Contemporary acupuncture in Canada

– the McMaster approach

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The McMaster University is tucked away in the beautiful west side of the Ontario province in the town of Hamilton, which is located halfway between Niagara Falls and Toronto. This premier institution is ranked among the top 100 universities in the world, and has a long-standing reputation as Canada’s most innovative university, having pioneered academic concepts such as the famous ‘problem-based learning’ that has changed forever the way knowledge acquisition is approached by students and faculty.

I have had the good fortune to spend the year 2005-06 undertaking a Pain Fellowship in the Department of Anesthesia at McMaster University. Early in my fellowship, I was introduced to the Contemporary Medical Acupuncture Program, which is sponsored by the department. Since I had already taken the Foundation acupuncture course in the UK and I was eager to apply this newfound skill, it was only logical for me to join this course. Little did I know then how many pleasant surprises and discoveries awaited me. There were many innovative features in the McMaster Contemporary Medical Acupuncture Program and I would like to present an overview of them.

The McMaster program is totally skills-based and practical and uses a dual ‘problem-solving/evidence-based medicine’ approach. There are no abstract theoretical constructs to comply with as in the traditional Chinese acupuncture practice. Contemporary medical acupuncture is an application of up-to-date neurophysiology and neuroanatomy correlations. There is also ample room to share the rich clinical experience of the instructors and the main faculty with the students. Overall, it is a balanced, practical, and sensible application of the ‘best available evidence’ principle.

The program, chaired by Dr Angelica Fargas-Babjak and directed by Dr Alejandro Elorriaga Claraco, has been running twice a year since 1998. To date, more than 500 health care professionals have graduated from this institution. The layout of the course is divided into five units, offered three to four weeks apart. Each unit concentrates on one region of the body, where the treatment approaches to a particular sort of problem such as acute pain, chronic pain, myofascial pain, headaches, or systemic regulatory problems are reviewed. In each unit the teaching was covered in sequence starting with a ‘big picture’ type of lecture, followed by a ‘special topic presentation’, anatomy slides and 3D interactive software shows, anatomy lab workshops, and supervised hands on workshops - starting with simple needle in the first unit and progressing to the design of full treatments in subsequent units.

I found the clinical approach logical and straightforward: painless needling is directed to stimulation of carefully selected therapeutic targets. The design of the acupuncture inputs follows a hierarchical neurological approach. In this modular system, all possible acupuncture inputs are considered to be either segmentally related to the problem or not (extra-segmental inputs).

Segmental inputs are subdivided into peripheral segmental or local inputs – which stimulate peripheral structures that are neurologically relevant to the problem – and spinal segmental or axial inputs, which consist of the stimulation of paravertebral musculature...
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at the spinal levels associated to the problem. This spinal association is always expressed in terms of functional embryological units, ie dermatome, myotome, sclerotome (the segmental somatic levels), and the viscerotome and reflex vascular sympathetic areas (the segmental autonomic levels). These functional subdivisions require that practitioners completely clarify the segmental diagnosis of the problem, which can be considered the contemporary gold standard for the diagnosis of pain.

The stimulation of these local and axial targets produces a reflex segmental neuro-modulation of abnormal sensory, motor or autonomic signals. This neuromodulation takes place typically at the dorsal horn of the spinal cord and is neurological in nature.

In contrast, extrasegmental inputs are mainly aimed towards the stimulation of central mechanisms of neurohumoral neuromodulation, a powerful but less specific response that requires no particular segmental understanding of the problem. Therefore each treatment has a very precise component: the segmental inputs; and a general component: the systemic regulatory inputs. The preferred neurological windows to access the central neuromodulatory mechanisms are the ear, head, and distal areas of the extremities over the main neurovascular bundles. In addition, low frequency electrical stimulation can reinforce central mechanisms whilst high frequencies will produce specific triggering of segmental neuromodulatory mechanisms.

I found this neurological modular approach to the design of acupuncture treatments to be simple and sophisticated at the same time, requiring always a very precise segmental diagnosis and anatomical understanding of the problem in order to produce optimum results. The other feature I particularly enjoyed was the constant review of gross and functional anatomy using fresh specimens at the anatomy lab, as well as the outstanding Primal Pictures 3D anatomy software that, thanks to the generosity of this company, is made available to the students at a fraction of its normal retail price. At the end of the program everybody had a clear understanding of needle placement, with total clarity about safety and precautions concerning anatomical issues. Evaluation of competency was assessed throughout the course by homework, written assignments, and written exams at the beginning of each unit. In Unit 5, there was a two-hour final anatomy laboratory oral exam and a final clinical exam where students in small groups had to deal with two real patients under the supervision of a clinical instructor.

Students who complete this program will be granted a certificate for 300 CME hours category 1 by the American Medical Association (AMA) and 300 MAINPRO-M1 credits by the College of Family Physicians of Canada. The American Academy of Medical Acupuncture (AAMA) and the American Board of Medical Acupuncture (ABMA) have recognised the program as fulfilling the minimum education standards necessary for membership and board certification application respectively.

Over the years, the Contemporary Medical Acupuncture Program has established institutional relationships with other medical acupuncture programs and medical acupuncture associations in more than a dozen countries.

Overall, I have thoroughly enjoyed the course and been satisfied with the level of fine-tuning of the McMaster program, apparently following the contemporary business American standard of performance optimisation. It has been a very productive learning journey, helping me to develop and grow further in this field.
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