Musculoskeletal undergraduate curriculum: what is required?

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The article by Thomas Pasley et al in this issue of the NZMJ rightly calls for development of a new undergraduate musculoskeletal curriculum within our medical schools to better prepare medical practitioners to manage the future tsunami of patients suffering from chronic pain and physical disability caused by musculoskeletal conditions.

This crippling burden is directly linked to the ageing of the New Zealand population. Currently 16% of our population is aged over 60 but this is expected to double over the next 50 years.2 As a result of an increase in longevity and number of elderly citizens, chronic conditions such as osteoarthritis, osteoporosis, back pain, and other degenerative conditions will increase exponentially and put significant pressure on primary and secondary healthcare resources.

The undergraduate musculoskeletal curriculum currently is inadequate and this has been well documented in articles by Freedman et al.3,4 One of their study has shown that 75% of medical school graduates failed a basic musculoskeletal competency examination. Woolf et al5 recommended that core competencies be introduced into musculoskeletal undergraduate courses so that students graduate with knowledge and skills in the management of chronic degenerative conditions and injuries.

Most musculoskeletal attachments during the medical course are limited to 4 weeks which is significantly less than most other similar disciplines. Curriculum committees allocate teaching time not based on educational evidence but influenced by the opinion of some powerful heads of department who argue strongly for their disciplines. This has led over the years to distortion of medical curricula to the detriment of disciplines such as orthopaedics, rheumatology, sports medicine, rehabilitation etc.

There is an urgent need to reform the musculoskeletal curriculum within our medical schools by developing a comprehensive and integrated course which teaches the basic clinical competencies necessary to diagnose and manage patients presenting with common musculoskeletal conditions. In the past most of the teaching has occurred in orthopaedic departments but a more integrated approach is required.

All disciplines dealing with musculoskeletal diseases have to be involved in the curriculum from the preclinical right through the clinical and trainee intern years. This will require increased curriculum time in the clinical years of at least 6 weeks purely dedicated to musculoskeletal teaching. Students need to be exposed to patients with fractures, osteoarthritis, osteoporosis, inflammatory conditions, back pain and others in a hospital as well as community setting.

Rehabilitation medicine is currently underrepresented in undergraduate teaching and this needs urgent attention. The core musculoskeletal competencies must become an
integral part of all summative assessments through the medical course in order to make sure that students are competent by the time they graduate.

As far as the New Zealand medical workforce is concerned there is currently a lack of rheumatologists and rehabilitation physicians which is partly due to insufficient exposure to those disciplines at an undergraduate level. The musculoskeletal skills of general practitioners is also lacking and this has been well documented in a paper by Clawson et al which surveyed 5000 GP trainees. This has contributed to an increasing number of patients being referred into the secondary sector leading to ‘choking’ of orthopaedic and rheumatology clinics.

Many musculoskeletal conditions are self-limiting but occasionally acute conditions need to be recognized early and acted upon promptly such as infections, fractures, tumours and spinal cord compression. Without appropriate training, doctors will miss the diagnosis resulting in poor outcomes for patients and medicolegal risk for the health practitioner. Recognising normal from abnormal is important: a false negative will result in a delayed diagnosis and poor outcome for the patient whereas a false positive can result in inappropriate investigations and treatment leading to unnecessary worries for patients and families.

The Bone and Joint Decade which finished last year has significantly increased the awareness of the musculoskeletal burden, but unfortunately little has filtered down to the undergraduate curriculum. In New Zealand alone it is estimated that one in four adults is affected by disability resulting directly from a musculoskeletal condition to the cost of over 500 million dollars a year. This should certainly rank very high amongst the government’s priorities when planning healthcare delivery in the future.

National disability prevention programmes are urgently needed to deal with the predicted crippling tsunami. A good place to start is at the medical school level through the introduction of a well integrated musculoskeletal course which will teach medical students the basic competencies to allow them to manage these conditions later on in the community and hospitals. This will as a consequence have a positive effect on the workforce as students will have greater exposure to musculoskeletal conditions and more likely to take up specialities like rheumatology, rehabilitation medicine etc.

We need to listen to the recommendations of Thomas Pasley et al and develop a nationally agreed musculoskeletal undergraduate curriculum with clear competencies to be achieved by the end of the trainee intern year through collaboration amongst our medical schools.

Musculoskeletal medicine deserves a prominent place in the medical curriculum equivalent to all the other clinical disciplines. The tsunami warning is loud and clear: we need to act now or it will be too late!

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