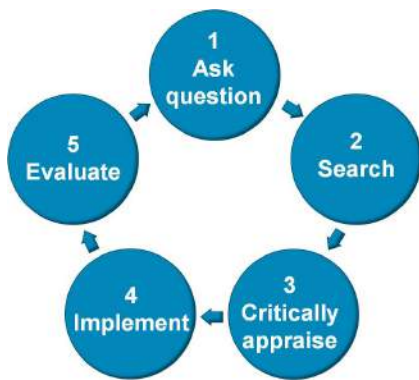


Show me the Evidence! Teaching and modeling evidence-based practice in clinical education

In this environment of health care and Medicare reform evidence-based practice (EBP) which has been defined as "the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients" is becoming increasingly vital to the sustainability and growth of our profession. And, as such, should be as important as other basic skills in the clinical education of PT and PTA students.

High quality patient care involves decision making based on the goals/wishes of the patient, the experience/skill set of the clinician and a review of the best research evidence available.

Clinical instructors should consider providing opportunities for students to use each of the following steps in practicing in an evidence based manner.



(1) **Formulate a question.** Prompt students to think about and generate questions based on patients in your caseload. Are CPMs beneficial in the acute phase post TKR? Which screening tools are best for determining a patient's fall risk? Is e-stim effective in promoting wound healing? Encourage students to critically think about the rationale for use of particular assessment or intervention tools and to have a desire to select based on evidence and not just on an anecdotal, "that's just what I've always seen done" construct.

(2) **Search the literature.** This is something that in the past was a major obstacle, but that in recent years has become MUCH easier. In addition to PubMed (National Library of Medicine Database), APTA members have a couple of excellent tools for literature review searches. The most extensive and newest of these is the Article Search feature on PT Now (ptnow.org) which allows APTA members access journals and other resources relevant to clinical practice, including full-text access to research and articles from more than 4,500



clinical and academic publications. Members can search by keyword or by area of clinical specialty. Still having difficulty? PTNow has a librarian on staff to assist you. Just email articlesearch@apta.org for help! Giving students "homework assignments" to search the literature for evidence related to a particular clinical question is an excellent activity. Students can bring findings back to the clinic and present in a staff in-service setting so that all benefit!

(3) **Critically appraise the research findings.** This is the opportunity for the student to appreciate that not all research is to be interpreted on face value. Ask the student to describe, for a given research study, what level of evidence is provided? Systematic reviews and randomized control studies provide the strongest evidence while evidence from case reports is much weaker. What does the student think about the validity of the study's findings? Prompt the SPTA to discuss whether the study had good internal validity (outcomes were a result of interventions used) and external validity (results can be generalized to larger population).

(4) **Implement.** Discuss with the student that research findings must be balanced with the experience and skill set of the clinician. For example, research may support the use of a particular manual therapy technique, but if the clinician is inexperienced or uncomfortable with the skill then it may not be the best choice. Additionally, the patient's goals and desired must be a consideration. Patients uncomfortable with e-stim may prefer to avoid the use of that modality, even if evidence supports its use. Once these variables have all been weighed the student can work with the CI to select appropriate interventions and begin assessing

the effects of those interventions

(5) **Evaluate the results.** The student should be working with the CI to collect data that will accurately track patient progress. PT Now (ptnow.org) is a resource not only for literature review, but also for accessing tests and measures. Members can search for tools using keywords or can search by diagnosis or musculoskeletal region. In selecting appropriate assessment tools/instruments the student should be prompted to consider the instrument's psychometrics (also available at PT Now). Things such as:

- The inter and intrarater reliability of the tool
- The validity of the instrument: Are results comparable to the "gold standard" (concurrent validity)?; Does the instrument measure all of the important aspects of the impairment (content validity)?; Do results correlate with likely future events (predictive validity)?
- How much change in patient performance using the instrument must be present for the change to be important (minimal detectable change & minimal clinically important difference)?

· How sensitive and specific is the instrument? Instruments with high sensitivity are good for ruling out conditions; Instruments with high specificity are useful for ruling a condition in. Ask your student to explain and apply



the "SPpIN" and "SNnOUT" acronyms.

Clinical instructors may consider using pieces of this 5-step EBP on an informal, daily basis or through a more formal student assignment to prepare a clinical in-service or case study presentation. Regardless of the format, helping the student to practice clinical decision making based on EBP principles helps the student, helps the patient, helps the CI/facility, and helps the profession of physical therapy.

Mary McMillan lecturer Rebecca Craik may have expressed it best when she said "**Maybe EBP is really about never falling prey to complacency, about never being satisfied. It's about feeding your motivation, your passion for the profession.**"