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Welcome to Lippincott Williams & Wilkins Lesson Plan Guide for *Memmler's The Human Body in Health and Disease*, 10th edition

Inside this booklet you'll find a complete set of Lesson Plans for teaching this text. Material is organized by chapter, just like the textbook. Each chapter comprises a set of Lesson Plans, organized around chapter objectives. Each chapter opens with a description of the goals of the lesson, a complete list of the learning objectives, chapter key words, and a list of supplementary materials you'll need to teach the lessons—take this booklet with you to class, and you'll be up and running!

The heart of this Lesson Plan Guide is the Lesson Plan Table. It does what you would do if you had unlimited time—organizes all of the Memmler ancillary material related to the objective in a format that puts them all at your fingertips. At a glance, you'll see:

- lecture points,
- text page references,
- PowerPoint™ slides referenced by number,
- relevant tables, figures, and other text features, and
- cross-references to related activities from the Instructor Manual and Student Study Guide.

The Lesson Plan Guide also suggests in-class activities, outside assignments, and appropriate evaluation techniques (e.g., quizzes, exams, written assignments)—all from the ancillary suite. There's even a column for you to add your own notes and comments as you work through the material.

With Lippincott Williams & Wilkins, your Partner In Education, you're ready for class. Happy teaching!

Memmler's The Human Body in Health and Disease **(Tenth Edition)**

Lesson Plans

Chapter 14 — The Heart and Heart Disease

Introductory page for each chapter gives instructor a **comprehensive overview** of instructional goals, resources, and preparation options.

Summary of the pedagogic **goals of the lesson** quickly orients instructor to the chapter.

Goals of the Lesson:

Cognitive: The student will be able to identify the principal components of the heart and their functions. The student will also gain an understanding of the circulatory, electrocardio, and musculatory systems, and the pathophysiology of the heart. Finally, the student will be able to describe the cardiac cycle.

Motor: Optional: skills in identifying heart sounds and microscopy.

Affective: N/A

Chapter **learning objectives** from the textbook ensure that lesson plans align with student goals.

Learning Objectives:

Selected key terms are highlighted here for quick access to terms students should know.

Selected Key Terms

arrhythmia
atherosclerosis
atrium
bradycardia
coronary
coronary thrombosis
diastole
echocardiograph
electrocardiography
endocardium
epicardium
fibrillation
infarct
ischemia
murmur
myocardium
pacemaker
pericardium
plaque
septum
stenosis
systole
tachycardia
valve
ventricle

Summary of materials needed. by objective. makes classroom preparation quick and

Page numbering makes it and easy to find the information about every objective.

You Will Need:

Gather the following materials and teaching aids for the [illegible]

14.1 Microscope slides (R7);* Web images (R8); histology t[illegible]
14.2 A preserved animal heart (R10)
14.3 A working model of the circulatory system (R11)
14.4 Animal heart (R10) or heart model (R12)
14.5 Animal hearts (R10) or heart model (R12)
14.6 Injected preserved sheep hearts (R13) or heart model (R12)
14.7 Oak tag or stiff paper for chart
14.8 Blackboard and chalk
14.9 Textbooks (R3, R14 or similar)
14.10 Heart-rate monitor; cold water
14.11 Stethoscope and/or heart sounds from sound clips (R16)
14.13 Video: "Reducing the Risks of Cardiovascular Disease," (R38) video player
14.14 (If possible) stethoscope, fluoroscope, oscilloscope; video "Diagnosing Heart Disease" (R45), video player; computer for Web projection

* For complete information on these resources (R), refer to the Resource List on pp. 304–305 of the IM.

Legend: SG: Study Guide; IM: Instructor's Manual; PPt: PowerPoint; R: Resource materials noted in IM

Cross-references to multiple resources facilitate incorporating the full range of ancillary material both inside and outside of the classroom.

Objective 14.1

Describe the three layers of the heart wall.

A comprehensive **lecture outline** makes it easy to ensure key points are covered.

Date:

Lecture Outline			Figures, Tables, and Features	Resources and In-Class Activities	Outside Assignments/ Evaluations	Instructor's Notes
Content	Text page	PPt slide				
❖ The heart ♦ Is a hollow organ ♦ Located between the lungs, slightly to left of midline ♦ Occupies most of mediastinim ♦ Structure of the heart ❖ Walls in three tissue layers (Fig. 14-2, Table 14-1): ○ Endocardium • Smooth thin inner layer — epithelial cells • Allows easy blood flow through heart chambers ○ Myocardium • Thick middle layer- — myocytes • Contracts to pump blood through heart ○ Epicardium • Thin, outermost membrane layer • Also called visceral pericardium (see next objective)	284	3–4	**Figures** 14-2: Layers the heart wall and pericardium, p. 285, PPt 6. **Tables** 14-1: Layers of the heart wall, p. 285.	**In-Class Activities** Students can examine the heart layers using microscope slides (R7), histological images on the web (R8), or histology textbooks (R9). IM p. 154 **Materials** Microscope slides (R7) Web images (R8) Histology textbooks (R9) **Related Chapters** Chapter 8 also discusses the structure of cardiac muscle.	**Evaluations** Exercise 14-1: Layers of the Heart Wall and Pericardium, SG p. 223. Checkpoint14-1: What are the names of the innermost, middle, and outermost layers of the heart? Page 284. Questions for Study and Review, pp. 304–305	Space for **instructor's notes** facilitates customizing the lesson plan or jotting down after-class notes for future reference.

Pointers to **related chapters** enables access to more in-depth information.

Legend: SG: Study Guide; IM: Instructor's Manual; PPt: PowerPoint; R: Resource materials noted in IM

Objective 14-3

Compare the functions of the right and left sides of the heart. **Date:**

Lecture Outline			Figures, Tables, and Features	Resources and In-Class Activities	Outside Assignments/ Evaluation	Instructor's Notes
Content	Text page	PPt slide				
❖ Right heart (Fig. 14-4) ♦ Pumps deoxygenated blood to lungs through pulmonary circuit ❖ Left heart ♦ Pumps oxygenated blood to remainder of body through systemic circuit ○	286	9	**Figures** 14-4: The heart as a double pump, p. 286, PPt 11	Exercise 14-2: The Heart is a Double Pump, SG p. 224 **In-Class Activities** Use a working model of the circulatory system to illustrate circulation (R11). **Materials** Functional circulatory system model (R11)	**Evaluation** Questions for Study and Review, pp. 304–305	

The lecture outline includes **convenient cross-references** to figures, tables, and boxes from the text.

Legend: SG: Study Guide; IM: Instructor's Manual; PPt: PowerPoint; R: Resource materials noted in IM

Objective 14-14

Briefly describe four methods for studying the heart. **Date:**

Lecture Outline			Figures, Tables, and Features	Resources and In-Class Activities	Outside Assignments/ Evaluation	Instructor's Notes
Content	Text page	PPt slide				
❖ Methods used to study the heart: ♦ Stethoscope — used to hear heart sounds, ♦ Electrocardiograph (ECG or EKG) Catheterization (fluoroscope) (Fig. 14-16) — records of the electrical activity of the heart ♦ Echocardiography, also known as ultrasound cardiography (oscilloscope) — uses ultrasound waves to study structure and function of heart ♦ Catheterization — use catheter to take blood samples, measure blood pressure, inject fluorescent dye	299	45-46	**Figure** 14-16: Normal ECG tracing, p. 299	**In-Class Activities** View video "Diagnosing Heart Disease" (R45). IM p. 162 Connection site: For students to study their own ECG tracings: www.vernier.com, or http://www.powerlab-teaching.com/. They can also review ECG tracings in another textbook (R3) or on the Internet (R41). IM p. 162 **Materials** Video (R45) Computer for Web projection, textbook (R3)	**Evaluations** Checkpoint 14-14: What do ECG and EKG stand for? p. 299, PPt 46 Questions for Study and Review, pp.304–305	

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