

125 years of developments in dentistry, 1880–2005

Part 5: Dental education, training and qualifications

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THE FIGHT FOR A QUALIFICATION

In the mid-1850s dentists had no proper training and qualifications. It only became possible when the Dental Hospital of London and the Metropolitan School of Dental Science opened their doors in London in 1858. The embryonic profession gained its first British qualification from the Royal College of Surgeons of England following passage of the 1858 Medical Act and the granting of a new Royal Charter to the college. The first 43 practitioners gained the LDS in May 1860.¹ This achievement was not easily gained. The trials and tribulations of dentists seeking diplomas and professionalisation are well chronicled.^{2–4} By 1879, LDS diplomas were also awarded by the surgical colleges in Edinburgh, Glasgow and Ireland, followed later by a few universities. In their search for qualifications some dentists studied in America and the first Dentists Register² listed two practitioners with a Doctorate in Dental Medicine (DDM) from Harvard, out of 5,291 entries. There were 423 dentists with an LDS: 336 from the English college, 131 from Ireland, 11 from Edinburgh and 5 from Glasgow. By 1889 five of the 4,890 registered dentists had a DDM and five a Doctorate in Dental Surgery from the University of Michigan. There were 1,022 people with an LDS.³ Ireland had almost caught up with the English college, with 429 dentists to England's 451.

Although there was no dental school at King's College London until 1923 it aspired to teach students in 1873. *The Monthly Review of Dental Surgery* said dental students would be able to study the entire curriculum of the College of Surgeons at one institution instead of having to attend both a dental and medical school. It suggested this might induce students to take the MRCS as well as the LDS. The Review claimed that King's was one of the first in the UK to follow in the steps of

Harvard. "We are indebted to Prof Cartwright for such a desirable enterprise."⁴

In November 1881 the English college recognised people who attended the Exeter Dental Hospital for entry to the LDS examination but it later disappeared as a training institute.

THE UNIVERSITIES AND DENTISTRY

The first suggestion of a degree in dentistry appeared in the *Dental Record* in 1886.⁵ An editorial wondered if the interests of dentists might be advanced if dental education and examinations were conducted by the proposed new University of London. After claiming that university degrees would benefit the professions of medicine and surgery, students and patients the editorial wondered if dentists might similarly profit. The *Dental Record* suggested representations be made to the Association for Promoting a Teaching University in London.

In 1889 Macleod and other dentists sought a clause in the Universities (Scotland) Act to enable Scottish universities to create dental degrees.⁶ By 1892 correspondents were still writing to the *Journal of the British Dental Association* as to whether the idea was feasible.⁷ A motion to the Representative Board advocating that power be sought by Edinburgh University to grant a dental degree was not accepted by the Board.

By 1904 Birmingham and Dublin universities formulated regulations for undergraduate degrees and in 1906 Birmingham awarded the first BDS, to Harold Round and John Dencer Whittles. By then Leeds had also agreed regulations and Scottish dentists were discussing what form their degrees should take; probably "a BSc highly specialised with dental subjects".⁹ Attention was not confined to undergraduate degrees. In 1901 Birmingham bestowed an honorary postgraduate degree of Master of Dental Surgery on John Humphreys, LDS RCSI and Frank Earle Huxley, MRCS, LDS Edin., representing the academic and hospital sides of the dental school.⁸ Humphreys was the prime mover to establish a BDS along with Huxley and B C A Windle,

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the Dean of the medical school. However it was felt by some people, "notably in London", that the status of the Royal College diploma might suffer as a consequence.⁹

Although a Board of Studies in Dentistry was instituted by the university and some teachers were 'recognised', by January 1901, there were no London degrees for many years.¹⁰ It was probably because many teachers were involved in the affairs of the nearby Royal surgical college. By then there were three dental hospitals and schools in London: the [to be Royal in October] Dental Hospital of London, the National Dental Hospital (Fig 1) (which had joined the Metropolitan School of Dental Science and was incorporated into University College Hospital in 1914) and Guy's Dental Hospital, which had opened its doors in 1889.



Fig. 1 Students at work in the National Dental Hospital, c1905

After World War II, London decided to award a special Master of Surgery degree to dentists with a medical qualification. George Cross was the sole dentist to submit himself to that examination, in 1948.¹¹ In 1948 Cross became Senior Lecturer and first Head of the Department of Periodontia at London's Eastman Dental Clinic.¹² The first BDS in London was awarded to Cyril Hall and Cyril Godfrey Walmsley in 1927.¹³

Universities now award a number of taught and research higher degrees including Master and Doctor in Dental Surgery, Science and Philosophy.

DEGREES IN SCOTLAND

Glasgow now has the largest dental faculty outside London, where the Guy's, King's and St Thomas' Dental Institute of King's College London reigns supreme. The Medical Faculty of Anderson's College in Glasgow established a dental department which started lectures in June 1879. A dental hospital followed in November. The Dental Hospital and School first trained students for the LDS of the Royal Faculty (later College) of Physicians and Surgeons of Glasgow; and from 1948 for the BDS degree. The first dean was James Rankin Brownlie.

Edinburgh's Dental Hospital and School was incorporated in November 1879. As it grew out of the existing Dental Dispensary, Edinburgh's hospital is the oldest in Scotland. In 1856 John Smith lectured on 'physiology and diseases of the teeth' at the Surgeon's Hall and 1857 saw the treatment of dental disease at the Royal Public Dispensary. It became clear that facilities were needed for the treatment of 'necessitous' patients

and the training of dental students. Smith got co-operation from other practitioners and the Dental Dispensary was opened in Drummond Street in January 1860. The Dispensary and the Scottish Dental Education Committee co-operated to found the Dental Hospital and School which prepared students for the new LDS of the Edinburgh college. W Bowman Macleod was appointed part-time dean two years later. He probably wrote the first paper chronicling the effects of bagpipe playing on the teeth, which he read to the Odonto-Chirurgical Society of Scotland.¹⁴ Macleod was the enlightened dean who accepted Lilian Lindsay as the UK's first woman dental student. She gained the Edinburgh LDS in 1895. It was 1913 before the first woman gained an English LDS.

Subsequent to discussions at the Dundee Dental Club, a Dental Hospital was opened in February 1914, staffed without charge by local dentists. Its Dental School was inaugurated in 1916. The first dean was William Graham Campbell. In 1937 he was replaced by Henry Gordon Campbell, who in 1938 became the first holder of the Chair of Dental Surgery. The School was initially part of University College, which in 1897 became a constituent of the University of St Andrews. At first it awarded a St Andrews LDS but from 1937 it also offered a BDS. In 1930 it awarded the first Diploma in Public Dentistry in the world. The Diploma in Dental Public Health of the English college did not follow until 1969.

As with all dental hospitals, in 1948 Edinburgh Dental Hospital separated administratively from its School to be taken over by the National Health Service. The School became part of the University of Edinburgh. Because of a lack of funding and a perception that fewer dentists were needed it closed in 1994, following closure of the Royal (in 1985) and UCH Dental School (1988). However Edinburgh remained an important focus for postgraduate education and treatment of patients beyond the abilities of GPs. A new Dental Institute was established to be responsible for the delivery of primary dental care across Lothian, to provide secondary and tertiary oral healthcare through referrals from colleagues in primary care or those working in other hospitals and to provide specialist outreach services at hospitals and clinics in Edinburgh and the southeast of Scotland. Through the University of Edinburgh it provides postgraduate Master of Clinical Dentistry degree programmes in orthodontics, paediatric dentistry, prosthodontics and surgical dentistry as part of specialist training. It also offers an MSc in dental primary care.

DENTAL EDUCATION IN IRELAND

Although there had been discussion about the possible establishment of a dental hospital and school in Northern Ireland for many years it was not until 1919 that a committee was established to take the idea forward. It was chaired by James Lindsay, professor of medicine in the Queen's University of Belfast. The committee stated

that every medical school should have a dental department. It noted a strange situation: although it had no dental school the university was already preparing students for the LDS of the Royal College of Surgeons in Ireland.¹⁵ They had done so since 1880. However, after studying their preliminary subjects in Belfast they went elsewhere for the rest of the course; including London, Dublin, Edinburgh and Liverpool. The committee also reported that with the support of local dentists the Royal Victoria Hospital was already taking steps to provide the necessary clinical facilities. In 1920 Queen's agreed to award an LDS diploma and the degrees of BDS and MDS. It appointed lecturers in dental surgery, mechanics, material medica and orthodontics in October.

The decision to establish a school in Dublin was made in 1882. The Incorporated Dental Hospital of Ireland was opened in 1884. The Dublin Dental Hospital Board was established in 1963 to provide clinical training for the dental schools of Trinity College, Dublin, University College, Dublin and the Royal College of Surgeons in Ireland. In the 1970s they were amalgamated into one School of Dental Science of Trinity College, Dublin. Initially it trained students for the LDS Ireland diploma but the university later awarded its own Licence in Dental Science (LDSc).

It was not until 1913 that Cork established a Dental Hospital and School. The governing board of University College Cork, a constituent of the National University of Ireland from 1908, appointed lecturers in dental surgery and dental mechanics. The Northern Infirmary provided clinical accommodation and equipment and a new dental hospital was opened in 1914. The first BDS was awarded in 1915. It was not until 1947 that James Reginald Hackett was appointed as the first professor of dental surgery. In 1916 J C Butterfield was a member of staff. As Lord Mayor of Cork he was involved in negotiating with the British authorities about the arms used by volunteers in the Easter uprising.

EARLY CHAIRS IN DENTISTRY

In 1844 Samuel Cartwright (Fig 2) was appointed as surgeon-dentist to King's College Hospital. Unique amongst London's hospitals it was founded in 1829



specifically to train medical students at King's College London. In 1860 Cartwright was invited by KCL to become the UK's first professor of dental surgery.¹⁶ He was a founder and later president of the Odontological Society and one of the first people to gain the LDS. Cartwright

Fig. 2 Samuel Cartwright

played a leading role in the establishment of the Dental Hospital of London but none opened at KCL in his time.

In 1880 the new Belfast school appointed three professors: Charles Sims in dental mechanics, Thomas Hawkins in dental surgery and Frank Daniel Herbert in dental anatomy. Dublin's first professor of dentistry was Theodore Stack, appointed in 1884.

William Henry Gilmour occupied the first UK endowed chair, internally appointed by Liverpool University in 1922. He had been director of dental education from 1912. It was a further eleven years before Talmage Read became England's second appointed professor of dentistry, at Leeds, after beating nineteen other interviewees.^{17,18}

FURTHER DEVELOPMENTS IN THE SURGICAL COLLEGES

The Royal College of Surgeons of Edinburgh awarded the first additional qualification, the Higher Dental Diploma, in 1919. The Royal Faculty [later College] of Physicians and Surgeons of Glasgow followed in 1920. Glasgow established a Dental Committee in 1935 to advise the president and Council on dental matters. The convenor was the then president of the faculty, Dr J M Munro-Kerr. It became a Faculty of Dental Surgery in 1967 with Professor James Campbell MacDougall as the convenor.

The English faculty began in 1947, with Robert Vivian Bradlaw as dean. Bradlaw, Wilfred Fish and Kelsey Fry were very influential in its foundation. The faculty took on responsibility for the LDS and immediately established an FDS and training programmes to emulate the FRCS as the pathway to a dental consultantship. Edinburgh's FDS followed in 1949; Glasgow's in 1967. The last FDS diploma not to follow a formal training programme was awarded by the three colleges in 2002. It was replaced by the Membership of the Faculty of Dental Surgery (MFDS) as the initial higher qualification. Following a specific training programme and 'exit examinations' the FDS is now awarded by the individual colleges with the specialty designated in brackets, for example FDS (paediatric dentistry).

Edinburgh's faculty was formed in 1982 under dean Stephen Denis Hatt. However, a Dental Council had existed from 1954. The Convenor for the first three years was Frederick George Gibbs.

In 1963 the Royal College of Surgeons in Ireland established a Faculty of Dentistry rather than in Dental Surgery. It thus awards an FFD and MFD rather than an FDS or MFDS. The first dean of the faculty was Professor Rodney Beresford Dockrell.

Glasgow awarded the Diploma in Dental Orthopaedics in 1949 as the first UK postgraduate orthodontic qualification. The first holder was Miss Elizabeth Morrison Webster. The English Diploma in Orthodontics followed in 1948, Edinburgh's in 1987. They were superseded by the specialty MOrth in 1989.

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Glasgow's Diploma in Restorative Dentistry was awarded from 1978. Each of the four colleges awards one or more of the following 'membership' diplomas, some conjointly: in restorative dentistry (MRD), orthodontics (MOrth), community dentistry (MCCD), surgical dentistry (MSurgDent) and paediatric dentistry (MPaedDent). Edinburgh also awards its membership diplomas jointly with the universities of Hong Kong (paediatric dentistry) and Singapore (restorative dentistry and orthodontics).

An interesting development was establishment of Edinburgh's Membership in Special Needs Dentistry in 2000. For the first time a special area of expertise relating to patients rather than a technical skill was recognised. The English faculty has a diploma in this field. Recent developments have seen the introduction of awards for non-dentists, recognising the need to ensure high clinical standards amongst DCP members of the dental team: Diplomas in Dental Hygiene, Dental Therapy, and Dental Hygiene & Dental Therapy. Edinburgh intend to introduce a Diploma in Dental Orthodontic Therapy in 2006.

GENERAL DENTAL PRACTICE

The Faculty of Dental Surgery of the Royal College of Surgeons of England first awarded the Membership in General Dental Surgery in 1979. In 1992 a Faculty of General Dental Practitioners was established as an academic home for general dental practitioners. Although it is based at the English college it is a joint faculty of the surgical colleges of Edinburgh, England and Glasgow. It took over the MGDS but it ends in 2007. The faculty awards a membership and fellowship: MFGDS (UK) and FFGDS (UK). An innovation came in 2005 when a Diploma in Implant Dentistry was introduced. Recognising the need for high standards to be attained by all members of the dental team the faculty decided to include professionals complementary to dentistry as affiliate members (now dental care professionals - DCP). Thus its title was changed in 2005 to the Faculty of General Dental Practice.

DENTAL DRESSERS

Developments in education and training are not confined to dentists. In the early 20th century there was widespread caries in children. As a result, from 1920 some local authorities led by Derbyshire and Sheffield used dental dressers to treat children.¹⁹ They were nurses trained by the school dentists with whom they worked to carry out 'minor' dental work: cleaning, polishing, applying and removing dressings or temporary fillings, charting, recording and "work of like responsibility". There was uproar from the profession but it was 1942 before they were finally eliminated

DENTAL HYGIENISTS

Hygienists were first trained in America in 1913 to scale and polish teeth and educate patients (Fig 3). The 1957 Dentists Act allowed the establishment of hygienists as



Fig. 3 Practical instruction for dental hygienists, Rochester USA c1926.

the first post-World War II civilian ancillary workers in the UK to legally

provide oral care. However, some had been trained and employed by the Royal Air Force during the war.²⁰ William Kelsey Fry, a civilian consultant, suggested to the RAF that hygienists should be trained to help with the severe problem of acute periodontal disease in neglected mouths.²¹ A hygiene school was started at RAF Sidmouth in 1943 by James Smith.²² Gerald Leatherman played a major role in setting it up but as with many visionaries he received abuse from colleagues about "dilution of the profession".²² Each course of 16 weeks took specially selected clerk-orderlies (dental chairside assistants) and trained them to scale, polish and educate patients. The first civilian school opened in 1949 at the Eastman Dental Clinic in London.²² Over the years they came to be accepted by dental practitioners. There is currently a large increase in training places, usually in dental schools. They gain registration with the GDC after a two-year programme. The British Dental Hygienists Association was formed in 1949 with Kelsey Fry as the first president. He and some colleagues encouraged hygienists to establish the association to raise standards as well as to provide a forum for mutual support.

DENTAL THERAPISTS

In view of the battle against dressers it is no wonder that dentists were against the introduction of therapists (then called auxiliaries) in 1960. Apart from a few working in hospitals, auxiliaries were confined to school dental services, forerunners of the community services. From 1960 to 1983 sixty girls (no males) per year were trained at New Cross Hospital in south London. Registration with the GDC followed their two-year programme. The Nuffield Report on Dental Education²³ shows clearly that the profession generally was against auxiliaries but formal and informal reports to the committee showed their value as members of the dental team. At one stage the school service managed by the author employed ten auxiliaries. As in other services their contribution to the care of children was enormous. Nevertheless, Nuffield indicated that New Cross should be closed and their training stopped. Following closure it is fortunate that the London Hospital then started to train (by then called) therapists, finishing up with dual therapist-hygienist qualifications after 27 months. They are now trained in a number of schools alongside dental undergraduates. The British Association of Dental Therapists was formed in 1962.

DENTAL NURSES

Originally working alone, some 19th century dentists employed women as receptionists and secretaries (Fig 4). A few of them cleaned the practice premises. In time they provided support at the chairside, the original surgery 'handmaidens'.²⁴ First called dental nurses they later became known as dental surgery assistants, but were re-named dental nurses in the 1990s.

The British Dental Nurses and Assistants Society was formed in 1940. It has a proud record of providing support and encouragement for a disparate group of workers, many of whom had no formal training. Together with a number of dentists the Society established a highly successful Examining Board.

DENTAL TECHNICIANS

When dentures were introduced dentists did their own laboratory work. Later they trained and employed mechanics or technicians, often indentured to them on a five-year apprenticeship (Fig 5). Some mechanics later became apprentice-dentists. That route ceased after passage of the 1921 Dentists Act, after which all potential dentists had to undertake a dental school course. Many student technicians later studied on an evening course whilst working during the day and gained a diploma, for example from the City and Guilds

of London. From the 1960s some people followed full-time training schemes in colleges of education or dental schools.



Fig. 4 'Surgery maid' at George Cunningham's Cambridge Dental Institute

of London. With time, laboratories set up separately from dental practices. In busy establishments laboratory aides help with the simpler, repetitive work. There are plans for the introduction by the GDC of a new category of DCP, the clinical dental technician.

The Dental Laboratories Association was founded in 1961 as a division of the Surgical Instruments Manufacturers

Association, with John Wench as its first secretary. It was instrumental in setting up the Dental Technicians Education and Training Advisory Board.



Fig 5 Early dental technicians at work

DENTAL CARE PROFESSIONALS (PROFESSIONALS COMPLEMENTARY TO DENTISTRY)

This generic term, changed by the General Dental Council from CPD to DPC in 2005, now embraces ancillary or auxiliary workers who provide treatment: hygienists and therapists. DCPs are trained at dental hospitals and at the stand-alone Beatty School of Professionals Complementary to Dentistry recently opened by the University of Portsmouth and the Greater Manchester (Salford) School for PCDs. Portsmouth and Manchester Universities will award a BSc degree. The DCPs will also be able to gain a diploma in hygiene or therapy. In 2006 all dental hygienists, therapists, technicians and nurses will have to register with the General Dental Council. There will be two additional groups of DCPs: clinical dental technicians and orthodontic therapists.

DENTAL TRADERS

Although not directly involved in treatment we must not forget the dental traders, without whom dentistry could not function. They have worked with the profession over many years to raise the standard of equipment and materials.

The British Dental Trade Association was established in 1923 and now represents 105 member companies: manufacturers, wholesalers and suppliers of products and services to the dental profession. It is involved in training as well as discussions with the profession.

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