

# **Essential Treatments in Cardiovascular Chinese Medicine 1: Hyperlipidemia**

# Essential Treatments in Cardiovascular Chinese Medicine 1: Hyperlipidemia

Dr. Anika Niambi Al-Shura, BSc., MSOM, Ph.D  
Continuing Education Instructor  
Niambi Wellness  
Tampa, FL

Medical Illustrator: Samar Sobhy



ELSEVIER

AMSTERDAM • BOSTON • HEIDELBERG • LONDON  
NEW YORK • OXFORD • PARIS • SAN DIEGO  
SAN FRANCISCO • SINGAPORE • SYDNEY • TOKYO

Academic Press is an imprint of Elsevier



Academic Press is an imprint of Elsevier  
32 Jamestown Road, London NW1 7BY, UK  
The Boulevard, Langford Lane, Kidlington, Oxford, OX5 1GB, UK  
Radarweg 29, PO Box 211, 1000 AE Amsterdam, The Netherlands  
225 Wyman Street, Waltham, MA 02451, USA  
525 B Street, Suite 1900, San Diego, CA 92101-4495, USA

Copyright © 2014 Elsevier Inc. All rights reserved.

No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, or any information storage and retrieval system, without permission in writing from the publisher. Details on how to seek permission, further information about the Publisher's permissions policies and our arrangement with organizations such as the Copyright Clearance Center and the Copyright Licensing Agency, can be found at our website: [www.elsevier.com/permissions](http://www.elsevier.com/permissions)

This book and the individual contributions contained in it are protected under copyright by the Publisher (other than as may be noted herein).

#### Notices

Knowledge and best practice in this field are constantly changing. As new research and experience broaden our understanding, changes in research methods, professional practices, or medical treatment may become necessary. Practitioners and researchers must always rely on their own experience and knowledge in evaluating and using any information, methods, compounds, or experiments described herein. In using such information or methods they should be mindful of their own safety and the safety of others, including parties for whom they have a professional responsibility.

To the fullest extent of the law, neither the Publisher nor the authors, contributors, or editors, assume any liability for any injury and/or damage to persons or property as a matter of products liability, negligence or otherwise, or from any use or operation of any methods, products, instructions, or ideas contained in the material herein.

#### British Library Cataloguing-in-Publication Data

A catalogue record for this book is available from the British Library

#### Library of Congress Cataloging-in-Publication Data

A catalog record for this book is available from the Library of Congress

ISBN: 978-0-12-800119-6

For information on all Academic Press publications  
visit our website at [store.elsevier.com](http://store.elsevier.com)



Working together  
to grow libraries in  
developing countries

[www.elsevier.com](http://www.elsevier.com) • [www.bookaid.org](http://www.bookaid.org)

## DEDICATION

The energy and effort behind the research and writing of this textbook is dedicated to my son, Khaleel Shakeer Ryland. May this inspire and guide you through your journey in your medical studies, career, and life.

## ACKNOWLEDGMENTS

This is a special acknowledgement to my seven-year medical students at Tianjin Medical University (2012–2013) who served as cardiovascular research assistants. May your future medical careers be successful.

An Qi He  
Bin Lin Da  
Han Jiang  
Chen Hua  
Jia Ying Luo  
Jun Zhang  
Lin Lin  
Ming Lu  
Nang Zhang  
Ping Tang  
Hu Si Le  
Zhao Tian Man  
Wen Xing Ning  
Xing Wen Zhao  
Tang Ying Mei  
Li Ying Ying  
Xiong Yong Qin  
Ding Yu  
Li Yan Jun

# INTRODUCTION



The companion course which is required for study with this textbook edition can be found on the Elsevier website and at [www.niambiwellness.com](http://www.niambiwellness.com).

## APPROVING AGENCIES



The course with this textbook is entitled, Integrative Hyperlipidemia Treatments in Cardiology.

This course is approved by the National Certification Commission for Acupuncture and Oriental Medicine (NCCAOM), and is listed as course #1053-005 for 5 PDA points.

This course is approved by the Florida State Board of Acupuncture, and is listed as course #20-334885 for 5 CEU credits.

## COURSE DESCRIPTION

This course covers the basic Western medicine and Traditional Chinese Medicine sciences of blood lipids, clinical significance, differentiations, diagnoses, treatment principles and methods.

## COURSE OBJECTIVES

- Describe the basic etiology of lipoprotein disorders, including genetic disorders.

- Describe the clinical presentations of lipoprotein disorders as a sign of cardiovascular diseases.
- Describe Western medicine and Traditional Chinese medicine prescriptions for lipoprotein disorders.
- Describe the suggested medicated diet for patients on a treatment course.

# Etiology of Lipoprotein Disorders in Chinese Medicine and Western Medicine

## CHAPTER OBJECTIVES

After studying this chapter, you should be able to:

1. Explain the Chinese medicine classification of lipoprotein disorders.
2. Explain the Western medicine perspective on lipoprotein disorders.
3. Describe the genetic subtypes of familial hypercholesterolemia (FH).
4. Describe the genetic apolipoprotein isoform mutations and their role in lipoprotein disorders and cardiovascular diseases.

## 1.1 PART 1: INTEGRATIVE PERSPECTIVE

### 1.1.1 Lipoprotein Disorders in Chinese Medicine

Category	Sub categories	Classification
–Tan zhuo –Xue yu –Xuan yuan	Headache, stroke Palpitation, obstruction, Vertigo	–Blood stasis –Turbid phlegm obstruction.
Lipoprotein disorders may be generalized as a deficiency of the liver, spleen and kidney. Liver overaction upon the spleen results in chronic digestive problems.		

*Copyright © 2014 Anika Niambi Al-Shura. Published by Elsevier Inc. All rights reserved.*

### 1.1.2 Lipoprotein Disorders in Western Medicine

The lipid transport system moves lipids from the hepato-biliary and gastro-intestinal system to areas of the body where it is needed to produce certain hormones.

1. What factors commonly cause lipoprotein disorders?

---

Log on and complete the companion course at [www.niambiwellness.com](http://www.niambiwellness.com) for the answers.

**1.1.2.1 Hepatic and Intestinal Pathways**

Cholesterol (VLDL) is sent from the liver into the small intestine for chylomicron processing.

2. What is the next step?

---

Log on and complete the companion course at [www.niambiwellness.com](http://www.niambiwellness.com) for the answers.

**1.1.2.2 Renal and Hepatic Disorders**

Patients with chronic renal failure often have elevated triglyceride levels with a low HDL.

3. What problems to patients with glomerular nephritis have?

---

Log on and complete the companion course at [www.niambiwellness.com](http://www.niambiwellness.com) for the answers.

**1.2 PART 2: GENETIC DETERMINANTS**

**1.2.1 Familial Hypercholesterolemia**

These genetic determinants include a predisposition for accumulation of triglycerides, LDL, and cholesterol at specific sites on the body.

4. What three types of organ disorder do they commonly cause?

---

---

---

Log on and complete the companion course at [www.niambiwellness.com](http://www.niambiwellness.com) for the answers.

<b>Type I Familial hyperchylomicronemia</b>
<ul style="list-style-type: none"> <li>-Lipoprotein lipase (LPL) deficiencies</li> <li>-Elevations in triglycerides</li> <li>-Reduced HDL levels.</li> </ul>
<b>Type II Familial hypercholesterolemia</b>
<ul style="list-style-type: none"> <li>-PCSK9 mutations with elevated cholesterol levels</li> <li>-LDL-R gene defect with elevated LDL levels</li> <li>-Apo B gene defects and high elevations of LDL</li> <li>-Linked to coronary artery disease</li> <li>-Prevalence in the U.S. African Americans</li> </ul>
<b>Type III Familial hyperlipoproteinemia</b>
<ul style="list-style-type: none"> <li>-Apo B gene defects</li> <li>-PCSK9 mutations,</li> <li>-LDLRAP1 mutations</li> <li>-ABCG 8 mutations</li> <li>-Excess liver VLDL makes excess cholesterol</li> <li>-Xanthomas</li> <li>-High cholesterol</li> <li>-Metabolic syndrome</li> </ul>
<b>Type V Familial hyperlipoproteinemia</b>
<ul style="list-style-type: none"> <li>-Combination of type I and IV</li> <li>-Splenomegaly</li> <li>-Xanthomas</li> </ul>

Copyright © 2014 Anika Niambi Al-Shura. Published by Elsevier Inc. All rights reserved.

### 1.2.2 Apolipoprotein B (Apo B) Isoforms B100 and B48

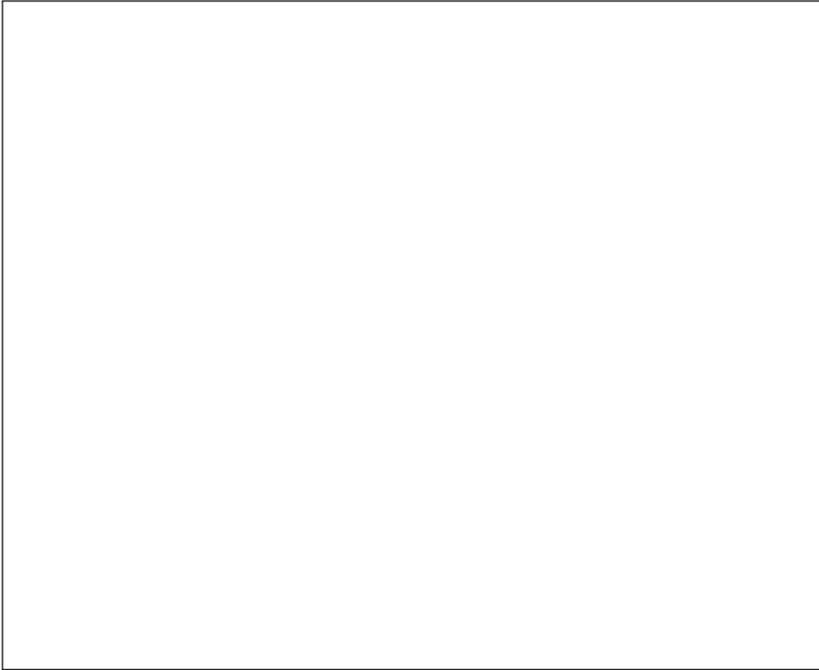
Apo B100	-Elevated levels due to coronary artery disease due to Staphylococcus aureas, leaving cholesterol streaks.
Apo B48	-Excess in chylomicrons raises LDL levels and complicates Diabetes Mellitus treatment.
Apolipoprotein E (Apo E)	E2: slow fat metabolism, increased risk of coronary artery disease
	E3: neutral allele
	E4: atherosclerosis, sleep apnea, ischemic cerebrovascular disease

Copyright © 2014 Anika Niambi Al-Shura. Published by Elsevier Inc. All rights reserved.

What are three significant factors related to Apo B isoforms?

5. \_\_\_\_\_
6. \_\_\_\_\_
7. \_\_\_\_\_

Log on and complete the companion course at [www.niambiwellness.com](http://www.niambiwellness.com) for the answers.

**NOTES**

**Log on at [www.niambowellness.com](http://www.niambowellness.com) to access the companion course and quiz for Module 1.**

# CHAPTER 2

## Western Medicine Examination and Diagnosis of Lipid Disorders

### CHAPTER OBJECTIVES

After studying this chapter, you should be able to:

1. Explain the steps during the physical examination.
2. Explain what possible symptoms may be reported by the patient.
3. List the common tests done in the lipid panel and the values.

### 2.1 PART 1: EXAMINATION

#### 2.1.1 Visual Observation

Search for lipid accumulation on the face and areas of the body.

1. Where should you pay the most attention?

---

Log on and complete the companion course at [www.niambiwellness.com](http://www.niambiwellness.com) for the answers.

#### 2.1.2 Inspection

Area	Possible symptoms
Head	Dizziness, distended feeling and heavy feeling
Eyes	Xanthomas
Mouth	Sticky taste sensation and greasy tongue coating
Emotions	Moody and restlessness
Limbs	Pain, numbness and tingling
Others	Hormonal problems and weight gain

Copyright © 2014 Anika Niambi Al-Shura. Published by Elsevier Inc. All rights reserved.

- A. Which areas should be considered during the patient narrative?
- B. Which areas should be considered during physical examination?

### 2.1.3 Physical Examination

Measure the waist circumference and weight.

2. What body shape is considered an example of cardiovascular problems?

---

Log on and complete the companion course at [www.niambiwellness.com](http://www.niambiwellness.com) for the answers.

### 2.1.4 Blood Pressure

Elevated levels can indicate possible chronic hypertension.

3. What can patients do at home to manage symptoms?

---

Log on and complete the companion course at [www.niambiwellness.com](http://www.niambiwellness.com) for the answers.

## 2.2 PART 2: DIAGNOSIS

Lipid type	mg/dL	mmol/L	Interpretation
Total cholesterol (TC)	<200	<11.1	Normal
	200–239	11.1–13.3	Borderline
	>240	>13.3	High
LDL	<100	<5.5	Normal
	100–129	5.55–7.15	Good
	130–159	7.15–8.82	Borderline
	160–189	8.82–10.5	High
	>190	>10.5	High risk
HDL	<40	<2.21	High risk
	41–59	2.21–3.27	Borderline
	60	3.27	Good

Copyright © 2014 Anika Niambi Al-Shura. Published by Elsevier Inc. All rights reserved.

The lipid panel provides information on TC (total cholesterol), LDL (low-density lipoprotein), and HDL (high-density lipoprotein).

4. What do these tests help with?

---

Log on and complete the companion course at [www.niambiwellness.com](http://www.niambiwellness.com) for the answers.

## NOTES



**Log on at [www.niambiwellness.com](http://www.niambiwellness.com) to access the companion course and quiz for Module 2.**

**For chapter 2 tutorial log on at [www.niambiwellness.com](http://www.niambiwellness.com) to access the companion course for module 2.**

# CHAPTER 3

## Stages of Lipoprotein Disorders and Syndrome Differentiation in TCM

### CHAPTER OBJECTIVES

After studying this chapter, you should be able to:

1. Explain the clinical presentations for stage 1.
2. Explain the clinical presentations for stage 2.
3. Explain the clinical presentations for stage 3.

In Chinese medicine, acquired lipoprotein disorders are the result of liver, spleen, and kidney deficiencies and can develop in stages.

### 3.1 STAGE 1: DEFICIENCY OF LIVER AND KIDNEY YIN

Clinical Presentations	Blurred vision, irritability, dizziness, soreness and weakness of the limbs, low back knees, vertigo, tinnitus, insomnia, forgetfulness, dream filled sleep and poor appetite
Tongue	Scanty fur
Pulse	Thready and tight

Copyright © 2014 Anika Niambi Al-Shura. Published by Elsevier Inc. All rights reserved.

Deficient kidney yin fails to nourish the liver yin.

1. What could liver yang hyperactivity and qi stagnation contribute to or directly cause?

---

Log on and complete the companion course at [www.niambiwelness.com](http://www.niambiwelness.com) for the answers.

### 3.2 STAGE 2: DAMPNESS RETENTION LEADING TO DAMP HEAT

Clinical Presentations	Irritability, depression, headache or head distention, bitter and dry mouth, poor appetite, heat sensation in the chest, heavy body feeling, lower abdominal pain, low back pain, false sensation of urinary urgency with dark scanty urine and dry constipation
Tongue	Pale with yellow greasy coat
Pulse	Rolling or smooth

Copyright © 2014 Anika Niambi Al-Shura. Published by Elsevier Inc. All rights reserved.

Spleen and kidney yang deficiency leads to excess fluid retention in the body. Fluid stagnates in the interstitium, insulating, accumulating precipitation, and warmed by body heat.

2. What is the unfavorable result?

---

Log on and complete the companion course at [www.niambiwellness.com](http://www.niambiwellness.com) for the answers.

### 3.3 STAGE 3: PHLEGM STAGNATION AND STASIS

Clinical Presentations	Obesity, dizziness, chest fullness, abdominal distension, heavy head, heavy body sensation, phlegm accumulation in the sinuses prompting drawing and spitting, tinnitus, bitter mouth taste with a sticky feeling in the mouth with need to drink more water and poor appetite
------------------------	--

Copyright © 2014 Anika Niambi Al-Shura. Published by Elsevier Inc. All rights reserved.

Spleen and kidney yang deficiency leads to excess fluid retention and lin syndrome.

3. What does the dampness lead to?

---

Log on and complete the companion course at [www.niambiwellness.com](http://www.niambiwellness.com) for the answers.

## NOTES



**For chapter 3 tutorial log on at [www.niambiwellness.com](http://www.niambiwellness.com) to access the companion course for module 2.**

### **Module Review Questions**

1. Explain the steps during the physical examination.
2. Explain what possible symptoms may be reported by the patient.
3. List the common tests done in the lipid panel and the values.
4. Explain the clinical presentations for stage 1.
5. Explain the clinical presentations for stage 2.
6. Explain the clinical presentations for stage 3.

**Log on at [www.niambiwellness.com](http://www.niambiwellness.com) to access the companion course and quiz for Module 2.**

# CHAPTER 4

## Actions of Lipoprotein Prescriptions in Chinese Medicine and Western Medicine

### CHAPTER OBJECTIVES

After studying this chapter, you should be able to:

1. Explain the common action of Western medicine drugs for lipoprotein disorders.
2. Discuss a primary treatment principle based on differentiations in Chinese medicine.
3. Compare and contrast the medicine actions between Chinese medicine and Western medicine.

### 4.1 PART 1: WESTERN MEDICINES USED FOR LIPOPROTEIN DISORDERS

Medicine	Action
Ezetimibe	Lowers cholesterol absorption in the small intestine.
Statins	Inhibits HMG-CoA reductase enzyme for cholesterol reduction.
Bile acid sequestrants	Prevents fat absorption in the intestines.
Niacin	Helps break down fat tissue.
Fibrate	Combines with statins to treat high cholesterol.

Copyright © 2014 Anika Niambi Al-Shura. Published by Elsevier Inc. All rights reserved.

1. What are the side effects of ezetimibe?

---

2. What are the side effects of statins?

---

3. What are the side effects of bile acid sequestrants?

---

## 4. What are the side effects of niacin fibrate?

---

Log on and complete the companion course at [www.niambiwellness.com](http://www.niambiwellness.com) for the answers.

## 4.2 PART 2: CHINESE MEDICINES USED FOR LIPOPROTEIN DISORDERS

Chai hu shu gan san	
Reduces liver hyperactivity, relieves body distention and nourishes kidney yin and blood.	
Buplerum	Soothes the liver and activates qi
Nutgrass flatsedge rhizome	Soothes the liver and activates qi
Szechuan lovage rhizome	Circulates blood and activates qi
Tangerine peel	Regulates qi
Immature bitter orange	Regulates qi
Peony root	Nourishes blood and tonifies liver
Licorice root	Nourishes blood and tonifies liver

Copyright © 2014 Anika Niambi Al-Shura. Published by Elsevier Inc. All rights reserved.

## 5. What are the contraindications of this formula?

---

Log on and complete the companion course at [www.niambiwellness.com](http://www.niambiwellness.com) for the answers.

Weicao (capsule) tang	
Reduces blood lipids and increases lipid metabolism.	
Clematis root	Dredges collateral and relieves pain
Cassia seed	Clears liver and nourishes kidneys
Motherwort	Activates blood
Lysimachia	Clears heat and removes toxicity
Crude rhubarb	Dredges the bowels
Peony root	Nourishes blood and tonifies liver
Licorice root	Nourishes blood and tonifies liver

Copyright © 2014 Anika Niambi Al-Shura. Published by Elsevier Inc. All rights reserved.

## 6. What are the contraindications of this formula?

---

Log on and complete the companion course at [www.niambiwellness.com](http://www.niambiwellness.com) for the answers.

Eliminate Blood Lipid Formula	
Reduces blood lipids for weight loss.	
Glossy privet fruit	Replenishes yin and reduces dampness
Fleece flower root	Dredges bowels and reduces dampness
Siberian solomon seal rhizome	Tonifies spleen and reduces dampness
Fragrant Solomon seal rhizome	Nourishes yin and reduces dampness
Dan shen root	Calms the mind and clear heat
Chinese angelica	Deficiency of heart and spleen
Spine date seed	Calms the mind and nourishes heart

Copyright © 2014 Anika Niambi Al-Shura. Published by Elsevier Inc. All rights reserved.

## 7. What are the contraindications of this formula?

---

Log on and complete the companion course at [www.niambowellness.com](http://www.niambowellness.com) for the answers.

Shen qi wan	
Helps to tonify and strengthen the kidneys.	
Buplerum	Soothes the liver and activates qi
Nutgrass flatsedge rhizome	Soothes the liver and activates qi
Szechuan lovage rhizome	Circulates blood and activates qi
Tangerine peel	Regulates qi
Immature bitter orange	Regulates qi
Peony root	Nourishes blood and tonifies liver
Licorice root	Nourishes blood and tonifies liver

Copyright © 2014 Anika Niambi Al-Shura. Published by Elsevier Inc. All rights reserved.

## 8. What are the contraindications of this formula?

---

Log on and complete the companion course at [www.niambowellness.com](http://www.niambowellness.com) for the answers.

Reduce Blood Lipid Formula	
Reduces LDL levels.	
Glossy privet fruit	Replenishes yin and reduces dampness
Wolfberry fruit	Nourishes kidneys and liver and reduces lipids

Copyright © 2014 Anika Niambi Al-Shura. Published by Elsevier Inc. All rights reserved.

9. What are the contraindications of this formula?

---

Log on and complete the companion course at [www.niambiwelness.com](http://www.niambiwelness.com) for the answers.

**4.3 PART 3: MEDICATED DIET PLAN**

In the companion course, general recipes are described as a base for including medicinal herbs later.

Breakfast savory: hai zao, kun bu, tian ma and jue ming zi
Breakfast sweet: shanza and gou qi zi
Lunch savory: hai zao, kun bu, tian ma, yu jin, suan, he shou wu
Lunch sweet: shanza and gou qi zi
Dinner savory: hai zao, kun bu, tian ma, yu jin, suan and he shou wu
Dinner sweet: shanza and gou qi zi, tian ma, yu jin, suan, he shou wu

*Copyright © 2014 Anika Niambi Al-Shura. Published by Elsevier Inc. All rights reserved.*

10. Which Chinese medicine formula(s) in section 4.2 may be appropriate with this medicated diet recipe plan?

---

Log on and complete the companion course at [www.niambiwelness.com](http://www.niambiwelness.com) for the answers.

Breakfast savory: hai zao and ju hua
Breakfast sweet: shanza, gou qi zi, da zao and dang shen
Lunch savory: hai zao and ren shen
Lunch sweet: shanza, gou qi zi, da zao and dang shen
Dinner savory: hai zao, long gu, mu li and tian ma
Dinner sweet: shanza, gou qi zi, da zao and dan shen

*Copyright © 2014 Anika Niambi Al-Shura. Published by Elsevier Inc. All rights reserved.*

11. Which Chinese medicine formula(s) from section 4.2 may be appropriate with this medicated diet recipe plan?

---

Log on and complete the companion course at [www.niambiwelness.com](http://www.niambiwelness.com) for the answers.

## NOTES



Log on at [www.niambowellness.com](http://www.niambowellness.com) to access the companion course and quiz for Module 3.

For chapter 4 tutorial log on at [www.niambowellness.com](http://www.niambowellness.com) to access the companion course for module 4.

### Module Review Questions

1. What are common actions of Western medicine drug for lipoprotein disorders?
2. What may be the differentiations with each of the formulas for lipoprotein disorders?
3. Which formulas may be appropriate for which herb combinations in the medicinal diet plans?

Log on at [www.niambowellness.com](http://www.niambowellness.com) to access the companion course and quiz for Module 3.

This also concludes the Integrative Anatomy and Pathophysiology in TCM Cardiology course. It is strongly suggested that you log onto the courses at the companion websites to review the course modules. Next, submit course documents and complete the final exam.

Upon passing the exam, you will receive completion certificates that include your name and practice license number, along with the specific number of credit hours awarded for this course. Electronic transmission of CEU and PDA credits will be sent to NCCAOM and your state medical board.