

Digestive System Case Study

PLANNING NOTES: (1) **Teams:** 4 students; (2) **Length:** Approx. 3 classes (Day 1: Subjective & Objective; Day 2: Pre-Assess questions; Assessment & Plan; Day 3: Informal Presentations; (3) **Resources Needed:** Audio projection; Computers (Day 2, optional Day 1); Copies of student workbook

Isabel's Case: The Burn in My Chest

Isabel is a young Latina woman, age 24, who loves to cook. Her mom taught her many of the traditional spicy Hispanic dishes her family ate while growing up. But recently Isabel got married and moved into a new home with her husband. Isabel enjoys cooking so much that she does it almost every night. But lately, the food just hasn't seemed to agree with her.

GOALS:

DIAGNOSIS: Gastroesophageal Reflux Disease (GERD)

1. Identify **subjective** and **objective** data in a complex scenario.
2. Determine an evidence-based diagnosis and **assessment**.
3. Create an aligned, thoughtful, and evidence-based **plan**.

ROLE:

You are Isabel's team of health care professionals at the clinic where her family doctor practices.

Health Professions: Students should choose their role within the health care team; they should then analyze the patients' situation to identify issues their particular profession may be concerned with

OBJECTIVE:

Obj. 14.7: Identify the structures, functions, and pathophysiology of the digestive system.

DELIVERABLE:

- 1) SOAP Note
- 2) Post-Assessment Questions
- 3) Disease Education Intervention

ASSESSMENT CRITERIA:

Subjective & Objective Sections: 1) organized & recorded clearly & accurately; 2) summarized clearly; 3) information is aligned with appropriate section and question

Assessment & Plan Sections: 1) evidence-based final diagnosis; 2) plan is comprehensive (includes physical, social & mental health) & aligned to facts of the case

Health Education Intervention: clear, professional, engaging, & accessible

Note on use of case studies: These case studies are designed to be used as an introduction to a body system in an A&P course OR as a supplement &/or authentic assessment tool to the middle or end of unit. The case studies are compatible with any other A&P curricula & reference online resources so that no formal text or other curricular source is required. They can also be used in a shorter "survey"/case-based course of A&P to give students a preview of applications for A&P, while engaging & "hooking" them on A&P! :)

Case Study Steps:

Steps: This checklist will help orient students, encourage them to manage their time and tasks, and help them process the flow of the case.

- _____ 1. Review the coversheet information. Assign team roles.
- _____ 2.. Read the case information and patient interview and fill out the SOAP note.
- _____ 3. Research possible conditions or diseases.
- _____ 4. Determine additional questions and/or lab/tests to gather objective data.
- _____ 5. Complete the Assessment and Plan for the patient.
- _____ 6. Complete the *Post-Assessment Questions*.
- _____ 7. Create a population-based patient education intervention to educate more patients about the illness affecting Isabel.

Health Care Provider Roles:

Determine a role for each team member. Then identify at least one area or issue that each team member will focus on, in relation to this particular case scenario. For example, if one team member is a medical assistant, he or she might be in charge of assessing vital signs to help assess the patients' vital functions.

Team Member	Role	Areas of Expertise
		<p>Roles: Remind students to think about what areas of expertise various health professionals contribute. Provide examples to orient students:</p> <p>e.g., #1: dietician may be concerned with how the patient's diet influences the problem and may be able to make dietary recommendations to help patient cope with the disease</p> <p>e.g., #2: family doctor will consider all possibilities, rule out diagnoses that are more serious, devise treatment plan, and prescribe medication or refer to specialist, if needed</p> <p>e.g., #3: gastroenterologist (specialist in the digestive system) might be called upon if family doctor believes it is serious enough or cannot confirm diagnosis</p>

Case Introduction:

Isabel, a 24-year-old Latina, was recently married and started doing lots of home cooking. At her annual gynecological exam, she asks her women's health physician if she can refer her to a physician specializing in "stomach or heart problems." Apparently, Isabel has been feeling a pain in her chest or upper abdomen nearly every evening, especially right before bed or right when she lies down. Her husband tells her it must be heartburn, but truthfully Isabel did not understand what heartburn really meant until she googled it. Now she is starting to suspect that maybe her diet is involved.

Read the follow excerpt from the patient interview:

Doctor: So tell me more about this pain you mentioned.

Isabel: Well the pain in my chest is happening most nights around 9 or 10pm. We usually eat dinner late--around 8pm because it takes awhile to cook after we get home from work.

Doctor: Do you have any food or other allergies you know about?

Isabel: No

Doctor: How about medications. You said you aren't currently taking any? Did you recently start or stop any?

Isabel: No

Doctor: Does anyone you know have this problem?

Isabel: My mom always used to complain about "the burn in her chest" after our spicier meals, but I thought she was being dramatic. Now I think I know what she meant.

Doctor: Do you have any history of other medical conditions in your family?

Isabel: My dad died of a heart attack when I was 14. My grandparents all passed from different types of cancer. My mom is pretty healthy.

(continues on next page)

Doctor: What have you eaten so far today? (It is 11am)

Isabel: A chorizo & pepper omelet that my husband made for me. That's the one I think he does love to cook--omelets!

Doctor: Ok, let's get back to the chest pain. When did you first start noticing this problem.

Isabel: About six weeks ago

Doctor: And how often does it happen?

Isabel: Every night. The only time I don't get it at night is if I eat something really bland for dinner, like a sandwich.

Doctor: Do you have any other symptoms or issues besides the chest pain?

Isabel: Well, I've noticed more of a dry cough lately and my throat keeps getting sore on and off. I also have this constant bad breath--my husband made a comment the other day, so I've been brushing my teeth and chewing on gum more lately.

Doctor: Does your pain in your chest extend anywhere beyond your chest region--for example, to your neck, shoulders, arms, etc.?

Isabel: No

Doctor: And how would you describe the pain?

Isabel: Sort of like a burning/stabbing sensation.

Doctor: On a scale from 1-10 with 10 being the worst pain you've ever felt, where would you rank the pain you feel on an average night?

Isabel: Anywhere between a 4 and a 6, I guess.

Doctor: And once it starts each night, how long does it usually last?

Isabel: About 30 minutes to an hour, but sometimes longer.

Doctor: Is there anything that you've noticed makes it worse?

Isabel: Generally when I eat a lot or it's really spicy, it's worse than usual.

Doctor: Is there anything you've tried that makes it better?

Isabel: I've tried Tums but they don't really help much. If I keep standing or sitting, it's better than laying down.

THOROUGHNESS: Remind students to be thorough when documenting the details in the SOAP note. Even if a detail seems irrelevant, it may be important later. Simultaneously, encourage them to be as succinct & concise as possible in their notes without sacrificing essential information.

SOAP Note**Subjective:**Signs &
Symptoms

All details from previous two pages should be documented!

Allergies

Medications

Past medical
history

Last oral intake

Events leading
to injury or illness

Frequency

Associated
Symptoms

Radiation

Character

Onset

Location

Duration

Exacerbating
Factors

Relieving Factors

Objective:

Measurements

Vital Signs

Exam Results

Lab Results

[illegible]

Assessment:**Summary****Differential Diagnoses****Final Diagnosis***Claim (Diagnosis):**Evidence:**Reasoning:***Gastroesophageal Reflux Disease (GERD)**

--a completely accurate test for GERD does not exist, however the following *might* be performed:

- 1) Upper GI series (x-ray, barium-assisted) : ruled out more serious esophageal strictures (narrowing) & ulcers/sores
- 2) Upper endoscopy to visualize & biopsy esophagus to check for inflammation
- 3) Esophageal pH monitoring: most accurate test to detect reflux (measures amount of liquid/acid in esophagus during normal activities.

Plan:**Steps of Plan**

(Consider mental, social and physical health; short- and long-term needs, and follow-up care required)

See: <http://digestive.niddk.nih.gov/ddiseases/pubs/gerd/index.aspx>

Post-Assessment Questions:

1. What are the main functions of the digestive system? Are any of these functions impaired by Isabel's condition?

Source Suggestion:

Cleveland Clinic: http://my.clevelandclinic.org/anatomy/digestive_system/hic_the_structure_and_function_of_the_digestive_system.aspx

2. Label the digestive system and identify which anatomical regions are problematic for Isabel?

Source Suggestion:

Inner Body: <http://www.innerbody.com/image/digeov.html>

3. Explain Isabel's condition. What is happening anatomically?

Source Suggestion:

NIH: <http://digestive.niddk.nih.gov/ddiseases/pubs/gerd/index.aspx>

4. Suppose Isabel's problem was different. Instead of chest pain, she was having severe bouts of diarrhea. Explain what happens in the digestive system when diarrhea occurs.

Source Suggestion:

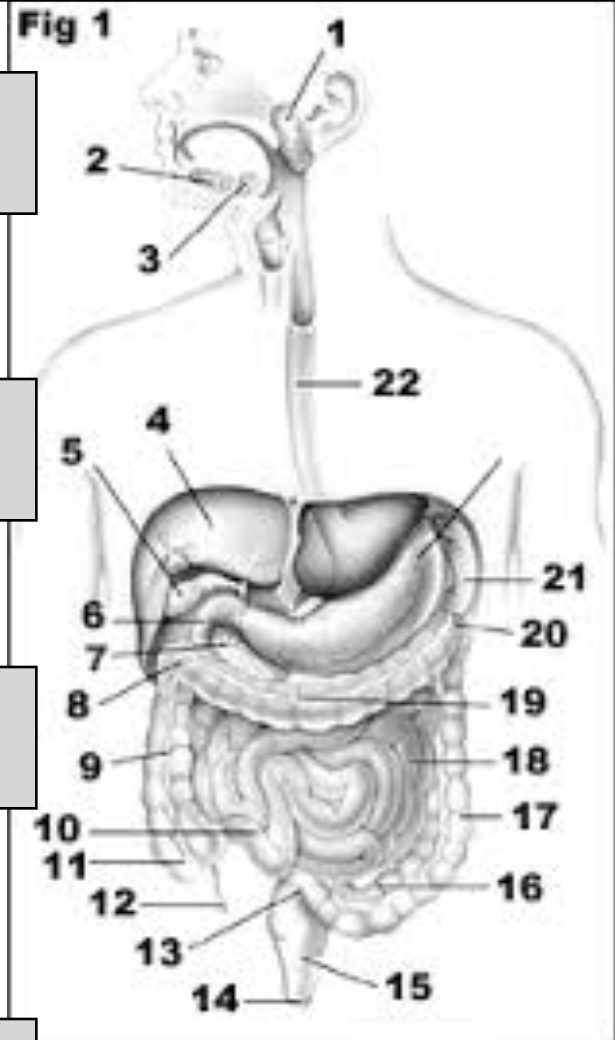
Web MD: <http://www.webmd.com/digestive-disorders/digestive-diseases-diarrhea>

5. Suppose Isabel's problem was different (again!). Instead of chest pain or diarrhea, she was having problems with constipation. Explain what happens in the digestive system when constipation occurs.

Source Suggestion:

Web MD: <http://www.webmd.com/digestive-disorders/digestive-diseases-constipation>

USE OF THESE QUESTIONS: The amount of time students need to research answers to these questions will depend on the concurrent or previous level of instruction/pre-reading about the skin system.



Health Education Intervention

Create a health education intervention that informs and helps patients prevent the disease or illness you diagnosed Isabel with. Think of all the ways that health information can be communicated--the Internet, brochures/literature in the doctor's waiting room, posters/signs, public service announcements, materials health professionals can use during the patient visit...and the list could go on!

Think about what information would be important to communicate and the most effective way to get the information across. Plan, design, and present your educational intervention to the class!

Brainstorming & Planning Space: