
Pathophysiology:
A Practical Approach
Featured Presenter: Lachel Story, PhD, RN
Webinar: Wednesday, February 22, 2017
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LEARNING
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Author Introduction

Lachel Story, PhD, RN

- 22 years nursing experience
- 17 years teaching experience - LPN, ADN, BSN, MSN, and PhD
- 13 years teaching Pathophysiology at The University of Southern Mississippi
- Associate Professor
- Assistant Dean for Research and Evaluation
- Interim Chair, Advanced Practice Department
- PhD Program Director
- Community-based participatory research focus area

Why A New Pathophysiology Text?

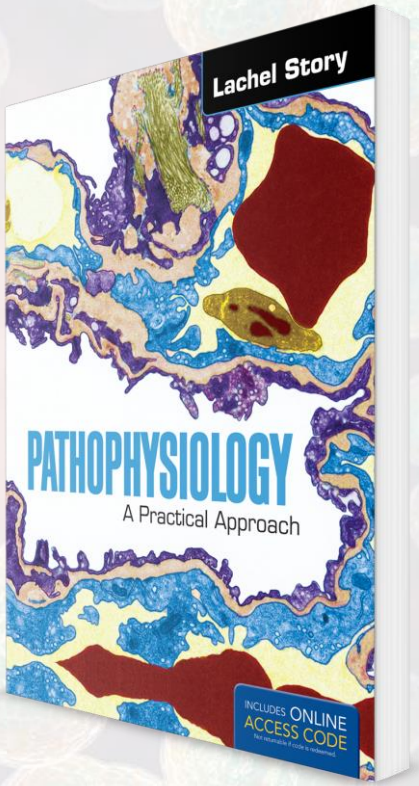
- You feel your students are overwhelmed by the copious amounts of material
- You struggle helping students connect and understand complex material
- You are wanting students to engage more
- You are ready for a practical, student-friendly pathophysiology book

About the Text

- Practical textbook with a clinical context that can serve as a foundation for other classes
- Student-friendly
- Engages students

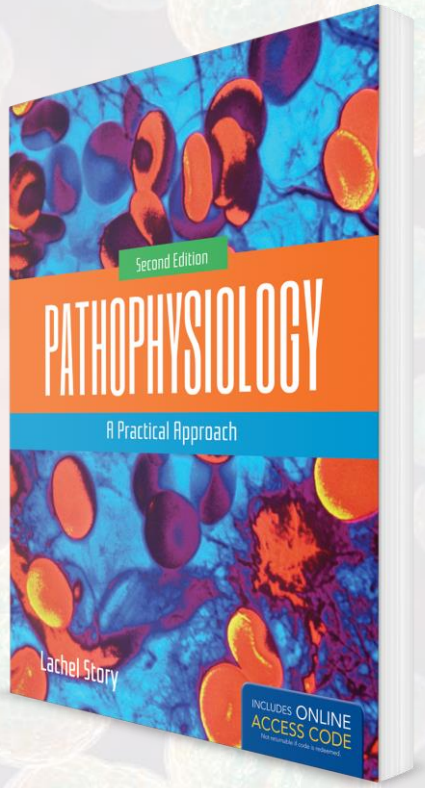
The Underlying Pedagogy

- Pragmatic
- Confidence-building
- Student engagement



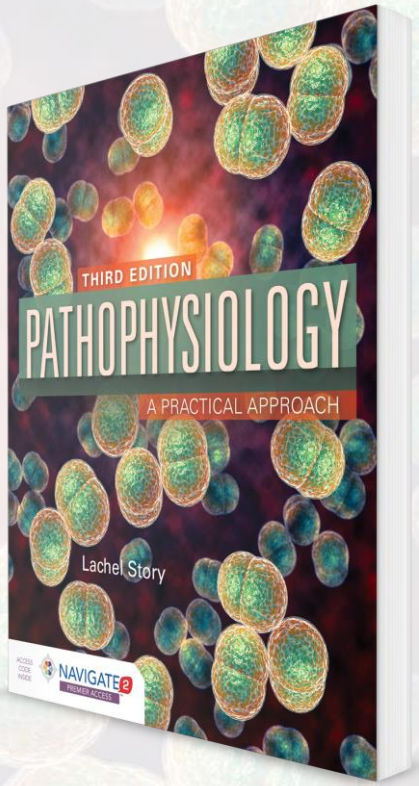
Second Edition

- Supports recent calls to reform nursing education
  - Benner et al., 2010; IOM, 2011; RWJF, 2010
- Organized conceptually
- Added Application to Practice feature



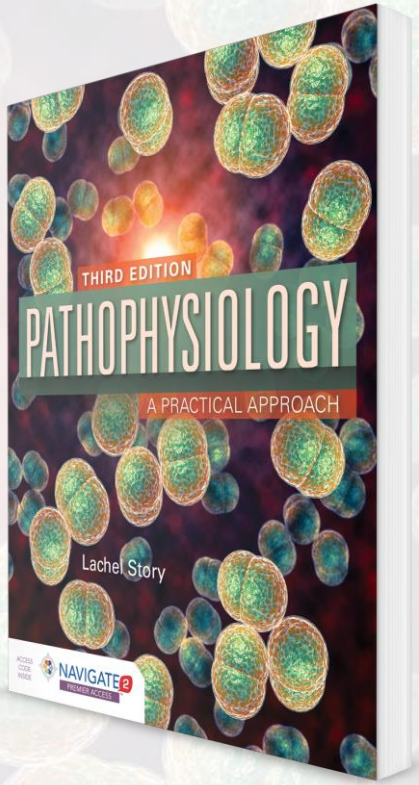
Third Edition

- Continued current features
- Active learning strategies and activities
- More pediatric content/considerations



Third Edition

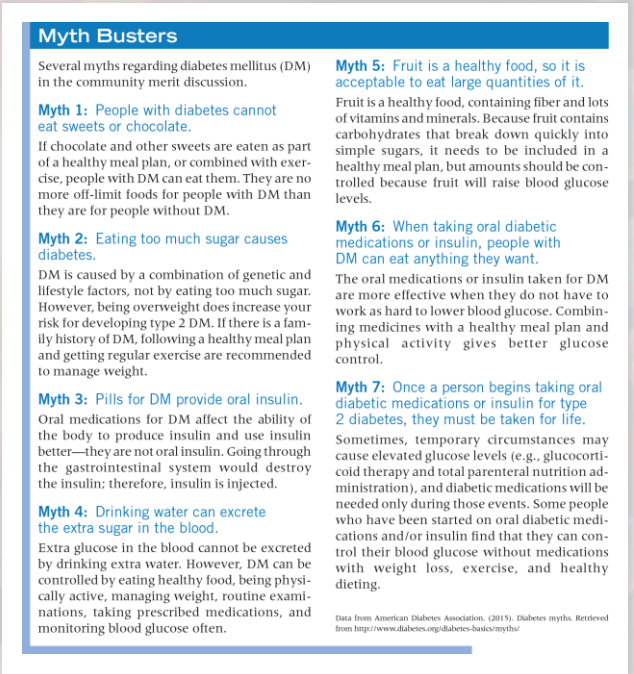
- Expanded and new case studies
- More test bank questions
- More dynamic images



Active Learning Activities

Group activities to

- learn how to process and think about information differently
- develop memory aids
- learn how to prioritize
- teach empathy and gain a deeper understanding



Myth Busters

Several myths regarding diabetes mellitus (DM) in the community merit discussion.

Myth 1: People with diabetes cannot eat sweets or chocolate.

If chocolate and other sweets are eaten as part of a healthy meal plan, or combined with exercise, people with DM can eat them. They are no more off-limit foods for people with DM than they are for people without DM.

Myth 2: Eating too much sugar causes diabetes.

DM is caused by a combination of genetic and lifestyle factors, not by eating too much sugar. However, being overweight does increase your risk for developing type 2 DM. If there is a family history of DM, following a healthy meal plan and getting regular exercise are recommended to manage weight.

Myth 3: Pills for DM provide oral insulin.

Oral medications for DM affect the ability of the body to produce insulin and use insulin better—they are not oral insulin. Going through the gastrointestinal system would destroy the insulin; therefore, insulin is injected.

Myth 4: Drinking water can excrete the extra sugar in the blood.

Extra glucose in the blood cannot be excreted by drinking extra water. However, DM can be controlled by eating healthy food, being physically active, managing weight, routine examinations, taking prescribed medications, and monitoring blood glucose often.

Myth 5: Fruit is a healthy food, so it is acceptable to eat large quantities of it.

Fruit is a healthy food, containing fiber and lots of vitamins and minerals. Because fruit contains carbohydrates that break down quickly into simple sugars, it needs to be included in a healthy meal plan, but amounts should be controlled because fruit will raise blood glucose levels.

Myth 6: When taking oral diabetic medications or insulin, people with DM can eat anything they want.

The oral medications or insulin taken for DM are more effective when they do not have to work as hard to lower blood glucose. Combining medicines with a healthy meal plan and physical activity gives better glucose control.

Myth 7: Once a person begins taking oral diabetic medications or insulin for type 2 diabetes, they must be taken for life.

Sometimes, temporary circumstances may cause elevated glucose levels (e.g., glucocorticoid therapy and total parenteral nutrition administration), and diabetic medications will be needed only during those events. Some people who have been started on oral diabetic medications and/or insulin find that they can control their blood glucose without medications with weight loss, exercise, and healthy dieting.

Data from American Diabetes Association. (2015). Diabetes myths. Retrieved from http://www.diabetes.org/diabetes-basics/myths/

Active Learning Activities

Class activities to

- show how to apply pathophysiology content as well as connect it to other courses (e.g., assessment)

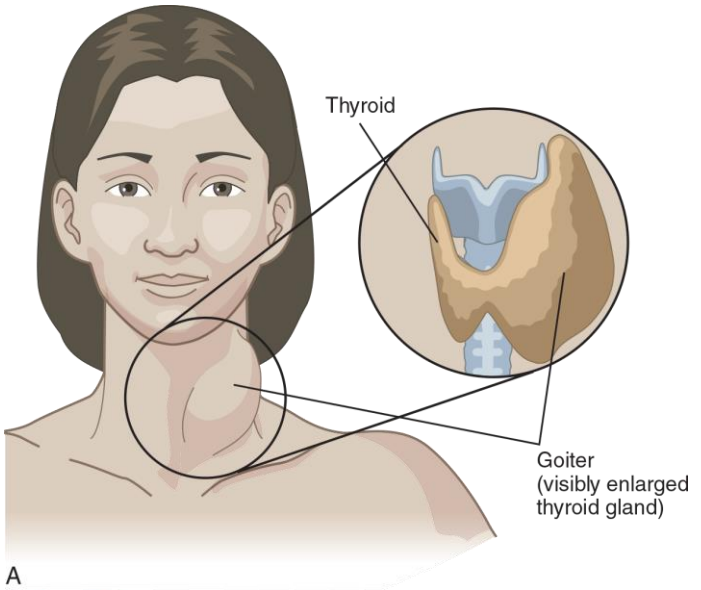


FIGURE 10-8 Goiter.

How is this Text Different?

- Does not overwhelm students with excessive detail
- Provides sufficient detail to develop understanding and build a foundation for future learning
- Provides a clinical context and engages students

application to practice

Now that we have explored the different types of hypersensitivity, let's put that knowledge into practice. During the shift change, you receive reports on the following patients. Which patient would you see first following report?

- An 11-year-old male with a history of a peanut allergy having an anaphylactic reaction
- A 28-year-old male diagnosed with contact dermatitis secondary to poison ivy exposure
- A 67-year-old female diagnosed with severe hay fever
- A 30-year-old female with a positive tuberculin skin test

When considering these types of situations, start by considering who is at risk of dying or losing a vital function (e.g., limb or organ failure) first. If none of the conditions is life threatening, then consider which ones are acute. Acute issues always take priority over chronic conditions. Maslow's hierarchy of needs and patient safety are other important considerations.

Now let's get back to our group of patients. The anaphylactic reaction could be life threatening. It triggers a massive system inflammatory reaction, which causes fluid to leave the vascular system and move into the tissues. This systemic inflammatory reaction can cause tissue swelling that blocks the airway and significantly impairs respiratory efforts. The contact dermatitis, while quite uncomfortable, is not life threatening. The hay fever may be severe, but sneezing and watery eyes are not life threatening. The positive skin test may indicate an active tuberculosis infection, which may eventually be life threatening, but it is a chronic condition that does not require immediate life-saving measures. In this group of patients, the nurse should see the 11-year-old first because he requires immediate assessment and measures to prevent death.

which then combine to form immune complexes. These immune complexes fight against the body's own tissues (e.g., nucleic acids, red blood cells, platelets, and lymphocytes). Hyperactive helper T cells and subdued suppressor T cells are thought to create a prime environment for B cells to overproduce.

This unpredictable disorder most often harms the heart, joints, skin, lungs, blood vessels, liver, kidneys, and nervous system (TABLE 2-5). SLE occurs 9 times more often in women than in men, especially between the ages of 15 and 50, and is more common in Asians and African Americans.

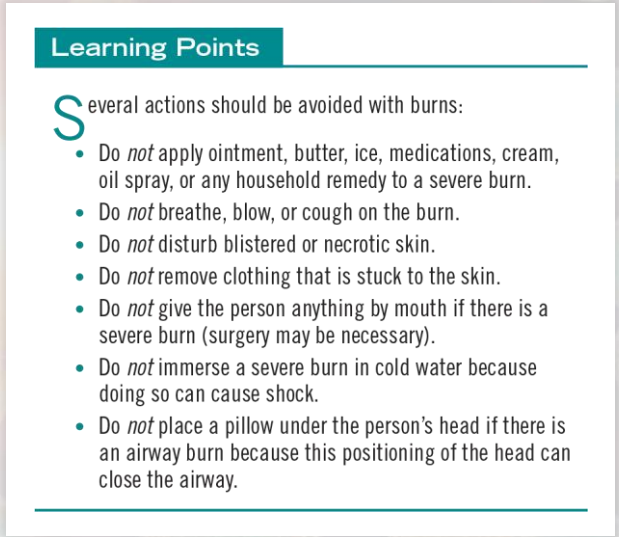
Because patients with SLE can have a wide variety of symptoms and different combinations of organ involvement, no single test can definitively establish the diagnosis of this disorder. To improve the accuracy of the diagnosis of SLE, 11 criteria were established. Some patients suspected of having SLE may never develop enough of these criteria to qualify for a definite diagnosis; other patients accumulate enough criteria to merit SLE diagnosis only after months or years. When a person has four or more of these criteria, the diagnosis of SLE is strongly suggested. Nevertheless, diagnosis may be made in some settings in patients with only a few of these

TABLE 2-5 Common Manifestations of Systemic Lupus Erythematosus

Joints	Polyarthritis, with swollen, painful joints, without damage; arthralgia
Skin	Butterfly rash with erythema on cheeks and over nose, or rash on body; photosensitivity—exacerbation with sun exposure; ulcerations in oral mucosa; hair loss
Kidneys	Glomerulonephritis with antigen–antibody deposits in glomerulus, causing inflammation with marked proteinuria and progressive renal damage
Lungs	Pleurisy—inflammation of the pleural membranes, causing chest pain
Heart	Carditis—inflammation of any layer of the heart, commonly pericarditis
Blood vessels	Raynaud's phenomenon—periodic vasospasms in fingers and toes, accompanied by pain
Central nervous system	Psychoses, depression, mood changes, seizures
Bone marrow	Anemia, leukopenia, thrombocytopenia

Benefit to Students

- Clinically relevant
- Visually appealing
- Easy to understand
- Practical



Learning Points

Several actions should be avoided with burns:

- Do *not* apply ointment, butter, ice, medications, cream, oil spray, or any household remedy to a severe burn.
- Do *not* breathe, blow, or cough on the burn.
- Do *not* disturb blistered or necrotic skin.
- Do *not* remove clothing that is stuck to the skin.
- Do *not* give the person anything by mouth if there is a severe burn (surgery may be necessary).
- Do *not* immerse a severe burn in cold water because doing so can cause shock.
- Do *not* place a pillow under the person's head if there is an airway burn because this positioning of the head can close the airway.

Benefits to Faculty

- Supports current trends and changes in nursing practice and education
- Students will want to read and use
- Assists in teaching students how information is applied in practice
- Provides resources to increase student engagement

Teaching Tips

- Case Studies
- Classroom Response Systems
- Patient Scenarios
- Simulation
- Delegation and Prioritization Exercises
- Games
- Exam preparation with Navigate 2 Premier Access

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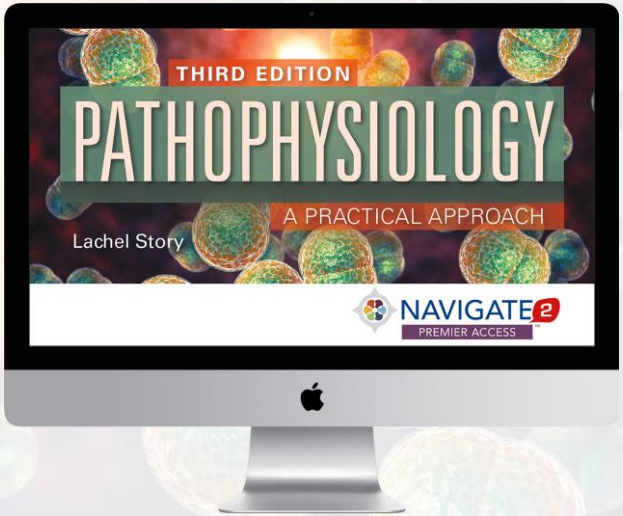

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