CEIPE THE CONSORTIUM OF EVIDENCE-INFORMED PRACTICE EDUCATORS

The Savvy Practitioner

A bulletin for practitioners and teachers of evidence-based practice.

Target audience this issue:

- ✓ *Classroom faculty*
- ✓ *Administrators*

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Ron LeFebvre DC
Executive Director CEIPE
University of Western States

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EIP Classroom Integration

The ability to find high quality evidence, recognize it when we see it, and interpret the results is a skill that requires both training and practice. Core EIP courses teaching the fundamentals can really only act as a first exposure and door of entry into this arena. If the EIP skills, concepts and language are not integrated across the breadth of the curriculum, if they are not part of the actual tissue of the various course disciplines, then students will simply binge on a set of facts for midterms and finals and purge to make room for the next bolus of knowledge to ingest.

As faculty develop their own EIP competency, the challenge is to find ways of incorporating this material into the specialty content they are teaching, whether it is a microbiology or public health course, physical rehabilitation or manual therapy technic class, spinal or clinical diagnosis course. So what can faculty classroom do?

A variety of methods

1. **Search skills.** Course instructors can assign students to do a literature search on a topic or question specific to the content of the course. The assignment then can play two roles—it can deepen an understanding of that particular clinical topic and can also be used as a vehicle to practice search skills, experiment with search terms, data bases, and search strategies. Feedback on these assignments should ideally include at least some input on how the students performed the search and chose the data bases. In a carefully curated curriculum, each course identified as incorporating lit search assignments might be tasked with focusing on *different data bases* so that by the time students arrive in the clinics, they would be comfortable with using (for example) PEDro, PubMed/MEDLINE, Cochrane libraries, point of service resources such as Dynamed, and good sources of evidence-based clinical guidelines.

2. **Analytical skills (CATs).** More ambitious course assignments might require not just a lit search but a brief summary and quality assessment called a Critically Appraised Topic (CAT). Minimally, a CAT should include the conclusion of the study/systematic review, the outcomes/ results reported quantitively, a judgment on whether the outcomes would be considered statistically significant, clinically meaningful, precise, and finally a brief statement regarding the type of study, size, overall strengths and limitations. Feedback could range from simply checking to see if all of the above components were included to more rigorously assessing the "correctness" of each component when compared with the paper that was read.

Help your students understand how to use read and understand the results from research studies.

Want to know more on these subjects?

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3. Integration of concepts and terms into lectures. When research evidence is included in course notes or lecture slides, pertinent statistics should be included along with comments characterizing the quality and study design. The consistent message should be that when citing a clinical fact or recommendation based on research evidence, the results should be judged based on whether the outcomes were large enough to matter (to a *clinically significant* degree), whether they were considered statistically significant, and whether the final estimate had a reasonable degree of precision (e.g., reflected in a confidence interval). And, since the results are credible only *if* the study they are based on is sound, then a statement as to the research quality must always be incorporated as well. See the example below from a lecture on the slump stretch.

The Slump Stretch. Pooled estimates from 3 higher quality RCTs (Pedro ≥ 6) demonstrated clinically and statistically significant improvement in low back pain (SMD -1.97 (95%CI -3.69 to -0.25)) when added to other modes of care. (Pourahmadi 2018)

As in the example above, therapy interventions should include information on the *magnitude* of improvement (mean difference or SMDs/effect sizes) or the *probability* of success (reported as NNTs, RRs, ORs). Health risk outcomes should be reported relative to how risky they really are (e.g., RRs, ARs, NNH). Both instructors and students should understand the various measures. Similarly, diagnostic tests should be accompanied by likelihood ratios (or sensitivity and specificity ratings). For example, from a lecture on cervical facet syndromes:

"A small, moderate quality, cross-sectional study reported that a combination of a + ER test, pain with static palpation over the facet, and restriction to P-A joint glide had a +LR 4.95 (95% CI 2.80-8.20) for predicting a successful response to a double facet block. (Schneider 2014)"

4. Modeling in class. Faculty in real time can model doing a rapid lit search to a clinical question posed by a student or as part of a prepared lecture. The clinical instructor, from time to time, could also model clinical decision making by offering an example from practice where the provider had to weigh applying research evidence in the context of a specific patient's needs, wants, and capabilities.

These upgrades to courses can be done slowly and incrementally. They apply just to content that is directly based on specific research evidence. Need help in applying some of these suggestions? Keep up with the *Savvy Practitioner*, enroll in the Educator's Exchange, and consider attending the PIE 2020 conference in August.

References

Pourahmadi M, Hesarika H, Keshtkar, et al. Effectiveness of slump stretching on low back pain: a systematic review and meta-analysis, Pain Medicine 2018: 220(2)378-396

Schneider GM, Jull G. et al. Derivation of a clinical decision guide in the diagnosis of cervical facet joint pain. Archives of Physical Medicine and Rehabilitation 2014;95:1695-701.