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The 3D framework for clinical image-based teaching

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Abstract

This AM Last Page provides educators with a framework they can use to engage learners with clinical images for diagnostic reasoning and examination teaching. An image-based teaching moment can deepen physical examination knowledge, augment visual intelligence, and promote self-directed learning.

Keywords physical examination, clinical images, clinical reasoning/diagnostic reasoning

Time pressures in clinical practice often limit opportunities for bedside teaching. Clinical images (exam findings, sonograms, radiographs, etc.) allow educators to focus teaching moments back on patients and offer a powerful, time-efficient way to enhance observation, physical examination, and diagnostic reasoning skills in

different medical specialties.^{1–4} An in-person or asynchronous image-based teaching moment, guided by the discussion framework below, can deepen physical examination knowledge, augment visual intelligence, and promote self-directed learning (Figure 1).

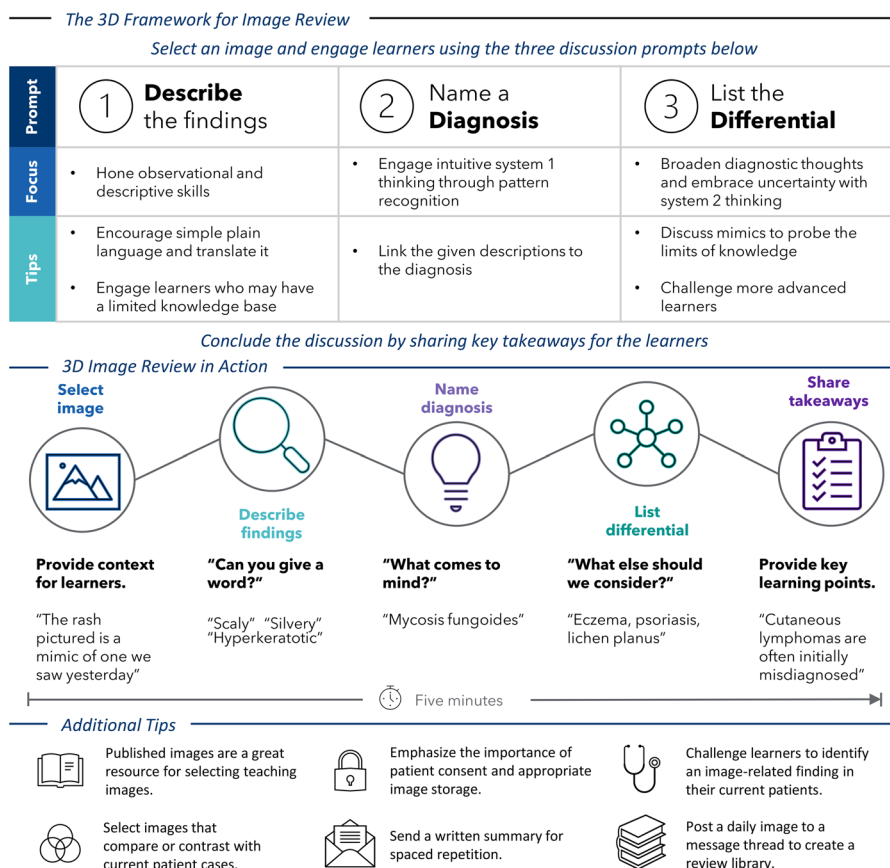


Figure 1 The 3D framework for clinical image-based teaching.

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Previous presentations

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Data availability

Reported as not applicable.

References

1. Messman AM, Malik A, Ehrman R. An asynchronous curriculum for teaching practical interpretation skills of clinical images to residents in emergency medicine. *JEmerg Med*. 2020;58:299-304. <https://doi.org/10.1016/j.jemermed.2019.11.046>
2. Gow KW. Visual learning: harnessing images to educate residents optimally. *J Surg Educ*. 2009;66:392-394. <https://doi.org/10.1016/j.jsurg.2009.07.012>
3. Sugi MD, Kennedy TA, Shah V, Hartung MP. Bridging the gap: interactive, case-based learning in radiology education. *Abdom Radiol (NY)*. 2021;46:5503-5508. <https://doi.org/10.1007/s00261-021-03147-z>
4. Mookherjee S, Pheatt L, Ranji SR, Chou CL. Physical examination education in graduate medical education—a systematic review of the literature. *J Gen Intern Med*. 2013;28:1090-1099. <https://doi.org/10.1007/s11606-013-2380-x>