

# The teaching of critical appraisal skills in urology residency: What is the evidence?

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The manuscript by Roth and Siemens<sup>1</sup> is a topical one that deals with attitudes towards and knowledge of evidence-based medicine (EBM) among graduating urology residents. The authors also discuss the prevalence and structure of EBM curricula in Canadian urology training programs. The findings from this self-reported survey of 29 chief residents are concerning but not surprising. Formal teaching of EBM in residency was reported by less than a third of respondents and only slightly more than half received instruction during medical school. Most urology resident exposure to EBM occurs in a journal club format and most respondents were not aware of 8 commonly used web-based EBM resources available to practitioners. Knowledge of the fundamentals of EBM terminology was correspondingly limited, but there was strong support for developing formal instruction and evaluation of these important concepts. A lack of time during residency and a lack of faculty with the requisite expertise were cited as the most common reasons for the limited exposure to EBM. These are similar to barriers reported in other specialty training programs as outlined in a recent systematic review of this topic.<sup>2</sup> In general, limited time, competing responsibilities and resident lack of knowledge and skills were cited as the most common barriers to the application of EBM in the published literature. Interestingly, in one Canadian study included in this review, several surgical residents reported a fear of repercussion from staff surgeons when confronting them with new evidence.<sup>3</sup> (There were no urology residents in this study!)

As new faculty with advanced education in EBM come on board, our training of urology residents in this area may self-correct as long as the teachers are enabled to apportion the necessary time in urology curricula to this important facet of postgraduate education. This is easier said than done. There is considerable curriculum compression in residency training programs today with requirements for teaching of all the CanMEDS core competencies to maintain Royal

College accreditation. Evidence-based medicine falls under the *scholar* rubric of CanMEDS. Item 6.2 of the Royal College general standards of accreditation states that “*The program must ensure that there are effective teaching programs in the critical appraisal of medical literature using knowledge of research methodology and biostatistics.*”<sup>4</sup> Hosting journal clubs as the sole method of teaching critical appraisal is not likely to be deemed sufficient to receive a passing grade by an external reviewer of our residency programs.

Under the old apprenticeship model of training, scholarship involved honing our clinical skills in concert with the incorporation of expert opinion into one’s personal database. In the hierarchy of EBM, expert opinion is the lowest level of evidence and therefore a lower value is placed on authority than did previous traditional medical paradigms.<sup>5,6</sup> Urologists need to continue to climb the pyramidal levels of evidence if we are to remain a scholarly specialty. That said, not all urologists (me included) need to be the principal investigator of a randomized controlled trial, be capable of conducting a meta-analysis, or wax eloquent about the difference between an odds ratio, a risk ratio, and a hazard ratio. However, we should all be aware of what these tools entail, whether they are in existence for questions that arise in our clinical practices, and where to access them if they do exist.

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