

Cognitive bias and medical errors



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This month's CME articles focus on visual perception, cognition, and how they relate to diagnostic errors.^{1,2} Medical errors occur in many ways. System errors happen when responsibilities are handed off between members of a team, during prescribing and dispensing of medications, entry and delivery of laboratory orders and results, and during documentation. Cognitive bias is commonly associated with diagnostic errors and can account for more than a third of serious medical errors.³

SOURCES OF COGNITIVE BIAS

If we didn't have innate filters to focus our perception, functioning in a world full of stimuli would be impossible. As we mature, our brains develop sophisticated filters that focus our attention and dampen distractions. Cognitive bias occurs when we filter out important signals that our brain mistakenly deems as unimportant.

Dermatology is rife with opportunities for misdiagnosis related to cognitive bias. The lesions of tinea faciei are exquisitely photosensitive, which might lead the dermatologist to consider lupus erythematosus or photocontact dermatitis. Wong-type dermatomyositis mimics pityriasis rubra pilaris, and nevoid melanoma is the dermatopathologist's nemesis; at first look, this condition mimics a benign nevus and subtle diagnostic features can easily be missed. There are 2 kinds of physicians in this world – those who have experienced diagnostic error and liars. Master dermatologist Bill James was famous for warning graduating residents that they would miss a number of diagnoses in their careers, especially tinea, scabies, and syphilis. He has been proved right many times.

Techniques have been introduced to improve critical thinking and help mitigate the effects of cognitive bias.^{4,5} In pathology and radiology, a first look at the slide or image blinded to clinical

information is a common practice to reduce the risk of cognitive bias. Second opinions serve a similar function in clinical medicine and can be extremely helpful, but cognitive bias even affects our own assessment of our performance. Thinking aloud and discussing the differential diagnosis has been shown to improve the physician's self-rating of bias, but it has been more difficult to demonstrate differences in outcomes.⁶⁻⁸ Clearly more work is needed, and the *Journal of the American Academy of Dermatology* welcomes studies that present new information on cognitive bias, medical errors, and patient safety.

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