

UNIVERSITY of **HOUSTON**

COLLEGE OF MEDICINE

**Creating clinical case studies as open
educational resources at a new medical school.**

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University of Houston College of Medicine

March 11, 2021

University of Houston College of Medicine

Mission

UH College of Medicine is accountable to society for improving the overall health and health care of the population of Greater Houston, Texas and beyond

- Educating a diverse group of physicians who will provide compassionate, high-value (high quality at reasonable cost) care to patients, families and communities, with a focus on primary care and other needed physician specialties, such as psychiatry and general surgery.

University of Houston College of Medicine

- Inaugural year
- 30 students, eventually 120 students

Curriculum

- Integrated - basic science and clinical faculty co-teach (rare)
- Interactive (only 25%)
- Significant effort to utilize and/or generate Open Education Resources to reduce student costs.



Integrated Clinical Cases

- Great opportunity to generate original, curricular content that can be adopted by other health professional students

Some Example Clinical Cases

- “*Bad Breath*” - a case of alcoholic liver disease
- “*Gerdy’s Gerd*” - a case of gastroesophageal reflux disease
- “*My knee is killing*” - a case of total knee replacement

Many Others

- Myasthenia Gravis
- Sjogren’s Syndrome
- “*Helen’s Helicobacter*”

Poor Al Pate...

Patient

Al Pate (fictional patient name), is a 52-year-old Caucasian male returns to your office to receive results from tests that you have ordered. He originally presented to your office with his wife Lady Pate because they are concerned about his bad breath. After a thorough examination, you decided to send some lab work. Today is a follow up visit.

Case consists of:

- Learning Objectives
- Pre-work for students
- Instructor's Guide, with "answers", timed activities, case discussion questions
- Narrative, lab results, medical images, social determinants of health



Higher order and easily adoptable learning objectives

Instead of:

1. “Appreciate that alcoholic liver disease is a leading cause of mortality”
2. “Know that alcohol is metabolized by alcohol dehydrogenase and by cytochrome P450”
3. Recognize abnormal liver function results:
 1. AST to ALT ratio
 2. Elevated bilirubin
 3. Elevated MCT
 4. Decreased lymphocyte count
 5. Elevated transaminases

1. “Explain the epidemiology of alcoholic liver disease”
 - Students discover on their own the impact of ALD
2. Describe how alcohol is normally metabolized by the liver.
3. Contrast liver function laboratory results from a patient with ALD to a patient with normal lab findings.
 - Allows for adoption of new methods, technologies, clinical recommendations

Publishing the case - Pressbooks

“Bad Breath”: An integrated case study of alcoholic liver disease for first year medical students.

Omar Matuk-Villazon, MD, MBA and Kevin Rowland, PhD



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**“BAD BREATH”: AN
INTEGRATED CASE
STUDY OF
ALCOHOLIC LIVER
DISEASE FOR FIRST
YEAR MEDICAL
STUDENTS.**

Matuk-Villazon & Rowland

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Material Detail



"Bad Breath": An integrated case study of alcoholic liver disease for first year medical students.

Alcoholic liver disease represents a timeless teaching opportunity for health professional students. Due to the significant rise in alcohol abuse worldwide, health professional students must be able to prevent, recognize, diagnose and treat individuals with progressive liver disease due to alcoholism. We have developed an integrated clinical case study of a man with alcoholic liver disease progressing to cirrhosis for first year health...

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Keywords: alcoholic liver disease, cirrhosis, alcoholism, liver, hepatitis

Disciplines:

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Quality

Editor Reviews ★★★★★

User Rating ★★★★★

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The complete case can be found here:

["Bad Breath"](#)

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Julie Robinson (Faculty)

7 weeks ago

I'm going to modify this for use in an undergraduate 200-level A&P course. The resource is very thorough, including a student work document, a specific instructor key, and a well-scripted timeline for use in the classroom. The timeline provides multiple places for discussion and "check your understanding" type checkpoints for students before they move on to the next part of the assignment. I find the timeline information useful to give me an idea of how long this might take.

Time spent reviewing site: A few hours

Lessons Learned

- UH College of Medicine faculty are writing integrated clinical cases as OERs
- Broad, higher order objectives are more easily adopted and stand the test of time.
 - Students learn how to find and apply the most up to date clinical approach.
- Plan on publishing a series of cases

Next Steps

- Submit IRB to gather data from student analyzing critical thinking and knowledge integration.
- Generate more cases that are “timeless” and create a solid foundation for future physicians.

Conclusion

- UH College of Medicine is invested into create educational innovations that highlight high level knowledge integration not memorization.
- More data is needed to analyze if this particular intervention increases knowledge integration.