

## GUEST EDITORIAL

### Aspects of training important to future physical and rehabilitation medicine physicians and our specialty training

There is no universal training curriculum for Physical and Rehabilitation Medicine (PRM) physicians. While PRM claims no organ system or tissue impairment, it specializes in maximizing function. It is imperative that we train excellent physicians who are experts in the evaluation of the nervous and musculoskeletal systems. However, we need to develop a more globally uniform curriculum with respect to specific didactic lectures, workshops, and so on, for diagnostic categories such as spinal cord injury, traumatic brain injury, stroke, etc., which can be modified to address local issues. If we can agree upon this, it will eventually progress to uniform curriculum training of all PRM physicians. My program utilizes an 18-month modular curriculum by diagnostic category that is repeated twice during the 36-month training program ([http://njms.umdnj.edu/departments/physical\\_medicine\\_rehabilitation/residency/index.cfm](http://njms.umdnj.edu/departments/physical_medicine_rehabilitation/residency/index.cfm)).

The core values with respect to the specialty of PRM (1) are listed below.

- Functional improvement is as important as treatment or cure of impairment.
- We respect all who can help provide care and help our patients improve, including our patients themselves, and their families and friends.
- Teams can accomplish much more than individuals.
- Physical agents may be as useful as chemical ones for the treatment and management of diseases.
- Education is a key to improving health and function.
- Our obligation to our patients compels us to address not only the patient, but also our community and our environment.
- Our role as PRM physicians includes social advocacy.

PRM physicians should not only manage therapists and administer patient care over the continuum, but they must also be trained to diagnose and treat individual patients.

It is well to remember that "quality rises to the top". We should always strive for quality in the patient care we render. It is up to the various accrediting bodies of the training programs and certifying PRM boards of individuals in the various countries to evaluate critically the graduating trainees and their training programs (2). I realize that this accreditation, certification model does not apply to all countries, and varies among countries.

We need to develop expert methods to evaluate objectively our trainees' clinical competencies, including communication skills, and that we evaluate these competencies during our board certification process and throughout their professional careers. In my training program, I utilize an annual 9-station objective, standardized, clinical examination (OSCE) to provide this objective evaluation to the trainee and faculty ([www.kmrrec.org](http://www.kmrrec.org)) (3, 4).

#### EVIDENCE-BASED MEDICINE

Evidence-based medicine (EBM) is a current buzzword that is being incorporated into undergraduate, as well as graduate medical education. We also need to incorporate this into our training programs (5). It is defined as the conscientious, explicit, and judicious use of the current best evidence in making decisions about the care of individual patients (6). The practice of EBM means integrating individual clinical expertise with the best available external clinical evidence derived from systematic research (6). The data for EBM are derived primarily through randomized controlled trials (RCTs) and meta-analyses, although observational studies are occasionally used (4). The results show comparative efficacy of treatment for an "average" randomized patient and may not be relevant for pertinent subgroups formed by cogent clinical features such as severity of symptoms, illness, co-morbidity, and other clinical nuances. Most RCTs are also based on selected subgroups of patients with "pure" or single conditions (7). However, in practice, rehabilitation must address patients with multiple health conditions (5). The field of rehabilitation has made significant contributions to science, as measured by the number and quality of RCTs. Our trainees' journal clubs should be based on an evidence-based model.

#### RESEARCH TRAINING

The ultimate goal of all rehabilitation and disability research is to restore function or prevent functional decline, thereby promoting community integration, independent living, and return to productivity (9). Our field needs to devote considerable time in its trainee curriculum to teaching research methodology, experimental design and data and statistical analysis. A trainee research curriculum needs to be created (10). We need our trainees to be able to participate in research and to be able critically to evaluate the literature throughout their professional careers (9). A key element of this research curriculum is the use of mentors from within our department or other departments. Developing a scientific/academic base for our specialty and demonstrating our expertise in rehabilitation science research is fundamental to academic acceptance and will enhance our ability to compete for future funding for our investigators who desire to pursue an academic career in PRM (9, 10). In the future, it will help us with improved knowledge and technology, which result in improved function and care of our patients.

Research is essential to determine whether any pharmacological and technological rehabilitation intervention provides more than a placebo effect in its interaction between the individual and the environment. As in other disciplines, medical rehabilita-

tion therapy must be clinically effective and cost-effective to be acceptable to the patients, health insurers and other providers. However, rehabilitation does not lend itself readily to cost-effectiveness analysis because of the complex set of treatments provided. Analyses must focus on more limited aspects, such as specific clinical interventions, and clinical outcomes such as the reduction of impairment and disability, rather than on the rectification of abnormal organ or tissue pathology (11). Therefore, translating the research methodology into the clinical setting remains a significant challenge. Our future depends on our ability to explain ourselves not only rhetorically, but also scientifically. In all countries we need to increase our rehabilitation research capacity, infrastructure and culture; this is the major challenge and opportunity for the specialty.

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