Systematic viewing in radiology: seeing more, missing less?

By Kok EM, Jarodzka H, de Bruin AB, BinAmir HA, Robben SG, van Merrienboer JJ in the journal Advances in Health Sciences Education Theory and Practice.

What can we learn from this article?

In radiology training, it is widely advocated to teach a systematic approach to viewing images. The rationale behind this approach is that viewing an image in a fixed order helps observers to look at the entire image and prevents them from missing lesions. However, there is no evidence that teaching learners to search systematically is effective. This study shows that although novices can be trained to search in a more systematic way, they do not perform better when using a systematic approach.

What is novel or noteworthy?

Much research in visual diagnosis involves comparing visual search patterns of experts and novices. However, much knowledge and experience underlies experts’ visual search patterns. Without this foundational knowledge and experience, novices may find it challenging to apply expert search strategies. Studies investigating effective teaching of visual search strategies, like in this study, are scarce.

How does it relate to the medical education practice?

We may need to reconsider our teaching approach to systematic viewing of images. In clinical reasoning research, there are some clues that combining analytical and non-analytical approaches is most effective. For example, such approaches stimulate learners to generate a diagnosis based on similarities first (non-analytical), and then check their diagnosis systematically (analytical). Combining these results, students may not benefit from searching in a systematic manner, but it could be effective to encourage radiology trainees to check their search in a systematic way.