The law of diminishing returns is an economic term expressing the idea that a good purchased the first time returns more pleasure than the same good purchased for the fourth time and at some defined point, is no longer worth purchasing.

Let’s take an ice cream cone as an example. The first cone is definitely worth my hard-earned money. I may say yes to a second cone even though it would not bring me as much pleasure as the first one. And certainly, if I ate a third and then a fourth, what was once pleasure at some defined point, is no longer worth purchasing.

Now translate the pleasure and cost of an ice cream cone to a medical test and its benefit and harm based on the incidence of disease. There comes a point when the incidence of disease is so low that trying to find one to two percent becomes more harmful than helpful. Here are a few examples:

- We do a PERRC score and know the risk of a PE is less than two percent, but we do a D-dimer just to be sure. It comes back elevated, and now we do a CT angiography of the chest. No PE, but the radiologist finds a solitary pulmonary nodule in his report. You tell the patient it’s probably not important but recommend a CT scan in about a year to see if it has changed. Two years later, in a different town, the patient finally gets a CT, but there is no CT to compare it with, so it is recommended that he get a lung biopsy, which results in a small pneumothorax and hospitalization with a chest tube.

- We do an Ottawa ankle or knee rule knowing that a normal rule will have a small fracture about two percent of the time or less, but we order plain films anyway because everyone does that there is an irregular otolith not in the area of the pain, but the radiologist reads it as a possible avulsion fracture and that its place in the joint cannot be ruled out. You place the patient in a splint and arrange for orthopedic follow-up. The orthopedist orders a $3000 CT and two office visits. The total outpatient costs come close to $3500. The patient is told his ankle is fine.

- We see a young woman with low-risk chest pain by history and physical. Her risk is one to two percent, but we order an ECG and troponin anyway, so we don’t get sued. The patient has inverted T waves, so you do a chest pain protocol ($>3000). A HEART score confirms her risk is less than one percent, so you call the cardiologist who tells you to get another troponin in two hours. It is negative. On follow-up, her primary care physician gets a treadmill test, which does not meet the Bruce protocol, so a thallium is ordered, but she misses the appointment.

The pain returns, so she goes to a different ED, where she gets admitted for a heart cath. The cath is negative. The cardiologist calls it vasospasm, and she is placed on aspirin, a statin, and dialyzes indefinitely.

- You see a child who hit his head and vomited twice. His doctor’s nurse line says to go to the ED for a CT if the child has repeat vomiting. The child looks great, and the chance of a bleed needing surgery is less than 0.1 percent, but you know that the parents are going to want a CT, so you order one. During this child’s busy childhood, he has three more head traumas, at which time the parents want a CT just to be sure. Everyone orders a CT except one pediatrician, and the family complains to administration. Twenty years later, the patient is diagnosed with a thyroid tumor. No one can really say if it was from the radiation.

- You see a healthy elderly patient with uncomplicated diarrhea. You know it is likely viral, but you get a CBC to have a baseline. The patient is febrile at 101°F and tachycardic at 105 bpm with a WBC of 14,000. She looks fine and you know she is not septic, but the nurse says she meets the sepsis criteria and wants to call a sepsis alert. You say, “I guess we have to.” (Because you don’t want to get written up.) The patient is admitted with “sepsis,” and two of the blood cultures come back with Staphylococcus aureus. It is probably a contaminant, but you send her home on antibiotics for 14 days. She develops worsening diarrhea and comes back with mild tachycardia and a mildly elevated white blood cell count, and gets readmitted with “sepsis,” this time...
Don’t Disparage Cannabis Use

Editor:

I was extremely disappointed by Dr. Mosley’s Viewpoint article. (“Medical Marijuana Is a Dangerous Lie,” EMN. 2020;42[8]:2; https://bit.ly/30pmSM1.) It was astoundingly biased, and lacked any understanding of endocannabinology and the application of Cannabis therapeutics. There are now thousands of published papers and studies unveiling the endocannabinoid system (ECS) and the effects of cannabinoids on everything from neurological function to the immune response to cancer.

Dr. Mosley conflated medical use of Cannabis with recreational use and misuse in terms of adverse effects, including acute intoxication. The majority of Cannabis patients are looking for symptomatic control of pain or other symptoms, not intoxication. The litany of problems associated with Cannabis use cited do occur, but need real perspective. With Cannabis, as with any medicine, there is appropriate use, misuse, and abuse. Overall, the risks are less than that of most prescription drugs, far less than opioids, and risks can be reduced with education and appropriate medical oversight.

Physicians have been negligent in learning about Cannabis and the ECS, then disparage the medical use of Cannabis, as exhibited in this article. The movement for Cannabis legalization has been patient-driven—our patients are using Cannabis in some fashion despite our opinions. We must learn enough to do what physicians are expected to do: Give patients good education and counseling on how to safely use Cannabis while avoiding adverse results. This opinion piece by Dr. Mosley does nothing to advance the science around Cannabis nor the understanding of what we as clinicians should do to best care for our patients.

David G. Knox, MD
West Linn, OR

Hawaii is Farther West than Alaska!

Editor:

In the most recent issue, there is a description of Unalaska as the westernmost ED in the United States. (“There’s Remote EM, and Then There’s Unalaska.” EMN. 2020; 42[9]:24; https://bit.ly/3hRwmtq.) Though I appreciate the reach for uniqueness, the last I checked there is no place farther west in the United States. Perhaps you should say continental United States.

Thank you for remembering us out here in the Pacific! We’re just happy to be here instead of in dark and cold Alaska; well, at least I am.

It was an interesting article otherwise, but I just had to let you know that it was read analytically!

Brian Tobe, MD
Hawaii

Editor’s Note: Egg on our face!

Firsthand Experience with COVID-19

Editor:

Mark Mosley, MD, wrote an excellent story about his firsthand experience with COVID-19, particularly his comment that “each step is a prayer of thankfulness breathing in of the ordinary.” (“A Roadmap for Surviving COVID-19,” EMN. 2020;42[9]:29; https://bit.ly/3hOofoF.)

His quote from my favorite author Dostoevsky from Crime and Punishment was pertinent. Dr. Mosley mentioned the support of his family, and Dostoevsky also said, “The soul is healed by being with children.”

Jon K. Jones, MD
Lawrence, KS

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LETTERS TO THE EDITOR

Letters to the Editor

Emergency Medicine News welcomes letters to the editor about any subject related to emergency medicine. Please limit your letter to 250 words, and include your full name, credentials, and city and state of residence or practice.

Letters may be edited for content, length, and grammar. Submission of a letter constitutes the author’s permission to publish on all media, including print, online, and social media, but does not guarantee publication. Letters express the views of the authors and do not necessarily reflect those of Emergency Medicine News and Wolters Kluwer.

Letters to the editor may be sent to emn@lww.com.

VIEWPOINT

Dr. Mosley is an emergency physician in Wichita, KS.

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