Orthodontics Around the World

Undergraduate and Postgraduate Orthodontics in Australia

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Abstract. *Undergraduate orthodontic education in Australian university dental schools reflects a strong British influence. The Australian Dental Council is now responsible for undergraduate course accreditation and the development of a more distinctly Australian model might be expected, although not in isolation from the traditional British and American influences. Postgraduate specialty training has been more directly influenced by the North American dental schools, and specialist registers in the states and territories reflect that influence. The Australian Dental Council will commence accreditation of postgraduate specialty courses in 1999.*

Indexwords: Postgraduate Education, Reciprocity, Specialist Registration, Undergraduate Education.

Introduction

Dentistry in Australia has a long history of close association with the British university system and the General Dental Council, particularly at the undergraduate level. Many academic staff received their postgraduate training in the United Kingdom, particularly before about 1975, and returned to Australian dental schools. Until 1993, the General Dental Council alone was responsible for accrediting Australian undergraduate programmes which were modelled on British counterparts. In 1993 the Australian Dental Council (ADC) was formed and assumed responsibility for undergraduate course accreditation. The first round of visits by the ADC was completed in 1996. This marked a dissolution of the formal associations between registration bodies in the two countries. Significantly, the first round of visits by the ADC relied significantly on documentation from the General Dental Council.

Postgraduate or graduate training in Australia has a stronger link with the North American system than its undergraduate counterpart. Several of the first orthodontic specialists in Australia studied under Dr E. H. Angle. A significant number of Australian orthodontists have received training in North America and in recent times have filled academic positions in two of five Australian schools. This link with North America has encouraged the development of Masters courses which draw more heavily on that environment than do the undergraduate programmes. In addition, the recognition and registration of specialists in the Australian states is very much of the North American mould. The registration of specialists in Australia has long been in stark contrast to the U.K. where specialist registration has been an unrealized matter of debate for many, many years.

The last 10 years has seen some convergence of Masters training programmes in Australia, U.K., and North America, with 3 years being the *de facto* standard. The adoption of the Erasmus model has promoted common core training programmes across Europe. The Australian Society of Orthodontists also adopted the Erasmus model in principle, but encouraged variation and interpretation for local implementation. One now would be hard pressed to find any fundamental philosophical differences between the mainstream programmes in Australia, North America, and U.K. Interestingly, from the Australian viewpoint, orthodontists from overseas countries are often invited as guest lecturers and/or external examiners.

While each course in Australia has its own unique properties, the theory and practice of biomechanics is relatively standard with all schools teaching variants of the edgewise, Begg/tip-edge, functional appliance systems. The general approach to extraction therapy is based on current mainstream theories which advise against expansion of intercanine width and excessive proclination of the lower incisors as a general rule. External examiners seemingly have little trouble in adapting to the specifications of each course. It should also be noted there is considerable co-operation between the Australian schools and the New Zealand school in Otago. There is also a co-operative relationship between the ASO and the New Zealand Association of Orthodontists with frequent exchanges of information at a formal and informal personal level.

Postgraduate Accreditation

The ADC also has a remit to review and accredit postgraduate courses across all specialties in all dental schools in Australia. This is clearly a daunting task and the ADC has made an 'in principle' decision to review the process of postgraduate training rather than the detailed content of each course in each specialty. This review of process seeks to ensure that the course maintains an acceptable balance between clinical work, research, breadth of education, and community service. The goals in these areas are usually common to all specialty course work programmes within the one school.

All orthodontic courses rely substantially on the contribution of part-time teachers from specialist private practice who are active members of the Australian Society of Orthodontists and thereby provide a continuing review mechanism of mainstream clinical procedures. Substantial

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0301-228X/99/010000+00$02.00 © 1999 British Orthodontic Society

contributions are also made by specialist orthodontists employed within the state public hospital systems.

The ADC has further taken the 'in principle' decision that where a particular specialist society is capable of conducting a satisfactory evaluation of the content of each specialty programme, the ADC will accept the outcome of that evaluation as an indication of the standard of training in that dental school. Such a decision makes considerable sense and relies on the wisdom and experience of the senior members of the specialty who are well placed to advise the ADC. Currently, the President and Immediate Past President of the Australian Society of Orthodontists (ASO) are members of the Australian Dental Council and both are members of their respective State Dental Boards.

The ASO has accepted the responsibility and costs of conducting evaluations of all Australian postgraduate programmes. All Heads of School have approved the visits. Each evaluation team will consist of two members, one of whom will be a senior academic and the other will be a senior member of the ASO appointed b the Federal Executive of the ASO. The evaluation visit will last for 2 days after which a report will be made available to the ASO and the ADC. It is intended that the visits will be repeated every two years. It is also intended to link the evaluation programme with a much wider exchange of external examiners from within Australia and overseas, although the latter objective is yet to be developed.

Dental Boards

Every state and territory in Australia has its own Dental Board which maintains a separate specialist register. These boards were formerly independent 'sovereign' bodies responsible to the respective State governments with no legal ties to the Boards in other states, such that persons seeking registration in more than one state were required to satisfy the conditions imposed by other state boards. This was particularly incongruous where the specialist lived in close proximity to a state border and conducted practices in both states.

The Australian federal government introduced the Mutual Recognition Act under its External Affairs powers. Mutual recognition was implemented progressively by Australian state governments between 1992 and 1995. Essentially, the Mutual Recognition Act required any Dental Board to register a specialist who was already registered in an 'equivalent' specialty in any other Australian state or territory. The state Dental Boards had no option but to comply, although all did so willingly and were keen to rationalize the registration process. This was the first step toward a national standard of specialty registration. In contrast the graduating degree (B.D.S. or B.D.Sc.) has always been afforded reciprocity of registration in all Australian States by virtue of the early decisions of state dental boards. Tasmania has never had a dental school and has relied on the mainland states or foreign countries for dentists and specialists.

In 1998 the Dental Boards agreed to set a 3-year course work programme in all specialties as the *de facto* standard, having previously delegated the power of course accreditation to the ADC. Thus, the Boards had agreed on a training standard and looked to the ADC to implement it.

Postgraduate Education

Australia has eight dental registration boards including the six states and two territories (Australian Capital Territory and Northern Territory). Each is independent and responsible to the state or territory government. However, there are only five dental schools—in the established mainland states of Queensland, New South Wales, Victoria, South Australia, and Western Australia. Tasmania does not have a dental school. All dental schools offer Masters course work specialty training programmes in orthodontics and their respective degrees are recognized for specialist registration in all other jurisdictions and by the Australian Society of Orthodontists for full membership. In addition students who complete *bone fide* postgraduate specialty programmes in British and North American Universities are also afforded specialist registration in Australia (after providing suitable documentation). South African degrees are also recognized in some states.

The point of interest in this regard is that specialty training programmes from North America are recognized for specialty registration but undergraduate North American degrees are not accepted for automatic general registration in Australia. In very broad terms, undergraduate degrees from Great Britain, Ireland, South Africa and New Zealand are recognised and there are reciprocal registration rights with those countries. Conditions are constantly changing and any prospective registrant would be strongly advised to check the local requirements.

Postgraduate degrees from other foreign countries are not automatically recognized, although there has been a recent tendency for a more flexible approach to foreign registrations particularly in those states where the need for dental manpower is pressing. There is growing educational contact between Australia and Malaysia, Singapore, and Thailand, and to a lesser extent with Indonesia and Philippines. Many undergraduates and postgraduates from those countries have received their education in Australia and there is an increasing flow of dentists and specialists back to these countries.

There has been no direct formal inter-university consultation on the structure or content of courses. On the other hand, the relatively frequent invitations to and interchange of external lectures and examiners between Australian, New Zealand, British, and North American orthodontic departments provides a relatively formal, although unstructured review process. In addition the ASO has a standing Education Committee which acts as a point of reference for representatives from the five mainland states with dental schools.

There is a broad similarity in the content of all five courses although the formal university enrolment structures vary considerably. The length of the academic year varies across states, but postgraduate students are expected to attend outside the times of the formal academic year and to be available to care for their patients on a year-long basis excluding personal vacations. Much of the work involved in research projects is conducted in the university vacation periods. In essence, each postgraduate student is committed for a full 3 years. The main operational differences between the schools lies in the relationship between the school and the state government dental services. In all states the students work to varying degrees in the associ-

ated state dental hospitals. There is a practice in some states of paying postgraduate students for the clinical work they perform within the hospital system. In some cases, registrar appointments are made, although the extent of the registrar system is not as well developed as in Britain.

There is an overall convergence on the 3-year training model. With the implementation of the ASO evaluation programme in October 1998, the convergence of course structures could be expected to continue, although the protocol for the evaluations specifically states that there must be allowance for educational initiatives in content and method within each school. The ultimate aim of the evaluation is to provide a comparative reference for each school and an indication of acceptable standing for patients, potential applicants, and Australian and foreign registration authorities.

There are approximately 35 postgraduate students in training in Australian schools, spread across 3 years, and approximately one-third are foreign students. Postgraduate students are required to pay fees and non-resident foreign students pay a premium. The fees previously varied considerably from state to state, but with increasing fiscal rectitude, there has been a steady levelling of fee rates and the differences are becoming less significant.

Maintenance of Standards

Approximately 9 years ago the Australian Society of Orthodontists agreed to re-establish an Australian Orthodontic Board to act as a vehicle for maintaining practice standards. A decision to establish a Board had been taken some twenty years earlier but never implemented. Extensive discussion and examination of the goals of a Board rejected the formation of a body which mimicked the American Board of Orthodontics. It was felt important to formulate requirements which encouraged continuing input from accredited Board members. It was proposed that accreditation be afforded after the satisfactory presentation of cases to Board assessors plus the accumulation of continuing education 'credits' within the same period. However, the maintenance of accredited status requires the continuing submission of cases and attendance at courses and congresses on a cyclical basis. Response to the proposal has been very positive with an increasing number of Board applicants from across Australia. It is hoped that the Board will also provide evidence to governments and consumer groups that the ASO wishes to maintain acceptable standards of specialist practice.

Orthodontic Services

Each state provides general dental services in two streams—the hospital system and the school dental service. The school dental service is organized around school dentists and therapists/nurses who provide general dental treatment for school children to varying ages according to the state, but most until at least Grade 10—approximately 15 years of age. Specialist orthodontic treatment is not universally provided within the school dental services. The hospital based clinics do provide a modicum of specialist orthodontic services to patients who are 'eligible'.

There is a comparatively small amount of specialist orthodontic treatment provided by government systems in comparison with the private sector. There is no equivalent of the British consultant system with its associated work-force and services. The total number of registered orthodontic specialists employed full time (or equivalent) by public health authorities across Australia is small. Some private specialists provide sessional services particularly in the provincial and country areas. The demand in the public hospital sector far outstrips the availability of specialist services. Most hospital clinics maintain long waiting lists. Most school dental services do not have any clear policy on the provision of orthodontic treatment. Children are usually referred indirectly to private specialists, but the decision to seek treatment largely is left to the parent who must seek a consultation privately. The situation in the public sectors has been alleviated by general dentists who undertake simpler orthodontic treatments. None of the state health departments has attempted to institute any formal screening system such as an index.

Orthodontic services by registered specialists are provided largely within the private practice framework. This segment of delivery has been partially funded by the private health insurance carriers. However, the rate of coverage has fallen in the last 5 years. Neither do all persons within private health funds pay the additional orthodontic option coverage. The rate of orthodontic insurance is not directly available, but is probably less than 20 per cent of families. Nevertheless, private orthodontists have enjoyed a patient incentive provided by private health insurance funds. Typically, the health funds have rebated about one-third of the cost of a full course of treatment. However, over the last 5 years these rebates have been reduced in real terms, as well as by inflationary costs and as the cost of treatment rises the rebate levels diminish to unattractive levels for many people.

Unfortunately, the data regarding demand and delivery of services are relatively 'soft', and the state governments and health funds are reluctant to release hard data. Most of the data that is available is not based on a standard recording system or a specifically designed study. Much of the inference in relation to orthodontic treatment is derived from equivalent British samples. There is an outstanding need for a national survey.

Undergraduate Orthodontic Training

Undergraduate orthodontic instruction has loosely followed what might be termed a British model as opposed to an American model. Most instruction occurs in the last 2 years of each 5-year course. Clinical work is directed to the recognition and treatment of cases suited to limited treatment objectives. One-arch removable appliance treatment is advocated, although students are also taught the fundamentals of simple fixed appliances and functional appliances. British textbooks have been widely used for undergraduate teaching.

It is virtually impossible to give a snapshot of current undergraduate course structures. Undergraduate curriculums are in the process of major change and evolution. The trend in three schools is to integrate some traditional components of the orthodontic curriculum into general stream subjects. For example, there is a trend to teach

growth and development within basic oral biology streams earlier in the course and to eliminate redundant information between subjects. This has been accelerated by the increasing implementation of problem based learning methods within curriculums.

Summary

Undergraduate education in Australia still reflects its British heritage. The introduction of the Australian Dental Council will encourage the evolution of a unique Australian flavour in undergraduate courses. However, the widespread interchange of lecturers, examiners and dentists between countries suggests that stark differences between undergraduate courses are unlikely to develop in the immediate future. Funding constraints will be the most influential factor in course design.

Postgraduate education in orthodontics in Australia has been more influenced by the North American environment than the British system. However, as comparative evaluation of course content in Australia, U.K., and North America continues under the influence of an active group of respected international lecturer clinicians and examiners, it seems unlikely that major differences in specialist training methods will develop in the medium term. Specialist training in the mainstream universities is notable for its similarities rather than its differences. Comparisons with continental European courses are more difficult.