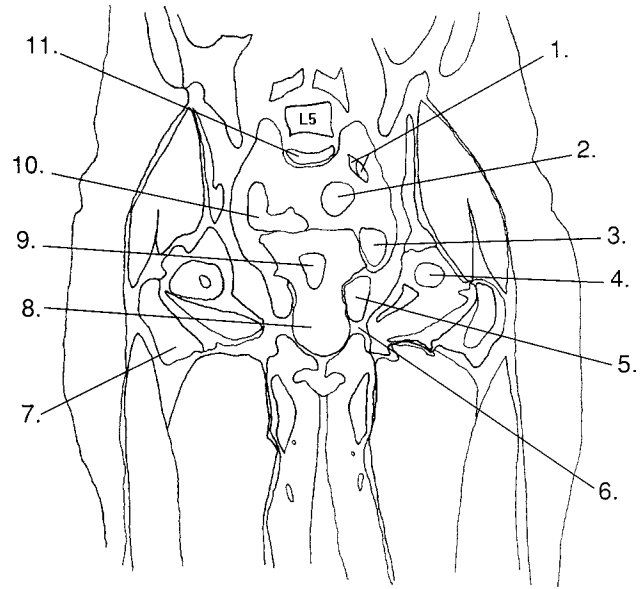
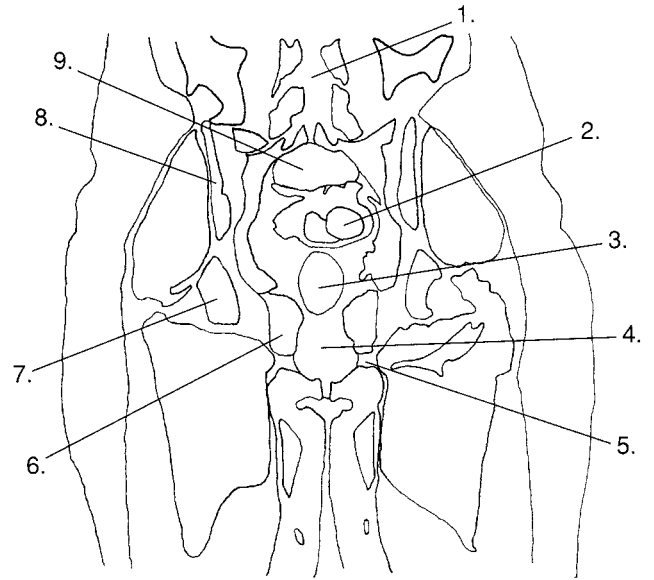


Figure 4-54

1. Which of the following is illustrated by 8?
  - A. Vagina
  - B. Urethra
  - C. Anal sphincter
  - D. Ischioanal fossa
2. Which of the following is illustrated by 9?
  - A. Urethra
  - B. Vagina
  - C. Rectum
  - D. Sigmoid colon
3. Which of the following is illustrated by 3?
  - A. Small bowel
  - B. Sigmoid colon
  - C. Adnexal area
  - D. Posterior bladder
4. Which number illustrates the pelvic diaphragm?
  - A. 6
  - B. 8
  - C. 5
  - D. 7
5. Which of the following is illustrated by 1?
  - A. Common iliac artery and vein
  - B. Internal iliac artery and vein
  - C. External iliac artery and vein
  - D. Gluteal artery and vein



**Figure 4-55**

1. Which of the following is illustrated by 7?

- A. Ilium
- B. Ischial tuberosity
- C. Pubis
- D. Ischial spine

2. Which of the following is illustrated by 3?

- A. Rectum
- B. Vagina
- C. Sigmoid colon
- D. Small bowel

3. Which number illustrates the vertebral foramen?

- A. 1
- B. 9
- C. 2
- D. 3

4. Which number illustrates the rectum?

- A. 2
- B. 3
- C. 4
- D. 9

5. Which number illustrates the ilium?

- A. 6
- B. 7
- C. 8
- D. 9

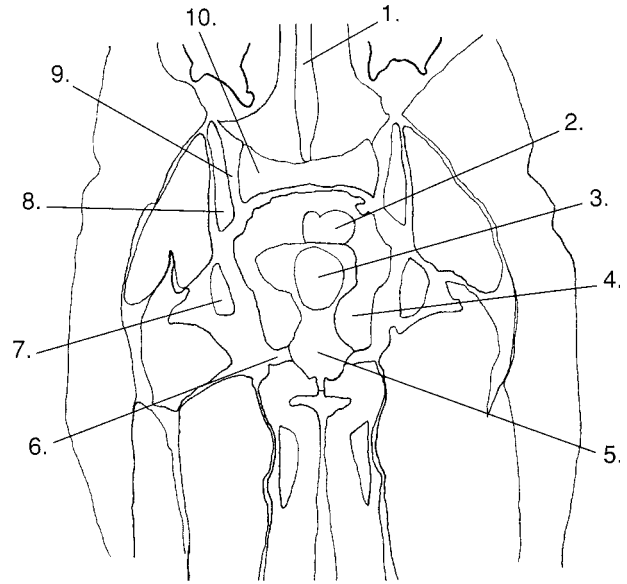
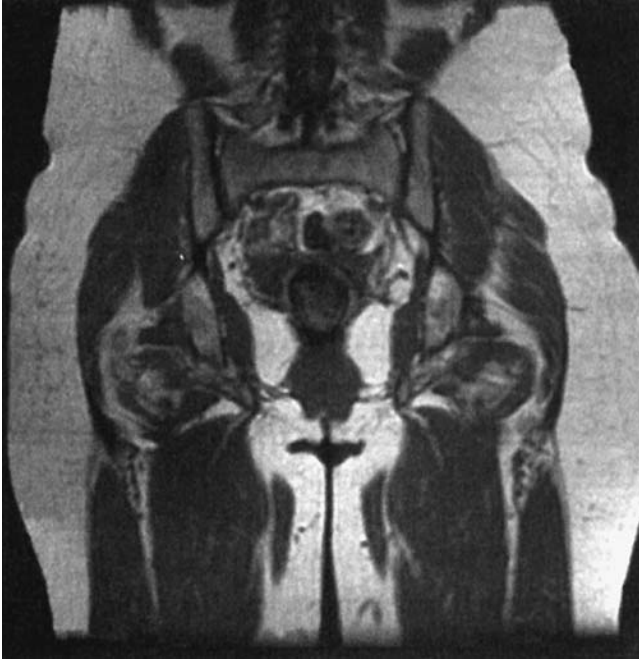


Figure 4-56

1. Which of the following is illustrated by 9?
  - A. Ilium
  - B. Sacroiliac joint
  - C. Sacrum
  - D. Ischial tuberosity
2. Which of the following is illustrated by 5?
  - A. Rectum
  - B. Vagina
  - C. Anal sphincter
  - D. Pelvic diaphragm
3. Which number illustrates the ischial tuberosity?
  - A. 9
  - B. 8
  - C. 7
  - D. 6
4. Which of the following is illustrated by 3?
  - A. Rectum
  - B. Vagina
  - C. Sigmoid colon
  - D. Anal sphincter
5. Which number illustrates the sigmoid colon?
  - A. 1
  - B. 2
  - C. 3
  - D. 5



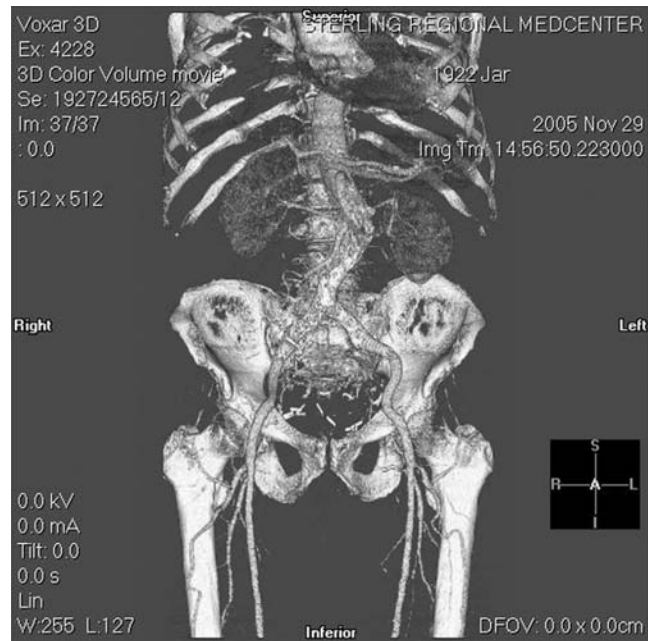
## CLINICAL APPLICATIONS

---

1. Which of the following is considered retroperitoneal in location?
  - A. Ileum
  - B. Transverse colon
  - C. Jejunum
  - D. Ascending colon
  
2. Which of the following is the erectile tissue forming the anterior part of the penis?
  - A. Cavernosum spongiosum
  - B. Corpus cavernosum
  - C. Corpus spongiosum
  - D. Cavernosum spongiosum
  
3. Which of the following structures would be considered most posterior in the pelvis?
  - A. Lower bladder
  - B. Urethra
  - C. Prostate
  - D. Seminal vesicles
  
4. All of the following muscles form the pelvic diaphragm except the:
  - A. Iliacus
  - B. Levator ani
  - C. Coccygeus
  - D. All of the above from the pelvic diaphragm
  
5. The femoral artery originates from the:
  - A. Common iliac artery
  - B. Gluteal artery
  - C. External iliac artery
  - D. Internal iliac artery
  
6. In an axial section through the pelvis, which alimentary structure would be most inferior?
  - A. Ascending colon
  - B. Descending colon
  - C. Sigmoid colon
  - D. Rectum
  
7. Which of the following is located most inferiorly?
  - A. Acetabulum
  - B. Coccyx
  - C. Symphysis pubis
  - D. Obturator foramen
  
8. Which of the following best describes the position of the greater trochanter of the femur?
  - A. Anterior and medial
  - B. Posterior and medial
  - C. Anterior and lateral
  - D. Posterior and lateral
  
9. The most distinctive difference between the lower segments of the sacrum and the coccyx is the absence of the \_\_\_\_\_.
  
10. What space surrounds the cervix of the uterus extending into the vagina?  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

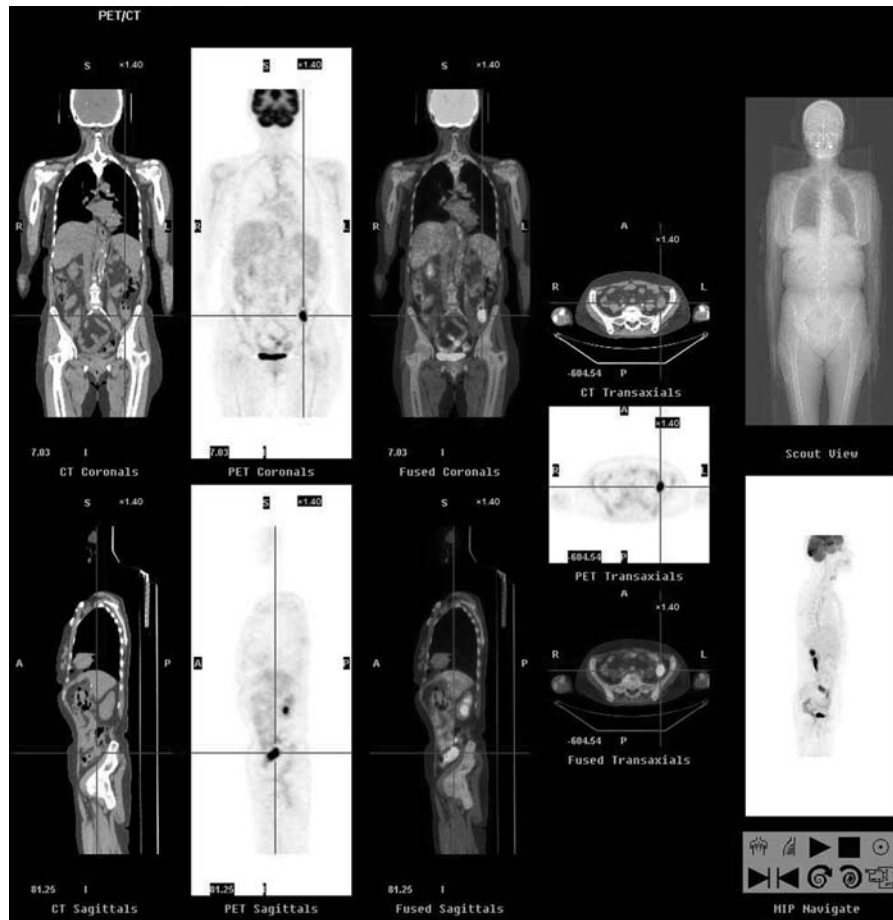
## CLINICAL CORRELATIONS

### ■ Clinical Case 4-1



- Both images provided above were generated during which of the following procedures?
  - A. Computed tomography angiography (CTA)
  - B. Magnetic resonance angiography (MRA)
  - C. Ultrasound
  - D. Positron emission tomography/computed tomography (PET/CT)
- In this patient, the stent graft has been placed in which of the following?
  - A. Right common iliac artery
  - B. Left common iliac artery
  - C. Abdominal aorta
  - D. All of the above
- Which of the following best describes how the internal iliac arteries exit the pelvis?
  - A. Obturator foramina
  - B. Posterior bony pelvis
  - C. Sacral foramina
  - D. Anterior bony pelvis
- Does the endograft appear to be patent?
  - A. Yes
  - B. No
- The external iliac artery gives rise to the femoral artery after passing which of the following anatomic landmarks?
  - A. Sacral promontory
  - B. Greater sciatic notch
  - C. Ilium
  - D. Pubic bone

## ■ Clinical Case 4-2



- According to the marker lines, increased metabolic rate was detected in which of the following?
  - A. Cecum
  - B. Sigmoid
  - C. Ascending colon
  - D. Descending colon
- The strong signal demonstrated in the midline of the pelvis would best be described by which of the following?
  - A. Prostate
  - B. Uterus
  - C. Urinary bladder
  - D. Seminal vesicles
- Which of the following is the lower part of the large bowel found in the right greater pelvis?
  - A. Cecum
  - B. Sigmoid colon
  - C. Ascending colon
  - D. Descending colon
- On the CT image, which part of the bowel would most likely be sectioned in the anterior part of the greater pelvis?
  - A. Cecum
  - B. Sigmoid colon
  - C. Ileum
  - D. Jejunum
- In a sequence of axial sections, which of the following would be the most inferior part of the large bowel?
  - A. Cecum
  - B. Sigmoid colon
  - C. Ascending colon
  - D. Descending colon

### ■ Clinical Case 4-3



1. In this axial CT image, describe the location of the testicular prosthesis in this young male patient previously treated for testicular seminoma.

---

---

---

2. Describe the changes in adjacent tissues.

---

---

---

3. Describe the consistency, shape, and border.

---

---

---

■ Clinical Case 4-4



1. Describe the location of the pelvic abscess originating from an infected diverticulum in the descending colon as shown in this axial CT image through the lower abdomen.

---

---

---

2. Describe the changes in adjacent tissues.

---

---

---

3. Describe the consistency, shape, and border.

---

---

---

■ Clinical Case 4-5



1. Describe the location of the adenocarcinoma shown in this 47-year-old female. The PET image is shown on the left with a corresponding fused PET/CT image on the right.

---

---

---

2. Describe the changes in adjacent tissues.

---

---

---

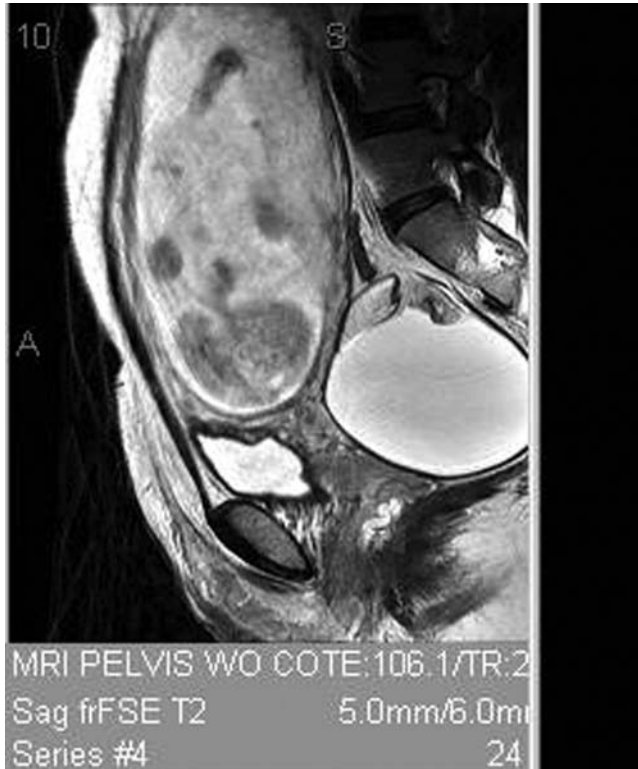
3. Describe the consistency, shape, and border.

---

---

---

■ Clinical Case 4-6



1. Describe the location of the cystic mass found on the selected MR saggital images of this pregnant patient.

---

---

---

2. Describe the changes in adjacent tissues.

---

---

---

3. Describe the consistency, shape, and border.

---

---

---

### ■ Clinical Case 4-7



1. Describe the location of the uterine fibroid shown in the coronal (left) and sagittal (right) CT images.

---

---

---

2. Describe the changes in adjacent tissues.

---

---

---

3. Describe the consistency, shape, and border.

---

---

---



■ Clinical Case 4-8



1. Describe the location of the prostate carcinoma in the axial MR section of this 81-year-old male patient.

---

---

---

2. Describe the changes in adjacent tissues.

---

---

---

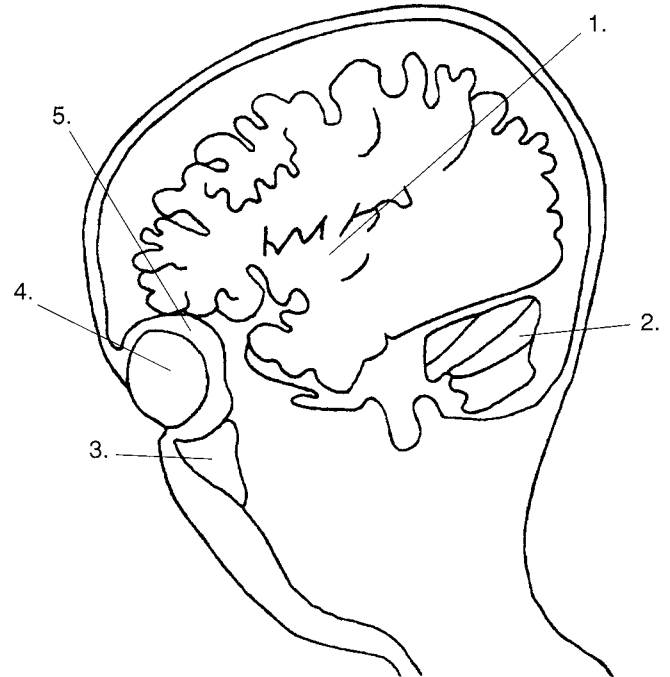
3. Describe the consistency, shape, and border.

---

---

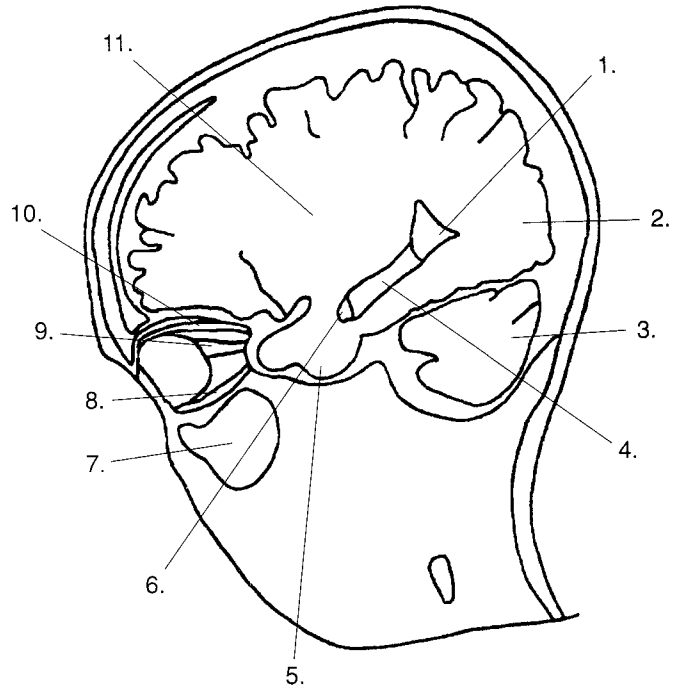
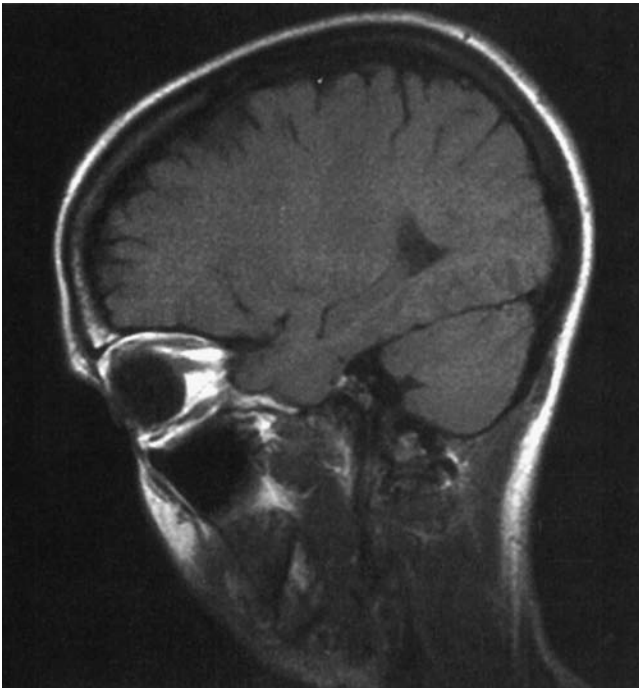
---





**Figure 5-1**

1. Which number illustrates the insula?
  - A. 5
  - B. 2
  - C. 1
  - D. 3
  
2. Which of the following is illustrated by 3?
  - A. Maxillary sinus
  - B. Sphenoid sinus
  - C. Frontal sinus
  - D. Mastoid air cells
  
3. Which number illustrates the cerebellum?
  - A. 3
  - B. 5
  - C. 2
  - D. 1
  
4. Which of the following is illustrated by 5?
  - A. Sulci
  - B. Inferior rectus muscle
  - C. Fat in bony orbit
  - D. Maxillary sinus
  
5. Which of the following is illustrated by 4?
  - A. Globe of the eye
  - B. Superior rectus muscle
  - C. Optic nerve
  - D. Inferior rectus muscle



**Figure 5-2**

1. Which of the following is illustrated by 4?
  - A. Posterior horn of the lateral ventricle
  - B. Body of caudate nucleus
  - C. Thalamus
  - D. Inferior horn of the lateral ventricle
  
2. Which number illustrates the inferior horn of the lateral ventricle?
  - A. 6
  - B. 4
  - C. 1
  - D. 7
  
3. Which of the following is illustrated by 1?
  - A. Body of caudate nucleus
  - B. Insula
  - C. Posterior horn of the lateral ventricle
  - D. Inferior horn of the lateral ventricle

4. Which of the following is illustrated by 9?
  - A. Superior rectus muscle
  - B. Inferior rectus muscle
  - C. Optic nerve
  - D. Fat in bony orbit
  
5. Which number illustrates the superior rectus muscle?
  - A. 9
  - B. 6
  - C. 8
  - D. 10

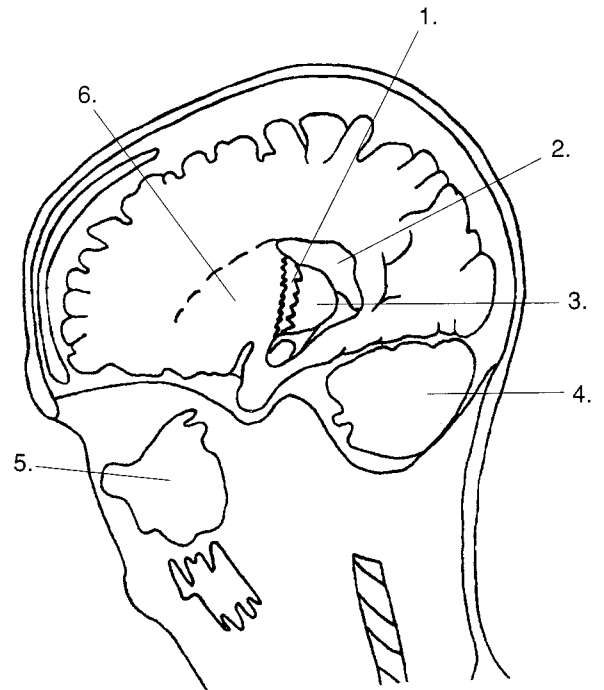
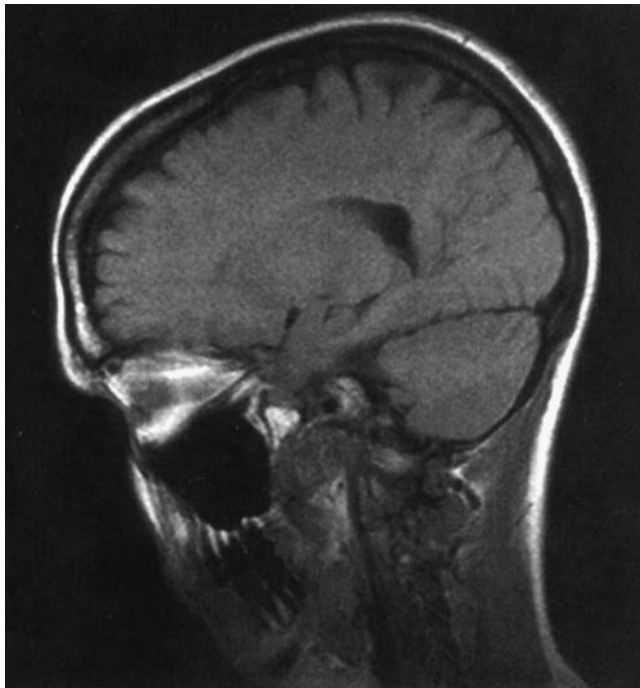
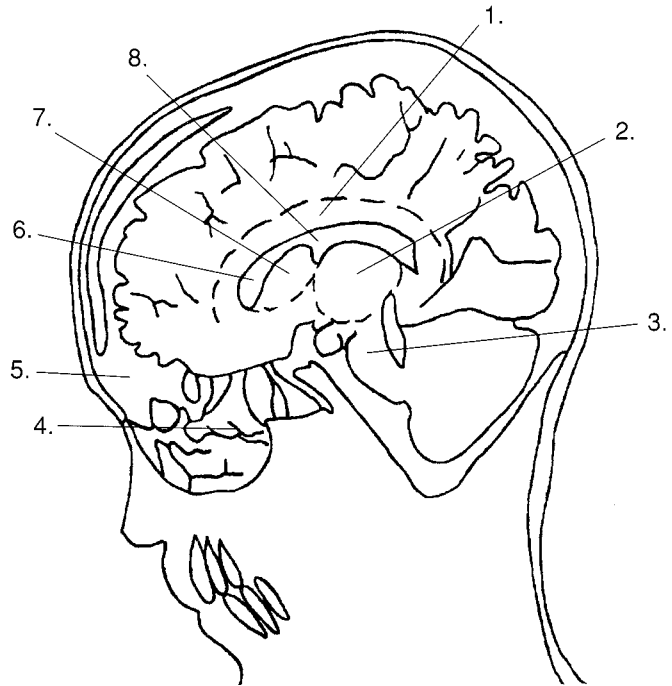


Figure 5-3

1. Which of the following is illustrated by 6?
  - A. Thalamus
  - B. Lenticular nuclei
  - C. Insula
  - D. Occipital lobe
2. Which number illustrates the internal capsule?
  - A. 3
  - B. 2
  - C. 6
  - D. 1
3. Which of the following is illustrated by 5?
  - A. Maxillary sinus
  - B. Frontal sinus
  - C. Fat in bony orbit
  - D. Insula
4. Which number illustrates the cerebellum?
  - A. 3
  - B. 4
  - C. 5
  - D. 2
5. Which of the following is illustrated by 3?
  - A. Lenticular nuclei
  - B. Body of caudate nucleus
  - C. Thalamus
  - D. Internal capsule



**Figure 5-4**

1. Which of the following is illustrated by 8?
  - A. Thalamus
  - B. Body of lateral ventricle
  - C. Head of caudate
  - D. Corpus callosum
2. Which number illustrates the anterior horn of the lateral ventricle?
  - A. 8
  - B. 2
  - C. 7
  - D. 6
3. Which of the following is illustrated by 5?
  - A. Maxillary sinus
  - B. Ethmoid sinus
  - C. Frontal sinus
  - D. Fat in bony orbit
4. Which number illustrates the corpus callosum?
  - A. 1
  - B. 8
  - C. 7
  - D. 6
5. Which of the following is illustrated by 7?
  - A. Thalamus
  - B. Head of caudate
  - C. Intermediate mass
  - D. Body of lateral ventricle

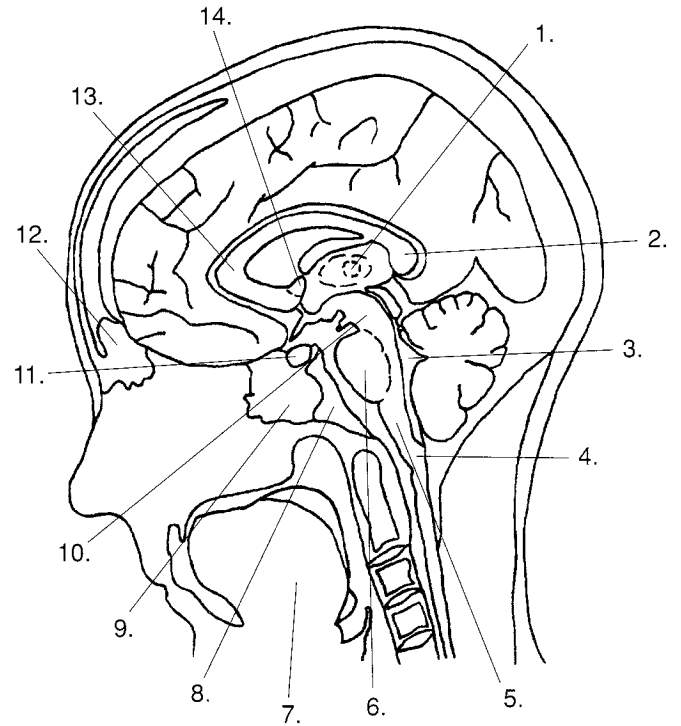
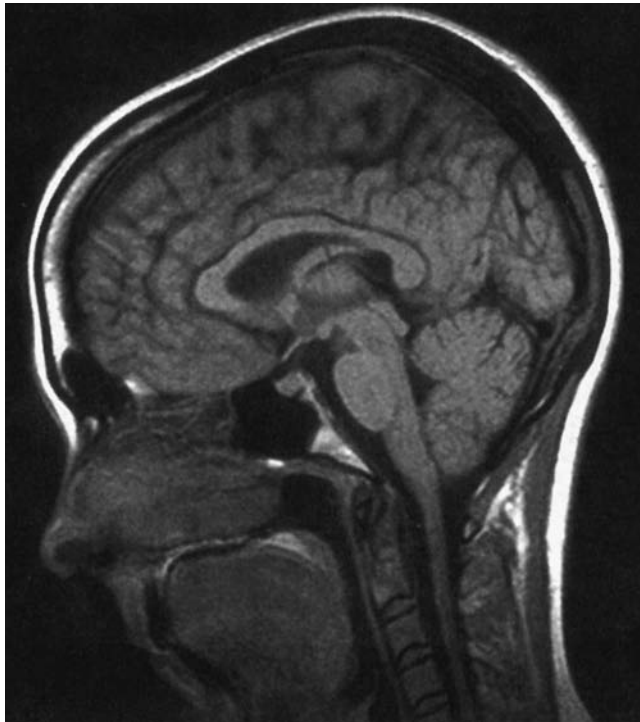


Figure 5-5

1. Which number illustrates the splenium of corpus callosum?

- A. 1
- B. 13
- C. 2
- D. 14

2. Which of the following is illustrated by 10?

- A. Pons
- B. Cerebral peduncles
- C. Pituitary gland
- D. Quadrigeminal plate

3. Which number illustrates the pituitary gland?

- A. 11
- B. 3
- C. 10
- D. 6

4. Which of the following is illustrated by 1?

- A. Head of caudate nucleus
- B. Anterior commissure
- C. Intermediate mass
- D. Splenium of corpus callosum

5. Which of the following is illustrated by 14?

- A. Intermediate mass
- B. Pituitary gland
- C. Genu of corpus callosum
- D. Anterior commissure

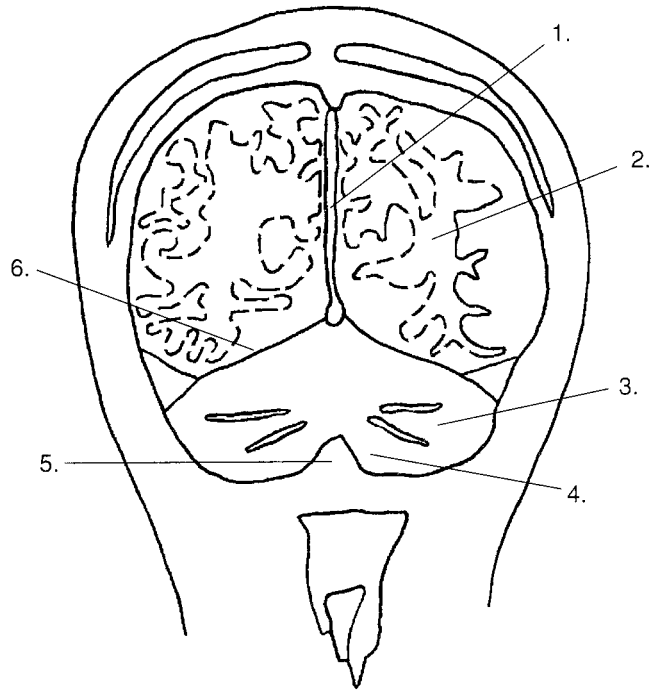
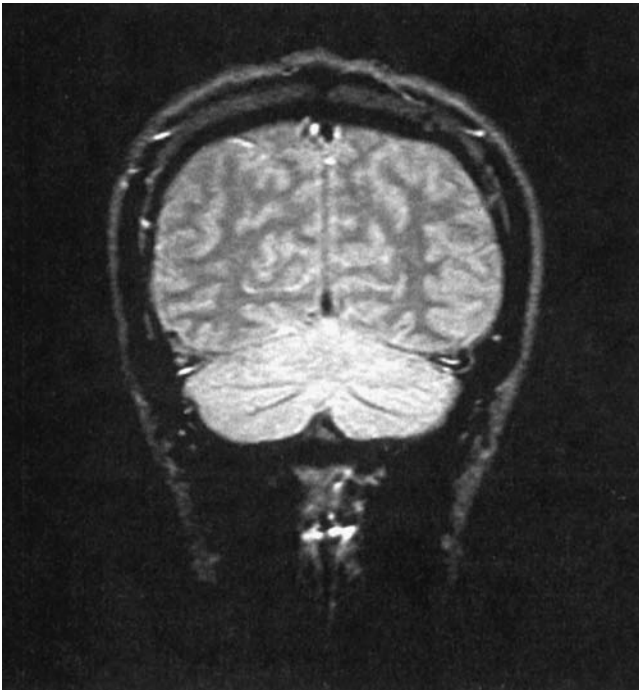


Figure 5-6

1. Which of the following is demonstrated by 2?
  - A. Occipital lobe
  - B. Parietal lobe
  - C. Cerebellar hemisphere
  - D. Temporal lobe
2. Which number illustrates the cisterna magna?
  - A. 6
  - B. 1
  - C. 5
  - D. 4
3. Which of the following is demonstrated by 1?
  - A. Straight sinus
  - B. Falx cerebri
  - C. Superior sagittal sinus
  - D. Falx cerebelli
4. Which number illustrates the cerebellar tonsil?
  - A. 3
  - B. 5
  - C. 6
  - D. 4
5. Which of the following is demonstrated by 3?
  - A. Cerebellar hemisphere
  - B. Cerebellar tonsil
  - C. Occipital lobe
  - D. Temporal lobe



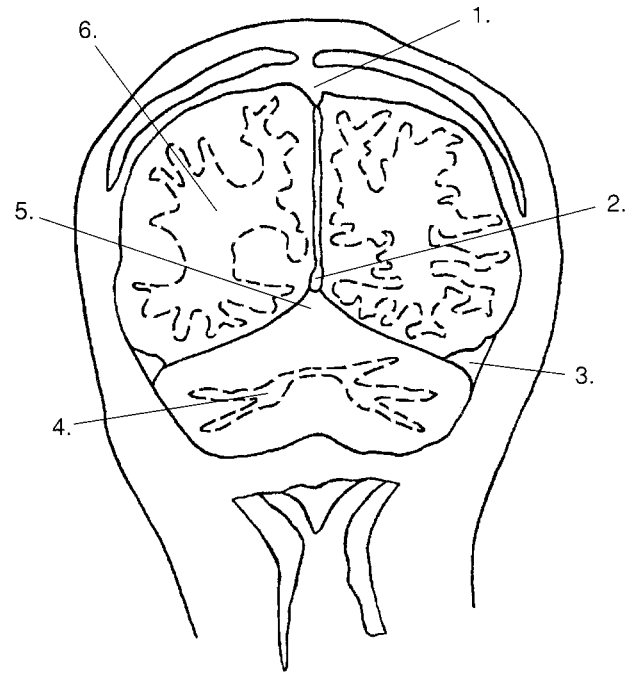


Figure 5-7

1. Which number illustrates the occipital lobe white matter?
  - A. 3
  - B. 1
  - C. 6
  - D. 4
2. Which of the following is illustrated by 1?
  - A. Straight sinus
  - B. Superior sagittal sinus
  - C. Transverse sinus
  - D. Cisterna magna
3. Which number illustrates the superior cerebellar vermis?
  - A. 5
  - B. 1
  - C. 3
  - D. 2
4. Which of the following is illustrated by 2?
  - A. Straight sinus
  - B. Superior sagittal sinus
  - C. Transverse sinus
  - D. Cisterna magna
5. Which of the following is illustrated by 3?
  - A. Superior sagittal sinus
  - B. Cisterna magna
  - C. Straight sinus
  - D. Transverse sinus

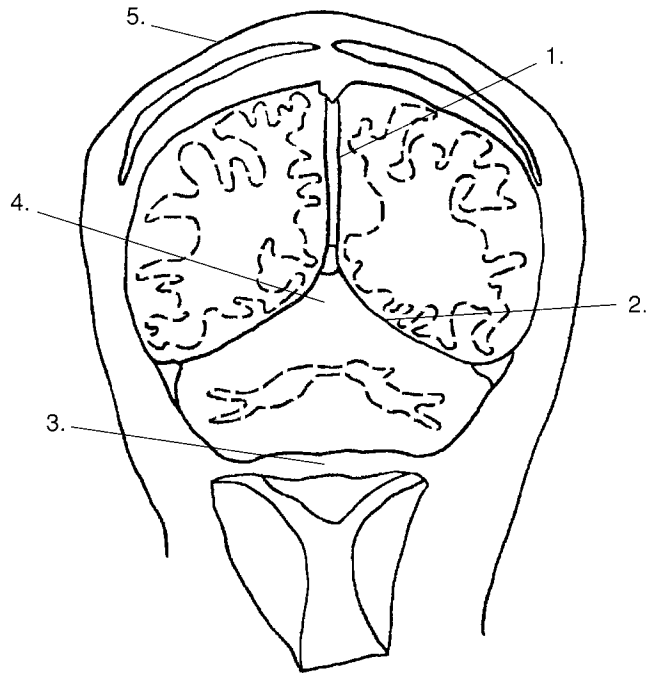
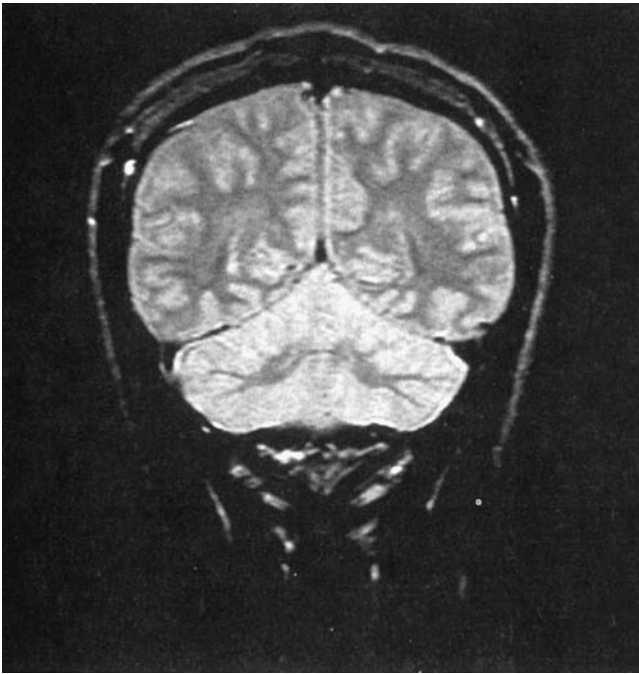


Figure 5-8

1. Which of the following is illustrated by 5?
  - A. Parietal bone
  - B. Scalp
  - C. Tentorium cerebelli
  - D. Occipital bone
2. Which number illustrates the superior cerebellar vermis?
  - A. 4
  - B. 2
  - C. 3
  - D. 1
3. Which of the following is illustrated by 1?
  - A. Straight sinus
  - B. Superior sagittal sinus
  - C. Falx cerebri
  - D. Falx cerebelli
4. Which number illustrates the tentorium cerebelli?
  - A. 3
  - B. 1
  - C. 4
  - D. 2
5. Which of the following is illustrated by 3?
  - A. Scalp
  - B. Occipital bone
  - C. Posterior medulla oblongata
  - D. Cisterna magna

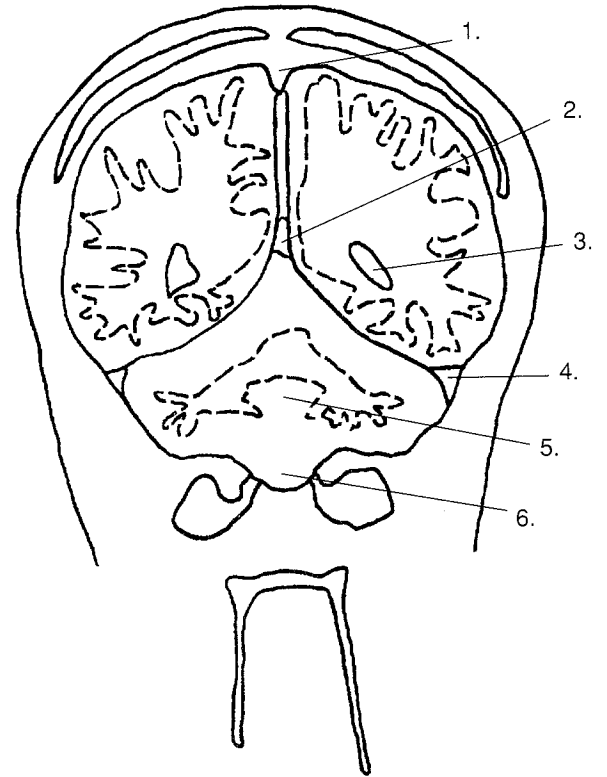


Figure 5-9

1. Which number illustrates the fourth ventricle?

- A. 3
- B. 1
- C. 5
- D. 6

2. Which of the following is illustrated by 1?

- A. Straight sinus
- B. Superior sagittal sinus
- C. Cisterna magna
- D. Fourth ventricle

3. Which of the following is illustrated by 4?

- A. Superior sagittal sinus
- B. Transverse sinus
- C. Straight sinus
- D. Confluence of sinuses

4. Which number illustrates the straight sinus?

- A. 4
- B. 5
- C. 1
- D. 2

5. Which of the following is illustrated by 3?

- A. Posterior horn of the lateral ventricle
- B. Anterior horn of the lateral ventricle
- C. Cisterna magna
- D. Fourth ventricle

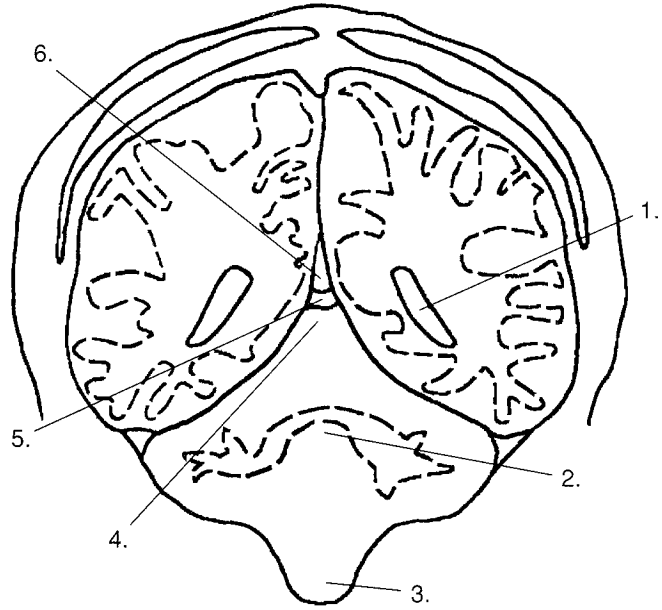
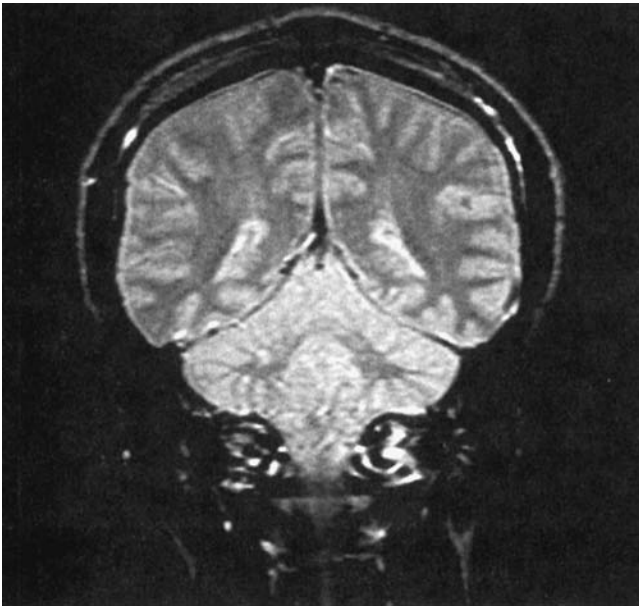


Figure 5-10

1. Which number illustrates the fourth ventricle?
  - A. 6
  - B. 1
  - C. 5
  - D. 2
2. Which of the following is illustrated by 6?
  - A. Superior sagittal sinus
  - B. Straight sinus
  - C. Transverse sinus
  - D. Fourth ventricle
3. Which number illustrates the superior cerebellar vermis?
  - A. 4
  - B. 6
  - C. 1
  - D. 5
4. Which of the following is illustrated by 5?
  - A. Superior cerebellar vermis
  - B. Straight sinus
  - C. Superior cistern
  - D. Fourth ventricle
5. Which of the following is illustrated by 1?
  - A. Posterior horn of the lateral ventricle
  - B. Transverse sinus
  - C. Straight sinus
  - D. Fourth ventricle

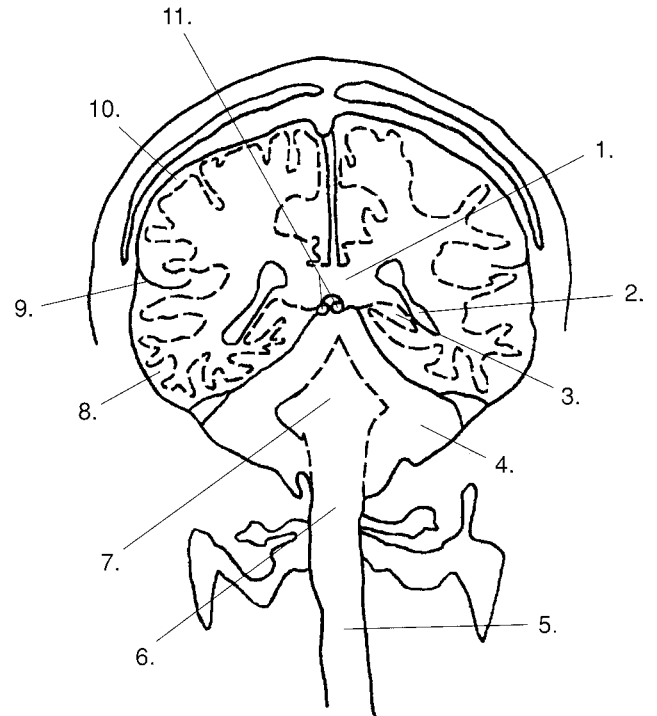


Figure 5-11

1. Which number illustrates the posterior pons?
  - A. 11
  - B. 6
  - C. 5
  - D. 7
2. Which of the following is illustrated by 1?
  - A. Splenium of corpus callosum
  - B. Hippocampal formation
  - C. Anterior commissure
  - D. Genu of corpus callosum
3. Which of the following is illustrated by 9?
  - A. Sylvian fissure
  - B. Collateral trigone of the lateral ventricle
  - C. Splenium of corpus callosum
  - D. Superior cistern
4. Which number illustrates the hippocampal formation?
  - A. 2
  - B. 1
  - C. 3
  - D. 11
5. Which number illustrates the collateral trigone of the lateral ventricle?
  - A. 2
  - B. 9
  - C. 3
  - D. 1

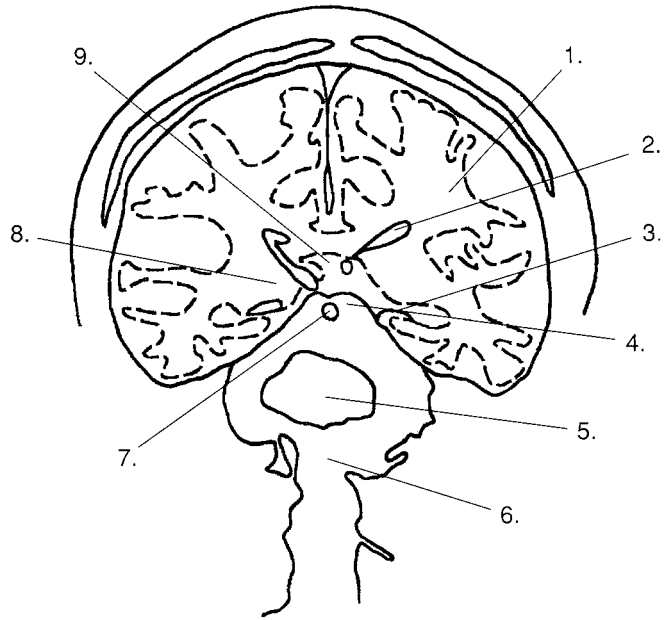
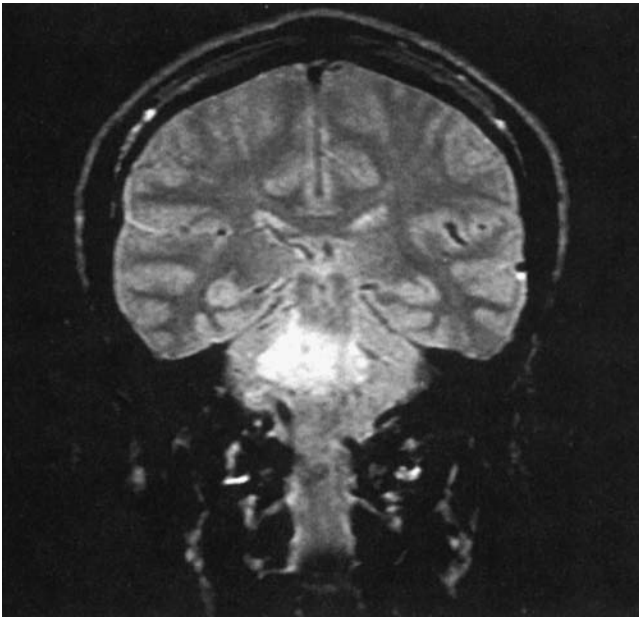
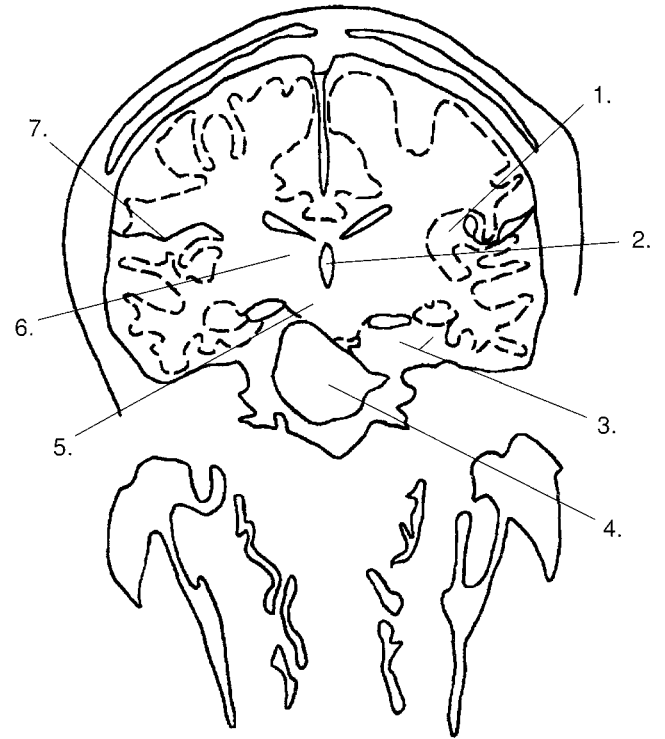
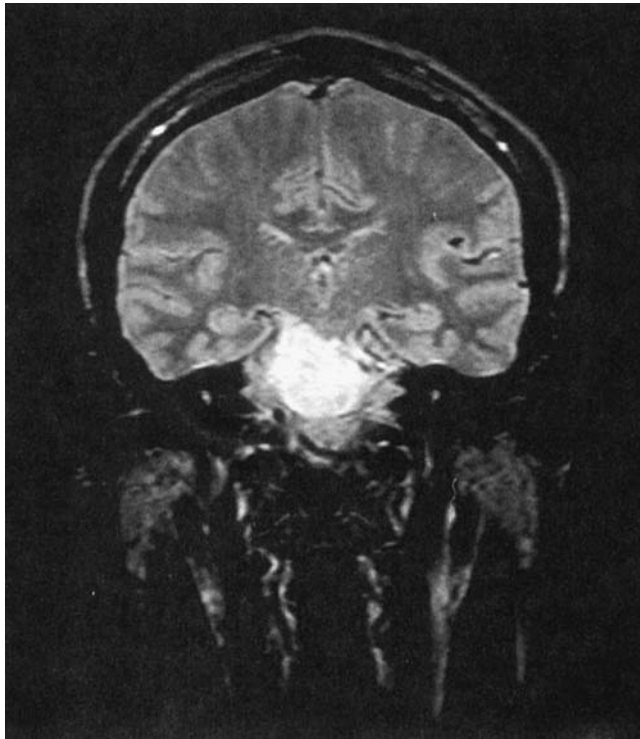


Figure 5-12

1. Which of the following is illustrated by 4?
  - A. Quadrigeminal plate
  - B. Cerebral aqueduct
  - C. Medulla oblongata
  - D. Corona radiata
2. Which number illustrates the pineal gland?
  - A. 7
  - B. 9
  - C. 3
  - D. 2
3. Which number illustrates the cerebral aqueduct?
  - A. 5
  - B. 4
  - C. 7
  - D. 9
4. Which of the following is illustrated by 1?
  - A. Quadrigeminal plate
  - B. Corona radiata
  - C. Thalamus
  - D. Body of lateral ventricle
5. Which number illustrates the inferior horn of the lateral ventricle?
  - A. 7
  - B. 9
  - C. 2
  - D. 3



**Figure 5-13**

1. Which of the following is illustrated by 3?
  - A. Hippocampal formation
  - B. Sylvian fissure
  - C. Head of caudate nucleus
  - D. Quadrigeminal plate
2. Which number illustrates the insula?
  - A. 6
  - B. 5
  - C. 7
  - D. 1
3. Which of the following is illustrated by 2?
  - A. Pineal gland
  - B. Third ventricle
  - C. Pons
  - D. Cerebral aqueduct

4. Which of the following is illustrated by 6?
  - A. Sylvian fissure
  - B. Thalamus
  - C. Insula
  - D. Lenticular nuclei
5. Which number illustrates the cerebral peduncles?
  - A. 3
  - B. 6
  - C. 1
  - D. 5

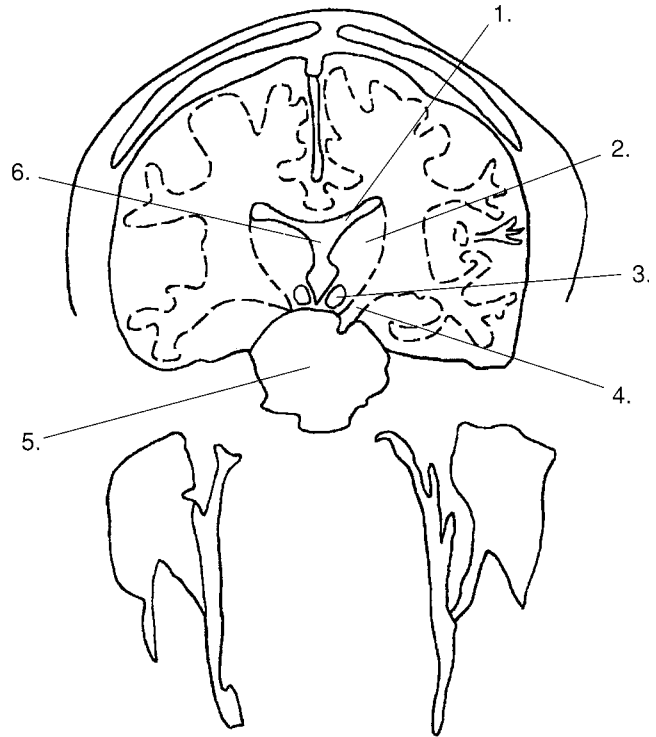


Figure 5-14

1. Which number illustrates the thalamus?

- A. 1
- B. 3
- C. 6
- D. 2

2. Which of the following is illustrated by 4?

- A. Red nucleus
- B. Substantia nigra
- C. Quadrigeminal formation
- D. Quadrigeminal plate

3. Which number illustrates the red nucleus?

- A. 3
- B. 6
- C. 4
- D. 1

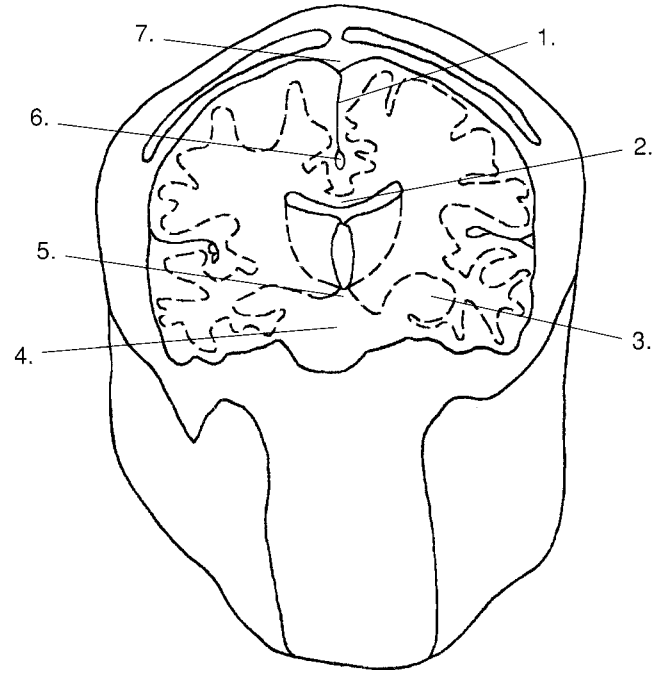
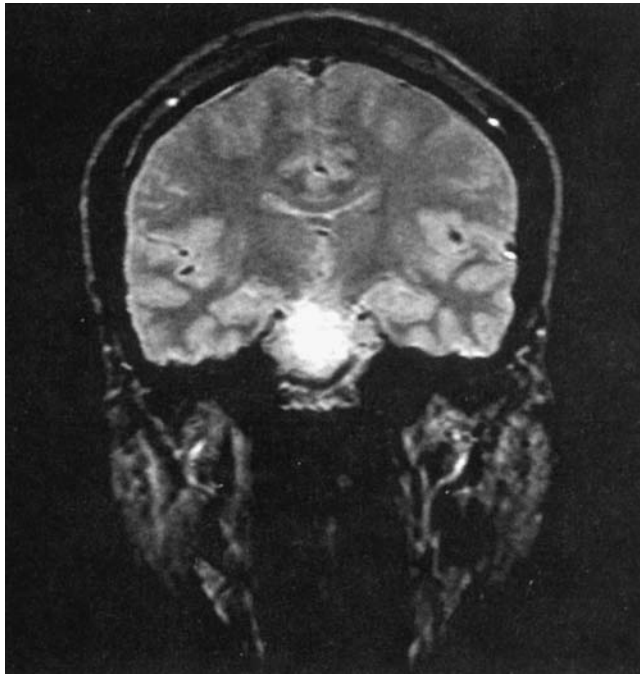
4. Which of the following is illustrated by 1?

- A. Insula
- B. Thalamus
- C. Third ventricle
- D. Body of lateral ventricle

5. Which of the following is illustrated by 6?

- A. Fourth ventricle
- B. Collateral trigone of lateral ventricle
- C. Third ventricle
- D. Body of lateral ventricle





**Figure 5-15**

1. Which number illustrates the body of corpus callosum?
  - A. 2
  - B. 1
  - C. 3
  - D. 1
2. Which of the following is illustrated by 4?
  - A. Hippocampal formation
  - B. Quadrigeminal plate
  - C. Midbrain
  - D. Pons
3. Which of the following is illustrated by 7?
  - A. Superior sagittal sinus
  - B. Falx cerebri
  - C. Cisterna magna
  - D. Inferior sagittal sinus
4. Which number illustrates the midbrain?
  - A. 2
  - B. 1
  - C. 5
  - D. 4
5. Which of the following is illustrated by 6?
  - A. Superior sagittal sinus
  - B. Inferior sagittal sinus
  - C. Straight sinus
  - D. Superior cistern

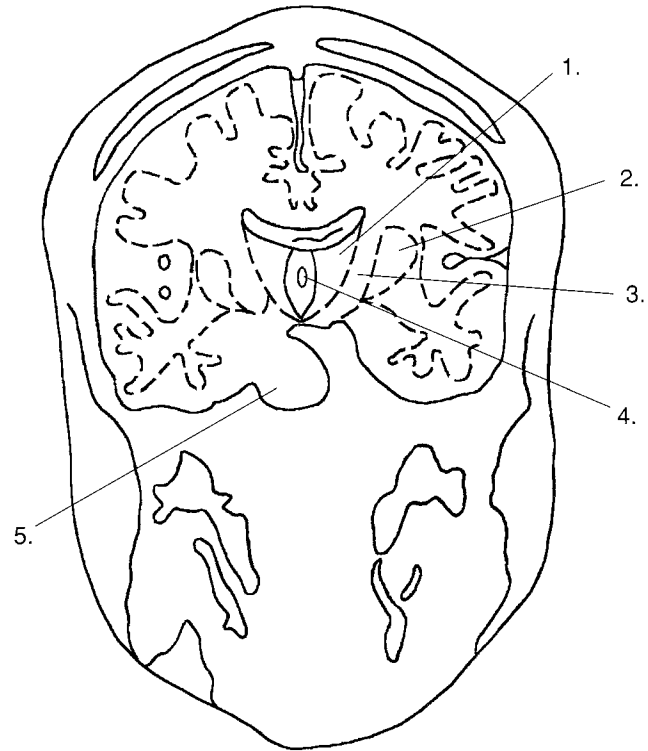
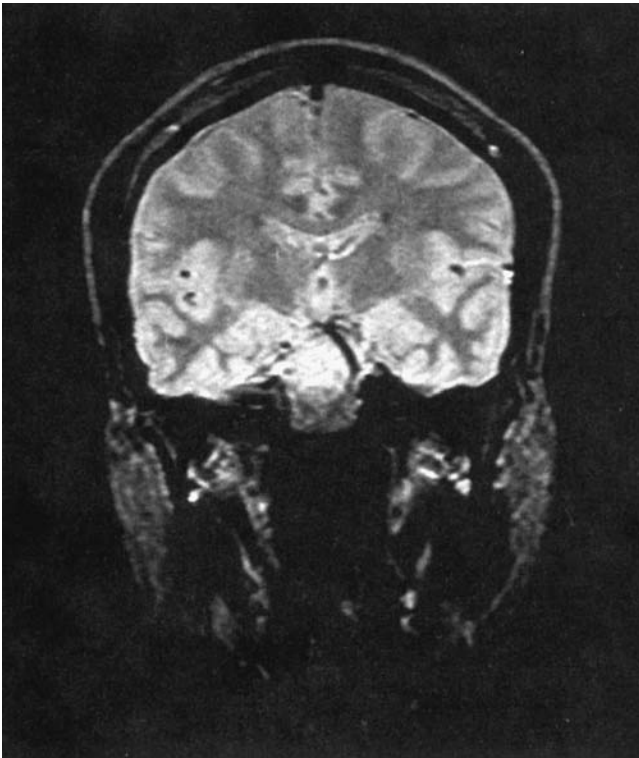


Figure 5-16

1. Which of the following is illustrated by 3?

- A. Thalamus
- B. Body of corpus callosum
- C. Internal capsule
- D. Lenticular nuclei

2. Which of the following is illustrated by 5?

- A. Globus pallidus
- B. Hippocampal formation
- C. Midbrain
- D. Anterior pons

3. Which of the following is illustrated by 2?

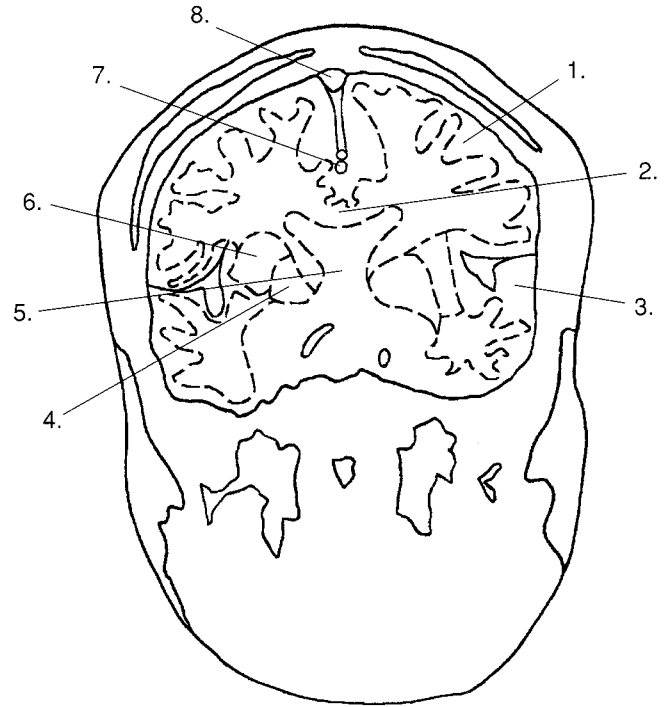
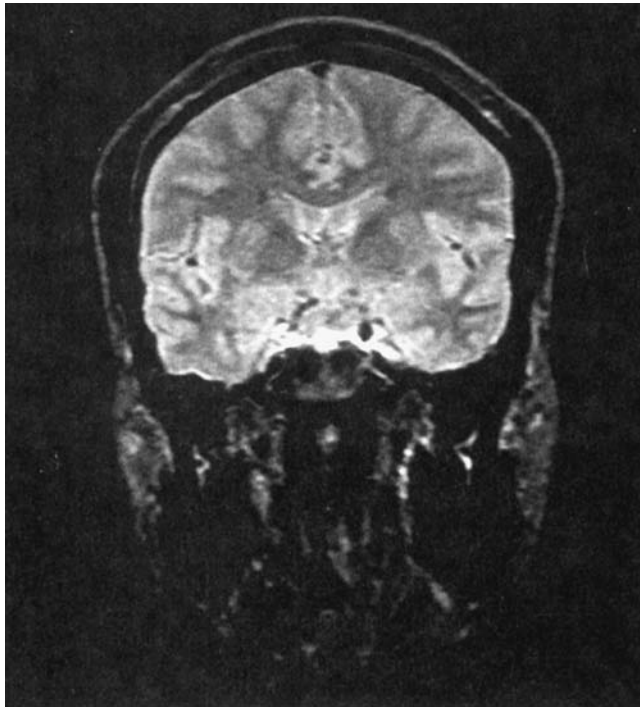
- A. Lenticular nuclei
- B. Body of corpus callosum
- C. Internal capsule
- D. Thalamus

4. Which of the following is illustrated by 4?

- A. Superior cistern
- B. Fourth ventricle
- C. Cerebral aqueduct
- D. Third ventricle

5. Which number illustrates the thalamus?

- A. 3
- B. 1
- C. 2
- D. 4



**Figure 5-17**

1. Which number illustrates the thalamus?

- A. 6
- B. 4
- C. 5
- D. 7

2. Which of the following is illustrated by 1?

- A. Superior sagittal sinus
- B. Parietal lobe
- C. Temporal lobe
- D. Occipital lobe

3. Which of the following is illustrated by 6?

- A. Body of corpus callosum
- B. Globus pallidus
- C. Thalamus
- D. Putamen

4. Which number illustrates the globus pallidus?

- A. 4
- B. 2
- C. 6
- D. 3

5. Which of the following is illustrated by 3?

- A. Occipital lobe
- B. Parietal lobe
- C. Temporal lobe
- D. Globus pallidus

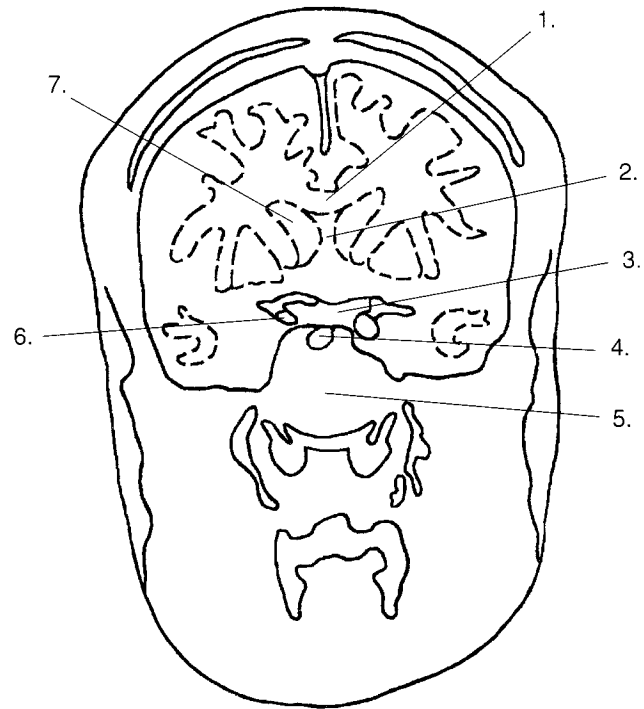
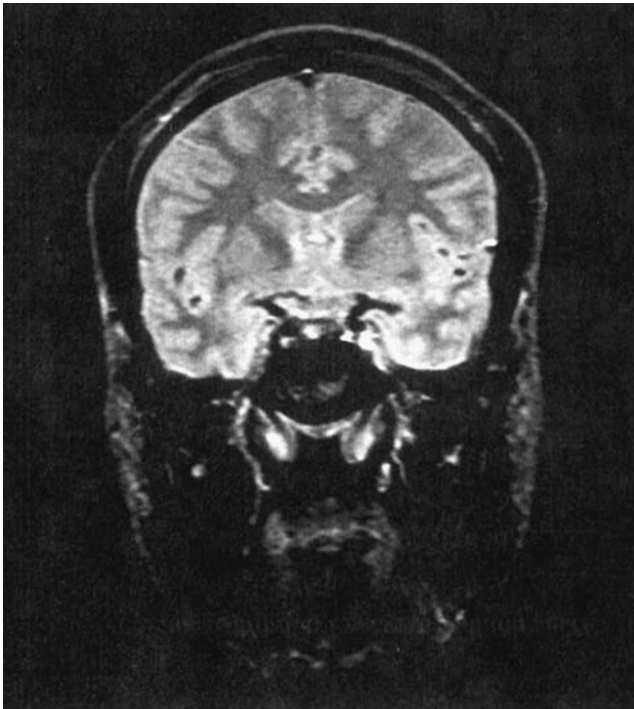


Figure 5-18

1. Which number illustrates the anterior horn of the lateral ventricle?
  - A. 7
  - B. 2
  - C. 1
  - D. 5
2. Which of the following is illustrated by 7?
  - A. Anterior horn of the lateral ventricle
  - B. Body of corpus callosum
  - C. Head of the caudate nucleus
  - D. Thalamus
3. Which number illustrates the optic chiasma?
  - A. 4
  - B. 6
  - C. 5
  - D. 3
4. Which of the following is illustrated by 4?
  - A. Pituitary gland
  - B. Sphenoid sinus
  - C. Third ventricle
  - D. Optic chiasma
5. Which of the following is illustrated by 6?
  - A. Optic nerve
  - B. Pituitary gland
  - C. Internal carotid artery
  - D. Vertebral artery

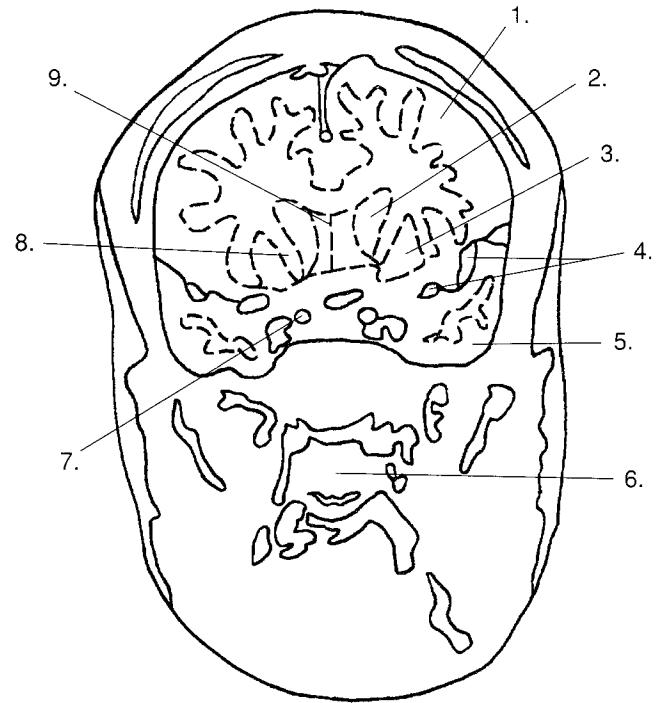
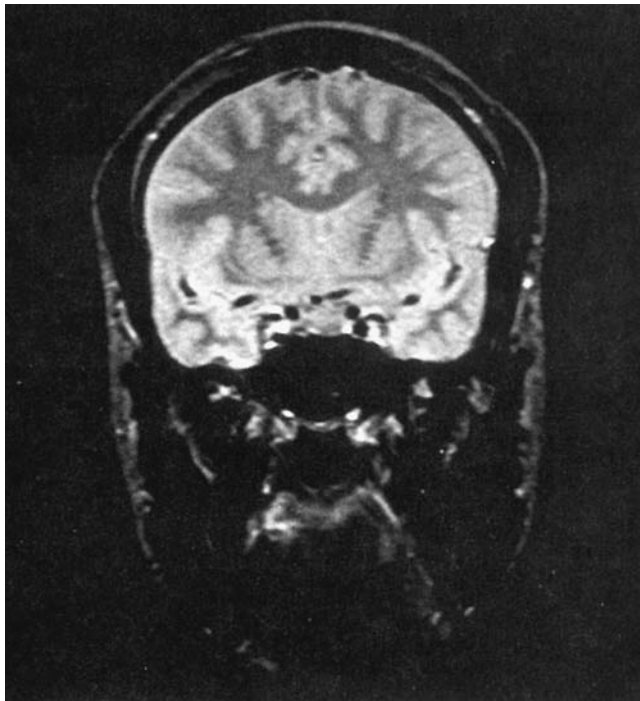


Figure 5-19

1. Which of the following is illustrated by 8?
- A. Internal capsule
  - B. Head of caudate nucleus
  - C. Globus pallidus
  - D. Septum pellucidum

2. Which of the following is illustrated by 3?
- A. Head of caudate nucleus
  - B. Septum pellucidum
  - C. Lenticular nuclei
  - D. Internal carotid artery

3. Which number illustrates the septum pellucidum?
- A. 8
  - B. 3
  - C. 2
  - D. 9

4. Which number illustrates the internal carotid artery?
- A. 7
  - B. 3
  - C. 2
  - D. 4

5. Which of the following is illustrated by 6?
- A. Sphenoid sinus
  - B. Nasopharynx
  - C. Mastoid sinus
  - D. Oropharynx

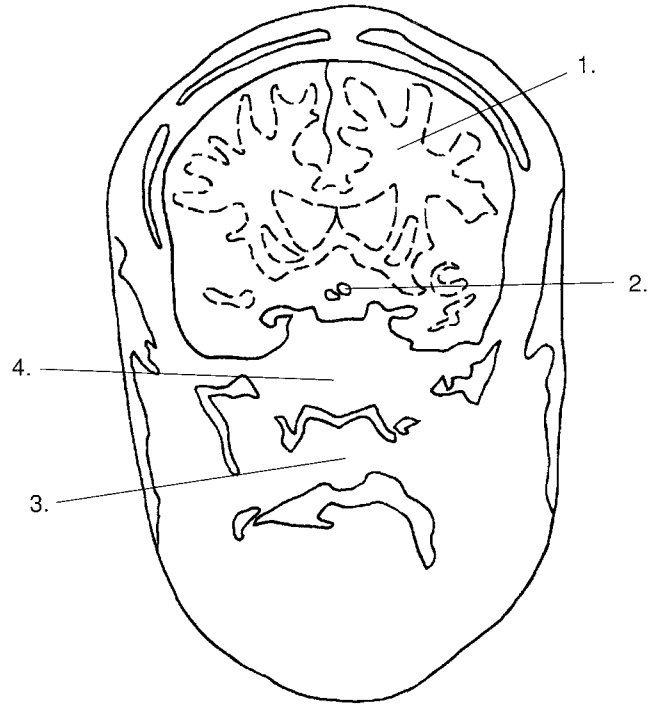
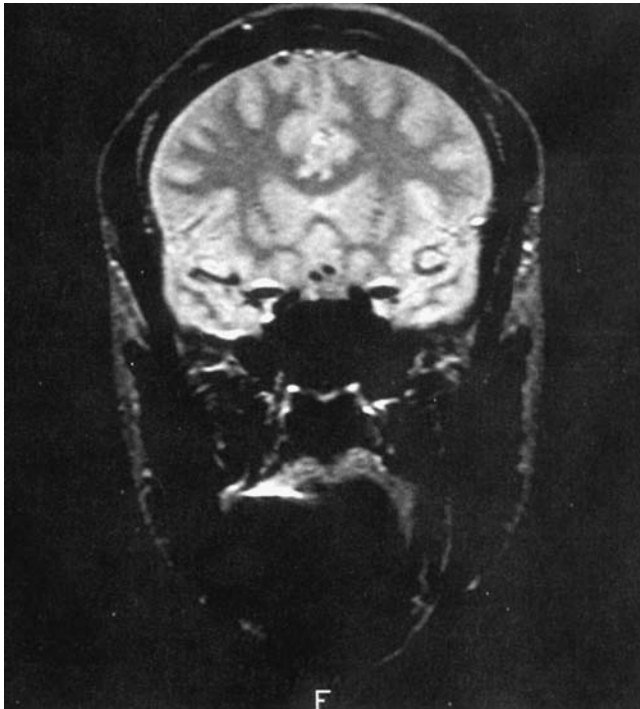
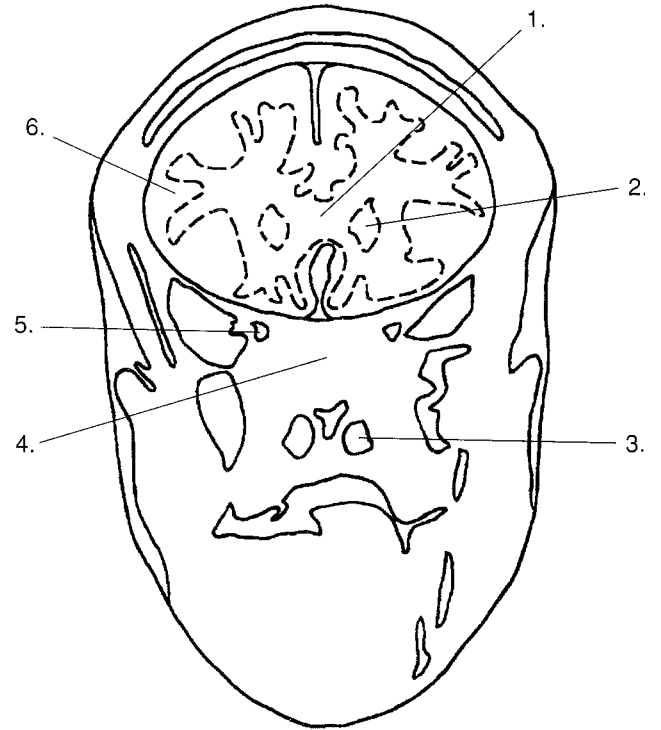
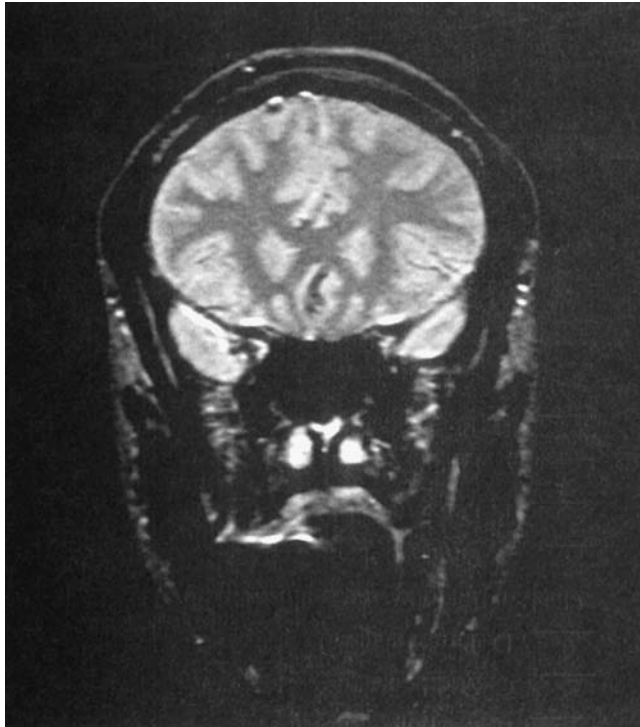


Figure 5-20

1. Which of the following is illustrated by 1?
  - A. White matter of parietal lobe
  - B. White matter of frontal lobe
  - C. Internal capsule
  - D. External capsule
  
2. Which of the following is illustrated by 2?
  - A. Straight sinus
  - B. Inferior sagittal sinus
  - C. Anterior cerebral artery
  - D. Middle cerebral artery
  
3. Which of the following is illustrated by 4?
  - A. Sphenoid sinus
  - B. Ethmoid air cells
  - C. Nasopharynx
  - D. Oropharynx

4. Which number illustrates the nasopharynx?
  - A. 4
  - B. 3
  - C. 2
  - D. 1
  
5. Which of the following is illustrated by 3?
  - A. Sphenoid sinus
  - B. Nasopharynx
  - C. Oropharynx
  - D. Ethmoid air cells



**Figure 5-21**

1. Which of the following is illustrated by 2?

- A. Tail of caudate nucleus
- B. Head of caudate nucleus
- C. Lenticular nuclei
- D. Thalamus

2. Which number illustrates the inferior nasal concha?

- A. 5
- B. 2
- C. 4
- D. 3

3. Which of the following is illustrated by 4?

- A. Sphenoid sinus
- B. Nasopharynx
- C. Maxillary sinus
- D. Oropharynx

4. Which of the following is illustrated by 1?

- A. Head of caudate nucleus
- B. Genu of corpus callosum
- C. Lenticular nuclei
- D. Septum pellucidum

5. Which of the following is illustrated by 5?

- A. Anterior cerebral artery
- B. Internal carotid artery
- C. Optic nerve
- D. Posterior cerebral artery

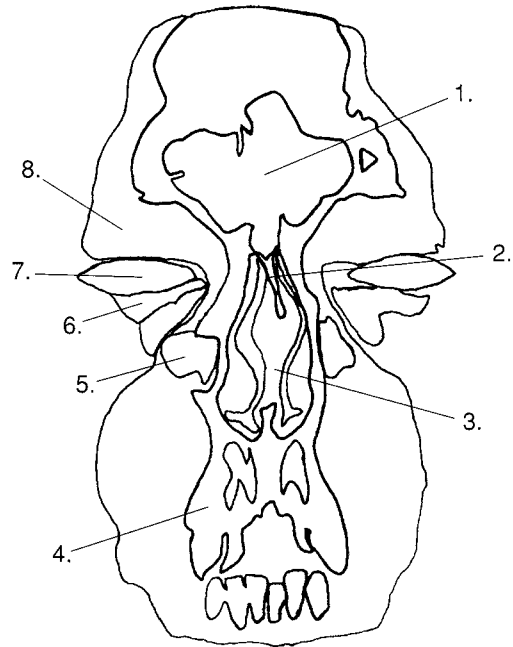


Figure 5-22

1. Which of the following is illustrated by 3?
  - A. Septal cartilage
  - B. Vomer
  - C. Perpendicular plate of ethmoid
  - D. Inferior concha
2. Which of the following is illustrated by 5?
  - A. Sphenoid sinus
  - B. Ethmoid sinus
  - C. Maxillary sinus
  - D. Frontal sinus
3. Which number illustrates the perpendicular plate of ethmoid?
  - A. 3
  - B. 2
  - C. 4
  - D. 1
4. Which number illustrates the frontal sinus?
  - A. 5
  - B. 3
  - C. 4
  - D. 1
5. Which number illustrates the maxilla?
  - A. 4
  - B. 8
  - C. 2
  - D. 1



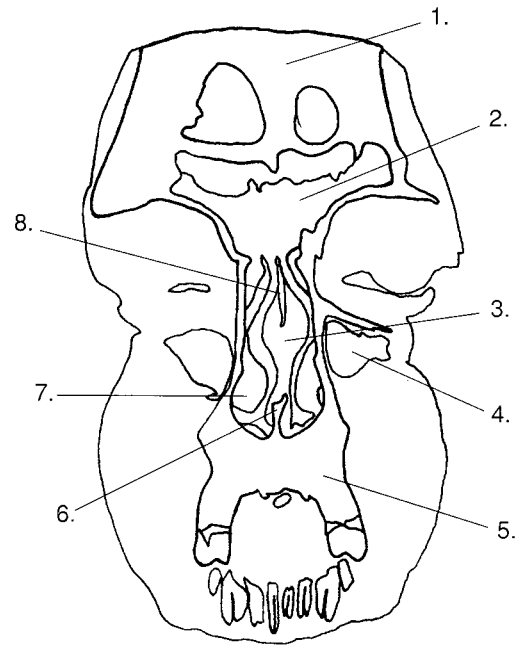


Figure 5-23

1. Which of the following is illustrated by 8?
  - A. Septal cartilage
  - B. Vomer
  - C. Perpendicular plate of ethmoid
  - D. Inferior concha
2. Which of the following is illustrated by 6?
  - A. Septal cartilage
  - B. Vomer
  - C. Perpendicular plate of ethmoid
  - D. Inferior concha
3. Which number illustrates the inferior concha?
  - A. 7
  - B. 8
  - C. 6
  - D. 3
4. Which number illustrates the septal cartilage?
  - A. 7
  - B. 8
  - C. 6
  - D. 3
5. Which of the following is illustrated by 5?
  - A. Palatine bone
  - B. Sphenoid bone
  - C. Maxilla bone
  - D. Ethmoid bone

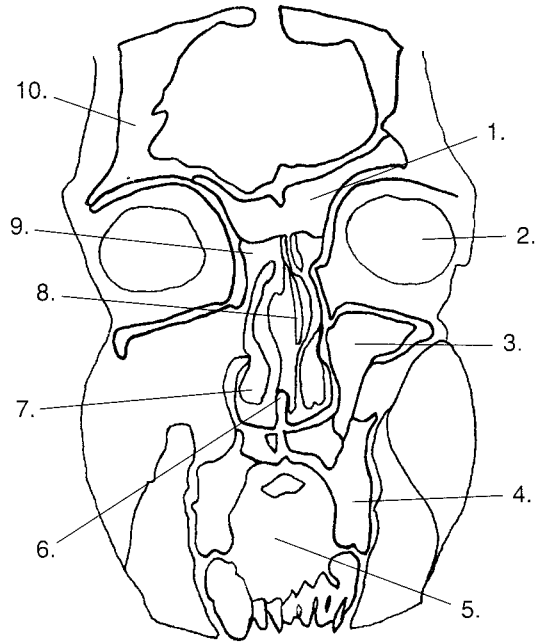
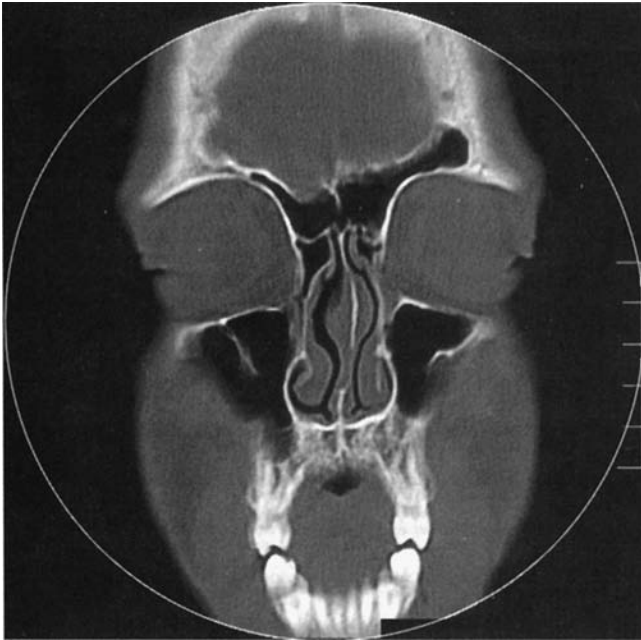


Figure 5-24

1. Which of the following is illustrated by 9?

- A. Sphenoid sinus
- B. Ethmoid sinus
- C. Frontal sinus
- D. Maxillary sinus

2. Which of the following is illustrated by 1?

- A. Sphenoid sinus
- B. Ethmoid sinus
- C. Frontal sinus
- D. Maxillary sinus

3. Which of the following is illustrated by 7?

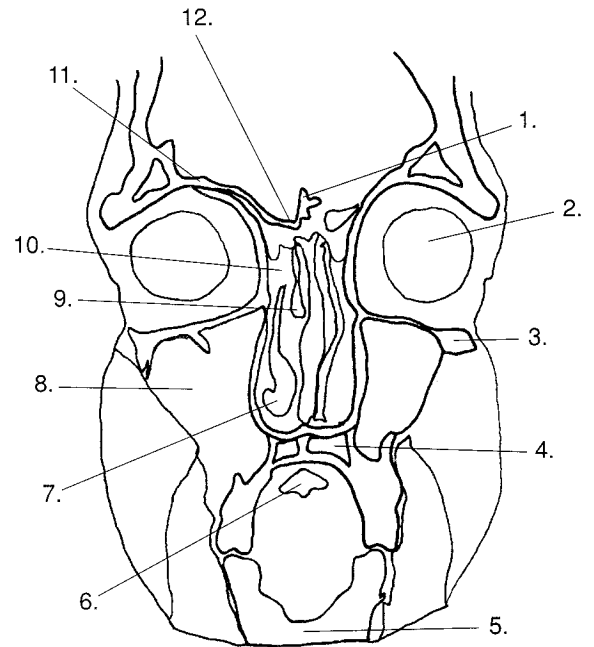
- A. Inferior concha
- B. Middle concha
- C. Vomer
- D. Septal cartilage

4. Which number illustrates the ethmoid sinus?

- A. 1
- B. 3
- C. 9
- D. 4

5. Which number illustrates the maxillary sinus?

- A. 1
- B. 3
- C. 9
- D. 4



**Figure 5-25**

1. Which of the following is illustrated by 9?
  - A. Superior concha
  - B. Middle concha
  - C. Inferior concha
  - D. Ethmoid sinus
  
2. Which of the following is illustrated by 1?
  - A. Crista galli
  - B. Perpendicular plate of ethmoid
  - C. Vomer
  - D. Cribriform plate
  
3. Which of the following is illustrated by 12?
  - A. Crista galli
  - B. Vomer
  - C. Orbital plate of frontal bone
  - D. Cribriform plate

4. Which number illustrates the inferior concha?
  - A. 10
  - B. 9
  - C. 7
  - D. 4
  
5. Which number illustrates the ethmoid sinus?
  - A. 9
  - B. 10
  - C. 8
  - D. 4

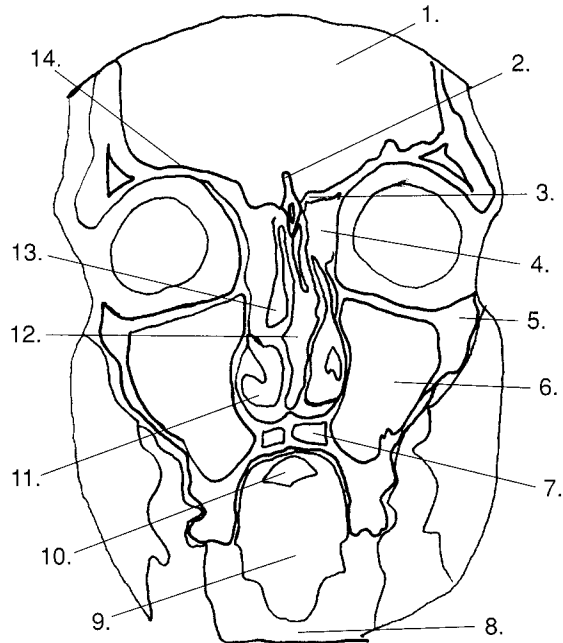


Figure 5-26

1. Which of the following is illustrated by 6?

- A. Sphenoid sinus
- B. Ethmoid sinus
- C. Maxillary sinus
- D. Frontal sinus

2. Which of the following is illustrated by 13?

- A. Superior concha
- B. Middle concha
- C. Inferior concha
- D. Nasal septum

3. Which of the following is illustrated by 5?

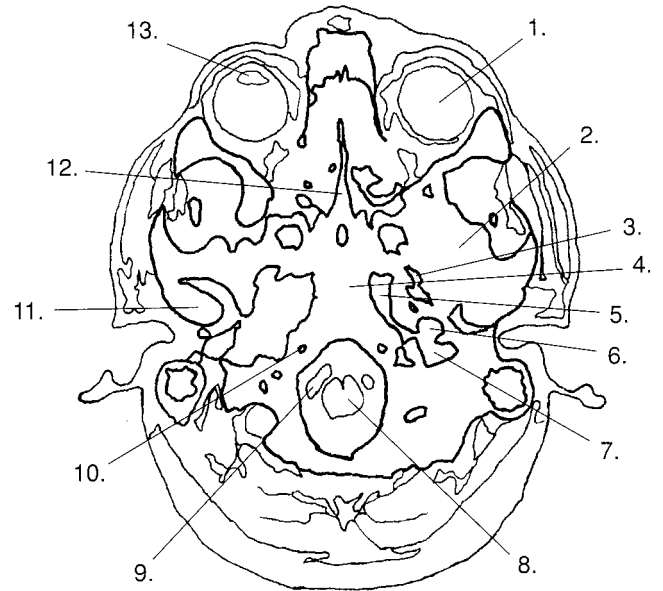
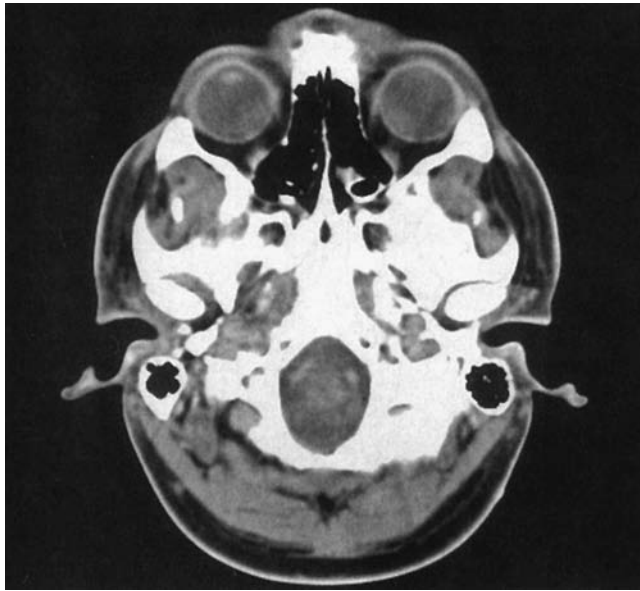
- A. Ethmoid
- B. Zygoma
- C. Maxilla
- D. Palatine

4. Which number illustrates the cribriform plate?

- A. 2
- B. 3
- C. 14
- D. 7

5. Which number illustrates the crista galli?

- A. 2
- B. 3
- C. 4
- D. 14



**Figure 5-27**

1. Which number illustrates the foramen ovale?

- A. 5
- B. 3
- C. 6
- D. 7

2. Which of the following is illustrated by 7?

- A. Internal jugular vein
- B. Foramen lacerum
- C. Foramen ovale
- D. Internal carotid artery

3. Which number illustrates the hypoglossal canal?

- A. 6
- B. 7
- C. 10
- D. 5

4. Which of the following illustrates the foramen lacerum?

- A. 7
- B. 6
- C. 10
- D. 5

5. Which of the following is illustrated by 6?

- A. Foramen lacerum
- B. Internal carotid artery
- C. Foramen ovale
- D. Internal jugular vein

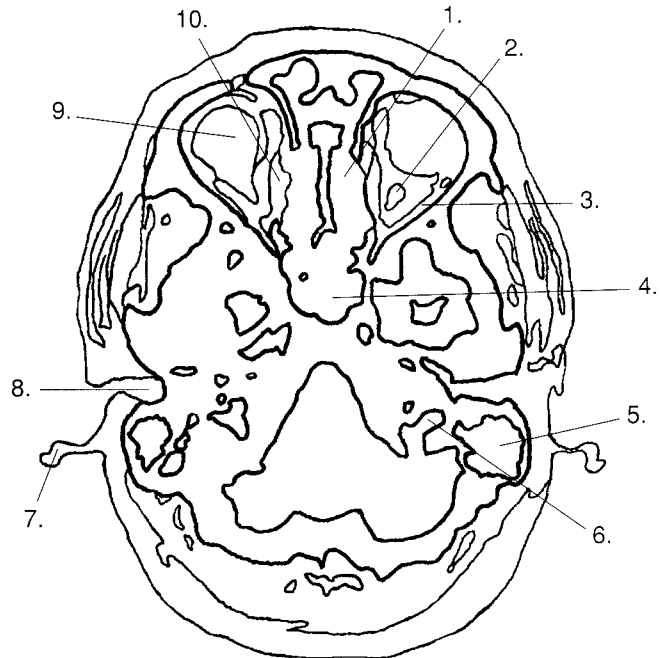
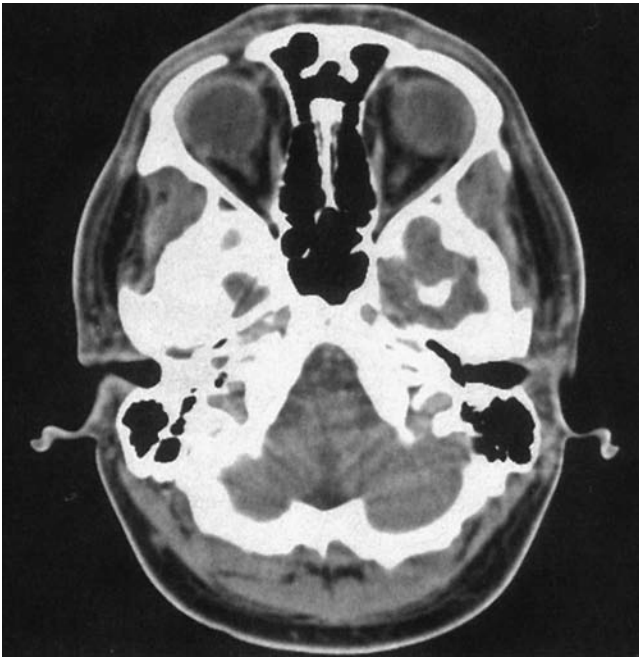


Figure 5-28

1. Which of the following is illustrated by 3?

- A. Lateral rectus muscle
- B. Medial rectus muscle
- C. Optic nerve
- D. Superior oblique muscle

2. Which number illustrates the ethmoid air cells?

- A. 4
- B. 1
- C. 8
- D. 5

3. Which number illustrates the medial rectus muscle?

- A. 10
- B. 3
- C. 1
- D. 2

4. Which of the following is illustrated by 5?

- A. Temporal lobe
- B. Sigmoid sinus
- C. Internal carotid artery
- D. Mastoid air cells

5. Which of the following is illustrated by 8?

- A. Auricle
- B. External acoustic meatus
- C. Mandibular condyle
- D. Hypoglossal canal

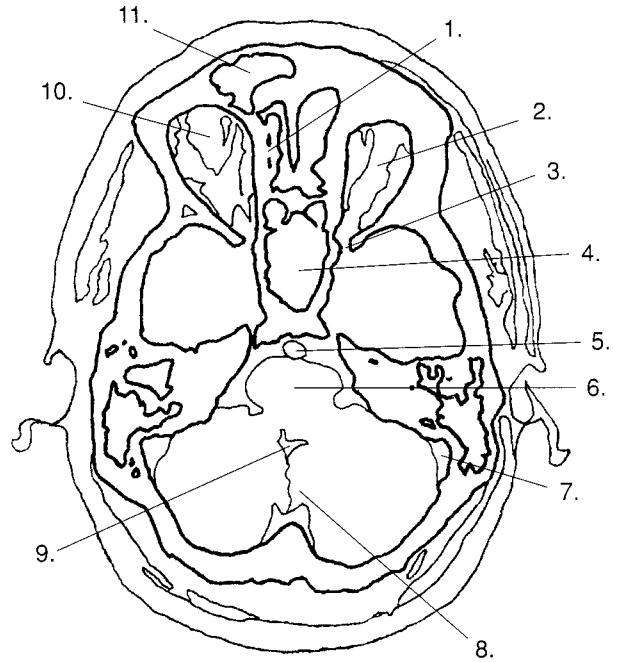
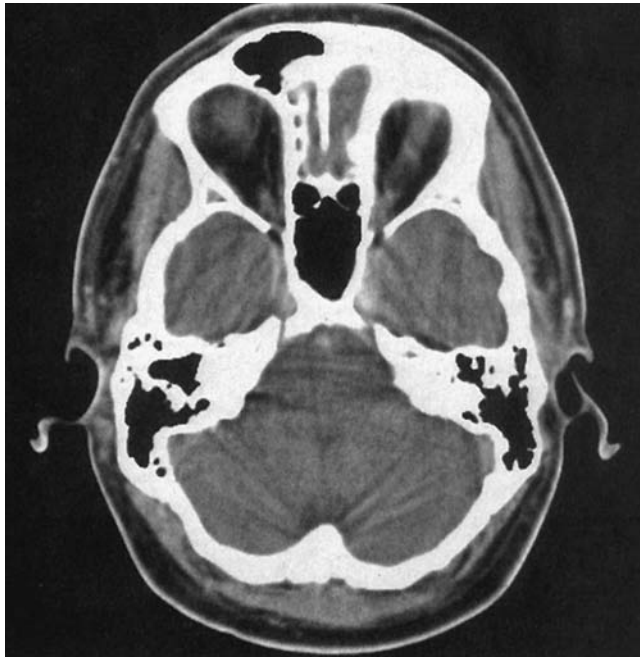


Figure 5-29

1. Which number illustrates the cribriform plate of the ethmoid bone?
  - A. 2
  - B. 11
  - C. 4
  - D. 1
  
2. Which of the following is illustrated by 6?
  - A. Pons
  - B. Medulla oblongata
  - C. Cerebellar vermis
  - D. Cerebral peduncles
  
3. Which number illustrates the basilar artery?
  - A. 6
  - B. 4
  - C. 5
  - D. 9
  
4. Which of the following is illustrated by 9?
  - A. Fourth ventricle
  - B. Basilar artery
  - C. Superior cistern
  - D. Inferior sagittal sinus
  
5. Which of the following is illustrated by 4?
  - A. Ethmoid air cells
  - B. Mastoid air cells
  - C. Sigmoid sinus
  - D. Sphenoid sinus

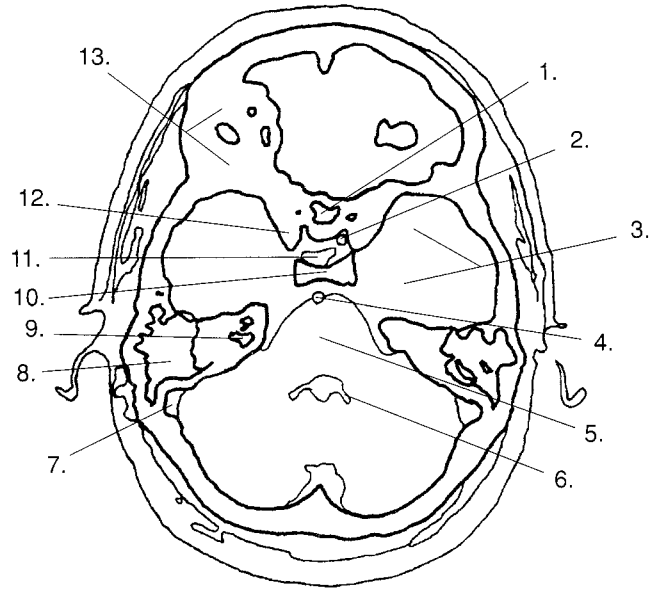
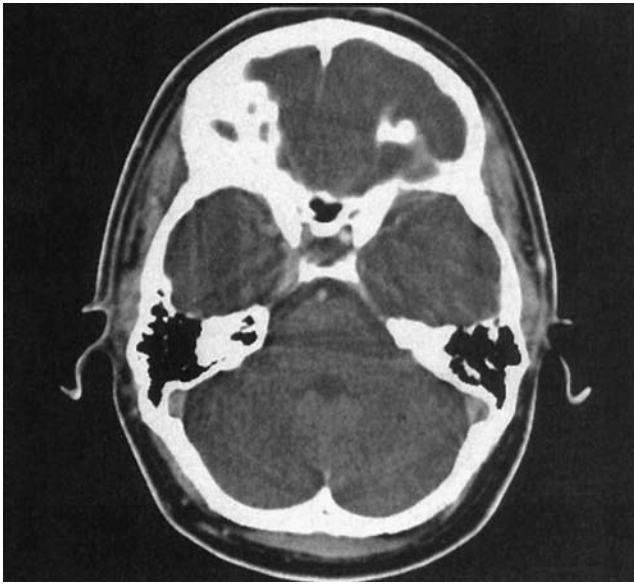


Figure 5-30

1. Which number illustrates the dorsum sellae?

- A. 12
- B. 10
- C. 3
- D. 11

2. Which of the following is illustrated by 1?

- A. Optic chiasma
- B. Internal carotid artery
- C. Basilar artery
- D. Sphenoid sinus

3. Which number illustrates the middle ear?

- A. 4
- B. 11
- C. 9
- D. 10

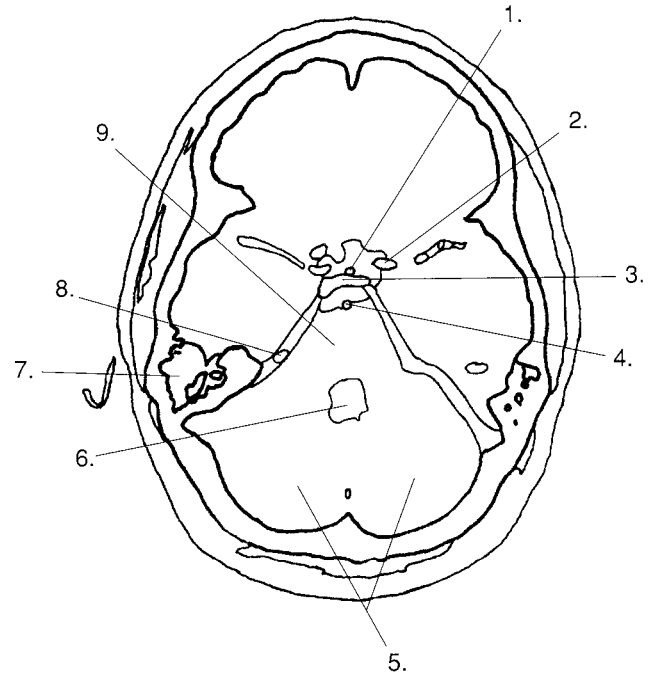
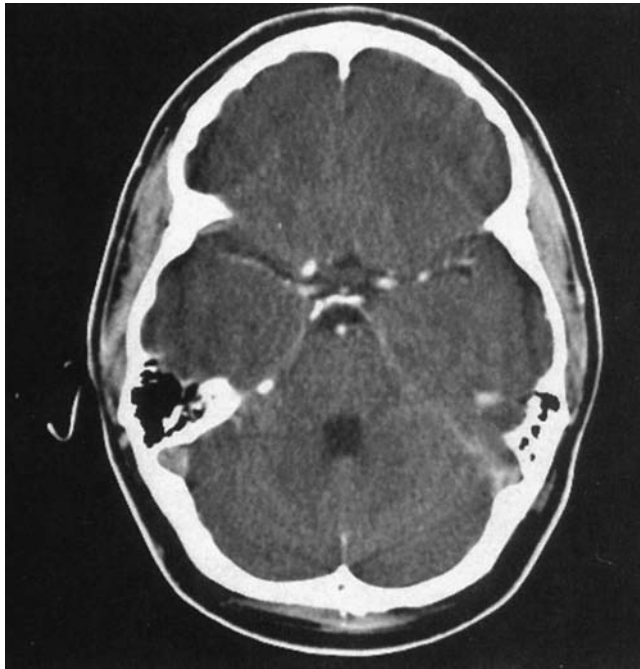
4. Which of the following is illustrated by 4?

- A. Basilar artery
- B. Internal carotid artery
- C. Middle ear
- D. Pituitary gland

5. Which of the following is illustrated by 11?

- A. Pituitary gland
- B. Dorsum sellae
- C. Optic chiasma
- D. Pineal gland





**Figure 5-31**

1. Which number illustrates the infundibulum of the pituitary?
  - A. 2
  - B. 4
  - C. 8
  - D. 1
2. Which of the following is illustrated by 3?
  - A. Basilar artery
  - B. Middle cerebral artery
  - C. Posterior cerebral artery
  - D. Dorsum sellae
3. Which number illustrates the mastoid air cells?
  - A. 7
  - B. 6
  - C. 3
  - D. 8
4. Which of the following is illustrated by 2?
  - A. Infundibulum of the pituitary
  - B. Middle cerebral artery
  - C. Anterior cerebral artery
  - D. Basilar artery
5. Which number illustrates the posterior cerebral artery?
  - A. 8
  - B. 6
  - C. 1
  - D. 4

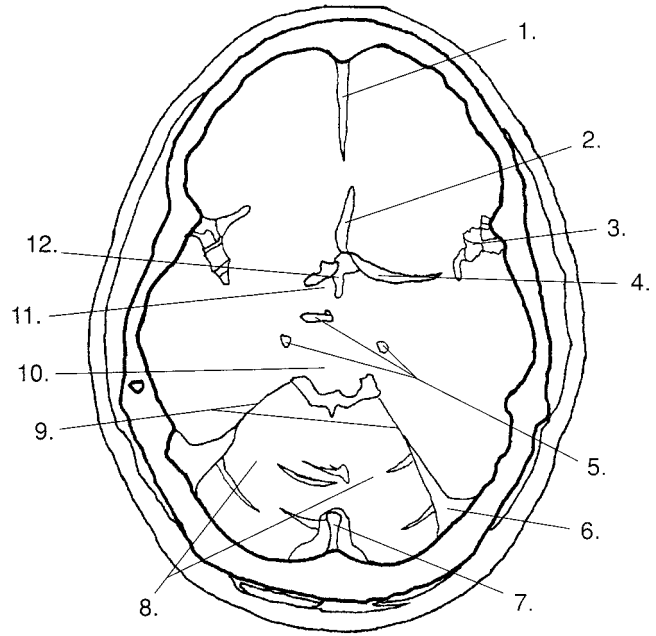
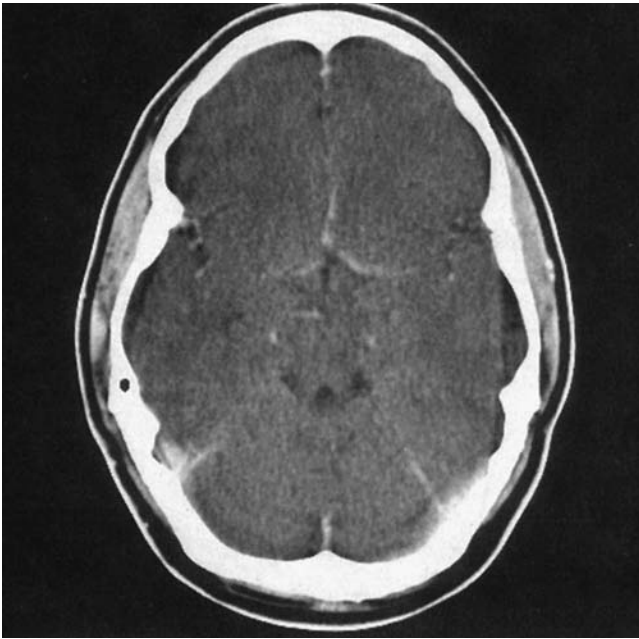
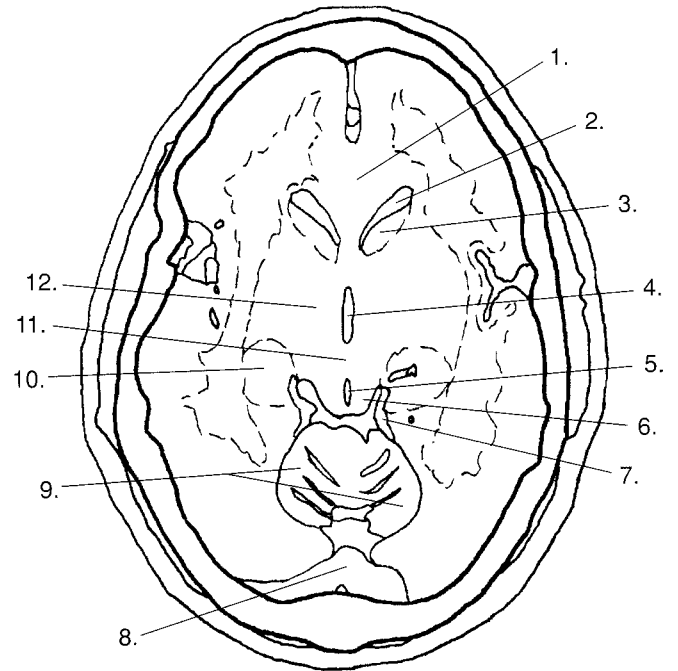


Figure 5-32

1. Which of the following is illustrated by 9?
  - A. Midbrain
  - B. Transverse sinus
  - C. Tentorium cerebelli
  - D. Cerebellum
2. Which number illustrates the falx cerebri?
  - A. 7
  - B. 2
  - C. 5
  - D. 1
3. Which of the following illustrates the hypothalamus?
  - A. 12
  - B. 11
  - C. 8
  - D. 10
4. Which number illustrates the Sylvian fissure?
  - A. 3
  - B. 1
  - C. 9
  - D. 12
5. Which of the following illustrates the falx cerebelli?
  - A. 1
  - B. 4
  - C. 7
  - D. 2



**Figure 5-33**

1. Which number illustrates the quadrigeminal plate?

- A. 6
- B. 2
- C. 7
- D. 3

2. Which number illustrates the cerebral peduncles?

- A. 6
- B. 11
- C. 10
- D. 12

3. Which of the following is illustrated by 4?

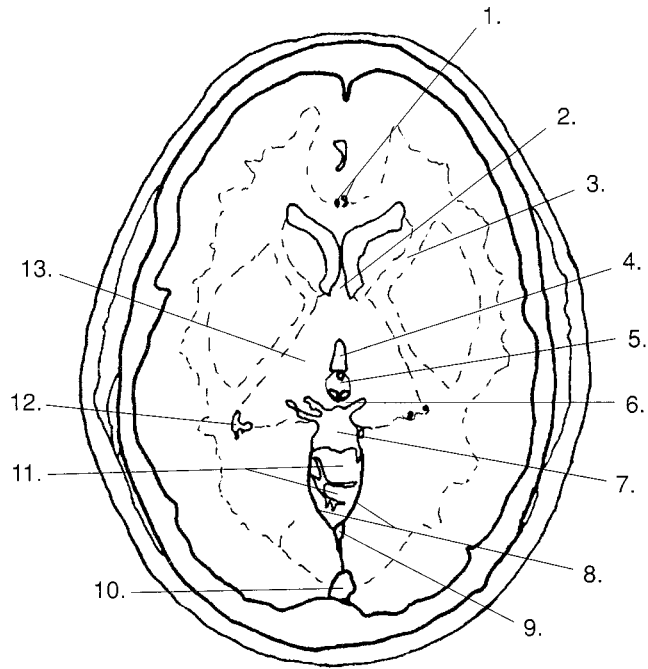
- A. Fourth ventricle
- B. Cerebral aqueduct
- C. Third ventricle
- D. Superior cistern

4. Which number illustrates the hippocampal formation?

- A. 3
- B. 6
- C. 11
- D. 10

5. Which number illustrates the posterior cerebral artery?

- A. 7
- B. 4
- C. 8
- D. 5



**Figure 5-34**

1. Which of the following is illustrated by 2?

- A. Thalamus
- B. Internal capsule
- C. Fornix
- D. Head of caudate

2. Which number illustrates the quadrigeminal plate?

- A. 6
- B. 8
- C. 7
- D. 11

3. Which number illustrates the inferior horn of the lateral ventricle?

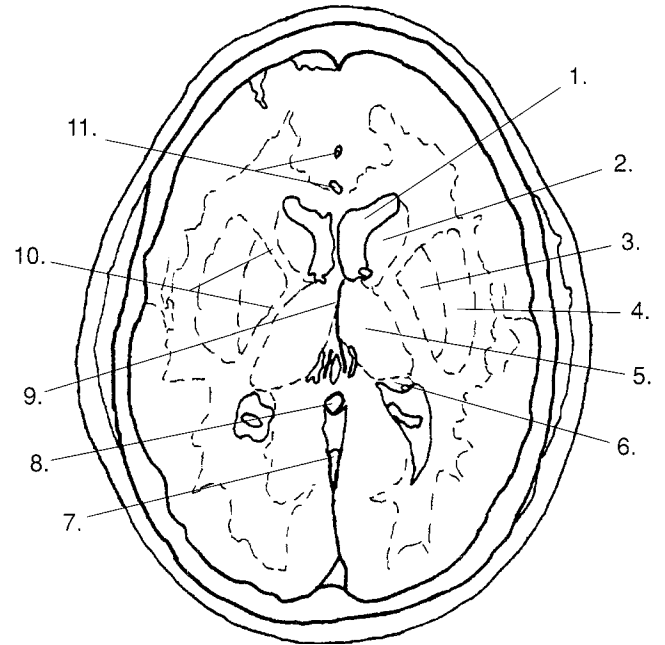
- A. 8
- B. 5
- C. 4
- D. 12

4. Which of the following is illustrated by 9?

- A. Confluence of sinuses
- B. Straight sinus
- C. Inferior sagittal sinus
- D. Superior sagittal sinus

5. Which of the following is illustrated by 7?

- A. Quadrigeminal plate
- B. Superior cistern
- C. Third ventricle
- D. Straight sinus



**Figure 5-35**

1. Which number illustrates the thalamus nucleus?

- A. 2
- B. 4
- C. 3
- D. 5

2. Which of the following is illustrated by 8?

- A. Posterior cerebral artery
- B. Vein of Galen
- C. Third ventricle
- D. Anterior cerebral artery

3. Which number illustrates the straight sinus?

- A. 9
- B. 6
- C. 7
- D. 1

4. Which of the following is illustrated by 4?

- A. Head of caudate
- B. Globus pallidus
- C. Putamen
- D. Tail of caudate

5. Which number illustrates the globus pallidus nucleus?

- A. 2
- B. 4
- C. 3
- D. 6

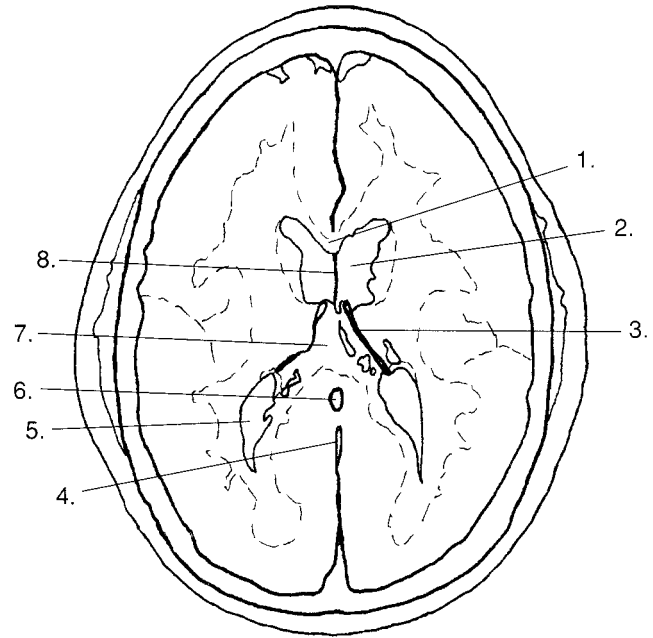
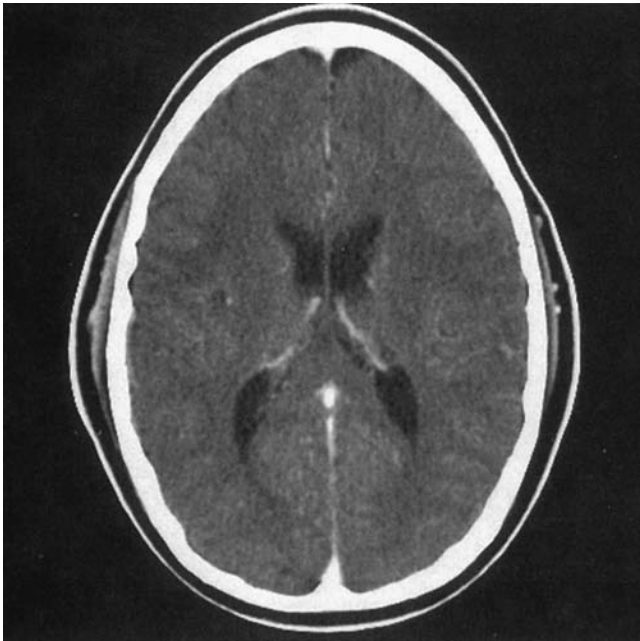


Figure 5-36

1. Which of the following is illustrated by 2?
  - A. Anterior horn of lateral ventricle
  - B. Body of lateral ventricle
  - C. Third ventricle
  - D. Superior cistern
2. Which number illustrates the septum pellucidum?
  - A. 1
  - B. 4
  - C. 3
  - D. 8
3. Which of the following is illustrated by 7?
  - A. Pons
  - B. Splenium of corpus callosum
  - C. Hypothalamus
  - D. Thalamus
4. Which number illustrates the posterior horn of the lateral ventricle?
  - A. 3
  - B. 6
  - C. 5
  - D. 2
5. Which of the following is illustrated by 3?
  - A. Posterior horn of the lateral ventricle
  - B. Choroid plexus
  - C. Splenium of corpus callosum
  - D. Septum pellucidum

## CLINICAL APPLICATIONS

---

1. What bones form the bony nasal septum?  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
2. Which of the following nuclei appears to be protruding into the lateral ventricles?  
 \_\_\_\_\_ A. Putamen  
 \_\_\_\_\_ B. Caudate  
 \_\_\_\_\_ C. Globus pallidus  
 \_\_\_\_\_ D. Thalamus
3. Describe the location of the insula.  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
4. Which of the following describes the venous sinus between the inferior margin of the falx cerebri and tentorium cerebelli?  
 \_\_\_\_\_ A. Superior sagittal sinus  
 \_\_\_\_\_ B. Sigmoid sinus  
 \_\_\_\_\_ C. Straight sinus  
 \_\_\_\_\_ D. Inferior sagittal sinus
5. Describe the fornix.  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
6. Which of the following is most laterally situated within the brain?  
 \_\_\_\_\_ A. Putamen  
 \_\_\_\_\_ B. Caudate  
 \_\_\_\_\_ C. Globus pallidus  
 \_\_\_\_\_ D. Thalamus
7. The \_\_\_\_\_ transmits cerebrospinal fluid between the third and fourth ventricles.  
 \_\_\_\_\_ A. Foramen of Magendie  
 \_\_\_\_\_ B. Interventricular foramen  
 \_\_\_\_\_ C. Foramen of Luschka  
 \_\_\_\_\_ D. Cerebral aqueduct
8. The vertebral arteries enter the cranial cavity through the foramen \_\_\_\_\_.
9. Which of the following sinuses is located most posteriorly within the skull?  
 \_\_\_\_\_ A. Sphenoid  
 \_\_\_\_\_ B. Maxillary  
 \_\_\_\_\_ C. Ethmoid  
 \_\_\_\_\_ D. Frontal
10. Which of the following is found closest to the clivus?  
 \_\_\_\_\_ A. Pons  
 \_\_\_\_\_ B. Midbrain  
 \_\_\_\_\_ C. Medulla oblongata  
 \_\_\_\_\_ D. Hypothalamus

## CLINICAL CORRELATIONS

---

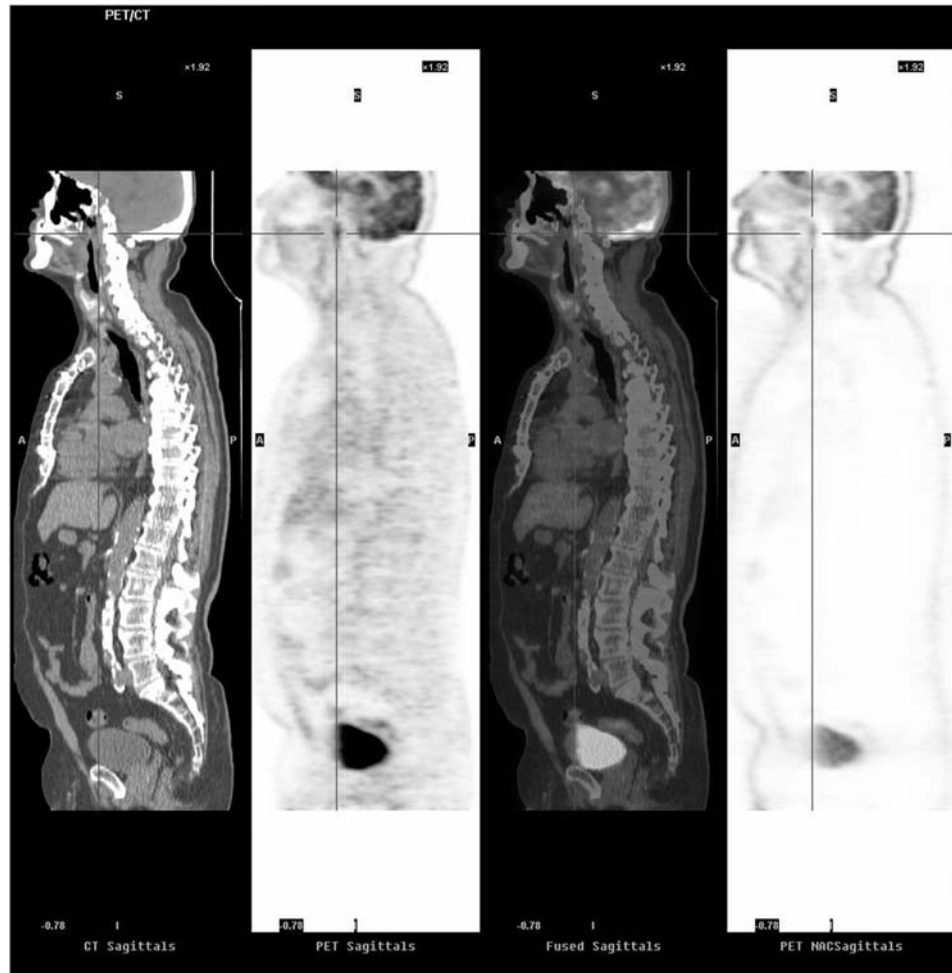
### ■ Clinical Case 5-1



1. Which of the following describes the artery located superior to the cerebellum?
  - A. Posterior cerebral
  - B. Anterior cerebral
  - C. Middle cerebral
  - D. Basilar artery
2. In this patient, the location of the mass would best be described by which of the following?
  - A. Anterior cranial fossa
  - B. Middle cranial fossa
  - C. Posterior cranial fossa
  - D. Midbrain
3. Which of the following best describes the changes in adjacent tissues?
  - A. Inferior displacement of the pons
  - B. Superior displacement of the occipital lobe
  - C. Lateral displacement of the temporal lobe
  - D. Superior displacement of the frontal lobe
4. Which of the following describes the artery located anterior to the pons?
  - A. Posterior cerebral
  - B. Anterior cerebral
  - C. Middle cerebral
  - D. Basilar artery
5. Which of the following would best describe the procedure used to generate the images located above?
  - A. Computed tomography angiography (CTA)
  - B. Magnetic resonance angiography (MRA)
  - C. Ultrasound
  - D. Positron emission tomography/computed tomography (PET/CT)

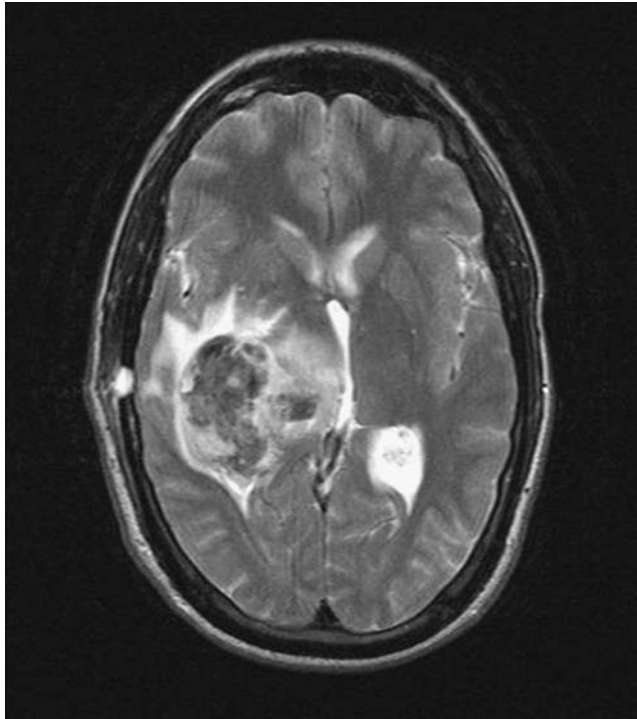


## ■ Clinical Case 5-2



- Which of the following best describes the location of the mass marked above?
  - A. Retropharyngeal
  - B. Oropharynx
  - C. Laryngopharynx
  - D. Retroperitoneal
- The opening in the base of the skull that transmits the internal carotid artery is found in which of the following bones?
  - A. Sphenoid
  - B. Temporal
  - C. Frontal
  - D. Occipital
- The opening in the base of the skull that transmits the internal jugular vein is found in which of the following bones?
  - A. Sphenoid
  - B. Temporal
  - C. Frontal
  - D. Occipital
- Which of the following is the foramen that contains the vertebral arteries?
  - A. Ovale
  - B. Lacerum
  - C. Magnum
  - D. Superior orbital fissure
- Which of the cranial nerves exits the skull to carry sensory and motor fibers below the diaphragm?
  - A. Hypoglossal
  - B. Trochlear
  - C. Vagus
  - D. Trigeminal

■ **Clinical Case 5-3**



1. Describe the location of the glioblastoma multiforme in this axial, contrast-enhanced magnetic resonance (MR) image of the brain.

---

---

---

3. Describe the consistency, shape, and border.

---

---

---

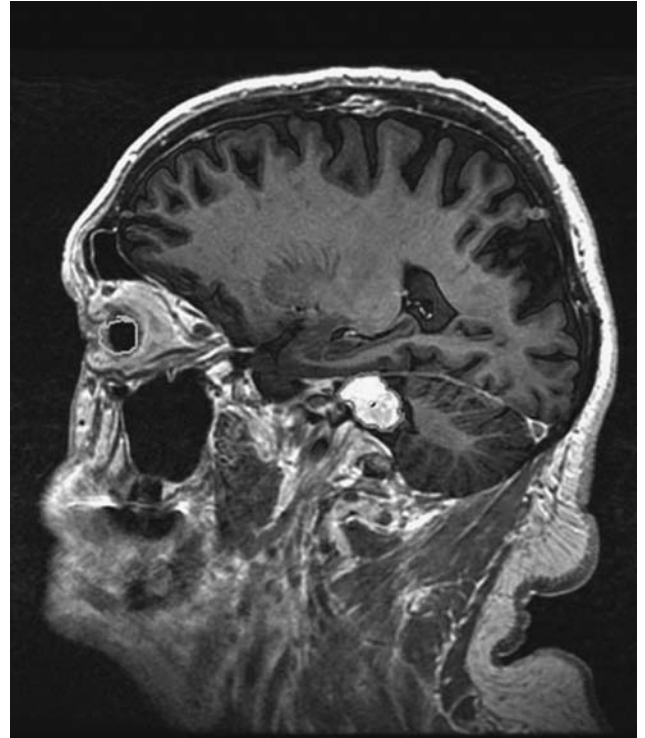
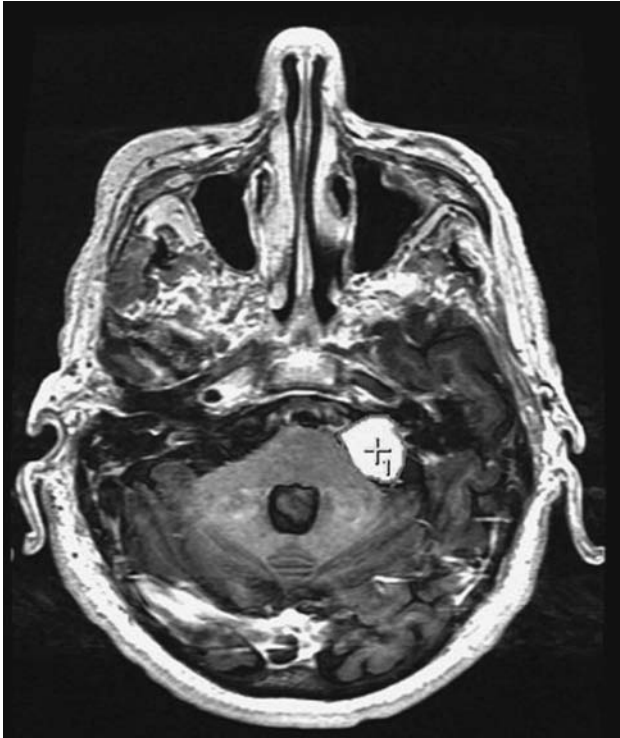
2. Describe the changes in adjacent tissues.

---

---

---

■ Clinical Case 5-4



1. Describe the location of the acoustic neuroma in the axial (left) and sagittal (right) T1 weighted MR images in this 80-year-old male patient.

---



---



---

2. Describe the changes in adjacent tissues.

---



---



---

3. Describe the consistency, shape, and border.

---

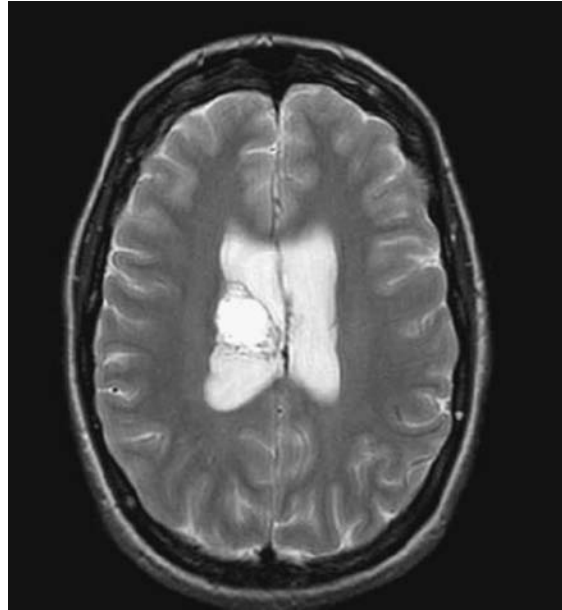


---



---

■ **Clinical Case 5-5**



1. Describe the location of the neurocytoma shown in the sagittal T1 (left) and axial T2 (right) weighted MR images of the head.

---

---

---

2. Describe the changes in adjacent tissues.

---

---

---

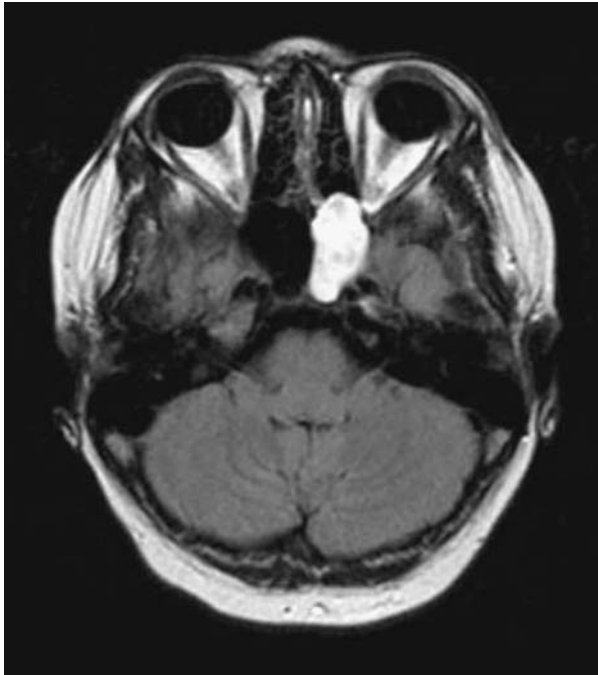
3. Describe the consistency, shape, and border.

---

---

---

■ Clinical Case 5-6



1. Describe the location of the mucocele shown in the T1 weighted axial and sagittal MR images.

---

---

---

2. Describe the changes in adjacent tissues.

---

---

---

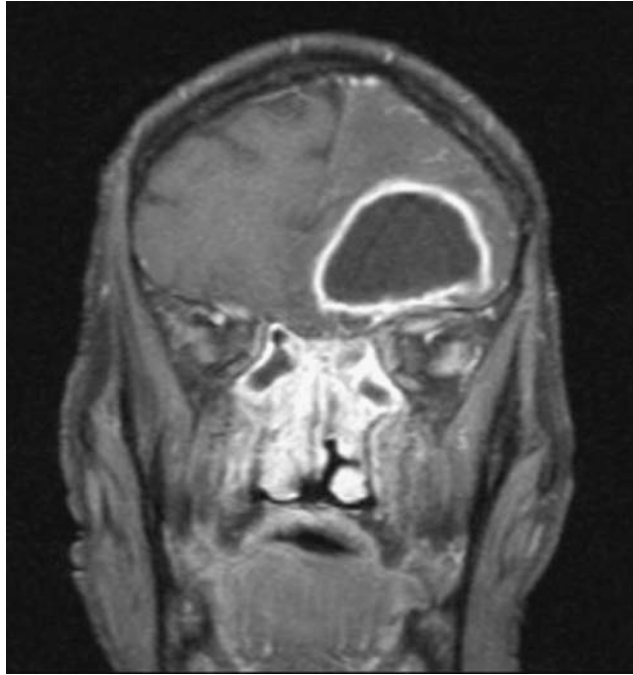
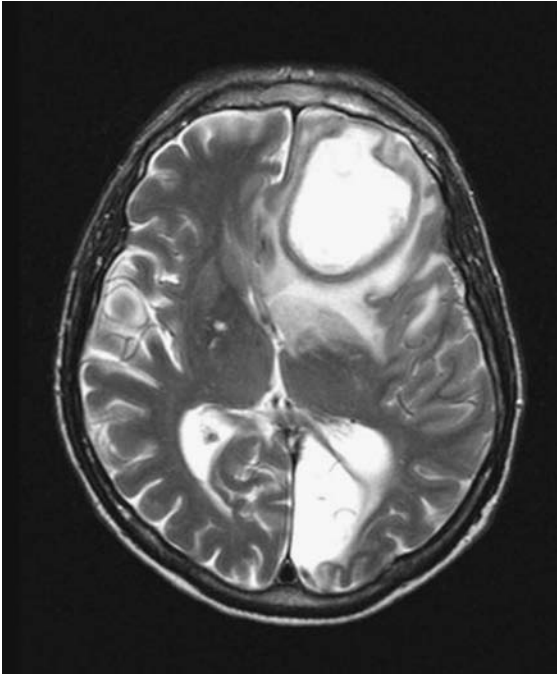
3. Describe the consistency, shape, and border.

---

---

---

■ **Clinical Case 5-7**



1. Describe the location of the brain abscess shown on the axial T2 (left) and coronal T1 (right) weighted post contrast MR images.

---

---

---

2. Describe the changes in adjacent tissues.

---

---

---

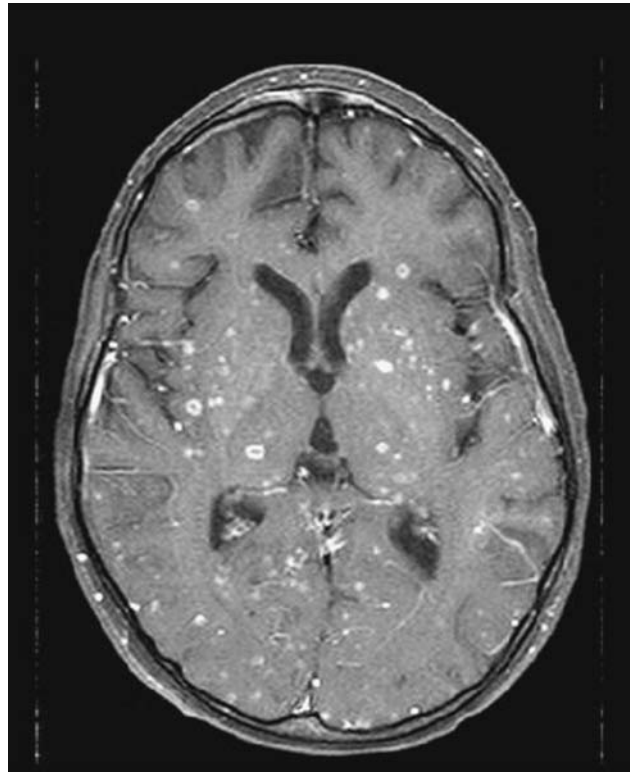
3. Describe the consistency, shape, and border.

---

---

---

■ Clinical Case 5-8



1. Describe the location of the infection in this axial MR brain image of a 14-year-old female patient.

---

---

---

2. Describe the changes in adjacent tissues.

---

---

---

3. Describe the consistency, shape, and border.

---

---

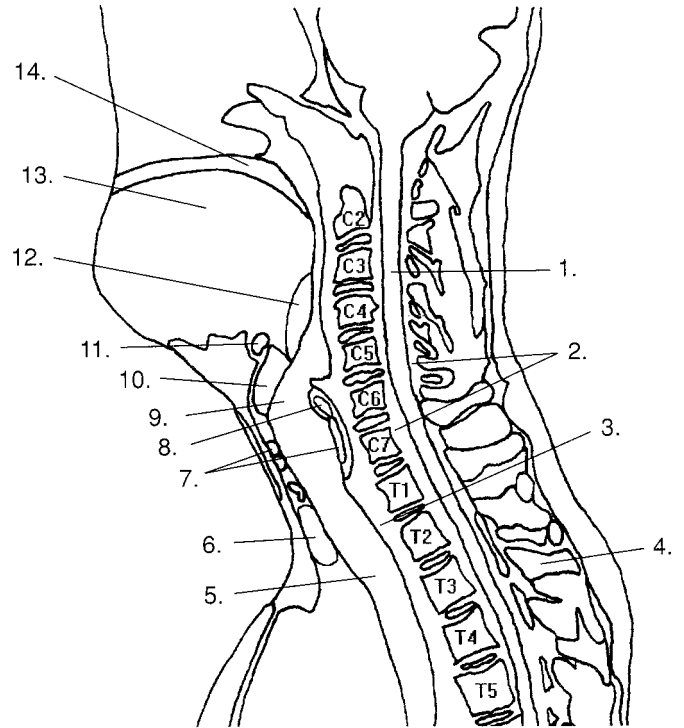
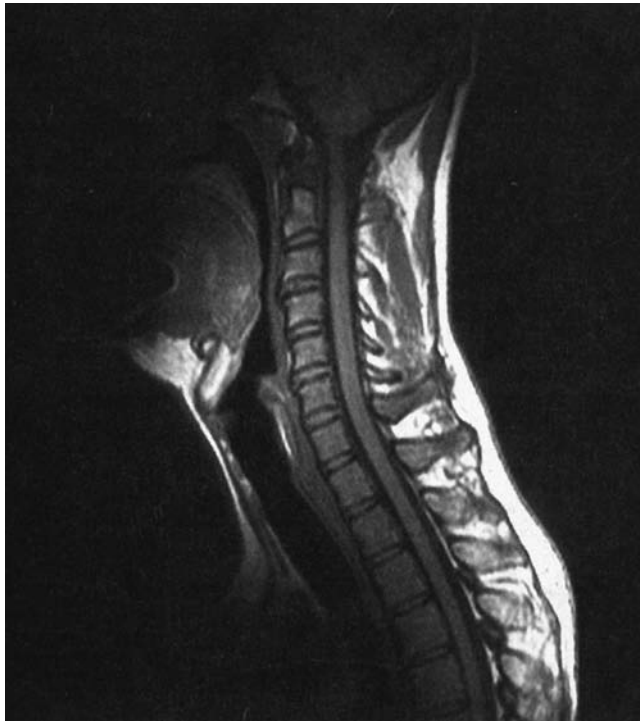
---





Chapter  
**6**

# Neck



**Figure 6-1**

1. Which of the following is illustrated by 14?
  - A. Nasopharynx
  - B. Genioglossus muscle
  - C. Soft palate
  - D. Maxilla
2. Which of the following is illustrated by 7?
  - A. Thyroid cartilage
  - B. Cricoid cartilage
  - C. Arytenoid cartilage
  - D. Hyoid bone
3. Which number illustrates the genioglossus muscle?
  - A. 13
  - B. 14
  - C. 12
  - D. 10
4. Which of the following is illustrated by 8?
  - A. Arytenoid cartilage
  - B. Cricoid cartilage
  - C. Thyroid cartilage
  - D. Hyoid bone
5. Which number illustrates the isthmus of the thyroid gland?
  - A. 12
  - B. 7
  - C. 10
  - D. 6

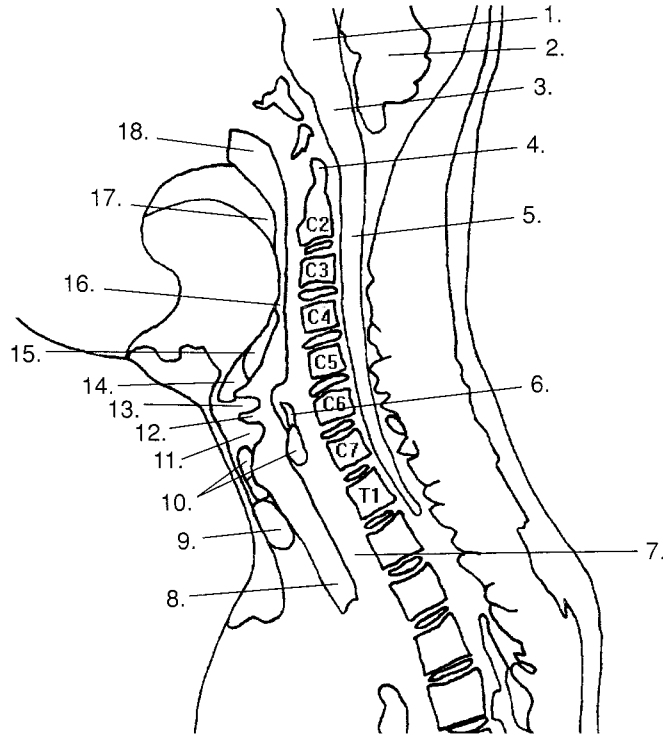


Figure 6-2

1. Which number illustrates the vestibular fold?

- A. 13
- B. 6
- C. 11
- D. 18

2. Which of the following is illustrated by 15?

- A. Oropharynx
- B. Epiglottis
- C. Cricoid cartilage
- D. Arytenoid cartilage

3. Which of the following is illustrated by 12?

- A. Vestibular fold
- B. Uvula
- C. Laryngeal pharynx
- D. Glottic space

4. Which number illustrates the thyroid cartilage?

- A. 14
- B. 15
- C. 6
- D. 10

5. Which number illustrates the vocal fold?

- A. 12
- B. 13
- C. 11
- D. 15

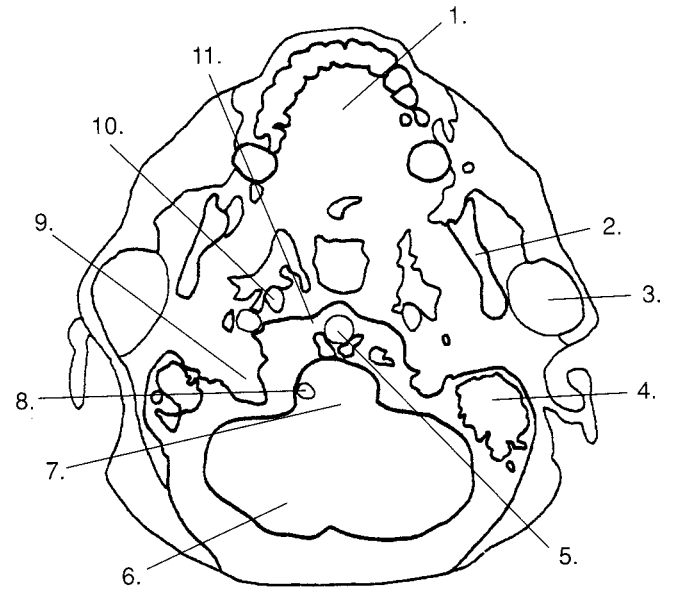
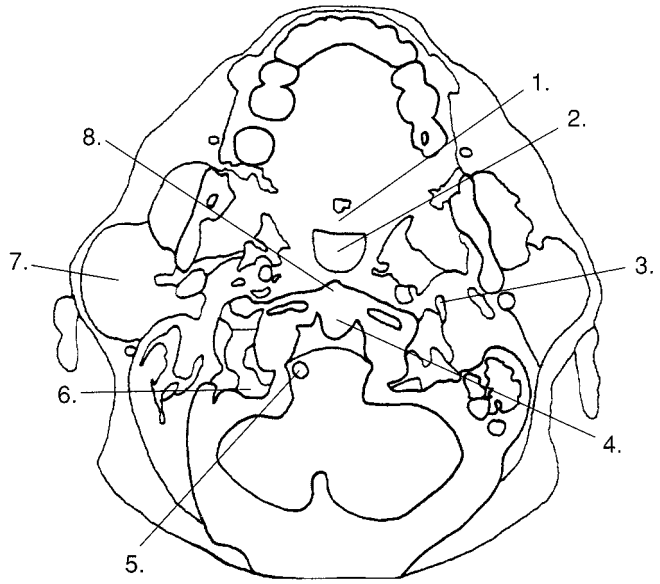
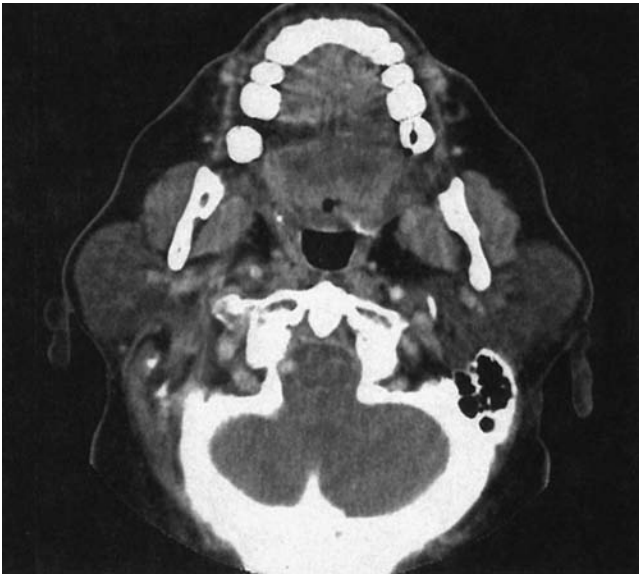


Figure 6-3

1. Which of the following is illustrated by 8?
  - A. Basilar artery
  - B. Posterior cerebral artery
  - C. Right vertebral artery
  - D. Right internal carotid artery
2. Which number illustrates the sigmoid sinus?
  - A. 9
  - B. 10
  - C. 4
  - D. 5
3. Which of the following is illustrated by 3?
  - A. Submandibular gland
  - B. Mastoid air cells
  - C. Ramus of the mandible
  - D. Parotid gland
4. Which number illustrates the internal carotid artery?
  - A. 5
  - B. 9
  - C. 10
  - D. 8
5. Which of the following is illustrated by 11?
  - A. Occipital bone
  - B. Dens
  - C. Styloid process
  - D. Anterior arch of the atlas



**Figure 6-4**

1. Which of the following is illustrated by 3?

- A. Internal carotid artery
- B. Styloid process
- C. Internal jugular vein
- D. Dens

2. Which number illustrates the internal jugular vein?

- A. 6
- B. 5
- C. 2
- D. 3

3. Which of the following is illustrated by 7?

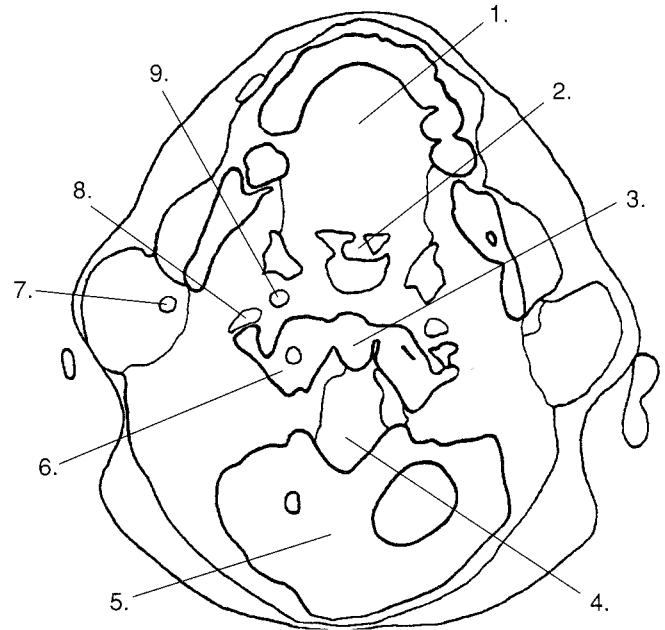
- A. Retromandibular vein
- B. Submandibular gland
- C. Parotid gland
- D. Sublingual gland

4. Which of the following is illustrated by 2?

- A. Vallecula
- B. Laryngeal pharynx
- C. Uvula
- D. Oropharynx

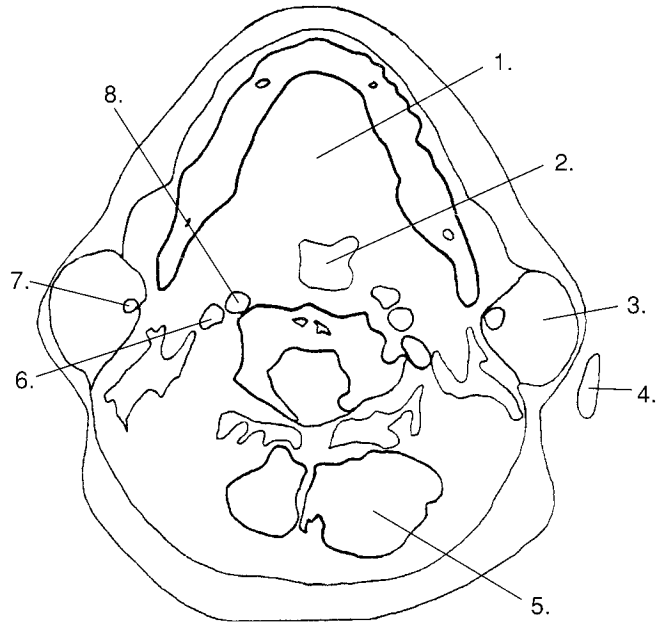
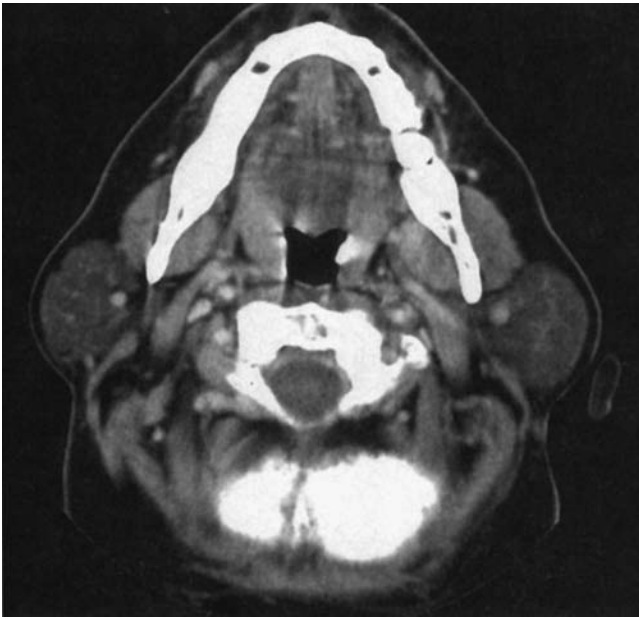
5. Which of the following is illustrated by 5?

- A. Basilar artery
- B. Internal jugular vein
- C. Vertebral artery
- D. Internal carotid artery



**Figure 6-5**

1. Which number illustrates the uvula?
  - A. 6
  - B. 2
  - C. 4
  - D. 3
  
2. Which of the following is illustrated by 7?
  - A. Parotid gland
  - B. Right retromandibular vein
  - C. External jugular vein
  - D. Internal jugular vein
  
3. Which of the following is illustrated by 1?
  - A. Soft palate
  - B. Geniohyoid
  - C. Sternocleidomastoid
  - D. Genioglossus muscle
  
4. Which of the following is illustrated by 6?
  - A. Atlas
  - B. Dens
  - C. Axis
  - D. Occipital bone
  
5. Which of the following is illustrated by 4?
  - A. Spinal cord
  - B. Pons
  - C. Cerebral peduncles
  - D. Oropharynx



**Figure 6-6**

1. Which number illustrates the oropharynx?

- A. 8
- B. 4
- C. 2
- D. 3

2. Which of the following is illustrated by 3?

- A. Submandibular gland
- B. Sublingual gland
- C. Uvula
- D. Parotid gland

3. Which number illustrates the internal jugular vein?

- A. 6
- B. 2
- C. 8
- D. 7

4. Which of the following is illustrated by 8?

- A. Internal jugular vein
- B. Retromandibular vein
- C. Vertebral artery
- D. Internal carotid artery

5. Which of the following is illustrated by 5?

- A. Dens
- B. Atlas
- C. Occipital bone
- D. Axis

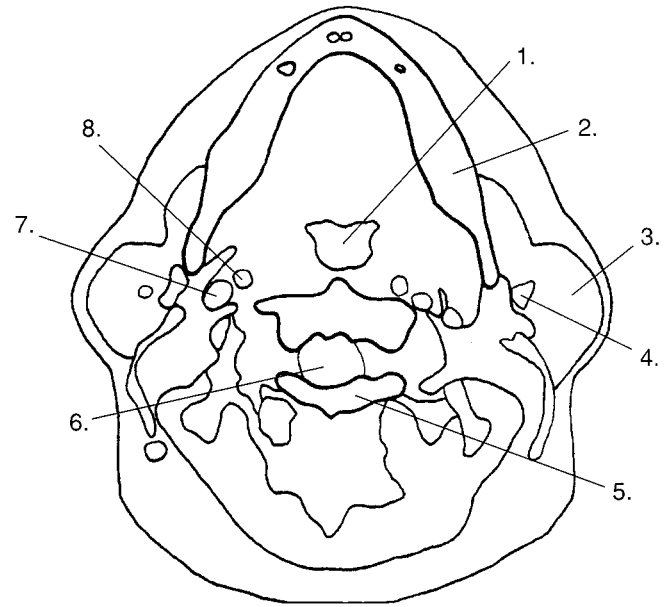
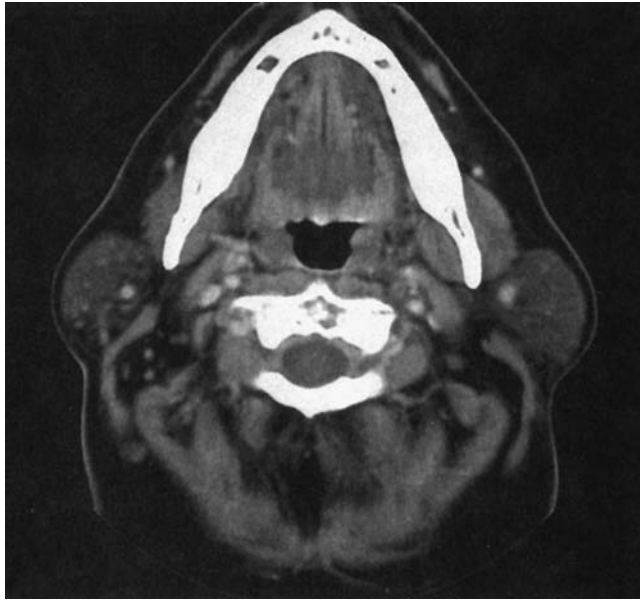


Figure 6-7

1. Which of the following is illustrated by 2?

- A. Maxilla
- B. Ramus of mandible
- C. Body of mandible
- D. Coronoid notch

2. Which number illustrates the lamina?

- A. 5
- B. 6
- C. 2
- D. 4

3. Which of the following is illustrated by 4?

- A. Right retromandibular vein
- B. Left retromandibular vein
- C. Right external jugular vein
- D. Left external jugular vein

4. Which number illustrates the parotid gland?

- A. 1
- B. 6
- C. 5
- D. 3

5. Which number illustrates the internal carotid artery?

- A. 8
- B. 4
- C. 7
- D. 6

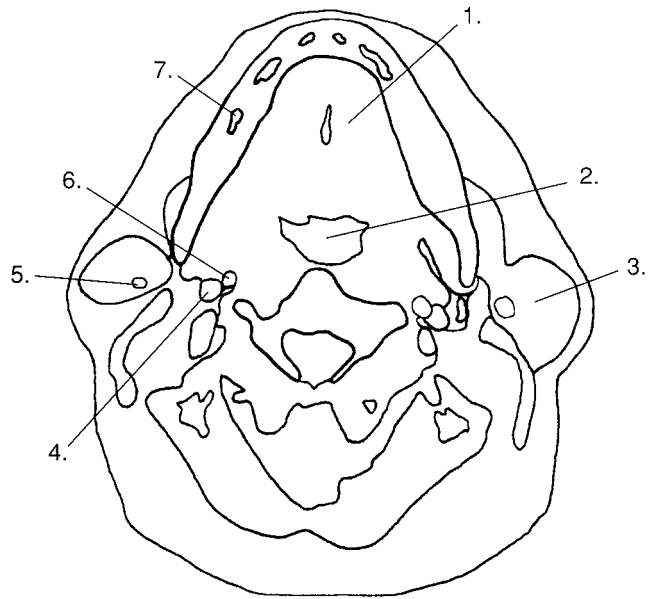
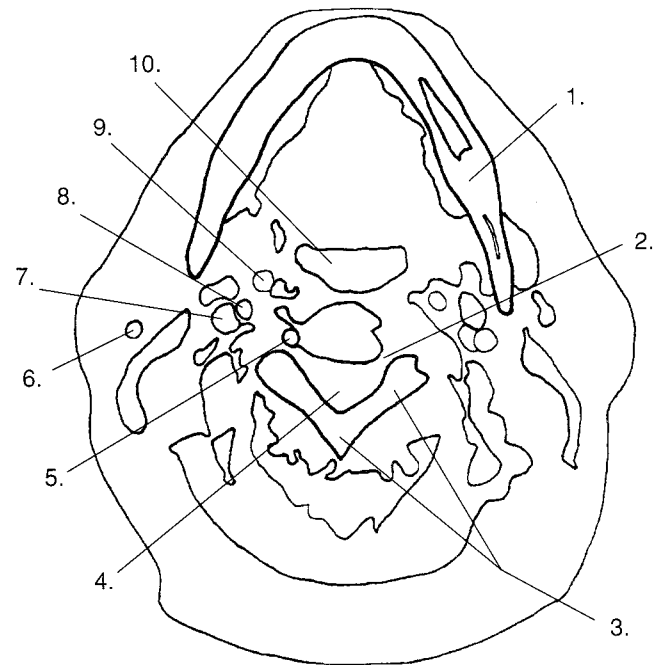


Figure 6-8

1. Which of the following is illustrated by 4?
  - A. Right internal carotid artery
  - B. Left internal carotid artery
  - C. Right internal jugular vein
  - D. Left internal jugular vein
2. Which of the following is illustrated by 1?
  - A. Soft palate
  - B. Geniohyoid muscle
  - C. Sternocleidomastoid muscle
  - D. Genioglossus muscle
3. Which of the following is illustrated by 7?
  - A. Body of mandible
  - B. Ramus of mandible
  - C. Maxilla
  - D. Coronoid notch

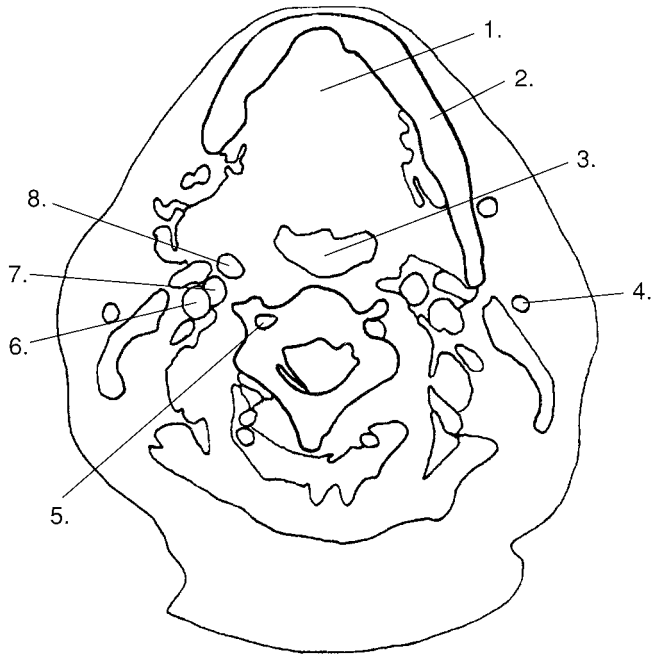
4. Which of the following is illustrated by 6?
  - A. Right internal jugular vein
  - B. Left internal jugular vein
  - C. Right internal carotid artery
  - D. Left retromandibular vein
5. Which of the following is illustrated by 5?
  - A. Right internal carotid artery
  - B. Left internal carotid artery
  - C. Left retromandibular vein
  - D. Right retromandibular vein





**Figure 6-9**

1. Which of the following illustrates the intervertebral foramen?
  - A. 4
  - B. 3
  - C. 2
  - D. 10
  
2. Which number illustrates the internal jugular vein?
  - A. 7
  - B. 8
  - C. 6
  - D. 5
  
3. Which of the following is illustrated by 5?
  - A. Internal carotid artery
  - B. Internal jugular vein
  - C. Retromandibular vein
  - D. Vertebral artery
  
4. Which of the following is illustrated by 4?
  - A. Lamina
  - B. Spinal cord
  - C. Intervertebral foramen
  - D. Oropharynx
  
5. Which of the following is illustrated by 9?
  - A. Internal carotid artery
  - B. Internal jugular vein
  - C. External carotid artery
  - D. Vertebral artery



**Figure 6-10**

1. Which of the following is illustrated by 7?

- A. Right internal carotid artery
- B. Left internal carotid artery
- C. Right external carotid artery
- D. Left external carotid artery

2. Which number illustrates the body of the mandible?

- A. 3
- B. 1
- C. 2
- D. 8

3. Which of the following is illustrated by 3?

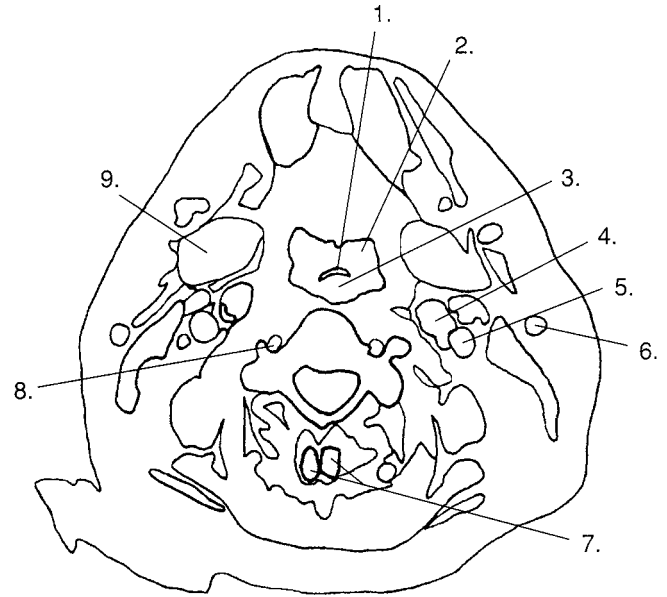
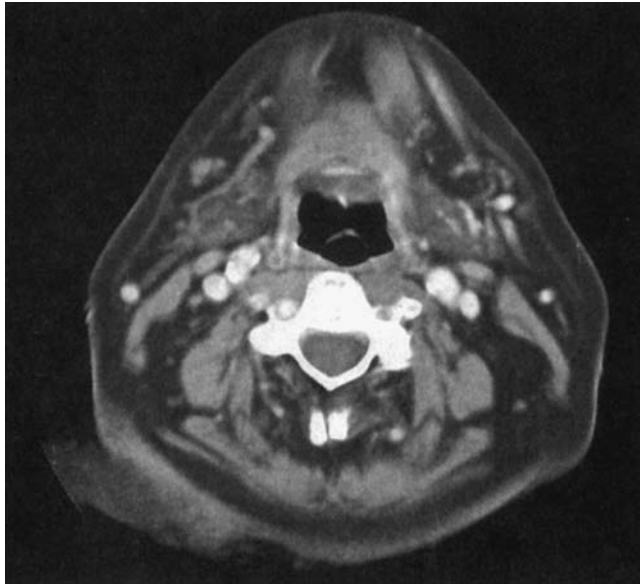
- A. Larynx
- B. Laryngeal pharynx
- C. Nasopharynx
- D. Oropharynx

4. Which of the following is illustrated by 6?

- A. Internal carotid artery
- B. External carotid artery
- C. Internal jugular vein
- D. External jugular vein

5. Which of the following is illustrated by 4?

- A. Retromandibular vein
- B. Retromandibular artery
- C. External jugular vein
- D. External carotid artery



**Figure 6-11**

1. Which of the following is illustrated by 4?

- A. Internal carotid artery
- B. Common carotid artery
- C. External jugular vein
- D. Internal jugular vein

2. Which number illustrates the epiglottis?

- A. 7
- B. 9
- C. 1
- D. 8

3. Which number illustrates the internal jugular vein?

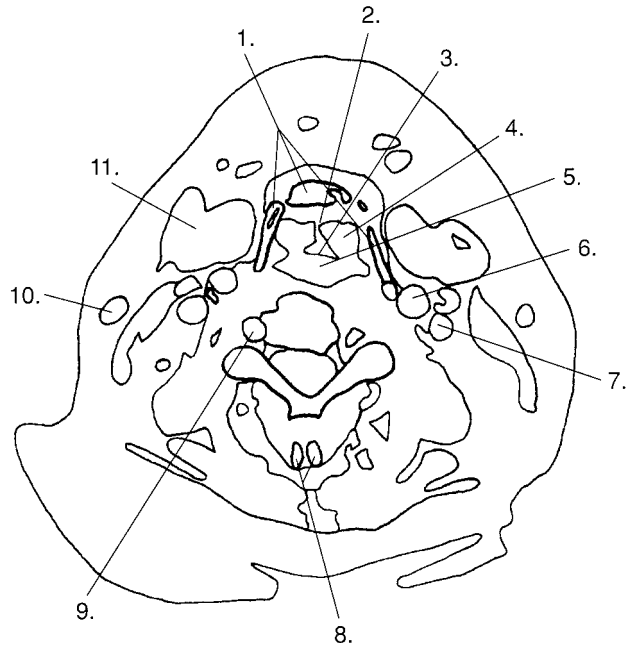
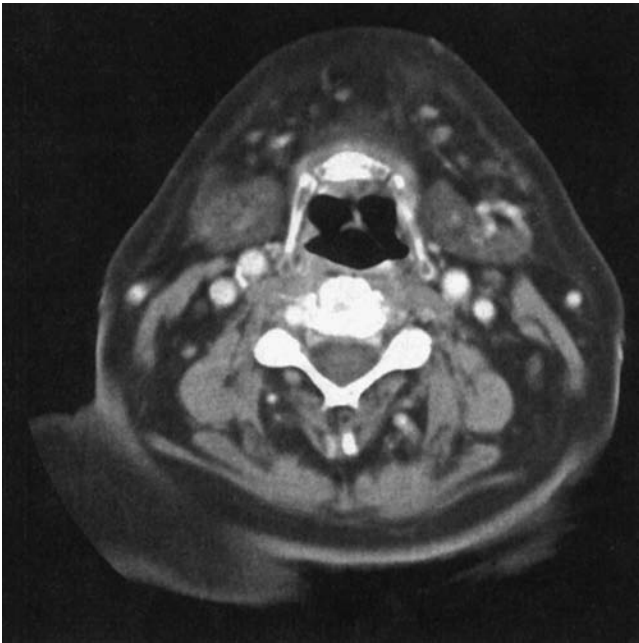
- A. 5
- B. 4
- C. 6
- D. 8

4. Which of the following is illustrated by 3?

- A. Oropharynx
- B. Laryngeal pharynx
- C. Piriform sinus
- D. Vallecula

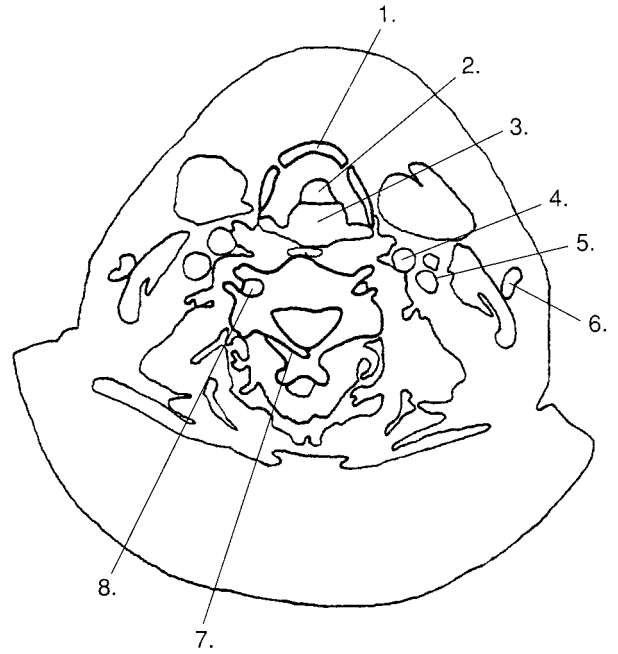
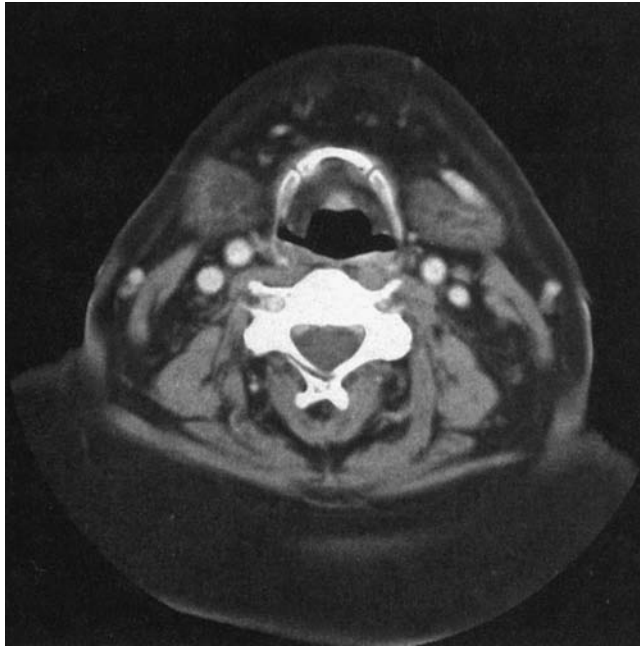
5. Which of the following is illustrated by 2?

- A. Vallecula
- B. Glottic space
- C. Laryngeal pharynx
- D. Piriform sinus



**Figure 6-12**

1. Which of the following is illustrated by 4?
  - A. Glottic space
  - B. Laryngeal pharynx
  - C. Piriform sinus
  - D. Vallecula
  
2. Which number illustrates the laryngeal pharynx?
  - A. 6
  - B. 4
  - C. 5
  - D. 3
  
3. Which number illustrates the median glossoepiglottic fold?
  - A. 3
  - B. 2
  - C. 11
  - D. 4
  
4. Which of the following is illustrated by 1?
  - A. Hyoid bone
  - B. Cricoid cartilage
  - C. Body of mandible
  - D. Thyroid cartilage
  
5. Which of the following is illustrated by 7?
  - A. Common carotid artery
  - B. Internal carotid artery
  - C. Internal jugular vein
  - D. External jugular vein



**Figure 6-13**

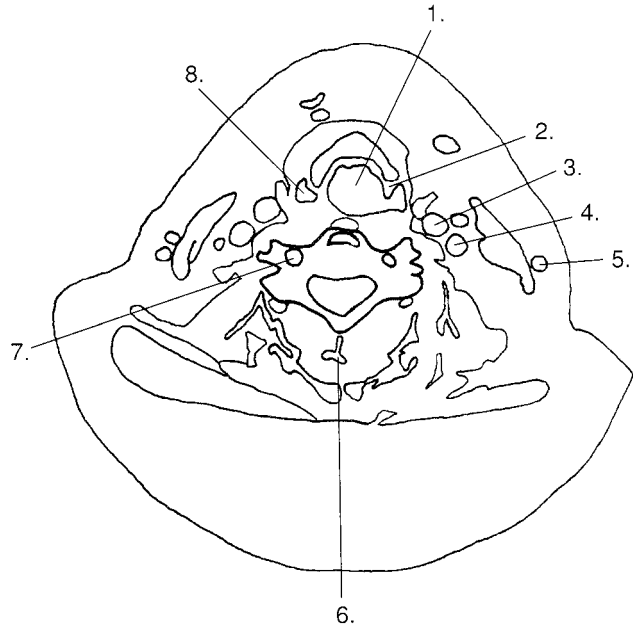
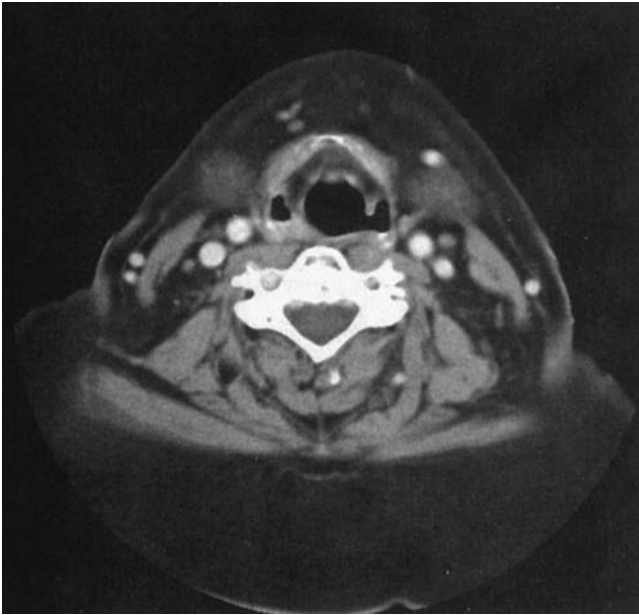
1. Which of the following is illustrated by 6?
- A. External jugular vein
  - B. Internal jugular vein
  - C. Retromandibular vein
  - D. External carotid artery

2. Which number illustrates the laryngeal vestibule?
- A. 2
  - B. 3
  - C. 1
  - D. 8

3. Which of the following is illustrated by 2?
- A. Arytenoid cartilage
  - B. Uvula
  - C. Epiglottis
  - D. Laryngeal vestibule

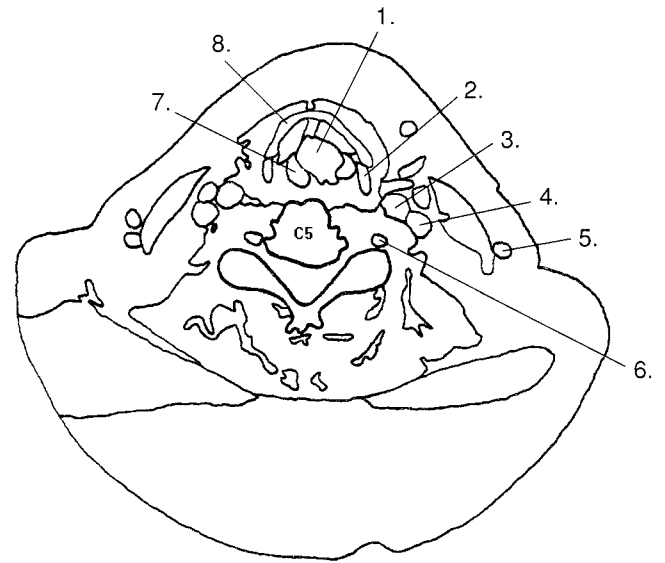
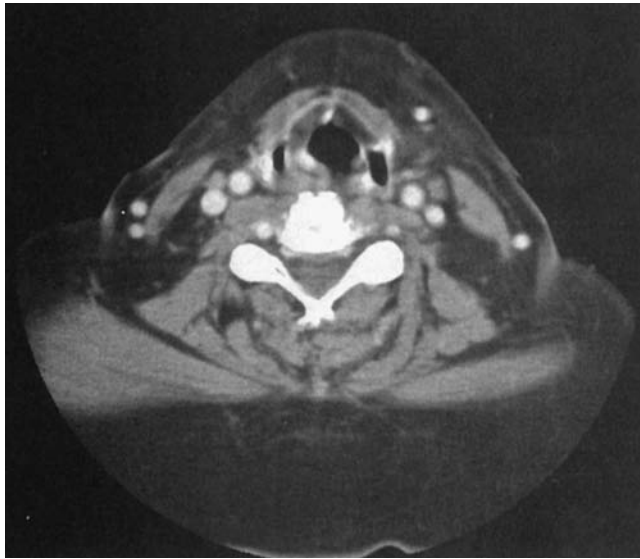
4. Which of the following is illustrated by 4?
- A. Internal jugular vein
  - B. Internal carotid artery
  - C. Common carotid artery
  - D. External jugular vein

5. Which of the following is illustrated by 1?
- A. Cricoid cartilage
  - B. Arytenoid cartilage
  - C. Thyroid cartilage
  - D. Hyoid bone



**Figure 6-14**

1. Which number illustrates the vertebral artery?
  - A. 3
  - B. 4
  - C. 7
  - D. 5
  
2. Which of the following is illustrated by 1?
  - A. Piriform sinus
  - B. Laryngeal vestibule
  - C. Vallecula
  - D. Laryngeal pharynx
  
3. Which of the following is illustrated by 8?
  - A. Vallecula
  - B. Laryngeal pharynx
  - C. Piriform sinus
  - D. Laryngeal vestibule
  
4. Which of the following is illustrated by 2?
  - A. Aryepiglottic fold
  - B. Vestibular fold
  - C. Vallecula
  - D. Vocal fold
  
5. Which number illustrates the common carotid artery?
  - A. 7
  - B. 5
  - C. 4
  - D. 3



**Figure 6-15**

1. Which of the following is illustrated by 6?

- A. Vertebral artery
- B. External jugular vein
- C. Internal jugular vein
- D. Common carotid artery

2. Which of the following is illustrated by 8?

- A. Cricoid cartilage
- B. Thyroid cartilage
- C. Hyoid bone
- D. Arytenoid cartilage

3. Which number illustrates the laryngeal vestibule?

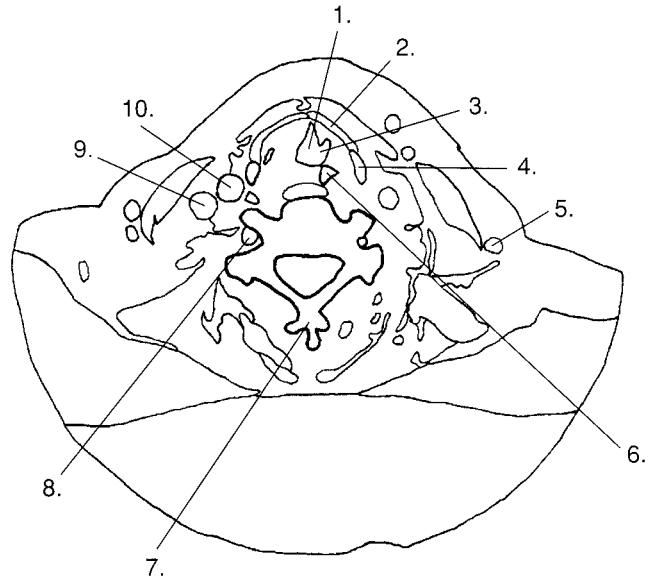
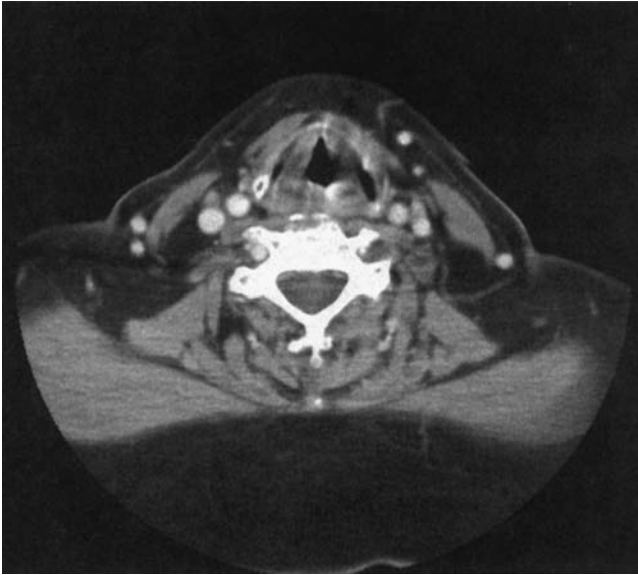
- A. 8
- B. 7
- C. 1
- D. 2

4. Which number illustrates the piriform sinus?

- A. 2
- B. 7
- C. 8
- D. 1

5. Which of the following is illustrated by 7?

- A. Vallecula
- B. Thyroid cartilage
- C. Laryngeal vestibule
- D. Arytenoid cartilage



**Figure 6-16**

1. Which of the following is illustrated by 2?

- A. Hyoid bone
- B. Arytenoid cartilage
- C. Cricoid cartilage
- D. Thyroid cartilage

2. Which of the following is illustrated by 4?

- A. Piriform sinus
- B. Glottic space
- C. Vallecula
- D. Oropharynx

3. Which number illustrates the arytenoid cartilage?

- A. 6
- B. 2
- C. 3
- D. 4

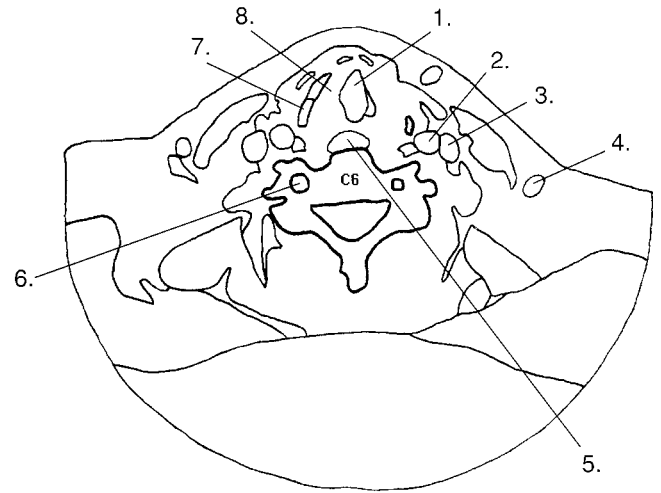
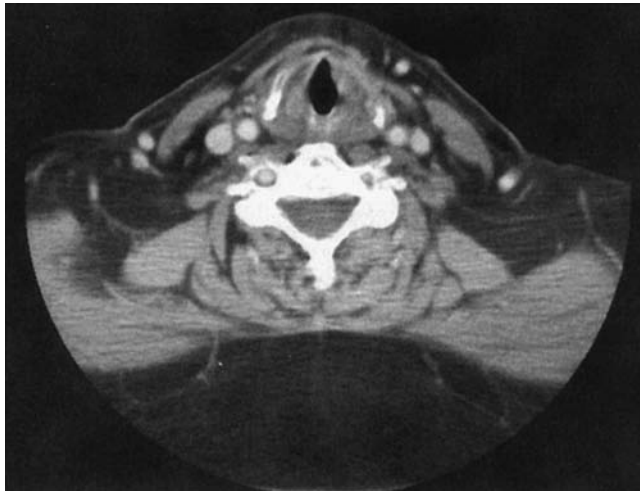
4. Which of the following is illustrated by 3?

- A. Oropharynx
- B. Glottic space
- C. Arytenoid cartilage
- D. Laryngeal vestibule

5. Which number illustrates the common carotid artery?

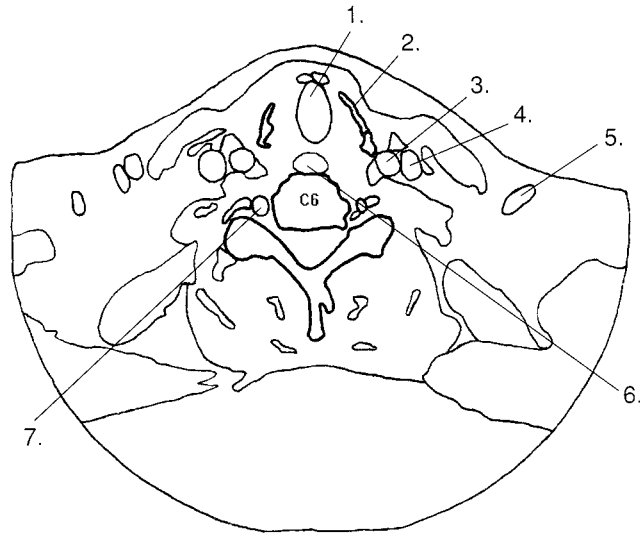
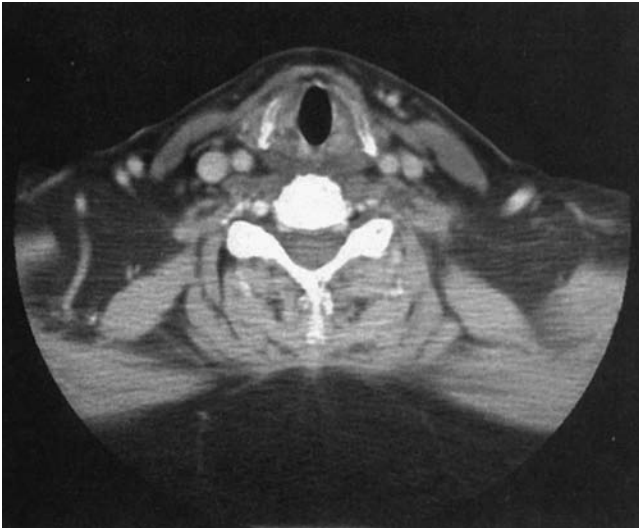
- A. 5
- B. 8
- C. 9
- D. 10





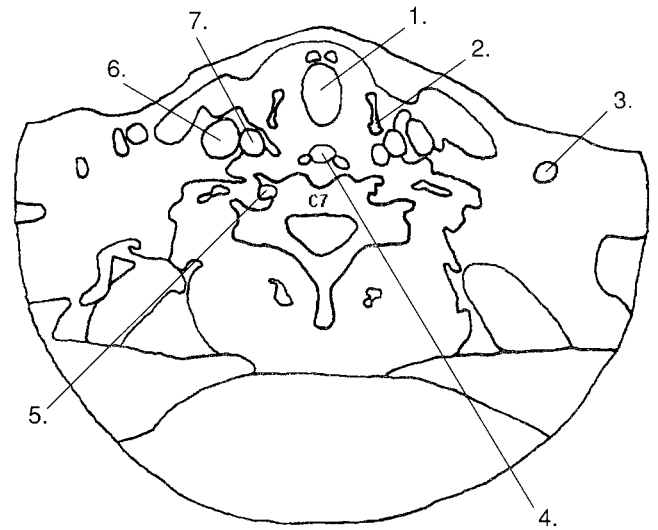
**Figure 6-17**

1. Which number illustrates the vocal cord?
  - A. 5
  - B. 7
  - C. 8
  - D. 1
  
2. Which of the following is illustrated by 5?
  - A. Esophagus
  - B. Thyroid cartilage
  - C. Retropharynx
  - D. Vocal cord
  
3. Which number illustrates the common carotid artery?
  - A. 6
  - B. 2
  - C. 3
  - D. 4
  
4. Which of the following is illustrated by 1?
  - A. Vocal cord
  - B. Glottic space
  - C. Vallecula
  - D. Infraglottic space
  
5. Which of the following is illustrated by 7?
  - A. Hyoid bone
  - B. Thyroid cartilage
  - C. Cricoid cartilage
  - D. Vocal cord



**Figure 6-18**

1. Which number illustrates the common carotid artery?
  - A. 3
  - B. 7
  - C. 4
  - D. 5
2. Which of the following is illustrated by 2?
  - A. Trachea
  - B. Arytenoid cartilage
  - C. Cricoid cartilage
  - D. Thyroid cartilage
3. Which of the following is illustrated by 6?
  - A. Thyroid cartilage
  - B. Trachea
  - C. Esophagus
  - D. Laryngeal vestibule
4. Which number illustrates the internal jugular vein?
  - A. 5
  - B. 7
  - C. 4
  - D. 3
5. Which of the following is illustrated by 1?
  - A. Trachea
  - B. Esophagus
  - C. Laryngeal vestibule
  - D. Laryngeal pharynx



**Figure 6-19**

1. Which number illustrates the internal jugular vein?
  - A. 7
  - B. 5
  - C. 6
  - D. 3
2. Which of the following is illustrated by 6?
  - A. External jugular vein
  - B. Internal jugular vein
  - C. Retromandibular vein
  - D. Subclavian vein
3. Which of the following is illustrated by 2?
  - A. Thyroid cartilage
  - B. Cricoid cartilage
  - C. Arytenoid cartilage
  - D. Hyoid bone
4. Which of the following is illustrated by 4?
  - A. Trachea
  - B. Esophagus
  - C. Vallecula
  - D. Laryngeal pharynx
5. Which of the following is illustrated by 1?
  - A. Vallecula
  - B. Esophagus
  - C. Laryngeal pharynx
  - D. Trachea

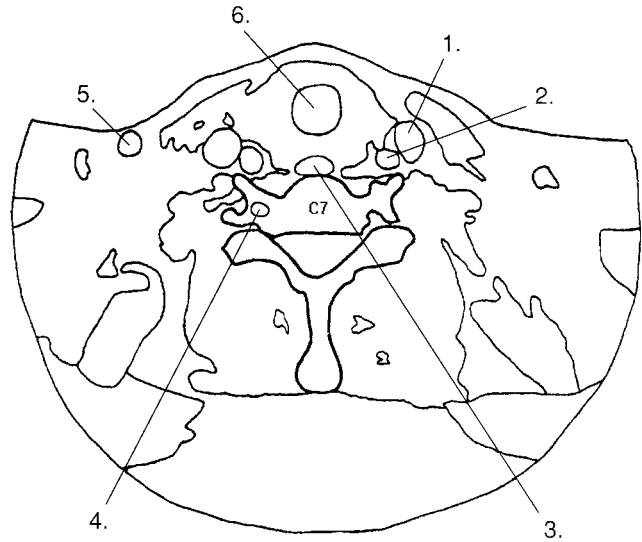
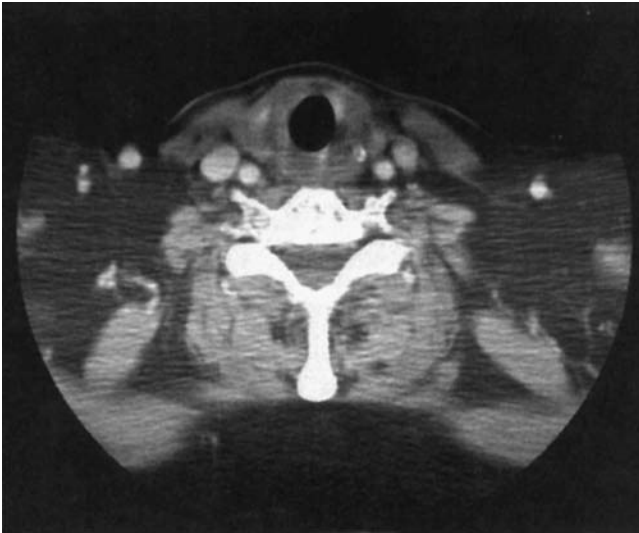


Figure 6-20

1. Which number illustrates the common carotid artery?
  - A. 1
  - B. 3
  - C. 4
  - D. 2
2. Which of the following is illustrated by 1?
  - A. External jugular vein
  - B. Internal jugular vein
  - C. Vertebral vein
  - D. Common carotid artery
3. Which number illustrates the external jugular vein?
  - A. 1
  - B. 4
  - C. 2
  - D. 5
4. Which of the following is illustrated by 6?
  - A. Infraglottic space
  - B. Glottic space
  - C. Trachea
  - D. Laryngeal vestibule
5. Which of the following is illustrated by 3?
  - A. Trachea
  - B. Laryngeal vestibule
  - C. Laryngeal pharynx
  - D. Esophagus

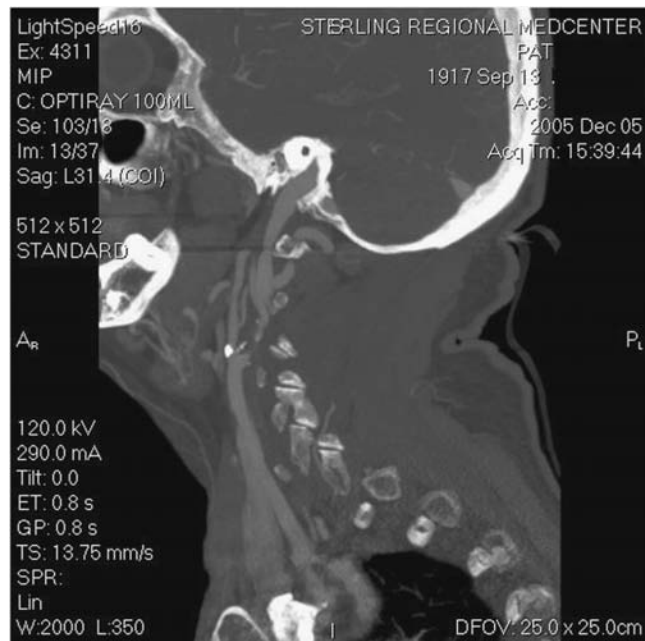
## CLINICAL APPLICATIONS

---

- C2 is also called the \_\_\_\_\_.
- Which of the following vertebrae is described as not having a vertebral body?
  - \_\_\_\_\_ A. Thoracic
  - \_\_\_\_\_ B. Axis
  - \_\_\_\_\_ C. C3 through C6
  - \_\_\_\_\_ D. Atlas
- Which of the following is described as a ring-shaped cartilage forming part of the larynx?
  - \_\_\_\_\_ A. Arytenoid
  - \_\_\_\_\_ B. Thyroid
  - \_\_\_\_\_ C. Cricoid
  - \_\_\_\_\_ D. Epiglottis
- The vestibular folds are located superior to the vocal folds.  
True or false
- The left vertebral artery originates from which of the following?
  - \_\_\_\_\_ A. Aortic arch
  - \_\_\_\_\_ B. Axillary artery
  - \_\_\_\_\_ C. Subclavian artery
  - \_\_\_\_\_ D. Common carotid artery
- Describe the glottic space.  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
- The aryepiglottic folds are also known as the false vocal cords.  
True or false
- Which of the following vessels is located most anteriorly in the upper neck?
  - \_\_\_\_\_ A. External carotid artery
  - \_\_\_\_\_ B. Internal carotid artery
  - \_\_\_\_\_ C. Internal jugular vein
  - \_\_\_\_\_ D. Vertebral artery
- The U-shaped \_\_\_\_\_ gland is located just below the larynx and has two large lobes on either side of the upper trachea.
- The external jugular veins drain into the \_\_\_\_\_ veins on either side of the neck.

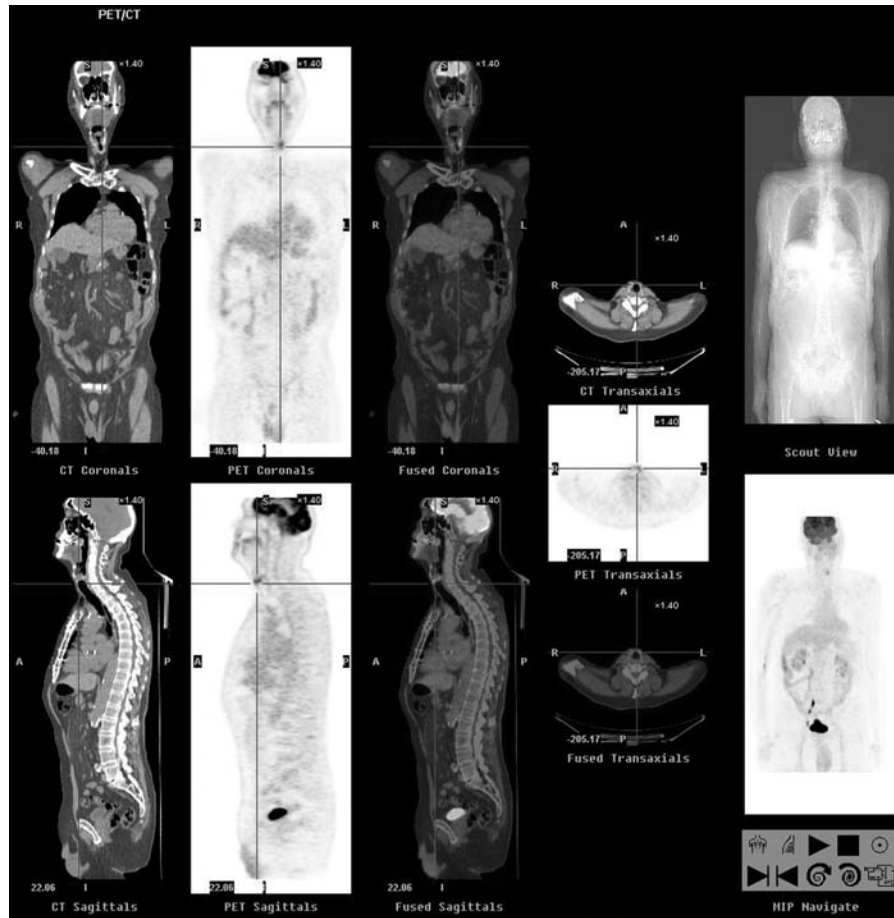
## CLINICAL CORRELATIONS

### ■ Clinical Case 6-1



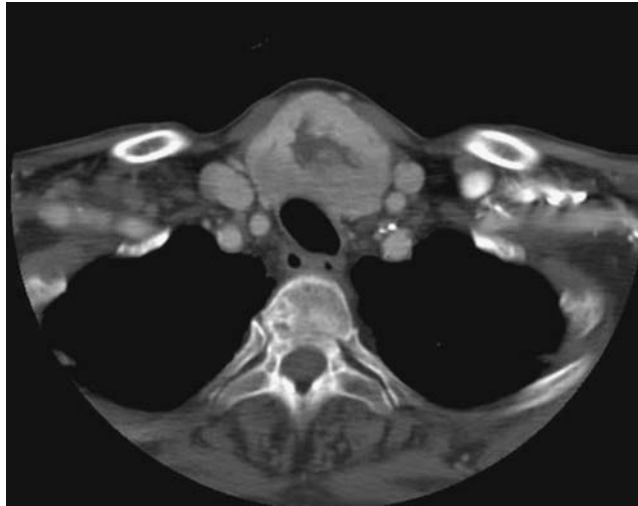
- In the image above, which of the following best describes the location of the largest blockage?
  - A. Origin of external carotid artery
  - B. Origin of internal carotid artery
  - C. Origin of right common iliac artery
  - D. Origin of left common iliac artery
- In this patient, the plaque causing greater arterial stenosis is found on which side?
  - A. Right
  - B. Left
- In the sagittal image, which of the following vessels is shown entering the base of the skull?
  - A. External carotid artery
  - B. Internal carotid artery
  - C. Right common iliac artery
  - D. Left common iliac artery
- Is the arterial blood flow within the vertebral artery demonstrated in any of the images above?
  - A. No
  - B. Yes
- Is the arterial blood flow within the external carotid artery demonstrated in any of the images above?
  - A. No
  - B. Yes

## ■ Clinical Case 6-2



- Which of the following best describes the location of the mass marked above?
  - A. Retropharynx
  - B. Oropharynx
  - C. Laryngopharynx
  - D. Larynx
- In this patient, is the mass located on the right or left side?
  - A. Right
  - B. Left
- Which of the following best describes the position of the mass as compared to the cricoid cartilage?
  - A. Superior
  - B. Inferior
  - C. Lateral
  - D. Medial
- The vocal cords extend between which of the following cartilage structures?
  - A. Thyroid to cricoid
  - B. Cricoid to epiglottis
  - C. Thyroid to arytenoid
  - D. Arytenoid to cricoid
- Which of the following best describes the position of the mass as compared to the epiglottis?
  - A. Superior
  - B. Inferior
  - C. Lateral
  - D. Medial

■ **Clinical Case 6-3**



1. Describe the location of the thyroid adenoma in this axial computed tomography (CT) image.

---

---

---

3. Describe the consistency, shape, and border.

---

---

---

2. Describe the changes in adjacent tissues.

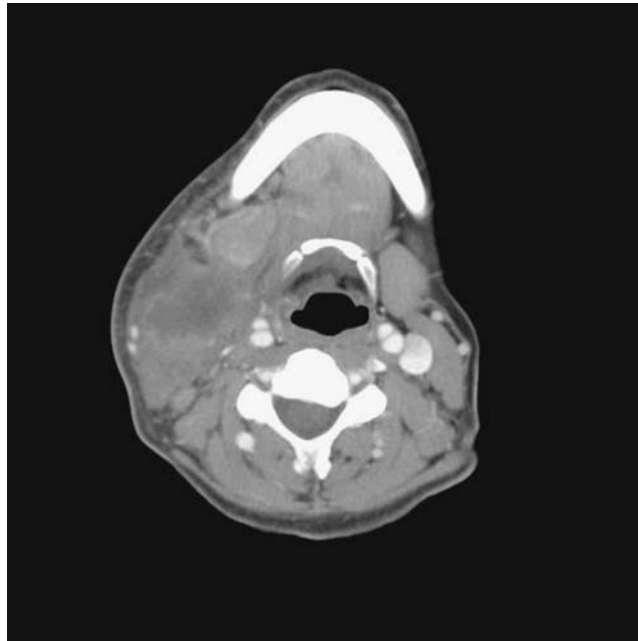
---

---

---



### ■ Clinical Case 6-4



1. Describe the location of the mass in this axial CT section through the level of the hyoid bone.

---

---

---

2. Describe the changes in adjacent tissues.

---

---

---

3. Describe the consistency, shape, and border.

---

---

---



■ Clinical Case 6-6



1. Describe the location of the lymphoma shown in this axial CT image of a 73-year-old female.

---



---



---

2. Describe the changes in adjacent tissues.

---



---



---

3. Describe the consistency, shape, and border.

---

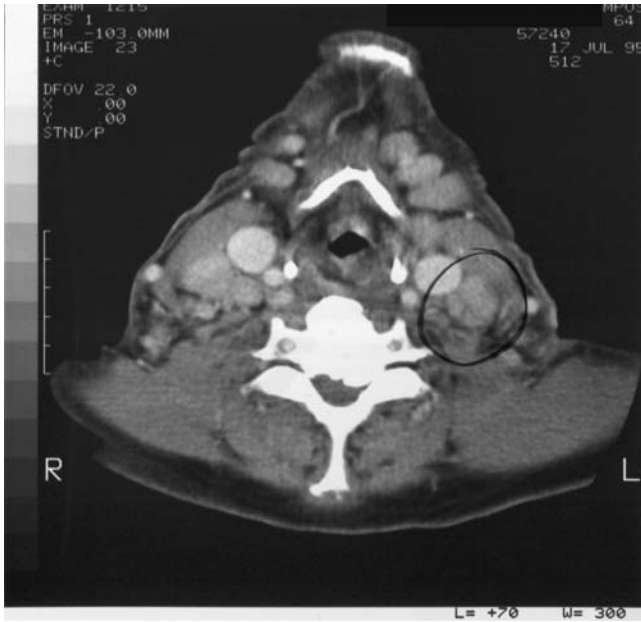


---



---

### ■ Clinical Case 6-7



1. Describe the location of the adenopathy (enlarged lymph nodes circled) shown in the axial CT images following the administration of contrast to this 64-year-old patient previously diagnosed with Hodgkin disease.

---

---

---

2. Describe the changes in adjacent tissues.

---

---

---

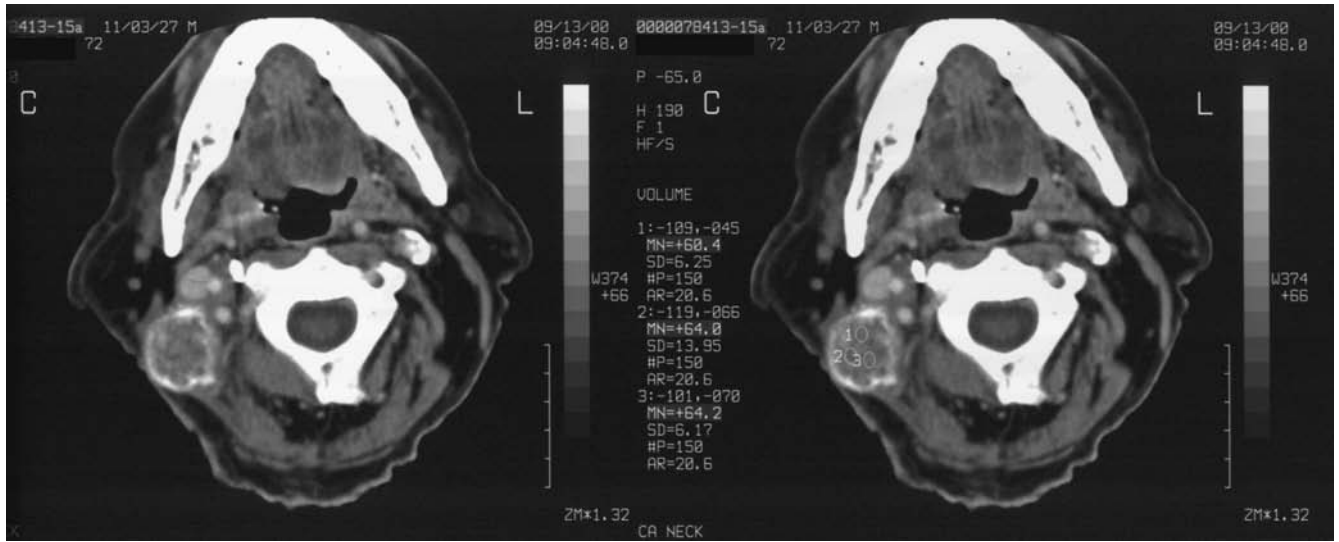
3. Describe the consistency, shape, and border.

---

---

---

■ Clinical Case 6-8



1. Describe the location of the parotid carcinoma in these contrast-enhanced axial CT sections through the neck at the level of the lower mandible in this 72-year-old male patient.

---



---



---

2. Describe the changes in adjacent tissues.

---



---



---

3. Describe the consistency, shape, and border.

---



---



---



# Spine

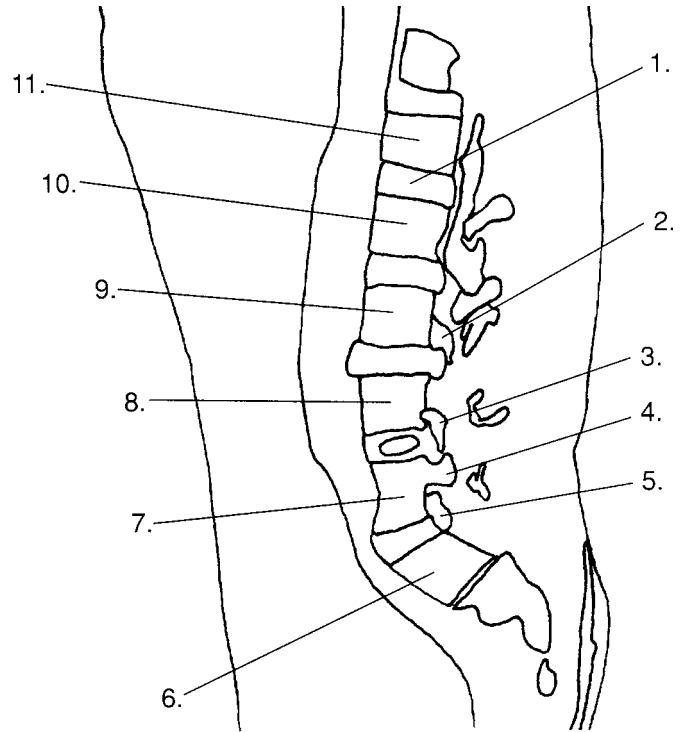
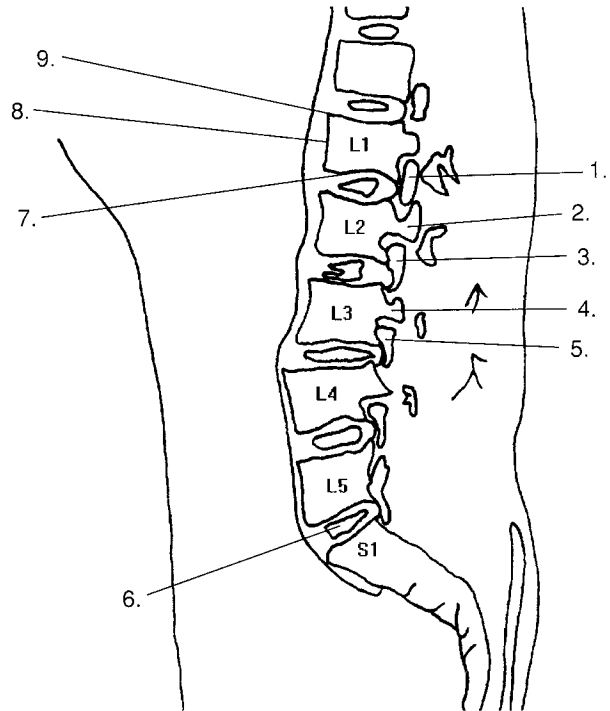


Figure 7-1

1. What number illustrates the pedicle?
  - A. 4
  - B. 2
  - C. 3
  - D. 5
2. Which of the following is illustrated by 8?
  - A. Vertebral body of L5
  - B. Intervertebral disk
  - C. Vertebral body of L4
  - D. L5 nerve roots
3. What number illustrates the vertebral body of S1?
  - A. 7
  - B. 8
  - C. 9
  - D. 6
4. Which of the following is illustrated by 1?
  - A. L3 nerve roots
  - B. Intervertebral disk
  - C. Vertebral body of L1
  - D. Pedicle of L5
5. What number illustrates the L5 nerve roots?
  - A. 6
  - B. 4
  - C. 5
  - D. 3



**Figure 7-2**

1. What number illustrates the superior vertebral endplate?

- A. 1
- B. 7
- C. 2
- D. 9

2. Which of the following is illustrated by 5?

- A. L3 nerve roots
- B. L2 nerve roots
- C. L4 nerve roots
- D. L3 pedicle

3. What number illustrates the L2 pedicle?

- A. 4
- B. 2
- C. 5
- D. 7

4. Which of the following is illustrated by 8?

- A. Inferior vertebral endplate L1
- B. L1 nerve roots
- C. Anterior cortical bone of body
- D. L2 nerve roots

5. Which of the following is illustrated by 6?

- A. Anterior cortical bone of body
- B. L3 pedicle
- C. Intervertebral disk
- D. Inferior vertebral endplate L1



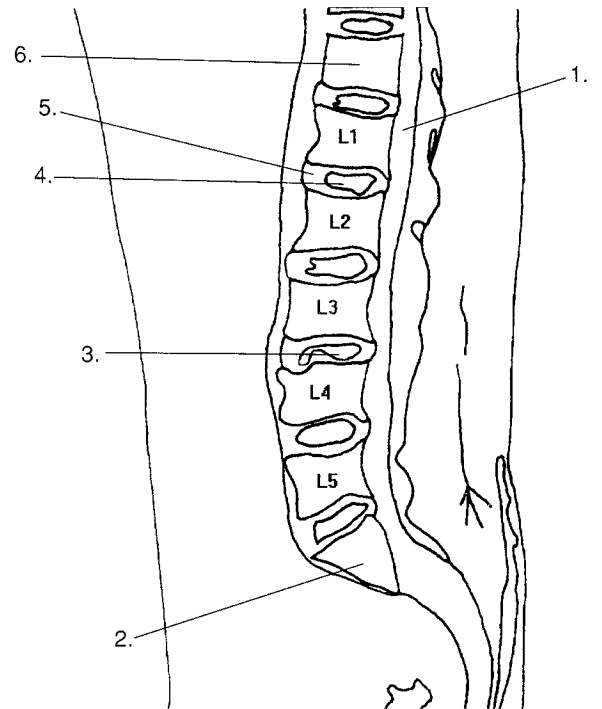
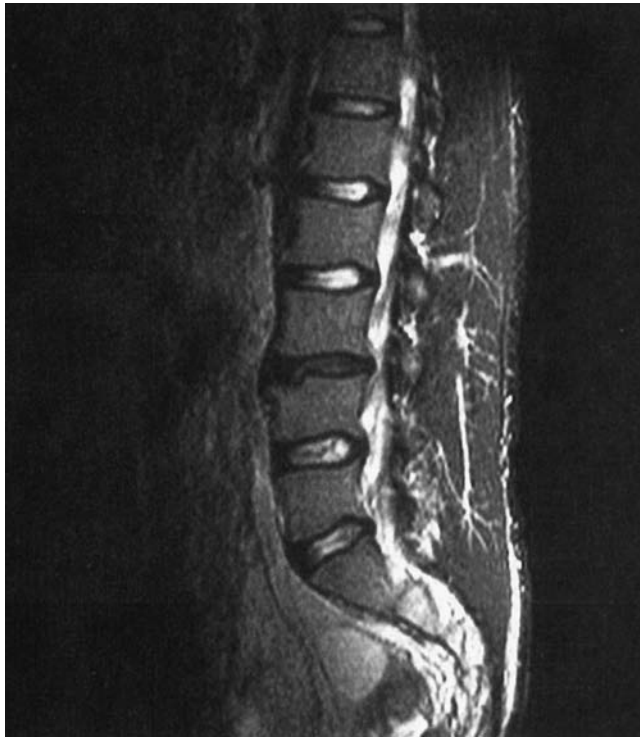


Figure 7-3

1. Which of the following is illustrated by 1?

- A. Spinal cord
- B. Edge of dural sac
- C. Anulus fibrosus
- D. Cauda equina

2. What number illustrates the herniated disk?

- A. 4
- B. 2
- C. 5
- D. 3

3. What number illustrates the nucleus pulposus?

- A. 4
- B. 6
- C. 1
- D. 5

4. Which of the following is illustrated by 6?

- A. L1 vertebral body
- B. L2 vertebral body
- C. T12 vertebral body
- D. Intervertebral disk

5. What number illustrates the anulus fibrosus?

- A. 5
- B. 1
- C. 3
- D. 4

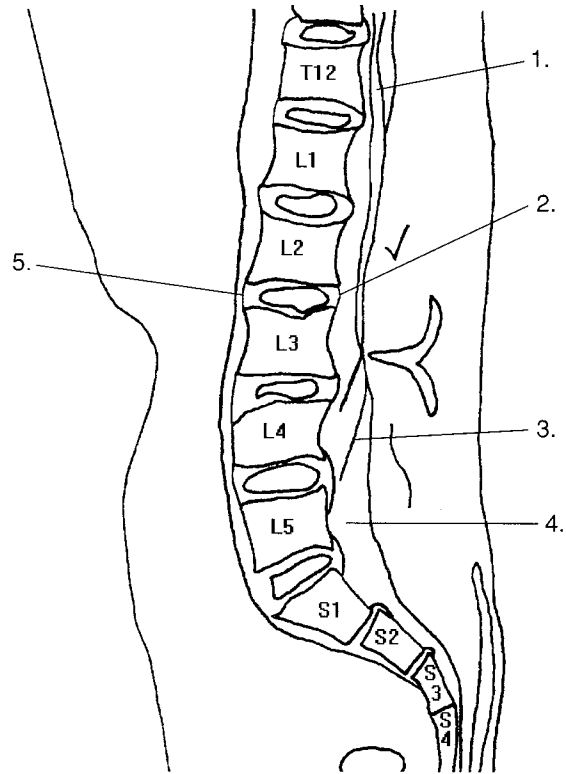


Figure 7-4

1. Which of the following is illustrated by 1?
  - A. Spinal cord
  - B. Edge of dural sac
  - C. Anulus fibrosus
  - D. Cauda equina
2. Which of the following is illustrated by 2?
  - A. Anterior longitudinal ligament
  - B. Posterior longitudinal ligament
  - C. Herniated disk
  - D. Nucleus pulposus
3. What number illustrates the cauda equina?
  - A. 1
  - B. 3
  - C. 4
  - D. 2

4. What number illustrates the subarachnoid space?
  - A. 1
  - B. 2
  - C. 3
  - D. 4
5. Which of the following is illustrated by 5?
  - A. Anterior longitudinal ligament
  - B. Posterior longitudinal ligament
  - C. Herniated disk
  - D. Nucleus pulposus

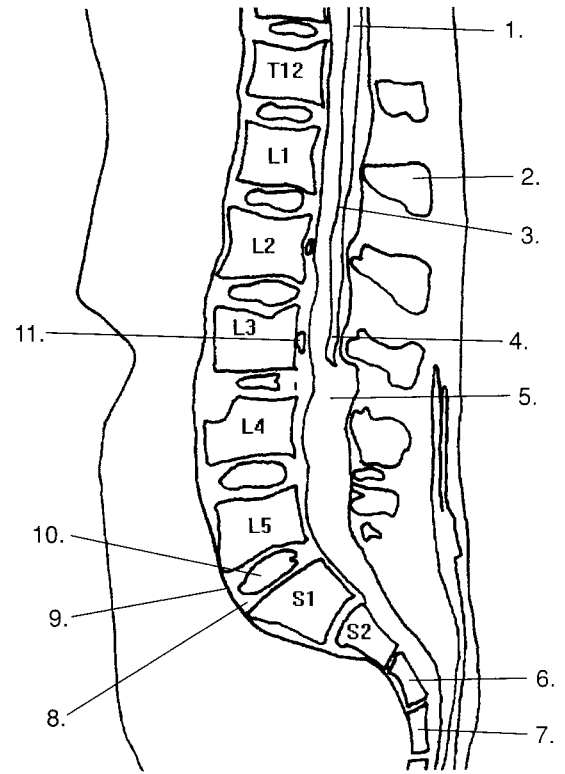
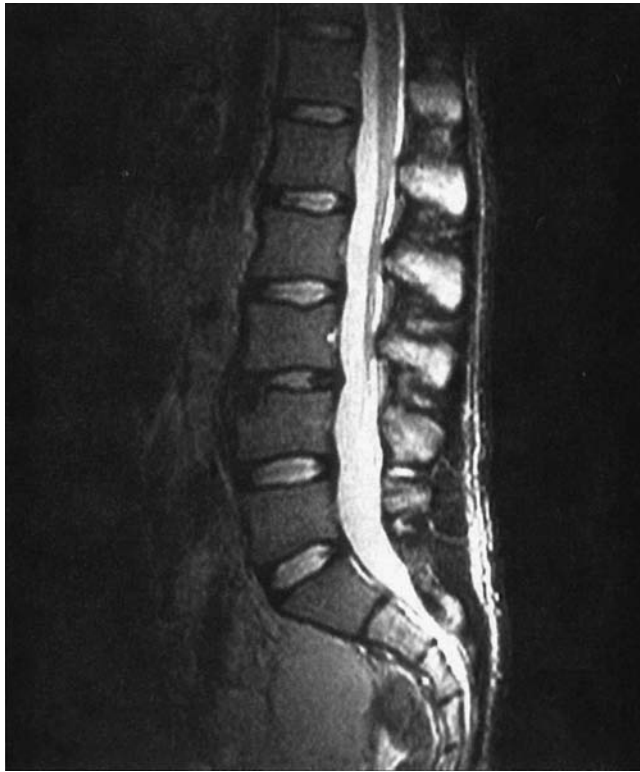


Figure 7-5

1. What number illustrates the conus medullaris?
  - A. 1
  - B. 5
  - C. 4
  - D. 3
2. Which of the following is illustrated by 10?
  - A. Intervertebral disk L4-L5
  - B. Nucleus pulposus
  - C. Annulus fibrosus
  - D. Intervertebral disk S1-S2
3. What number illustrates the spinal cord?
  - A. 5
  - B. 3
  - C. 1
  - D. 4
4. Which of the following is illustrated by 5?
  - A. Subarachnoid space
  - B. Epidural space
  - C. L1 spinous process
  - D. Subdural space
5. Which of the following is illustrated by 4?
  - A. Spinal cord
  - B. Conus medullaris
  - C. Cauda equina
  - D. Basivertebral vein

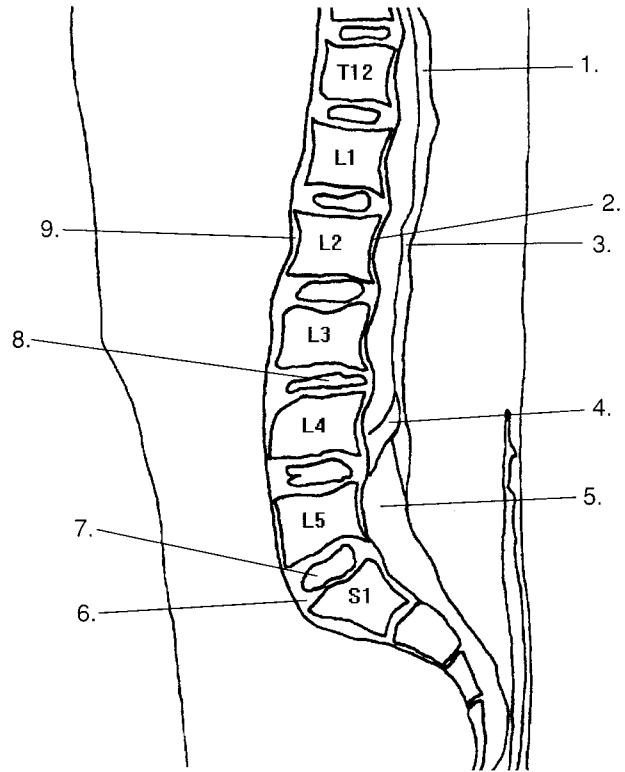
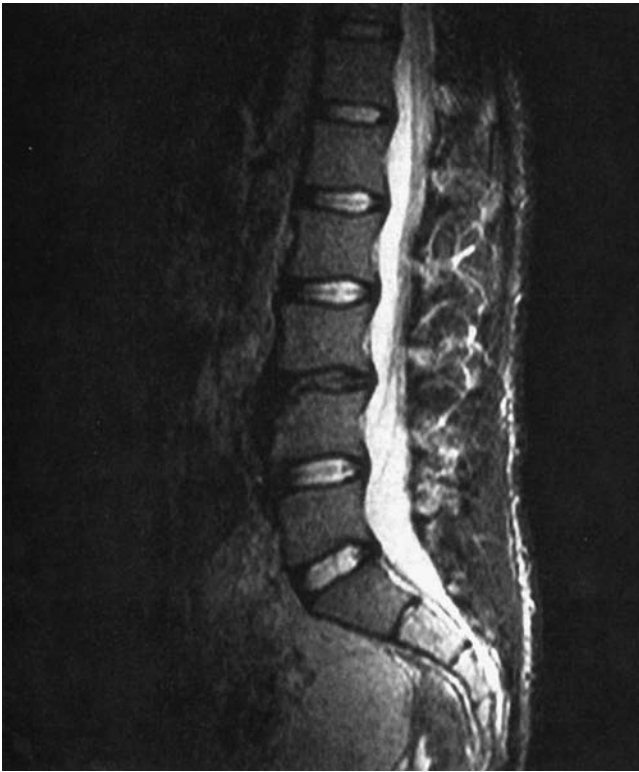


Figure 7-6

1. What number illustrates the cauda equina?
  - A. 1
  - B. 4
  - C. 3
  - D. 5
  
2. Which of the following is illustrated by 7?
  - A. Annulus fibrosus
  - B. Ruptured disk
  - C. Nucleus pulposus
  - D. Intervertebral disk L4-L5
  
3. Which of the following is illustrated by 2?
  - A. Anterior longitudinal ligament
  - B. Conus medullaris
  - C. Spinal cord
  - D. Posterior longitudinal ligament
  
4. Which of the following is illustrated by 9?
  - A. Anterior longitudinal ligament
  - B. Annulus fibrosus
  - C. Subarachnoid space
  - D. Posterior longitudinal ligament
  
5. What number illustrates the ruptured disk?
  - A. 7
  - B. 9
  - C. 5
  - D. 8

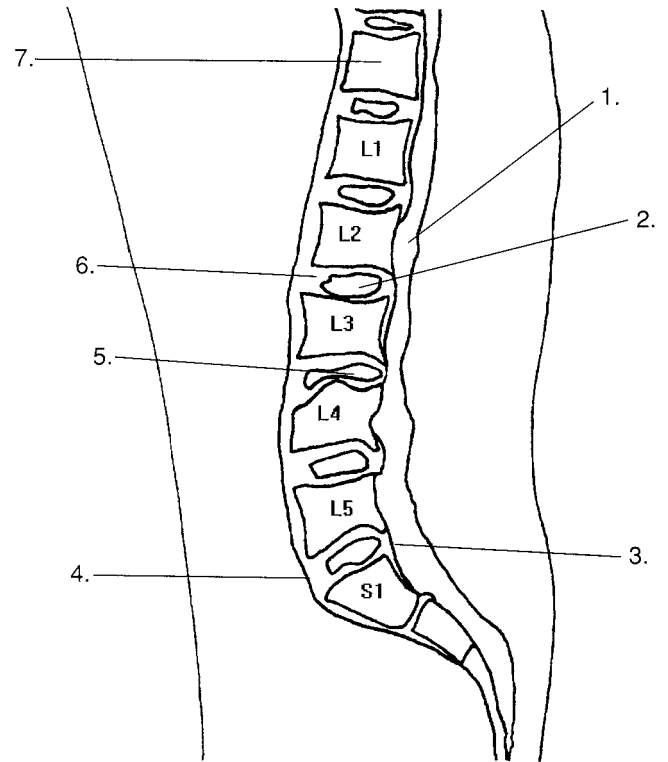
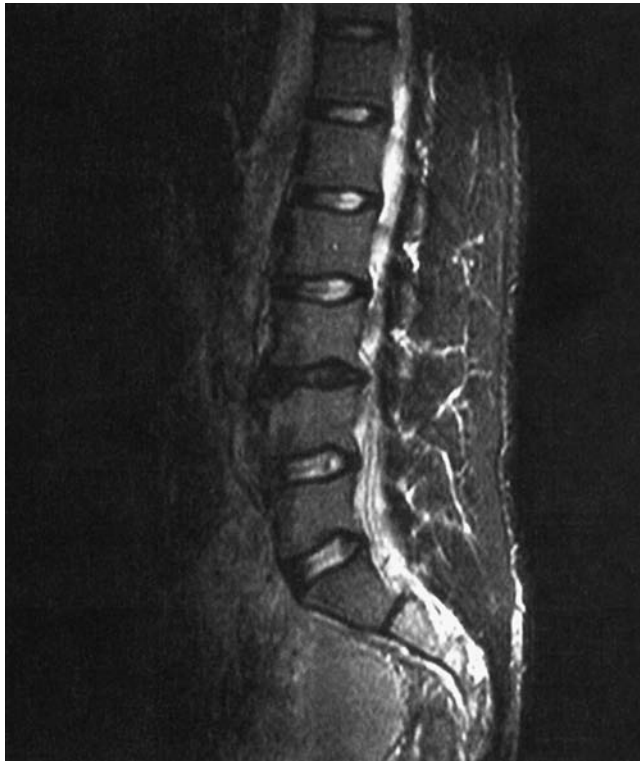


Figure 7-7

1. Which of the following is illustrated by 2?

- A. Anulus fibrosus
- B. Herniated disk
- C. Nucleus pulposus
- D. Edge of dural sac

2. What number illustrates the anterior longitudinal ligament?

- A. 4
- B. 3
- C. 5
- D. 2

3. Which of the following is illustrated by 6?

- A. Herniated disk
- B. Anulus fibrosus
- C. Nucleus pulposus
- D. Edge of dural sac

4. Which of the following is illustrated by 1?

- A. Edge of the dural sac
- B. Epidural space
- C. Basivertebral vein
- D. Pia mater

5. What number illustrates the herniated disk?

- A. 2
- B. 6
- C. 4
- D. 5

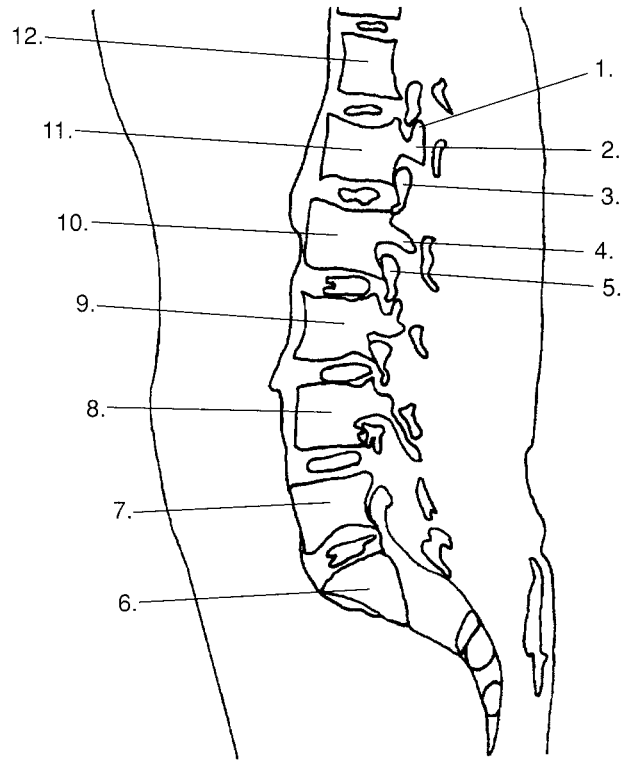


Figure 7-8

1. What number illustrates the L1 nerve roots?

- A. 2
- B. 5
- C. 3
- D. 1

2. Which of the following is illustrated by 10?

- A. L2
- B. L1
- C. L3
- D. T1

3. What number illustrates the L1 pedicle?

- A. 4
- B. 3
- C. 5
- D. 2

4. Which of the following is illustrated by 8?

- A. L3
- B. L4
- C. S1
- D. L5

5. Which of the following is illustrated by 3?

- A. L2 nerve roots
- B. L1 pedicle
- C. L1 nerve roots
- D. L2 pedicle

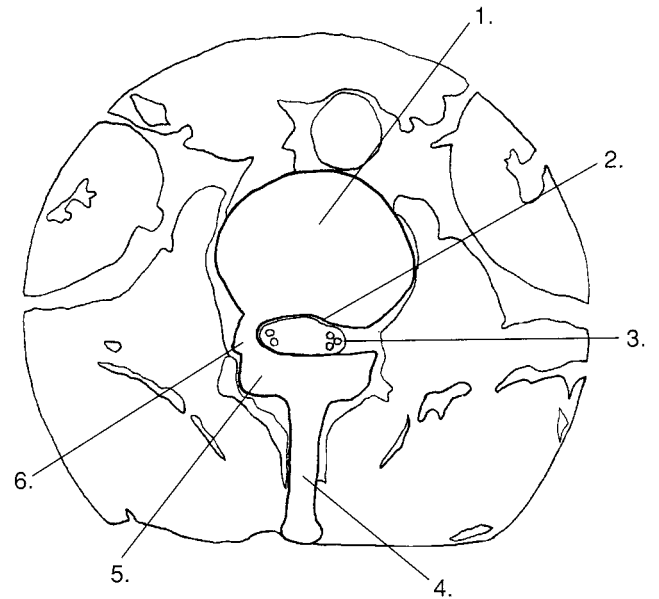


Figure 7-9

1. What number illustrates the epidural space?

- A. 3
- B. 2
- C. 5
- D. 6

2. Which of the following is illustrated by 4?

- A. Lamina of L2
- B. Pedicle of L2
- C. L2 vertebral body
- D. Spinous process of L2

3. What number illustrates the lamina of L2?

- A. 5
- B. 2
- C. 6
- D. 4

4. Which of the following is illustrated by 5?

- A. Pedicle of L2
- B. Lamina of L2
- C. Spinous process of L2
- D. Epidural space

5. Which of the following is illustrated by 3?

- A. Spinal cord
- B. Epidural space
- C. Dural sac
- D. Subarachnoid space

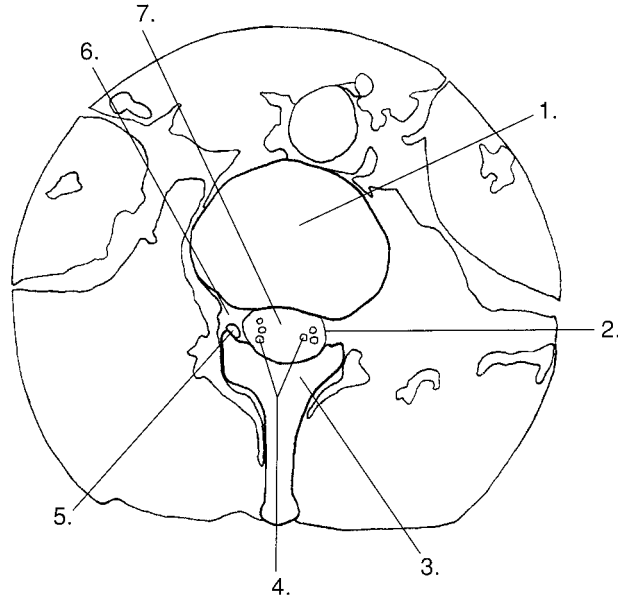
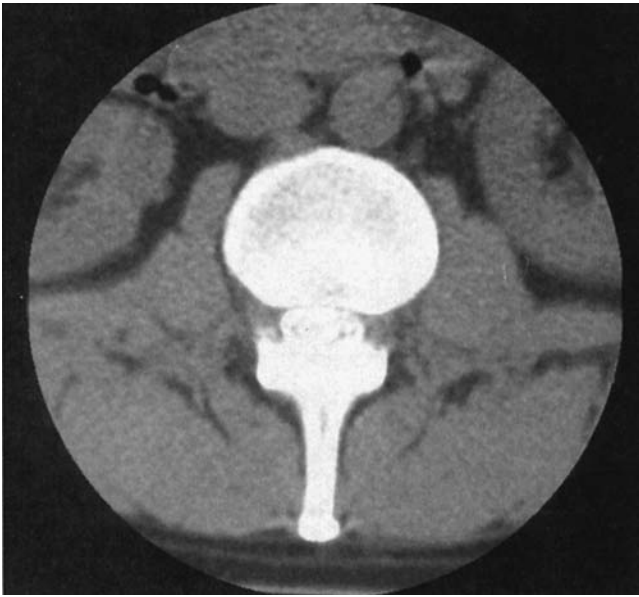


Figure 7-10

1. Which of the following is illustrated by 4?
  - A. Posterior dorsal root ganglion
  - B. Epidural space
  - C. Cauda equina
  - D. Conus medullaris
2. Which of the following is illustrated by 2?
  - A. Dural sac
  - B. Posterior dorsal root ganglion
  - C. Subarachnoid space
  - D. Cauda equina
3. Which of the following is illustrated by 6?
  - A. Vertebral foramen
  - B. Posterior (dorsal) root ganglion
  - C. Cauda equina
  - D. Intervertebral foramen

4. Which of the following is illustrated by 7?
  - A. Spinal cord
  - B. Subarachnoid space
  - C. Posterior dorsal root ganglion
  - D. Epidural space
5. Which of the following is illustrated by 5?
  - A. Cauda equina
  - B. Conus medullaris
  - C. Posterior (dorsal) root ganglion
  - D. Anterior nerve root



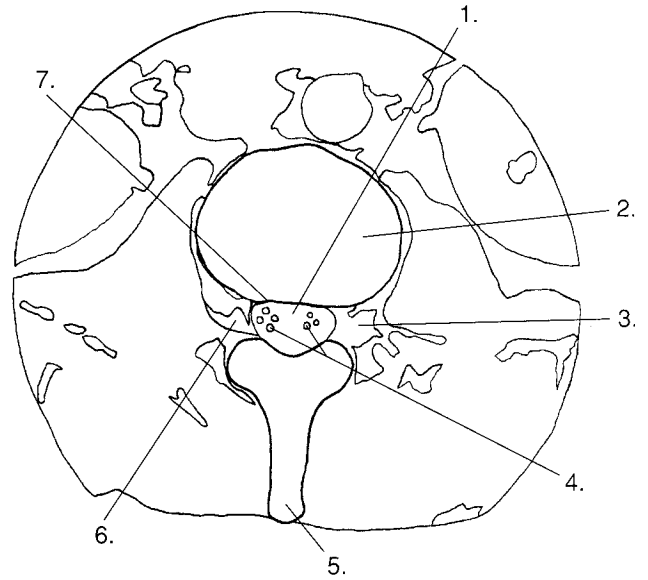


Figure 7-11

1. Which of the following is illustrated by 2?

- A. Spinous process
- B. Superior endplate
- C. Inferior endplate
- D. Intervertebral disk

2. What number illustrates the cauda equina?

- A. 4
- B. 7
- C. 6
- D. 1

3. Which of the following is illustrated by 7?

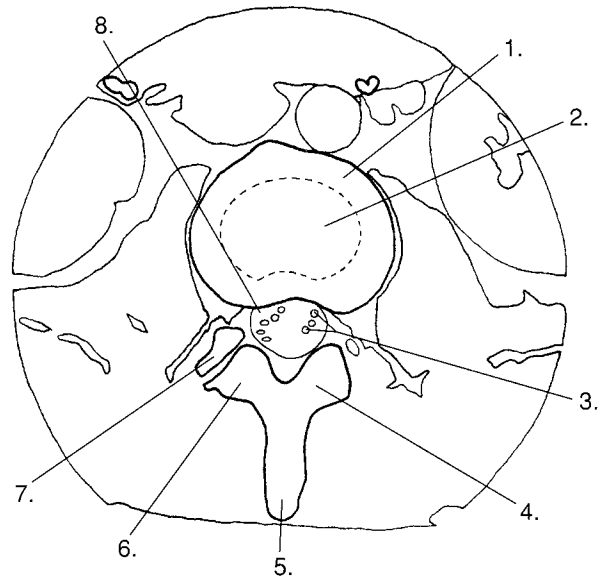
- A. Pia mater
- B. Arachnoid mater
- C. Subarachnoid space
- D. Dural sac

4. Which of the following is illustrated by 3?

- A. Intervertebral disk
- B. Intervertebral foramen
- C. Dural sac
- D. Cauda equina

5. What number illustrates the subarachnoid space?

- A. 7
- B. 4
- C. 1
- D. 6



**Figure 7-12**

1. Which of the following is illustrated by 6?
  - A. Spinous process of L2
  - B. Lamina of L2
  - C. Superior articular process of L3
  - D. Inferior articular process of L2
2. What number illustrates the anulus fibrosus?
  - A. 8
  - B. 1
  - C. 4
  - D. 2
3. Which of the following is illustrated by 2?
  - A. Nucleus pulposus
  - B. Anulus fibrosus
  - C. Vertebral body of L3
  - D. Vertebral body of L2
4. What number illustrates the superior articular process of L3?
  - A. 5
  - B. 4
  - C. 7
  - D. 6
5. Which of the following is illustrated by 8?
  - A. Spinal cord
  - B. Subarachnoid space
  - C. Cauda equina
  - D. Conus medullaris

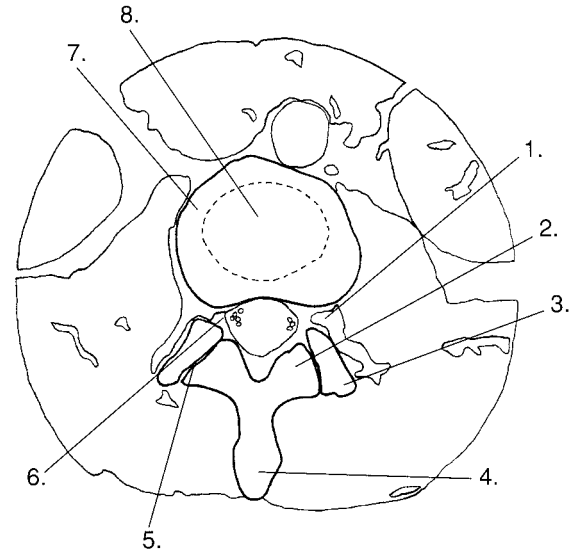
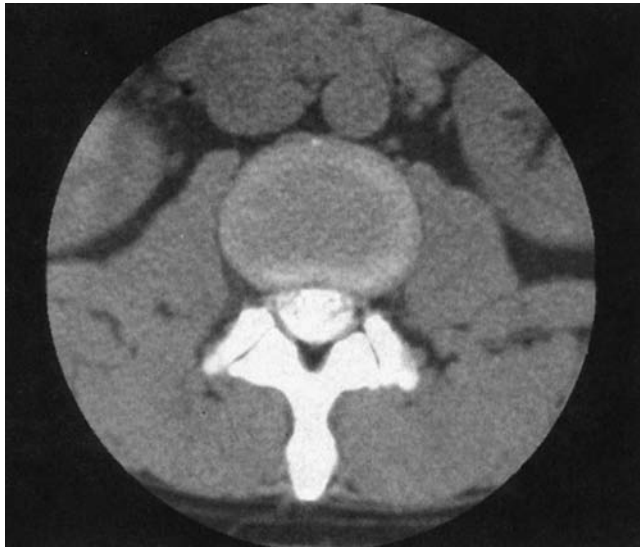
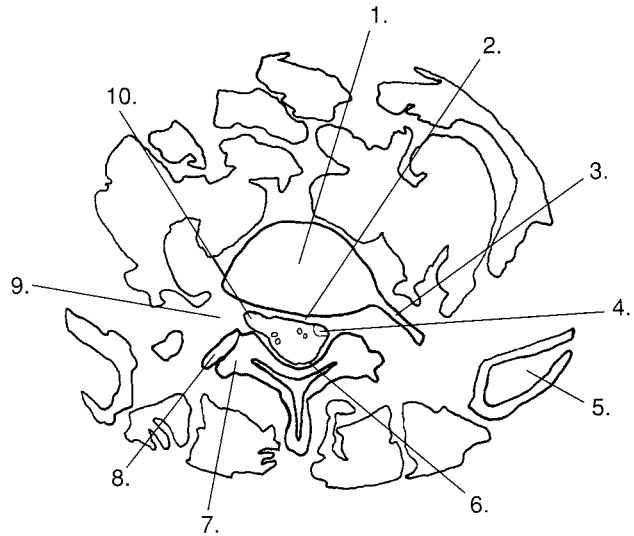


Figure 7-13

1. Which of the following is illustrated by 5?
  - A. Zygapophysis
  - B. Inferior articular process of L2
  - C. Lamina of L2
  - D. Epidural space
2. Which of the following is illustrated by 3?
  - A. Inferior articular process of L2
  - B. Lamina of L2
  - C. Superior articular process of L3
  - D. Pedicle of L2
3. What number illustrates the anulus fibrosus?
  - A. 8
  - B. 7
  - C. 6
  - D. 2
4. Which of the following is illustrated by 6?
  - A. Dural sac
  - B. Zygapophysis
  - C. Nucleus pulposus
  - D. Cauda equina
5. What number illustrates the inferior articular process of L2?
  - A. 1
  - B. 3
  - C. 6
  - D. 2



**Figure 7-14**

1. Which of the following is illustrated by 6?

- A. Spinal cord
- B. Dural sac
- C. Conus medullaris
- D. S1 nerve root

2. Which of the following is illustrated by 10?

- A. Intervertebral foramen
- B. Conus medullaris
- C. Cauda equina
- D. L5 nerve root

3. What number illustrates the epidural space?

- A. 2
- B. 7
- C. 4
- D. 9

4. Which of the following is illustrated by 9?

- A. L5 nerve root
- B. Posterior (dorsal) root ganglion
- C. Intervertebral foramen
- D. Dural sac

5. Which of the following is illustrated by 3?

- A. Transverse process of L5
- B. Lateral part of S1
- C. Lamina of S1
- D. Pedicle of S1

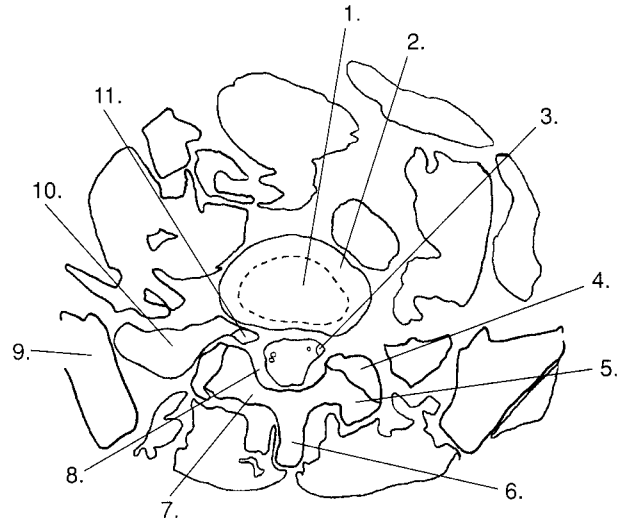


Figure 7-15

1. What number illustrates the lamina of L5?

- A. 8
- B. 7
- C. 10
- D. 5

2. Which of the following is illustrated by 3?

- A. Spinal cord
- B. Cauda equina
- C. Epidural space
- D. S1 nerve root

3. What number illustrates the nucleus pulposus?

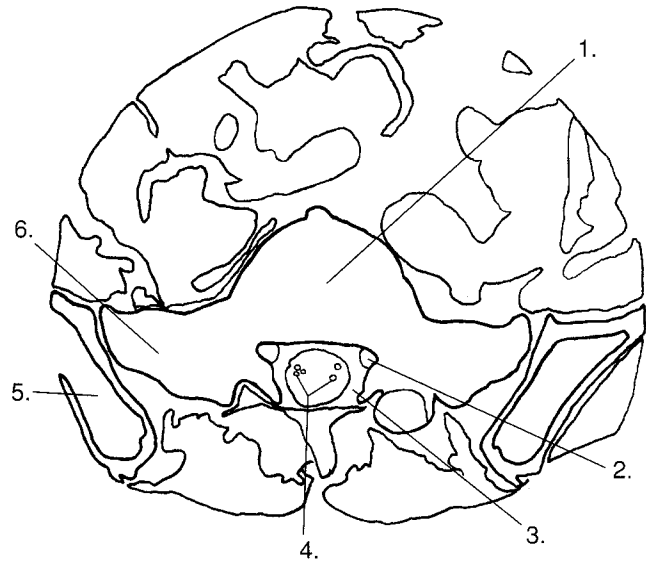
- A. 11
- B. 8
- C. 1
- D. 2

4. What number illustrates the lateral part of S1?

- A. 10
- B. 4
- C. 5
- D. 9

5. Which of the following is illustrated by 5?

- A. Superior articular process of S1
- B. Superior articular process of L5
- C. Inferior articular process of S1
- D. Inferior articular process of L5



**Figure 7-16**

1. Which of the following is illustrated by 3?

- A. S1 nerve root
- B. Epidural space
- C. Subarachnoid space
- D. S2-S5 nerve roots

2. What number illustrates the ilium?

- A. 6
- B. 1
- C. 2
- D. 5

3. Which of the following is illustrated by 1?

- A. Inferior endplate of L5
- B. Intervertebral disk
- C. Superior endplate of S1
- D. Zygapophysis

4. Which of the following is illustrated by 6?

- A. Lateral part of S1
- B. Ilium
- C. Transverse process of L5
- D. Superior endplate of S1

5. Which of the following is illustrated by 4?

- A. S1 nerve root
- B. S2-S5 nerve roots
- C. Dural sac
- D. Epidural space

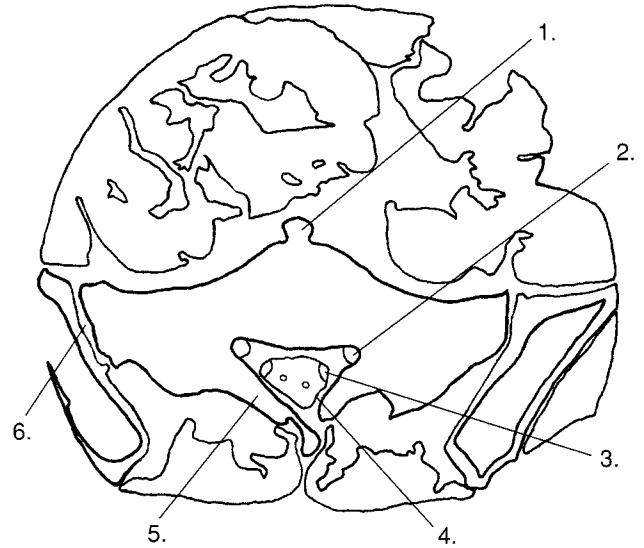
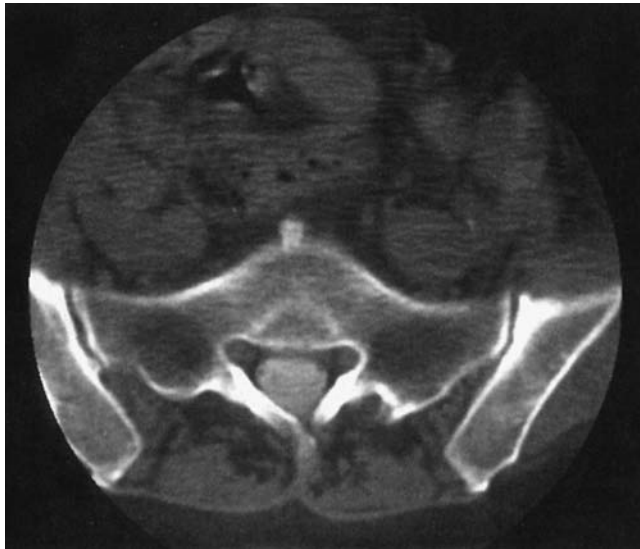


Figure 7-17

1. What number illustrates the dural sac?

- A. 3
- B. 6
- C. 2
- D. 4

2. Which of the following is illustrated by 2?

- A. S1 nerve root
- B. Subarachnoid space
- C. Vertebral artery
- D. Epidural space

3. Which of the following is illustrated by 6?

- A. Lamina of S1
- B. Zygapophysis
- C. Sacroiliac joint
- D. L5-S1 intervertebral joint

4. What number illustrates the osteophyte?

- A. 5
- B. 1
- C. 6
- D. 2

5. Which of the following is illustrated by 3?

- A. Dural sac
- B. Epidural space
- C. Spinal cord
- D. S2 nerve root

## CLINICAL APPLICATIONS

---

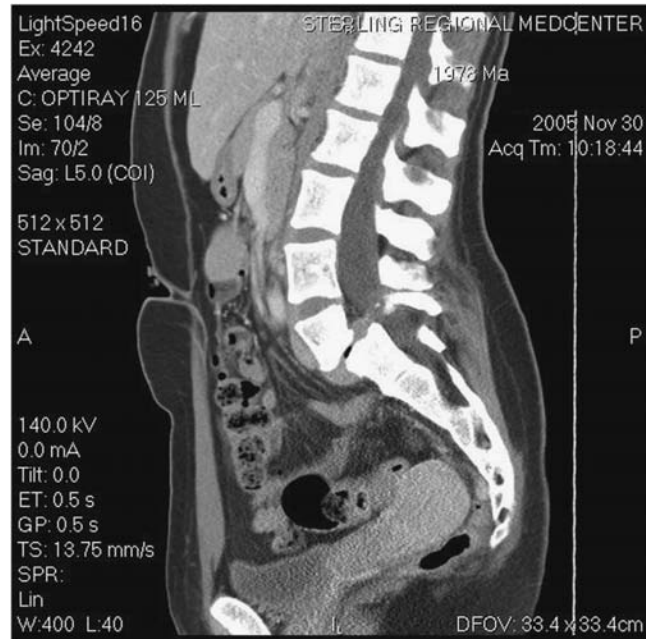
1. There are usually \_\_\_\_\_ cervical vertebrae, \_\_\_\_\_ thoracic vertebrae, \_\_\_\_\_ lumbar vertebrae, and \_\_\_\_\_ sacral segments.
2. The transverse foramina are characteristic of which of the following vertebrae?  
 A. Cervical  
 B. Lumbar  
 C. Sacral  
 D. Thoracic
3. Describe the posterior longitudinal ligament.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
4. The anterior border of the right L5-S1 intervertebral foramen is formed by the \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_.
5. The conus medullaris is usually found at which of the following vertebral levels?  
 A. T1-L2  
 B. L1-L3  
 C. L2-L4  
 D. L3-L5
6. The \_\_\_\_\_ mater is the innermost meningeal layer.
7. In the spine, the upper and lower borders of the intervertebral foramen are formed by the  
 A. Laminae  
 B. Pedicles  
 C. Articular processes  
 D. Transverse processes
8. The [anterior/posterior] nerve root contains a collection of nerve cell bodies known as a ganglion.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
9. In axial sections, which part of the vertebral column is described as having a batlike appearance?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
10. Which of the following have the largest vertebral foramina?  
 A. Cervical  
 B. Thoracic  
 C. Lumbar  
 D. Sacral



## CLINICAL CORRELATIONS

---

### ■ Clinical Case 7-1



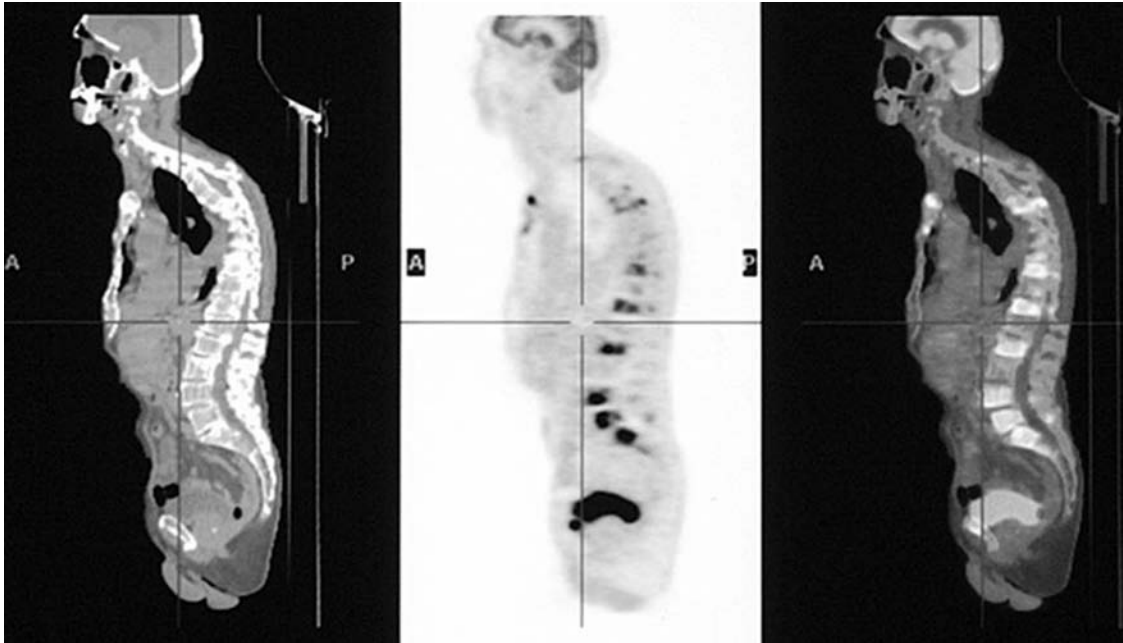
- Which of the following best describes the image generated above?
  - A. T1 weighted magnetic resonance (MR)
  - B. T2 weighted MR
  - C. Computed tomography (CT)
  - D. Positron emission tomography (PET)/CT
- In the image above, the injury is found at which of the following vertebral levels?
  - A. T12-L2
  - B. L1-L3
  - C. L3-L5
  - D. L5-S1
- Which of the following best describes the injury?
  - A. Spondylolysis
  - B. Spondylolisthesis
  - C. Degenerative disk disease
  - D. Ankylosing spondylitis
- Which of the following would most likely be affected by this injury?
  - A. Spinal cord
  - B. Cauda equina
  - C. Conus medullaris
  - D. Vagus nerve
- Would the injury shown above result in a constriction of the spinal nerves?
  - A. Yes
  - B. No

## ■ Clinical Case 7-2



1. Which of the following best describes the image generated above?  
 A. T1 weighted magnetic resonance (MR)  
 B. T2 weighted MR  
 C. Computed tomography (CT)  
 D. Positron emission tomography (PET)/CT
2. In this image, does the spinal cord have a strong or weak signal?  
 A. Strong  
 B. Weak
3. Typically, the spinal cord terminates at what vertebral level?  
 A. T12-L2  
 B. L1-L3  
 C. L3-L5  
 D. L5-S1
4. The ventral nerve roots from the spinal cord transmit which of the following fibers?  
 A. Motor  
 B. Sensory  
 C. Both of the above  
 D. None of the above
5. In this image, does the cerebrospinal fluid have a strong or weak signal?  
 A. Strong  
 B. Weak

■ Clinical Case 7-3



1. Describe the location of the metastatic disease within the spine on the CT (left), PET (middle), and corresponding fused PET/CT (right) images in this patient who was previously treated for adenocarcinoma of the colon.

---



---



---

2. Describe the changes in adjacent tissues.

---



---



---

3. Describe the consistency, shape, and border.

---



---



---

■ **Clinical Case 7-4**



1. Describe the location of the pathology within the lower thoracic spine (T12 is lowest vertebra shown in full).

---

---

---

3. Describe the consistency, shape, and border.

---

---

---

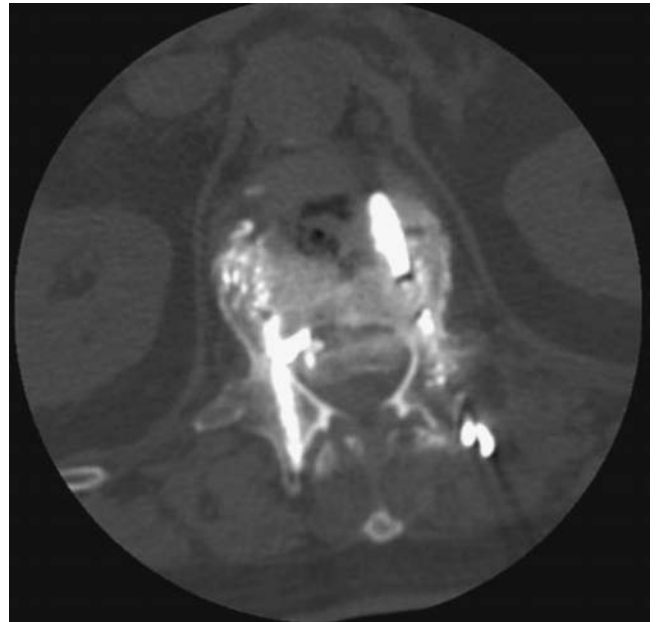
2. Describe the changes in adjacent tissues.

---

---

---

■ Clinical Case 7-5



1. Describe the location of the pathology within the spine in this patient who previously underwent vertebroplasty (the upper part of L3 is the lowermost vertebra shown).

---

---

---

2. Describe the changes in adjacent tissues.

---

---

---

3. Describe the consistency, shape, and border.

---

---

---

### ■ Clinical Case 7-6



1. Describe the location of the metastatic disease shown in this MR imaging examination following the administration of 15 cc of gadolinium.

---

---

---

3. Describe the consistency, shape, and border.

---

---

---

2. Describe the changes in adjacent tissues.

---

---

---

■ Clinical Case 7-7



1. Describe the location of the pathology shown with proton density (left) and T2 (right) weighted MR sagittal images in the spine of this 58-year-old patient reporting chronic lower back pain.

---



---



---

2. Describe the changes in adjacent tissues.

---



---



---

3. Describe the consistency, shape, and border.

---



---



---

### ■ Clinical Case 7-8



1. Describe the location of the pathology shown with T1 weighted MR sagittal images in the spine of this female patient previously treated for malignant breast carcinoma (T12 is lowest vertebra shown completely).

---

---

---

2. Describe the changes in adjacent tissues.

---

---

---

3. Describe the consistency, shape, and border.

---

---

---



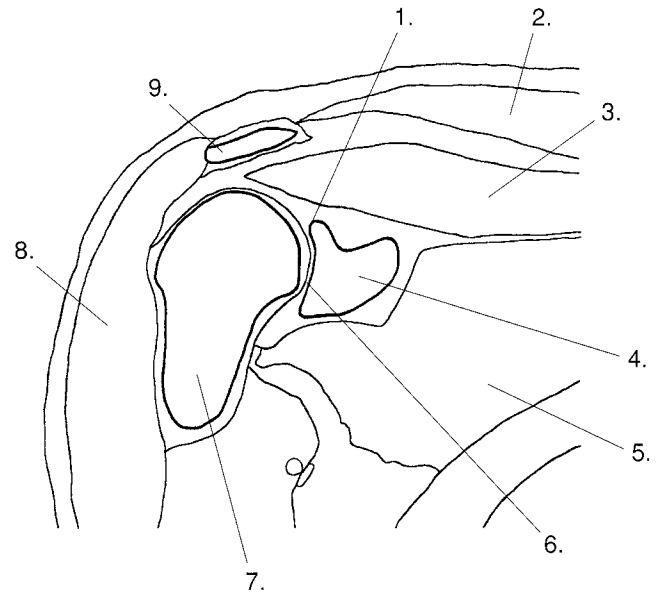
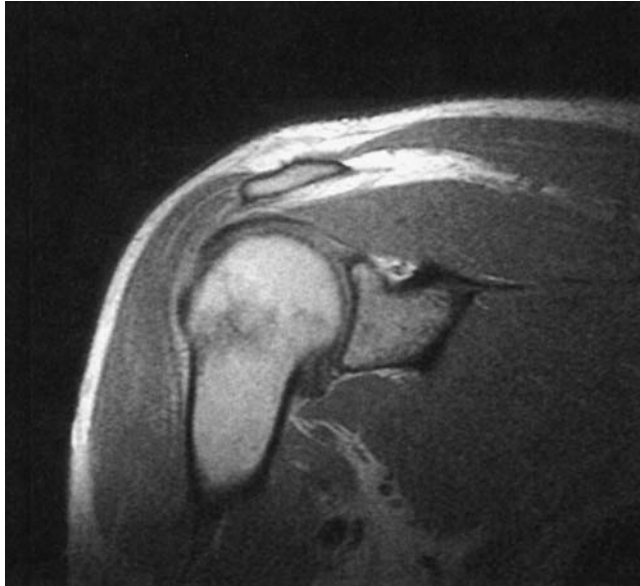


Figure 8-1

1. Which of the following illustrates 6?
  - A. Glenohumeral joint
  - B. Acromioclavicular joint
  - C. Axillary recess
  - D. Inferior glenoid labrum
2. Which number illustrates the trapezius muscle?
  - A. 3
  - B. 2
  - C. 5
  - D. 8
3. Which of the following is illustrated by 4?
  - A. Superior glenoid labrum
  - B. Glenohumeral joint
  - C. Acromion process of scapula
  - D. Glenoid process of scapula
4. Which of the following is illustrated by 1?
  - A. Superior glenoid labrum
  - B. Acromion process
  - C. Axillary recess
  - D. Acromioclavicular joint
5. Which number illustrates the supraspinatus muscle?
  - A. 2
  - B. 5
  - C. 3
  - D. 8

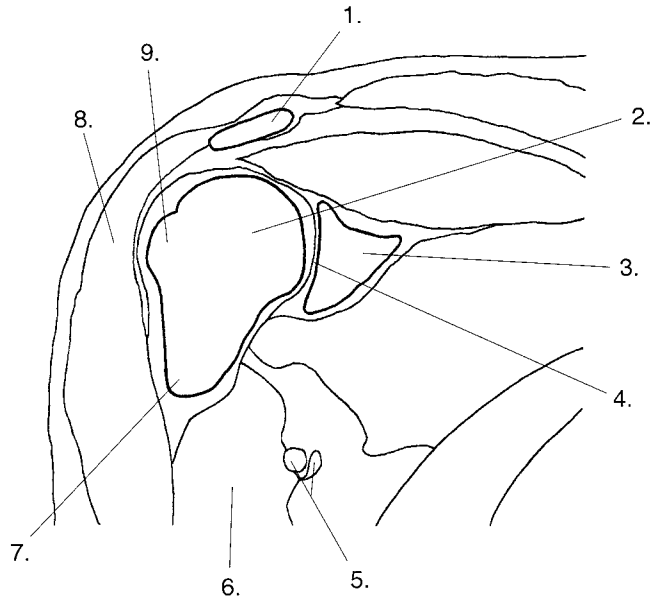
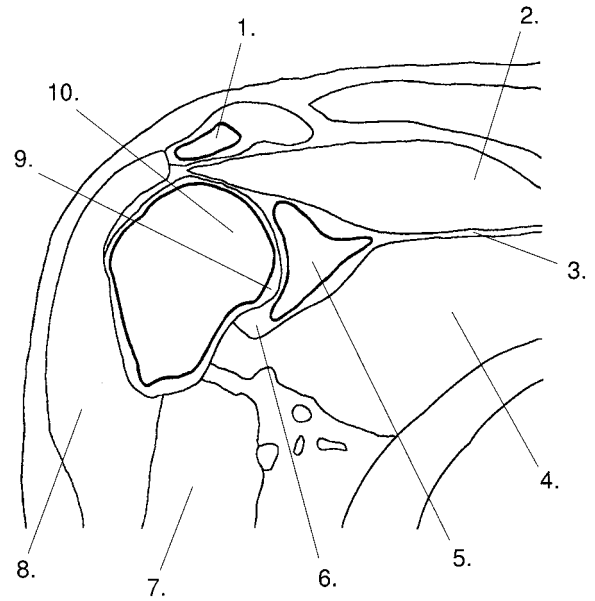
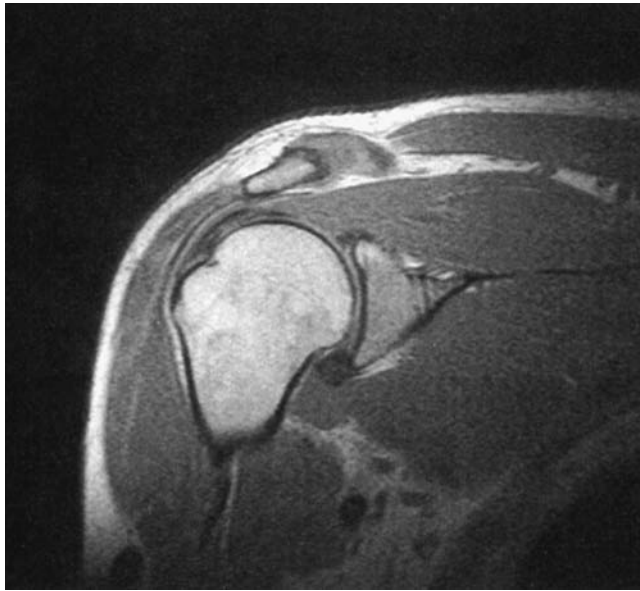


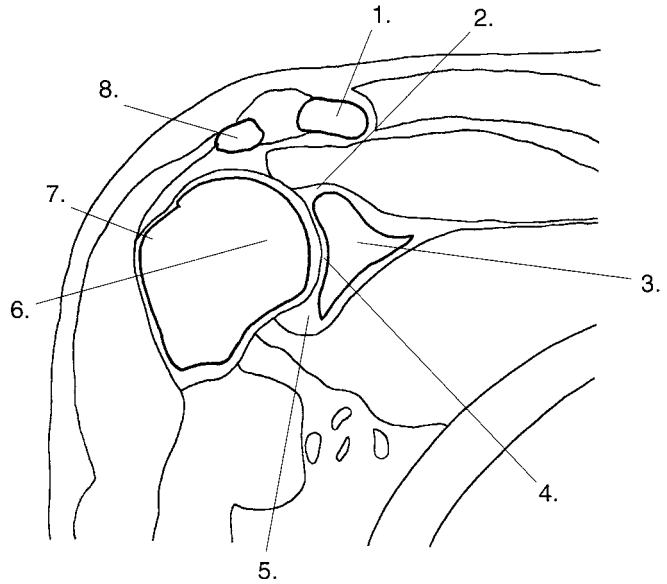
Figure 8-2

1. Which of the following is illustrated by 6?
  - A. Subscapular muscle
  - B. Teres minor muscle
  - C. Deltoid muscle
  - D. Teres major muscle
2. Which of the following is illustrated by 9?
  - A. Lesser tubercle of the humerus
  - B. Greater tubercle of the humerus
  - C. Surgical neck
  - D. Head of the humerus
3. Which of the following is illustrated by 1?
  - A. Greater tubercle of the humerus
  - B. Surgical neck of the humerus
  - C. Acromion process of the scapula
  - D. Head of the humerus
4. Which of the following is illustrated by 7?
  - A. Surgical neck of the humerus
  - B. Greater tubercle of the humerus
  - C. Head of the humerus
  - D. Acromion process of the scapula
5. Which of the following is illustrated by 2?
  - A. Acromion process of the scapula
  - B. Greater tubercle of the humerus
  - C. Head of the humerus
  - D. Surgical neck of the humerus



**Figure 8-3**

1. Which of the following is illustrated by 1?
  - A. Glenoid process of scapula
  - B. Clavicle
  - C. Greater tubercle
  - D. Acromion process of scapula
2. Which number illustrates the supraspinatus muscle?
  - A. 2
  - B. 8
  - C. 7
  - D. 4
3. Which of the following is illustrated by 6?
  - A. Axillary recess of the articular cavity
  - B. Glenoid process of the scapula
  - C. Acromioclavicular joint
  - D. Articular cartilage
4. Which number illustrates the articular cartilage?
  - A. 3
  - B. 10
  - C. 9
  - D. 6
5. Which of the following is illustrated by 3?
  - A. Articular cartilage
  - B. Glenoid labrum
  - C. Glenoid process of scapula
  - D. Body of scapula



**Figure 8-4**

1. Which of the following is illustrated by 2?
  - A. Articular cartilage in the glenoid fossa
  - B. Superior glenoid labrum
  - C. Inferior glenoid labrum
  - D. Axillary recess of articular cavity
2. Which of the following is illustrated by 1?
  - A. Acromion process of scapula
  - B. Glenoid process of scapula
  - C. Superior glenoid labrum
  - D. Clavicle
3. Which number illustrates the articular cartilage in the glenoid fossa?
  - A. 4
  - B. 3
  - C. 2
  - D. 5
4. Which number illustrates the inferior glenoid labrum?
  - A. 4
  - B. 3
  - C. 5
  - D. 2
5. Which of the following is illustrated by 3?
  - A. Superior glenoid labrum
  - B. Inferior glenoid labrum
  - C. Glenoid process of the scapula
  - D. Acromion process of the scapula

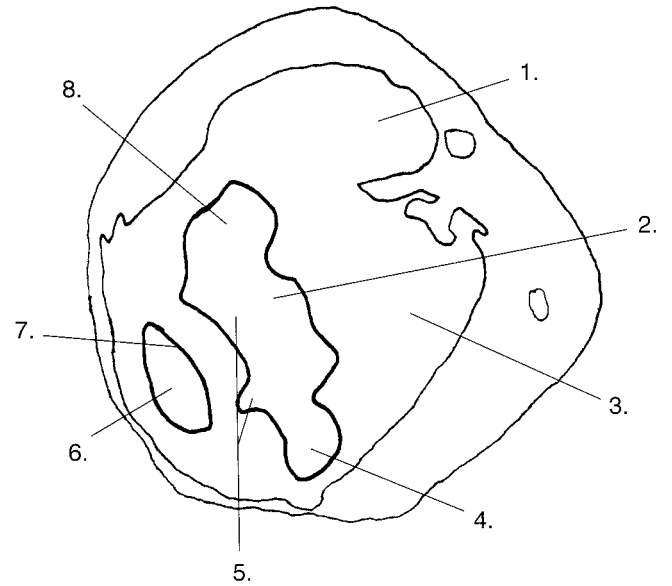
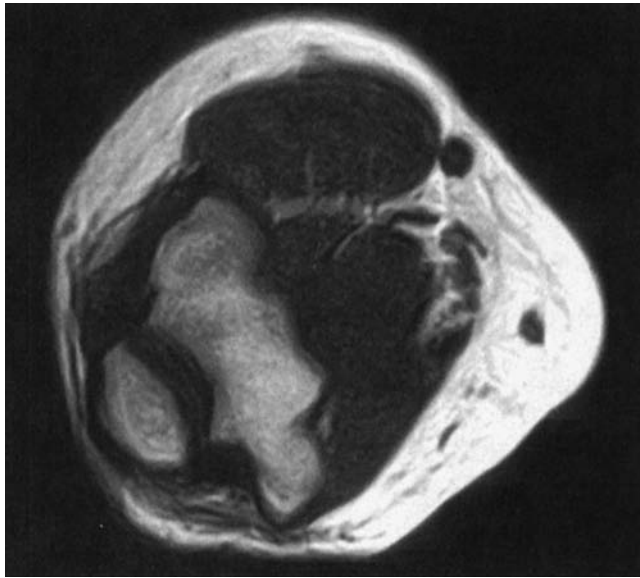


Figure 8-5

1. Which illustrates the trochlear notch?
  - A. 4
  - B. 7
  - C. 6
  - D. 5
  
2. Which of the following is illustrated by 2?
  - A. Radius
  - B. Ulna
  - C. Trochlea
  - D. Humerus
  
3. Which number illustrates the olecranon process of the ulna?
  - A. 7
  - B. 2
  - C. 6
  - D. 5
  
4. Which of the following is illustrated by 4?
  - A. Medial epicondyle
  - B. Capitulum
  - C. Trochlea
  - D. Lateral epicondyle
  
5. Which of the following is illustrated by 1?
  - A. Biceps muscle
  - B. Triceps muscle
  - C. Brachialis muscle
  - D. Brachioradialis muscle

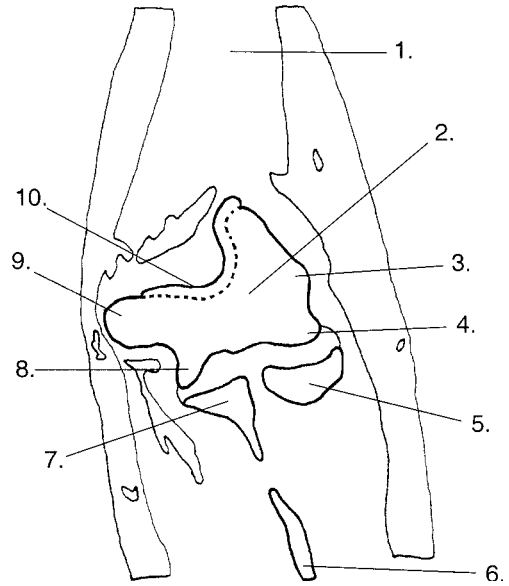
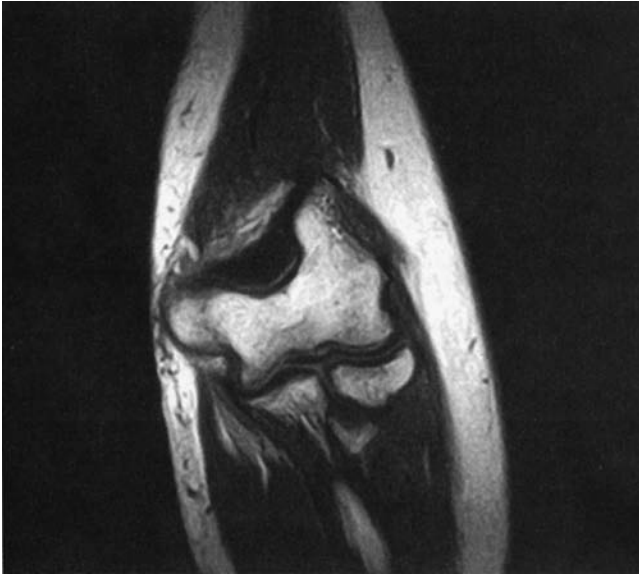


Figure 8-6

1. Which of the following is illustrated by 8?

- A. Coronoid process of ulna
- B. Medial epicondyle
- C. Trochlea
- D. Capitulum

2. Which number illustrates the capitulum?

- A. 4
- B. 2
- C. 5
- D. 3

3. Which of the following is illustrated by 10?

- A. Capitulum
- B. Lateral epicondyle
- C. Trochlea
- D. Olecranon fossa

4. Which number illustrates the lateral epicondyle?

- A. 7
- B. 3
- C. 5
- D. 9

5. Which number illustrates the coronoid process of the ulna?

- A. 5
- B. 6
- C. 9
- D. 7

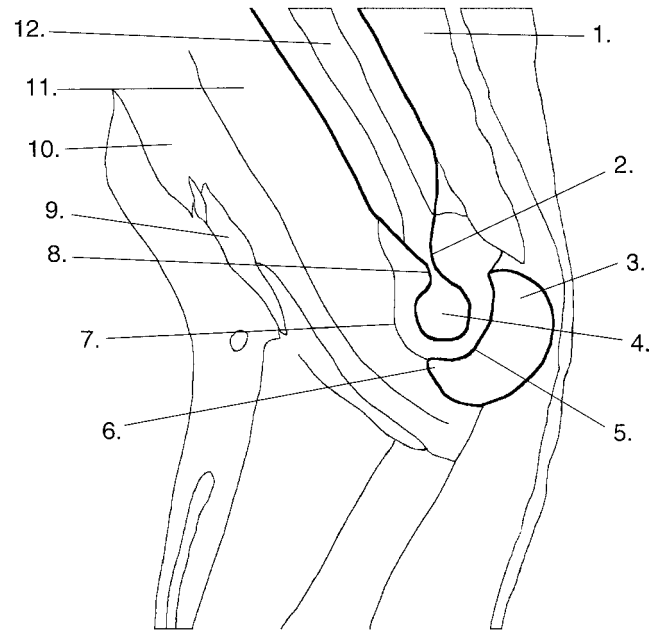


Figure 8-7

1. Which number illustrates the olecranon fossa?

- A. 8
- B. 5
- C. 7
- D. 2

2. Which of the following is illustrated by 5?

- A. Olecranon process of ulna
- B. Articular capsule
- C. Trochlear notch
- D. Coronoid process of ulna

3. Which number illustrates the triceps muscle?

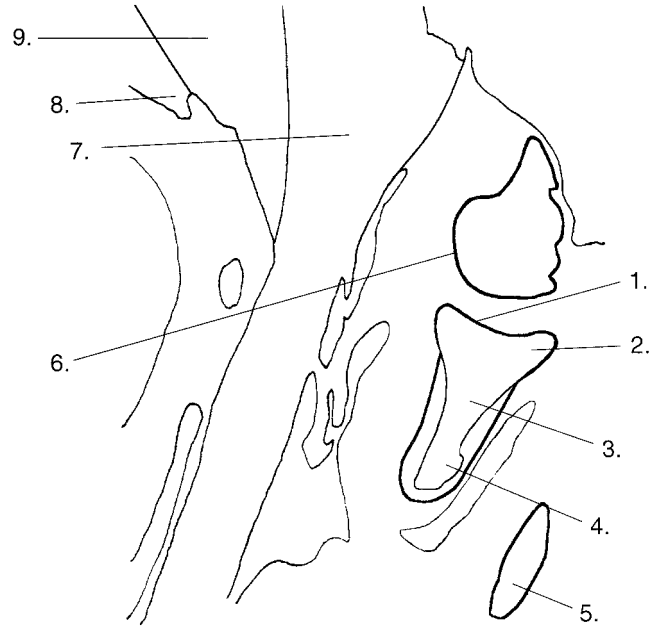
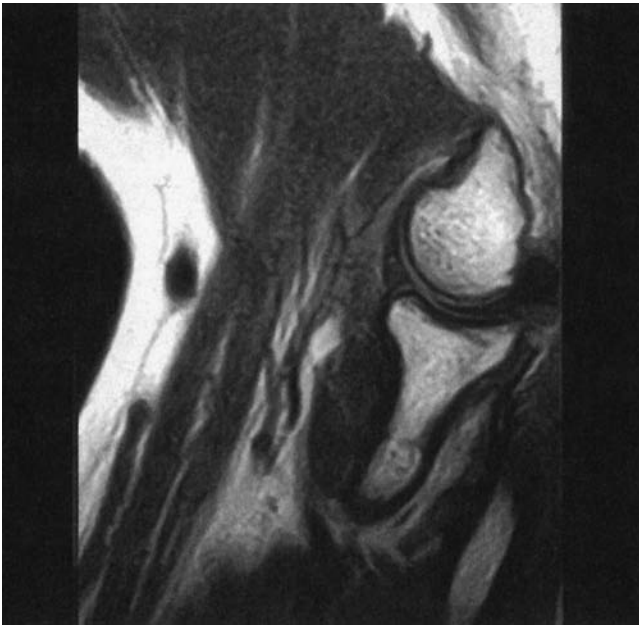
- A. 1
- B. 12
- C. 11
- D. 10

4. Which of the following is illustrated by 9?

- A. Brachialis muscle
- B. Brachial artery
- C. Biceps muscle
- D. Axillary artery

5. Which of the following is illustrated by 7?

- A. Capitulum
- B. Coronoid fossa
- C. Articular capsule
- D. Trochlear notch



**Figure 8-8**

1. Which of the following is illustrated by 3?

- A. Fovea of the radius
- B. Neck of radius
- C. Radial tuberosity
- D. Head of radius

2. Which number illustrates the biceps muscle?

- A. 8
- B. 6
- C. 9
- D. 7

3. Which of the following is illustrated by 7?

- A. Biceps muscle
- B. Deltoid muscle
- C. Brachialis muscle
- D. Brachioradialis muscle

4. Which number illustrates the fovea of the radius?

- A. 2
- B. 5
- C. 1
- D. 6

5. Which number illustrates the capitulum?

- A. 6
- B. 2
- C. 1
- D. 5



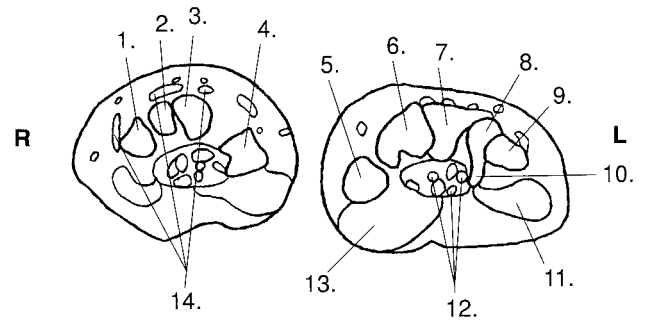
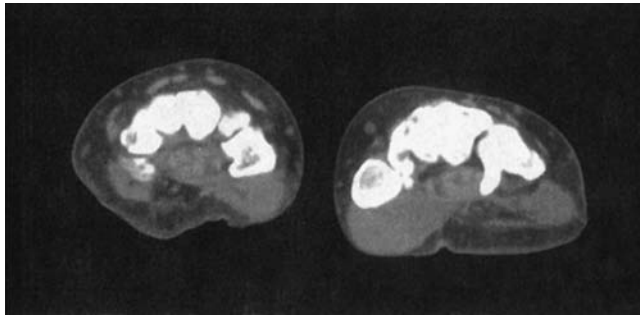


Figure 8-9

1. Which of the following is illustrated by 9?

- A. Trapezoid
- B. Triquetrum
- C. Trapezium
- D. Hamate

2. Which number illustrates the trapezoid?

- A. 4
- B. 2
- C. 7
- D. 3

3. Which of the following is illustrated by 6?

- A. Trapezium
- B. Hamate
- C. Trapezoid
- D. Capitate

4. Which number illustrates the abductor digiti minimi muscle?

- A. 11
- B. 13
- C. 12
- D. 14

5. Which number illustrates the flexor digitorum superficialis and profundus tendons?

- A. 14
- B. 13
- C. 11
- D. 12

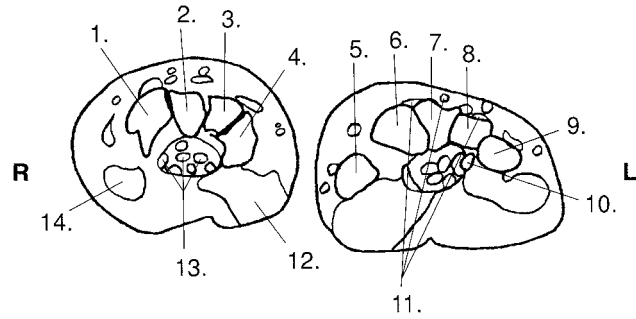
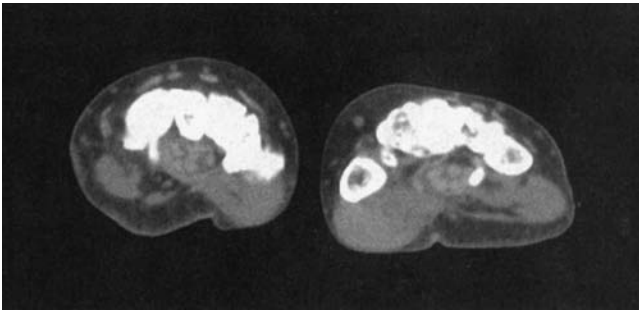


Figure 8-10

1. Which number illustrates the capitate?

- A. 8
- B. 6
- C. 3
- D. 7

2. Which of the following is illustrated by 10?

- A. Triquetrum
- B. Hamulus of hamate
- C. Pisiform
- D. Scaphoid

3. Which number illustrates the right hamate?

- A. 3
- B. 1
- C. 4
- D. 2

4. Which of the following is illustrated by 11?

- A. Extensor tendons
- B. Flexor digitorum superficialis and profundus tendons
- C. Abductor digiti minimi muscle
- D. Abductor pollicis brevis and opponens pollicis muscles

5. Which of the following is illustrated by 13?

- A. Extensor tendons
- B. Flexor digitorum superficialis and profundus tendons
- C. Abductor digiti minimi muscle
- D. Abductor pollicis brevis and opponens pollicis muscles

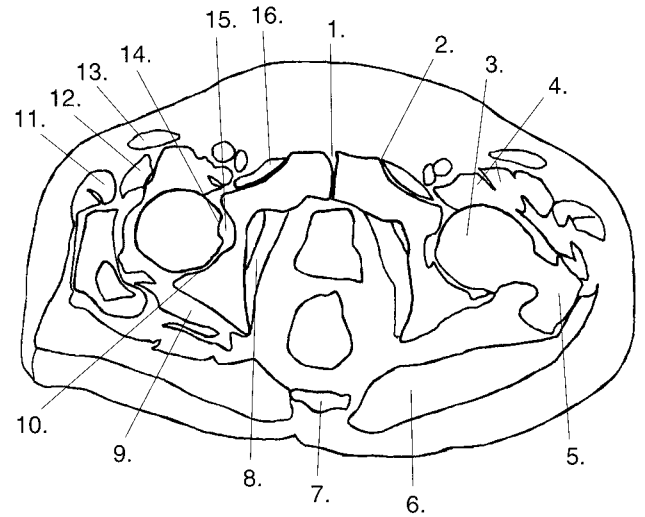
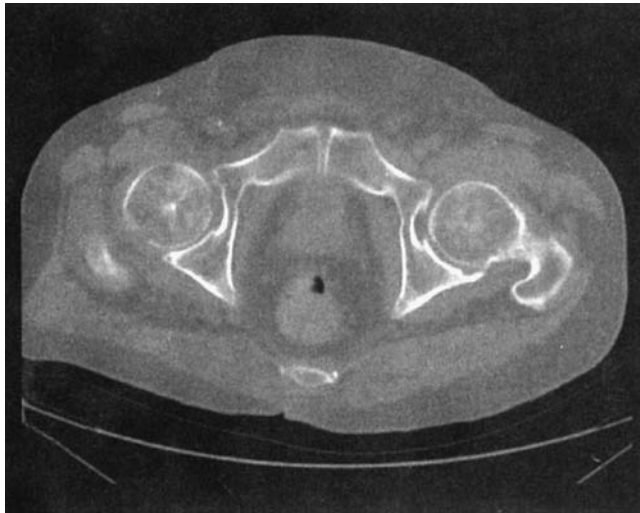


Figure 8-11

1. Which number illustrates the sartorius muscle?

- A. 14
- B. 13
- C. 12
- D. 11

2. Which of the following is illustrated by 14?

- A. Acetabular fossa
- B. Lunate surface of acetabulum
- C. Fovea capitis femoris
- D. Pubic symphysis

3. Which number illustrates the tensor fascia latae muscle?

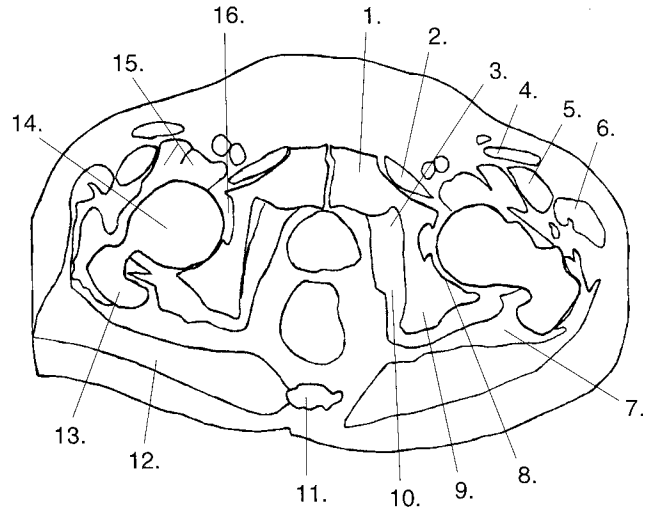
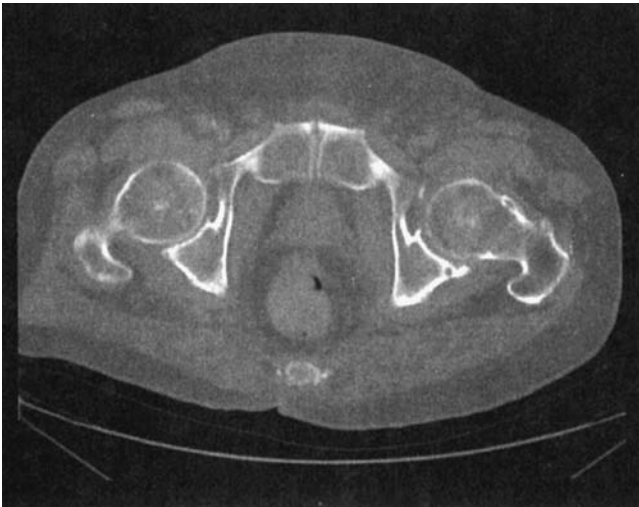
- A. 11
- B. 14
- C. 12
- D. 13

4. Which of the following is illustrated by 1?

- A. Pubic symphysis
- B. Acetabular fossa
- C. Obturator foramen
- D. Sacroiliac joint

5. Which number illustrates the superior gemellus muscle?

- A. 9
- B. 8
- C. 6
- D. 4



**Figure 8-12**

1. Which of the following is illustrated by 3?
  - A. Lunate surface of acetabulum
  - B. Obturator foramen
  - C. Pubic symphysis
  - D. Acetabular fossa
  
2. Which of the following is illustrated by 16?
  - A. Obturator foramen
  - B. Lunate surface of acetabulum
  - C. Fovea capitis femoris
  - D. Acetabular fossa
  
3. Which number illustrates the iliopsoas muscle?
  - A. 5
  - B. 10
  - C. 7
  - D. 15
  
4. Which number illustrates the obturator internus muscle?
  - A. 10
  - B. 15
  - C. 7
  - D. 2
  
5. Which illustrates the pectineus muscle?
  - A. 10
  - B. 15
  - C. 7
  - D. 2

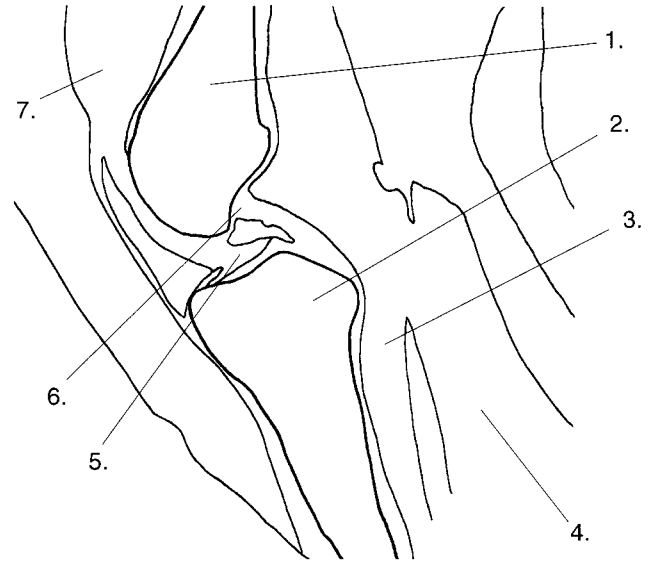
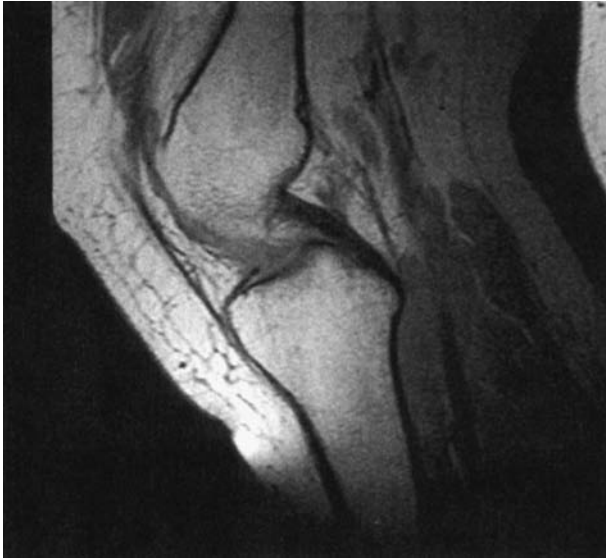


Figure 8-13

1. Which of the following is illustrated by 6?

- A. Posterior cruciate ligament
- B. Popliteus muscle
- C. Anterior cruciate ligament
- D. Tibia

2. Which of the following is illustrated by 2?

- A. Femur
- B. Fibula
- C. Patella
- D. Tibia

3. Which number illustrates the popliteus muscle?

- A. 4
- B. 7
- C. 5
- D. 3

4. Which of the following is illustrated by 5?

- A. Medial collateral ligament
- B. Anterior cruciate ligament
- C. Posterior cruciate ligament
- D. Popliteus muscle

5. Which number illustrates the quadriceps muscle?

- A. 7
- B. 4
- C. 6
- D. 3

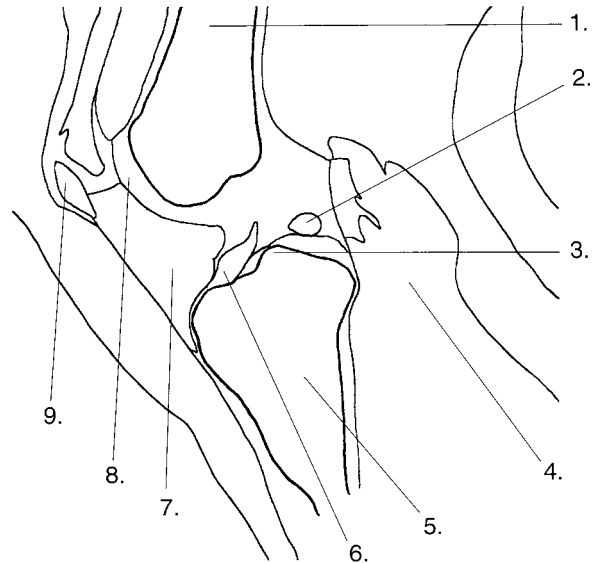


Figure 8-14

1. Which of the following is illustrated by 9?
  - A. Articular cartilage
  - B. Infrapatellar fat pad
  - C. Anterior cruciate ligament
  - D. Medial patella
2. Which of the following is illustrated by 3?
  - A. Posterior cruciate ligament
  - B. Intercondylar eminence
  - C. Anterior cruciate ligament
  - D. Lateral head of gastrocnemius muscle
3. Which number illustrates the anterior cruciate ligament?
  - A. 6
  - B. 8
  - C. 3
  - D. 2
4. Which of the following is illustrated by 7?
  - A. Patellar tendon
  - B. Patella
  - C. Infrapatellar fat pad
  - D. Quadriceps tendon
5. Which number illustrates the articular cartilage?
  - A. 8
  - B. 3
  - C. 2
  - D. 6

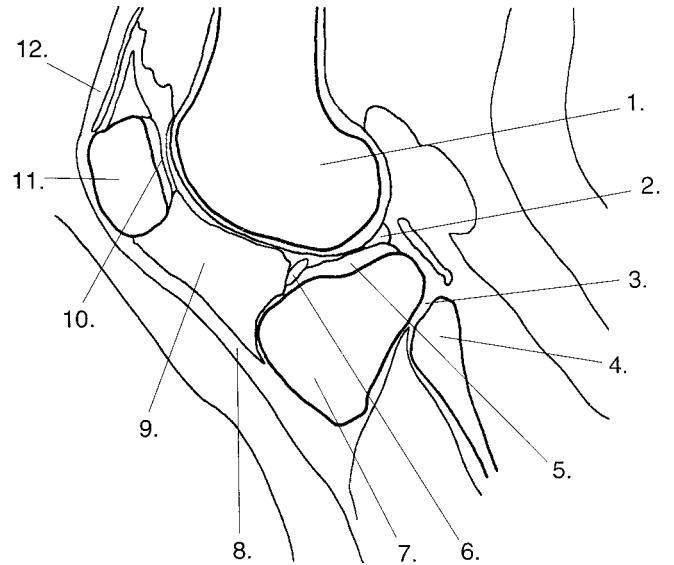


Figure 8-15

1. Which number illustrates the posterior horn of the lateral meniscus?

- A. 5
- B. 2
- C. 7
- D. 6

2. Which number illustrates the femoropatellar joint?

- A. 5
- B. 3
- C. 9
- D. 10

3. Which of the following is illustrated by 5?

- A. Head of fibula
- B. Anterior horn of lateral meniscus
- C. Posterior horn of lateral meniscus
- D. Articular cartilage

4. Which number illustrates the patella?

- A. 11
- B. 8
- C. 9
- D. 1

5. Which of the following is illustrated by 6?

- A. Anterior horn of medial meniscus
- B. Anterior cruciate ligament
- C. Posterior cruciate ligament
- D. Anterior horn of lateral meniscus

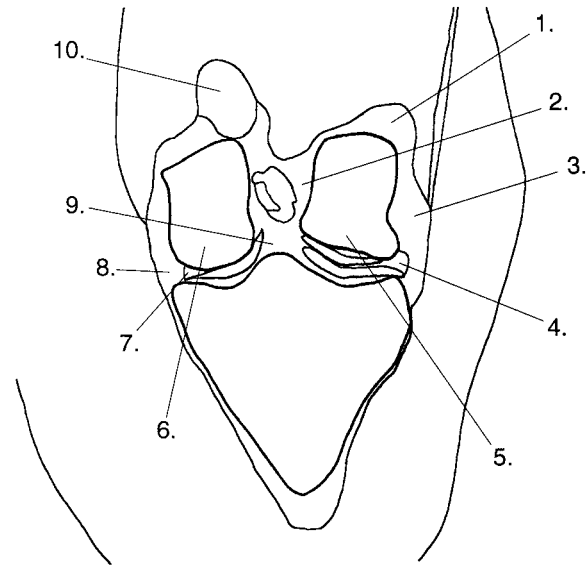


Figure 8-16

1. Which of the following is illustrated by 4?
  - A. Posterior cruciate ligament
  - B. Lateral collateral ligament
  - C. Lateral meniscus
  - D. Articular cartilage
2. Which number illustrates the posterior cruciate ligament?
  - A. 6
  - B. 2
  - C. 5
  - D. 9
3. Which number illustrates the medial meniscus?
  - A. 7
  - B. 9
  - C. 8
  - D. 4
4. Which of the following is illustrated by 1?
  - A. Lateral head of gastrocnemius muscle
  - B. Popliteal tendon
  - C. Quadriceps muscle
  - D. Medial head of gastrocnemius muscle
5. Which of the following is illustrated by 2?
  - A. Lateral collateral ligament
  - B. Anterior cruciate ligament
  - C. Medial meniscus
  - D. Posterior cruciate ligament



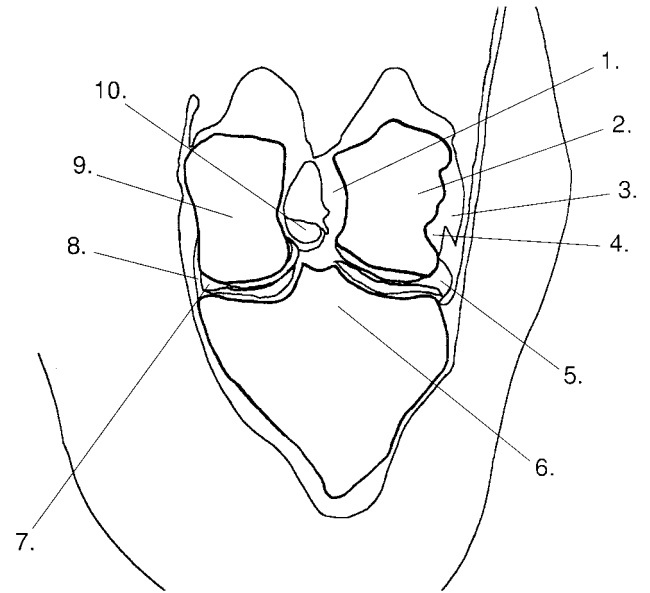


Figure 8-17

1. Which of the following is illustrated by 4?

- A. Lateral collateral ligament
- B. Lateral meniscus
- C. Lateral epicondyle
- D. Popliteal tendon

2. Which number illustrates the medial meniscus?

- A. 7
- B. 5
- C. 8
- D. 10

3. Which of the following is illustrated by 10?

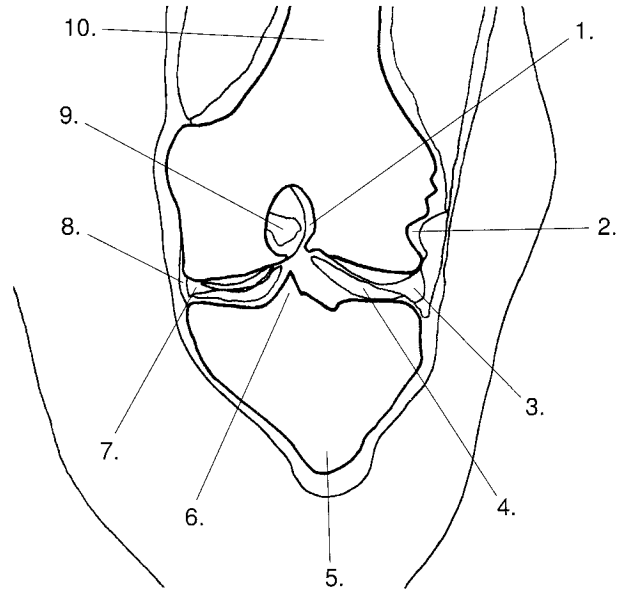
- A. Lateral meniscus
- B. Posterior cruciate ligament
- C. Medial meniscus
- D. Anterior cruciate ligament

4. Which number illustrates the tibial intercondylar eminence?

- A. 6
- B. 10
- C. 8
- D. 5

5. Which of the following is illustrated by 2?

- A. Lateral femoral epicondyle
- B. Lateral femoral condyle
- C. Head of fibula
- D. Proximal tibia



**Figure 8-18**

1. Which number illustrates the medial collateral ligament?
  - A. 8
  - B. 7
  - C. 4
  - D. 9
2. Which of the following is illustrated by 6?
  - A. Articular surface of tibia
  - B. Intercondylar eminence
  - C. Medial meniscus
  - D. Lateral meniscus
3. Which of the following is illustrated by 9?
  - A. Anterior cruciate ligament
  - B. Intercondylar eminence
  - C. Posterior cruciate ligament
  - D. Medial collateral ligament
4. Which number illustrates the popliteal tendon?
  - A. 1
  - B. 9
  - C. 3
  - D. 2
5. Which of the following is illustrated by 4?
  - A. Articular surface of tibia
  - B. Intercondylar eminence
  - C. Medial meniscus
  - D. Lateral meniscus

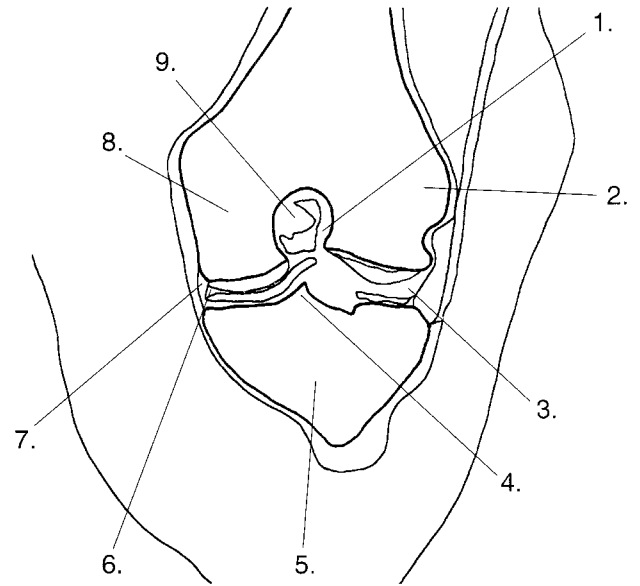


Figure 8-19

1. Which number illustrates the posterior cruciate ligament?

- A. 1
- B. 9
- C. 4
- D. 3

2. Which of the following is illustrated by 7?

- A. Medial meniscus
- B. Intercondylar eminence
- C. Medial collateral ligament
- D. Lateral meniscus

3. Which number illustrates the anterior cruciate ligament?

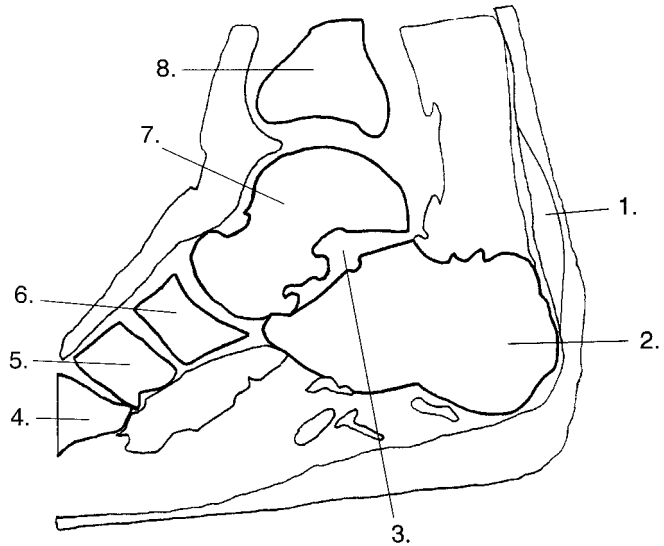
- A. 1
- B. 8
- C. 2
- D. 9

4. Which of the following is illustrated by 3?

- A. Articular surface of medial condyle
- B. Articular surface of tibia
- C. Anterior cruciate ligament
- D. Lateral meniscus

5. Which number illustrates the medial meniscus?

- A. 6
- B. 7
- C. 3
- D. 9



**Figure 8-20**

1. Which of the following is illustrated by 4?

- A. First cuneiform
- B. Navicular
- C. First metatarsal
- D. First digit

2. Which number illustrates the tibia?

- A. 1
- B. 8
- C. 3
- D. 7

3. Which of the following is illustrated by 7?

- A. Navicular bone
- B. Calcaneus
- C. Tibia
- D. Talus

4. Which number illustrates the tendinous insertion of gastrocnemius muscles?

- A. 1
- B. 3
- C. 6
- D. 2

5. Which of the following is illustrated by 5?

- A. First cuneiform
- B. Talus
- C. Navicular
- D. First metatarsal

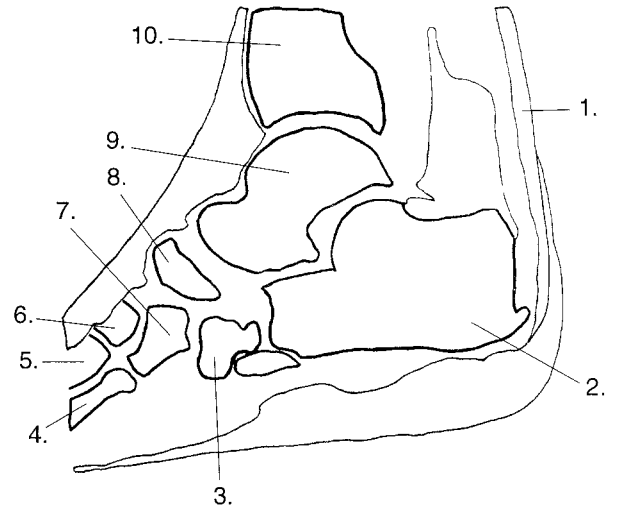


Figure 8-21

1. Which of the following is illustrated by 6?

- A. Third metatarsal
- B. Second metatarsal
- C. Third cuneiform
- D. Second cuneiform

2. Which number illustrates the talus?

- A. 7
- B. 9
- C. 8
- D. 2

3. Which number illustrates the third cuneiform?

- A. 6
- B. 4
- C. 7
- D. 5

4. Which of the following is illustrated by 2?

- A. Calcaneus
- B. Talus
- C. Tibia
- D. Tendo calcaneus tendon

5. Which of the following is illustrated by 8?

- A. Cuboid
- B. Navicular
- C. Talus
- D. Second cuneiform

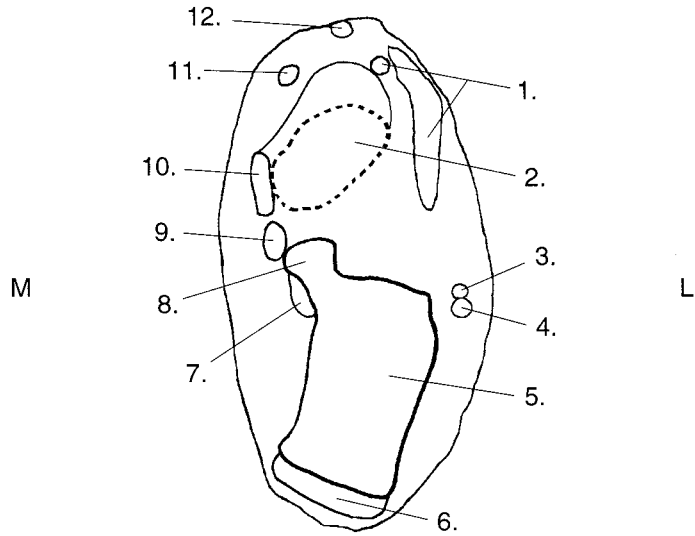
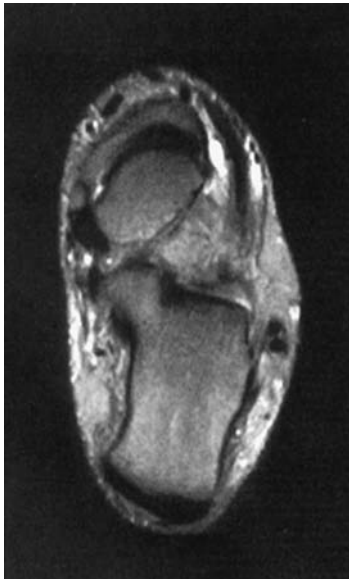


Figure 8-22

1. Which number illustrates the tibialis anterior tendon?
  - A. 1
  - B. 11
  - C. 9
  - D. 12
2. Which of the following is illustrated by 8?
  - A. Cuboid
  - B. Talus
  - C. Navicular
  - D. Sustentaculum tali
3. Which of the following is illustrated by 3?
  - A. Peroneus longus tendon
  - B. Flexor hallucis longus tendon
  - C. Flexor digitorum longus tendon
  - D. Peroneus brevis tendon
4. Which number illustrates the extensor digitorum tendon?
  - A. 1
  - B. 11
  - C. 4
  - D. 10
5. Which number illustrates the extensor hallucis longus tendon?
  - A. 11
  - B. 1
  - C. 12
  - D. 10

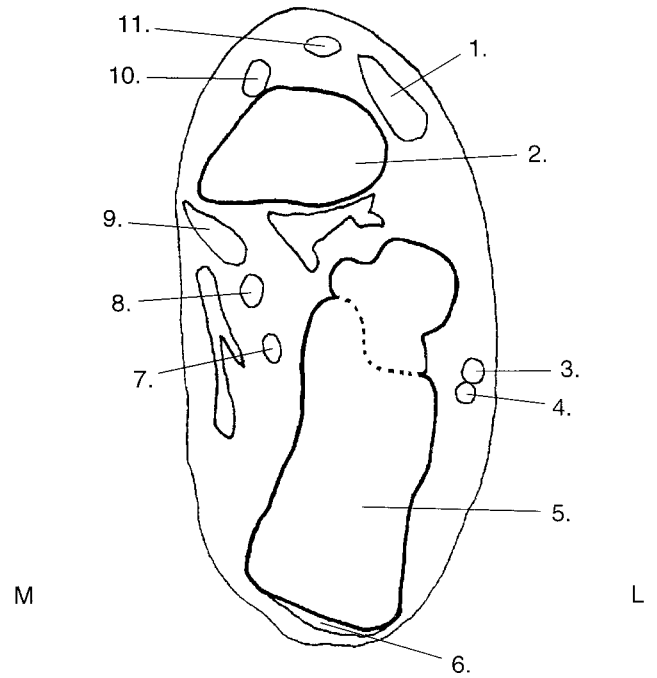
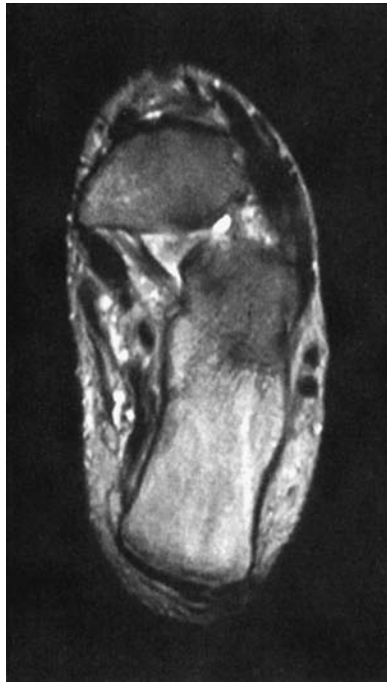
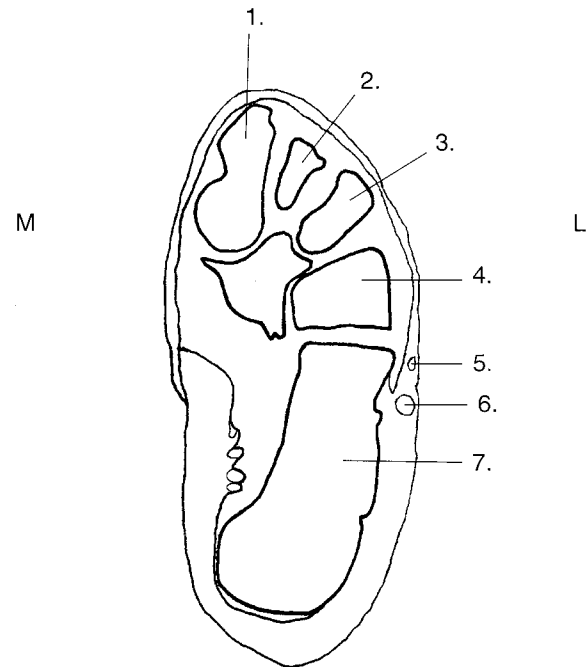


Figure 8-23

1. Which number illustrates the tibialis posterior tendon?
  - A. 10
  - B. 3
  - C. 9
  - D. 7
2. Which of the following is illustrated by 10?
  - A. Extensor hallucis longus tendon
  - B. Tibialis anterior tendon
  - C. Extensor digitorum tendon
  - D. Tibialis posterior tendon
3. Which number illustrates the peroneus brevis tendon?
  - A. 3
  - B. 7
  - C. 4
  - D. 8
4. Which of the following is illustrated by 5?
  - A. Cuboid
  - B. Talus
  - C. Sustentaculum tali
  - D. Calcaneus
5. Which number illustrates the talus?
  - A. 2
  - B. 5
  - C. 1
  - D. 9



**Figure 8-24**

1. Which of the following is illustrated by 4?
  - A. Cuboid
  - B. Third cuneiform
  - C. Second cuneiform
  - D. Navicular
  
2. Which number illustrates the third cuneiform?
  - A. 2
  - B. 7
  - C. 4
  - D. 8
  
3. Which number illustrates the second cuneiform?
  - A. 3
  - B. 2
  - C. 4
  - D. 1
  
4. Which of the following is illustrated by 5?
  - A. Peroneus longus tendon
  - B. Extensor digitorum tendon
  - C. Peroneus brevis tendon
  - D. Extensor hallucis longus tendon
  
5. Which of the following is illustrated by 1?
  - A. Second cuneiform
  - B. Third cuneiform
  - C. First cuneiform
  - D. Cuboid



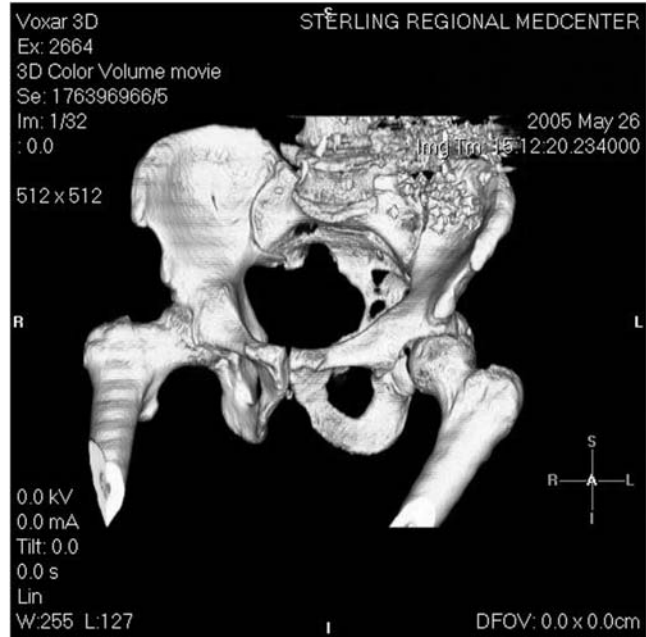
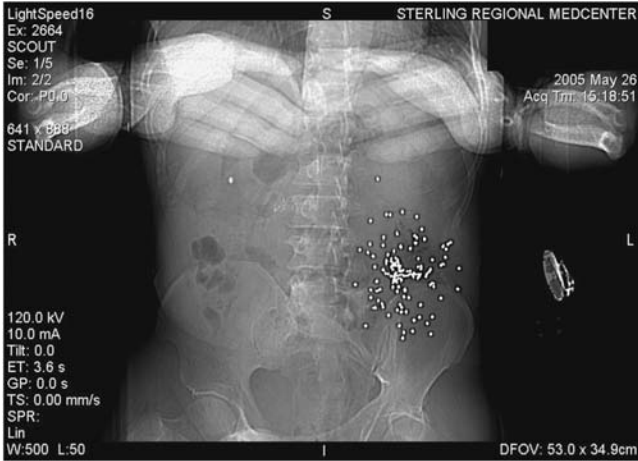
## CLINICAL APPLICATIONS

---

- The ankle joint is formed between the \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_.
- The ankle joint is classified as what type of joint?
  - \_\_\_\_\_ A. Ginglymus
  - \_\_\_\_\_ B. Arthrodiar
  - \_\_\_\_\_ C. Enarthrosis
  - \_\_\_\_\_ D. Syndesmosis
- The hip joint is classified as what type of joint?
  - \_\_\_\_\_ A. Ginglymus
  - \_\_\_\_\_ B. Arthrodiar
  - \_\_\_\_\_ C. Enarthrosis
  - \_\_\_\_\_ D. Syndesmosis
- The \_\_\_\_\_ joint is considered the largest joint in the body.
- Which of the following articulates with the base of the third metatarsal?
  - \_\_\_\_\_ A. Cuboid
  - \_\_\_\_\_ B. Navicular
  - \_\_\_\_\_ C. Second cuneiform
  - \_\_\_\_\_ D. Third cuneiform
- Describe the attachments of the lateral collateral ligament.
   
\_\_\_\_\_
   
\_\_\_\_\_
   
\_\_\_\_\_
- The trochlea of the humerus articulates with the
  - \_\_\_\_\_ A. Glenoid fossa
  - \_\_\_\_\_ B. Clavicle
  - \_\_\_\_\_ C. Radius
  - \_\_\_\_\_ D. Ulna
- On an axial image of the ankle, which tendon is *not* found on the medial surface of the leg?
  - \_\_\_\_\_ A. Peroneus longus
  - \_\_\_\_\_ B. Tibialis posterior
  - \_\_\_\_\_ C. Flexor hallucis longus
  - \_\_\_\_\_ D. Flexor digitorum longus
- Approximately 75% of carpal fractures are found within the \_\_\_\_\_.
- The hamulus is found on which carpal bone?
  - \_\_\_\_\_ A. Scaphoid
  - \_\_\_\_\_ B. Hamate
  - \_\_\_\_\_ C. Capitate
  - \_\_\_\_\_ D. Lunate

# CLINICAL CORRELATIONS

## ■ Clinical Case 8-1



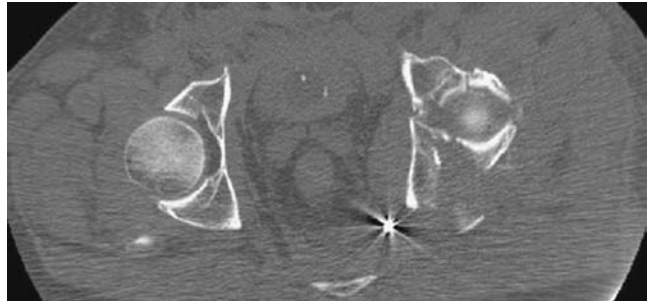
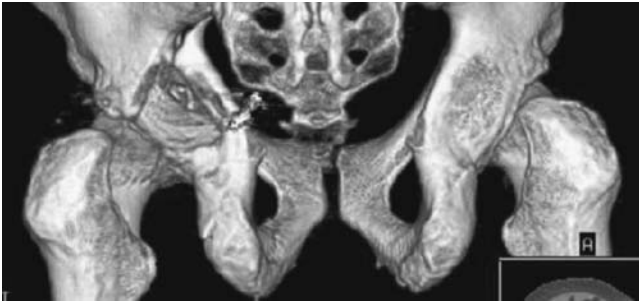
- Which of the following is the correct classification for the hip joint?
  - A. Enarthrosis
  - B. Arthrodioid
  - C. Syndesmosis
  - D. Ginglymus
- Which of the following bones form the acetabulum?
  - A. Pubis
  - B. Ischium
  - C. Ilium
  - D. All of the above
- Which of the following best describes the location of the tensor fascia latae muscle as compared to the hip joint?
  - A. Medial
  - B. Lateral
  - C. Anterior
  - D. Posterior
- What muscle originates from the ischial spine and inserts on the tendon of the obturator internus muscle rotating the thigh laterally?
  - A. Sartorius
  - B. Rectus femoris
  - C. Superior gemellus
  - D. Pectineus
- What muscle originates from the pubis to insert on the femur and also acts to rotate the thigh laterally?
  - A. Sartorius
  - B. Rectus femoris
  - C. Superior gemellus
  - D. Pectineus

## ■ Clinical Case 8-2



- Which of the following best describes the condition shown above?
  - A. Osteopetrosis
  - B. Osteoporosis
  - C. Osteosarcoma
  - D. Chondrosarcoma
- The large bone forming the heel of the foot is which of the following?
  - A. Talus
  - B. Cuboid
  - C. Navicular
  - D. Calcaneus
- The flexor tendons extend into the foot anterior or posterior to the ankle joint?
  - A. Anterior
  - B. Posterior
- The bone that articulates with the three cuneiform bones is which of the following?
  - A. Talus
  - B. Cuboid
  - C. Navicular
  - D. Calcaneus
- The bone forming the lower end of the ankle joint is which of the following?
  - A. Talus
  - B. Cuboid
  - C. Navicular
  - D. Calcaneus

### ■ Clinical Case 8-3



1. Describe the location of the motor vehicle accident (MVA) injury shown in the selected posterior view three-dimensional (3D) and axial computed tomography (CT) images.

---

---

---

2. Describe the changes in adjacent tissues.

---

---

---

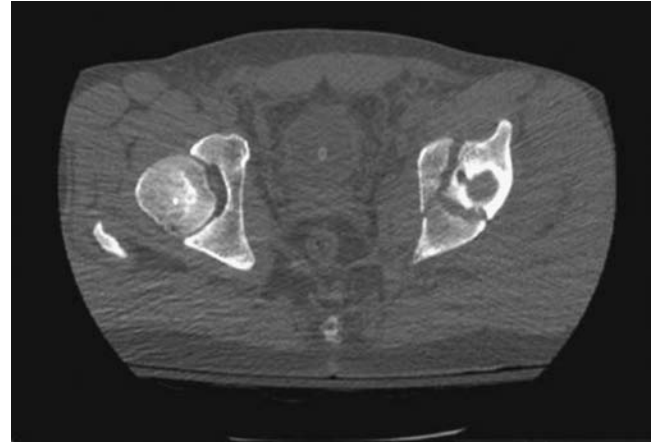
3. Describe the consistency, shape, and border.

---

---

---

■ Clinical Case 8-4



1. Describe the location of the injury in this 26-year-old male patient as shown in the reconstructed anterior view 3D (left) and axial CT (right) images.

---



---



---

2. Describe the changes in adjacent tissues.

---



---



---

3. Describe the consistency, shape, and border.

---

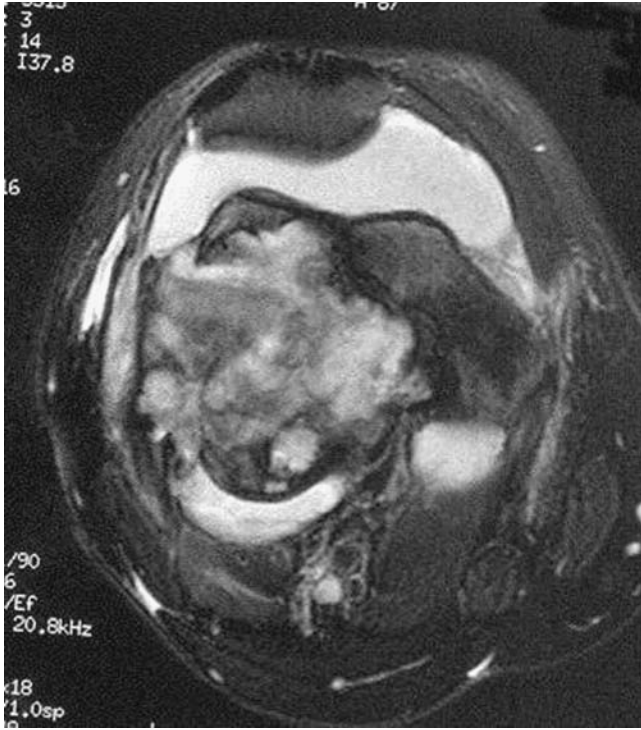


---



---

### ■ Clinical Case 8-5



1. Describe the location of the mass discovered in axial (left) and coronal (right) magnetic resonance (MR) images obtained from a 26-year-old man who sustained a knee injury while snowboarding.

---

---

---

2. Describe the changes in adjacent tissues.

---

---

---

3. Describe the consistency, shape, and border.

---

---

---

■ Clinical Case 8-6



1. Describe the location of the metastatic disease in selected coronal (left) and sagittal (right) MR images of this 23-year-old man previously diagnosed with testicular carcinoma.

---



---



---

2. Describe the changes in adjacent tissues.

---



---



---

3. Describe the consistency, shape, and border.

---

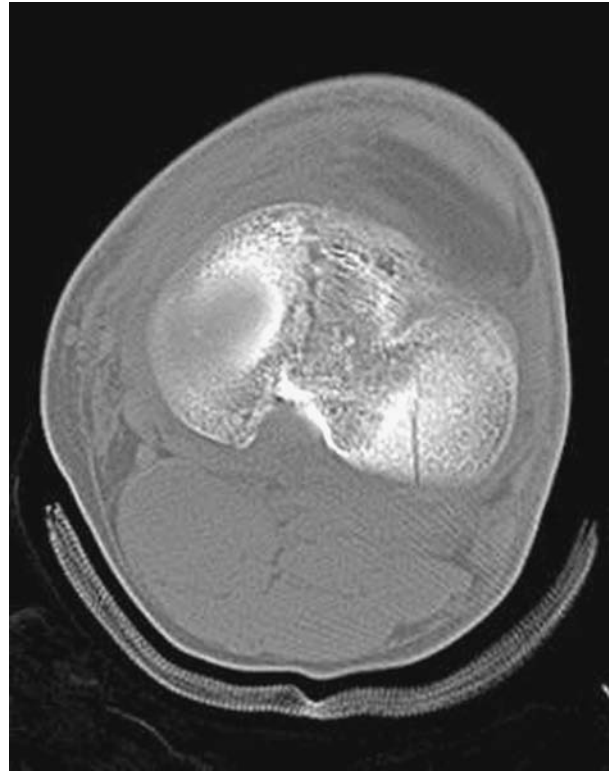


---



---

■ **Clinical Case 8-7**



1. Describe the location of the injury in this 28-year-old man shown in the coronal (left) and axial (right) CT images of his right knee. The man presented to the emergency department following MVA.

---

---

---

2. Describe the changes in adjacent tissues.

---

---

---

3. Describe the consistency, shape, and border.

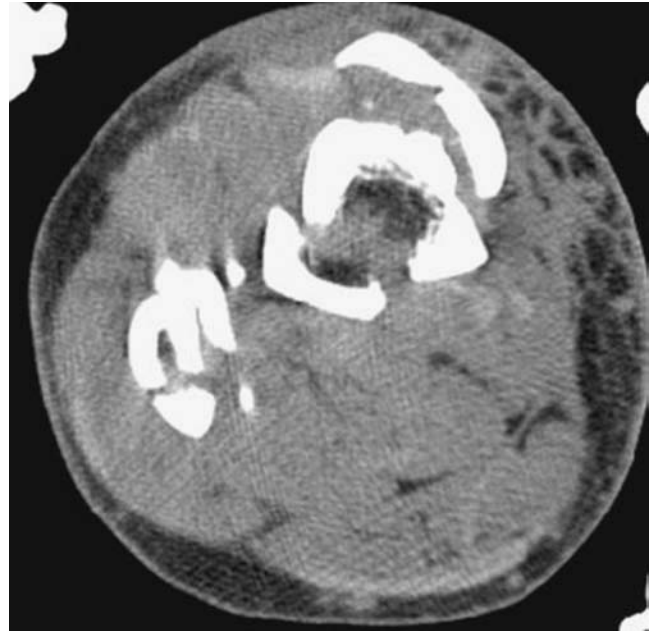
---

---

---



■ Clinical Case 8-8



1. Describe the location of the injury as shown in the sagittal (left) and axial (right) CT images.

---

---

---

2. Describe the changes in adjacent tissues.

---

---

---

3. Describe the consistency, shape, and border.

---

---

---

