

COMMENTARY

COMMENTARY ON “OPPORTUNITIES TO INCLUDE PHYSICAL AND REHABILITATION MEDICINE IN THE MEDICAL SCHOOL CURRICULUM: INTERNATIONAL PERSPECTIVES”

The article by Gutenbrunner et al. (1) raises the important issue of introducing Physical and Rehabilitation Medicine (PRM) curricula into medical schools. In addressing this topic the authors provide a concrete example of a model that is very well accepted by medical students. Their citations and references reveal a series of publications from the last 3 decades that describe the importance of the development and implementation of PRM curricula in medical schools, especially in the USA, but also in other countries such as the UK, Australia and Croatia. A further search of the literature reveals information from other programmes developed in the USA (2–5), Iran (6) and France (7). Some published guidance and detailed recommendations for undergraduate curricula in PRM are already available (8–9). A number of universities have introduced PRM concepts into undergraduate medical education, yet this is still not a standardized and conceptualized matter in terms of either the essential content or length of the programmes. There is an increasing need for specific rehabilitation concepts to be included in the medical curriculum. There is a progressive and exponential increase in the populations of elderly and disabled people (10, 11). People who now survive severe medical conditions, major trauma or disasters do so due to better overall medical care and are in need of rehabilitation expertise. Medical students often lack the basic knowledge and competence to assess the crucial needs of elderly patients that lead to risk of falls, e.g. gait, and to provide proper prescription of assistive devices (12).

In 2003 in Germany, the Federal Medical Licensing Regulations included Rehabilitation, Physical Medicine, and Naturopathic Treatment as a compulsory part of the medical curricula (13–14), as is also emphasized in Gutenbrunner et al.'s introduction. Other papers provide insights into the subject in Germany (9, 13–15). Major educational goals include the concepts of body function and structure, activity and participation associated with its impact on the individual, his or her family and environment, with an emphasis on the concepts of the International Classification of Functioning, Disability and Health (ICF), basic knowledge of human functioning and the functional consequences of diseases, which triggers the idea of a functional-outcomes-based approach (8, 9) as applied to any medical condition, but mainly to cerebral palsy, spinal cord injury, acquired brain injury, stroke, and disabling pain.

Appropriate assessment of body function and structure, activity and participation, followed by the rehabilitation approaches to be employed during the small window of opportunity for functional recovery, mandates for a specialized rehabilitation setting to minimize impairment and maximize function and quality of life in a whole-person patient-centred approach (7). The consequences of immobility and preventive measures should also be emphasized. Integration of a muscu-

loskeletal assessment and rehabilitation education, including gait assessment and muscle testing, is also advised (4, 16).

Despite the challenge of incorporating PRM into a medical school curriculum, Gutenbrunner et al., describe an existing model which not only exposes medical students to PRM, but exposes them to PRM each and every year of their medical school training. The incorporation process was facilitated because the rules and implementation drill were provided by a regulatory body. However, even when this is not the case, Gutenbrunner et al.'s article provides insight into a paradigm shift that can be applied at the international level.

REFERENCES

1. Gutenbrunner C, Schiller J, Schwarze M, Fischer V, Paulmann V, Haller H, Küther G. Hannover model for the implementation of physical and rehabilitation medicine in undergraduate medical training. *J Rehabil Med* 2010; 42: ??–??.
2. Tuel SM, Meythaler JM, Penrod LE. Educational goals and objectives in physical medicine and rehabilitation for the medical school graduate. Association of Academic Physiatrists Undergraduate Education Committee Workgroup. *Am J Phys Med Rehabil* 1996; 75: 149–151.
3. Kirshblum SC, DeLisa JA, Campagnolo DI. Mandatory clerkship in physical medicine and rehabilitation: effect on medical students' knowledge of physiatry. *Arch Phys Med Rehabil* 1998; 79: 10–13.
4. Laskowski ER, Moutvic M, Smith J, Newcomer-Aney K, Showalter CJ. Integration of physical medicine and rehabilitation into a medical school curriculum: musculoskeletal evaluation and rehabilitation. *Am J Phys Med Rehabil* 2000; 79: 551–557.
5. Wagner AK, Stewart PJ. An internship for college students in physical medicine and rehabilitation: effects on awareness, career choice, and disability perceptions. *Am J Phys Med Rehabil* 2001; 80: 459–465.
6. Raissi GR, Vahdatpour B, Ashraf A, Mansouri K. Integrating physical medicine and rehabilitation into the curriculum of Iranian medical students. *Disabil Rehabil* 2006; 28: 67–70.
7. Richard I, Compain V, Mouillie JM, Adès F, Garnier F, Dubas F, et al. [Evaluation of the attitude towards disabled persons of 3rd and 4th year medical students using the “Attitude towards disabled persons” questionnaire. Effect of courses and rotations in physical medicine and rehabilitation departments]. *Ann Readapt Med Phys* 2005; 48: 662–667 (in French).
8. Currie DM, Atchison JW, Fiedler IG. The challenge of teaching rehabilitative care in medical school. *Acad Med* 2002; 77: 701–708.
9. Mau W, Güllich M, Gutenbrunner C, Lampe B, Morfeld M, Schwarzkopf SR, et al. [Educational objectives in the new interdisciplinary subject “Rehabilitation, Physical Medicine, Naturopathic Techniques” under the 9th Revision of the Licensing Regulations for Doctors – consensus recommendations of the German Society for Rehabilitative Sciences and the German Society for Physical Medicine and Rehabilitation]. *Rehabilitation (Stuttg)* 2004; 43: 337–347 (in German).
10. Crotty M, Finucane P, Ahern M. Teaching medical students about disability and rehabilitation: methods and student feedback. *Med Educ* 2000; 34: 659–664.
11. Mayer RS, Shah A, DeLateur BJ, Durso SC. Proposal for a required advanced clerkship in chronic disease and disability for medical

- students. *Am J Phys Med Rehabil* 2008; 87: 162–167.
12. Rolita L, Ark TK, Moroz A, Lanyi V, Southwell J, Sutin D. Evaluation of an elderly faller by medical students and rehabilitation residents. *J Am Geriatr Soc* 2009; 57: 709–713.
 13. Schwarzkopf SR, Morfeld M, Gülich M, Lay W, Horn K, Mau W. [Current teaching, learning and examination methods in medical education and potential applications in rehabilitative issues]. *Rehabilitation (Stuttg)* 2007; 46: 64–73 (in German).
 14. Kusak G, Gülich M, Lay W, Morfeld M, Schwarzkopf SR, Mau W. [Changes of teaching in the interdisciplinary subject “rehabilitation, physical medicine, naturopathic treatment” in the German medical faculties 2004 to 2006/07]. *Rehabilitation (Stuttg)* 2008; 47: 2–7 (in German).
 15. Mau W, Kusak G. [Implementation of the new Federal Medical Licensing Regulations for doctors in the interdisciplinary subject “Rehabilitation, physical medicine, naturopathic treatment” by the German medical faculties]. *Rehabilitation (Stuttg)* 2005; 44: 129–133 (in German).
 16. Raissi GR, Mansoori K, Madani P, Rayegani SM. Survey of general practitioners’ attitudes toward physical medicine and rehabilitation. *Int J Rehabil Res* 2006; 29: 167–170.

Submitted October 20, 2009; accepted January 27, 2010

Marta Imamura MD, PhD

Division of Physical Medicine and Rehabilitation,
Department of Orthopaedics and Traumatology, University
of São Paulo School of Medicine, São Paulo, Brazil . E-mail:
marta@imf.org.br, martaimf@gmail.com