Where can I learn how to place dental implants? Perspectives from Scandinavia and Canada


Abstract. An overview is presented of the educational opportunities that exist for dentists in Canada and in the five Nordic countries who wish to learn how to implement implant dentistry in clinical practice. This theme is discussed in the context of the demographic and educational realities in these countries. Data related to dental demographics, implant dentistry educational aspects, advertisement of postgraduate education courses, and demographic and geographic facts were collected from various databases and compared. The educational philosophies and approach to patient care differ between Canada and the five Nordic countries, which make it questionable whether one teaching model for a global implant training program will fit all. Despite these differences, if one is to proceed, a competency-oriented education model seems to be the way forward. The challenge to construct courses in implant dentistry within this competence-oriented education model remains.

There are many similarities between Canada and the five Nordic countries, from both geographical and demographical perspectives11 (Table 1). The Arctic Circle runs through all six countries (except Denmark). Canada, as the second largest country in the world, stretches between the N42nd and the N85th latitudes. The most southern part of the Nordic countries (Denmark) is on N55th and the most northern mainland part (Norway) is located on the N72nd latitude. The two islands Spitsbergen and Greenland, by many also regarded as part of the Nordic countries, are both sparsely populated and reach almost to the North Pole. The inhabitants of Canada and the Nordic countries are in general widely dispersed and, statistically, the population densities in these countries are amongst the lowest in the world. One difference is that while the 10 largest metropolitan areas in Canada account for half of the population (17 of 33 million) and six of these areas have more than 1 million inhabitants, there are only two such areas in the Nordic countries. Stockholm (Sweden) and Copenhagen (Denmark) have populations of barely over 1 million, and the 10 largest metropolitan areas account for only one third of the total population (7 of 24 million).

The age composition varies slightly, with a relatively young Iceland population having a median age of only 34 years and 12% being above 65 years, while comparable data from Sweden are 41 years and 18% above 65 years. Canada has a comparatively low proportion of its population above 65 years, only 13%. The age expectancies in the six countries rank amongst the best in the world, from 77.8 years (Denmark) to 80.5 years (Sweden). In terms of growth rate, Iceland (0.87%) and Canada (0.88%) are comparable,
while the growth rate in Finland (0.14%) and Sweden (0.16%) points to a gradually aging population.

All six countries are blessed with some of the highest GDP/capita in the world, ranging from $32,000 (Sweden) to $48,000 (Norway). Thus, none of the countries would have any problems whatsoever to fund dental faculties, postgraduate training, and dental treatment for segments of the population or even for the whole population. The only country where the national politicians have decided to do so is Sweden, where patients for many years have been substantially subsidized by their National Board of Health and Welfare. Several epidemiological studies suggest that the oral health state of Swedish citizens is markedly better than that of their Danish neighbours, while the growth rate in Finland (0.14%) and Sweden (0.16%) points to a gradually aging population.

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or sponsored seminars, and events organized by (iv) interest associations or (v) private enterprises. One of the pitfalls of such courses is that the objectives of the learner may not be satisfied for various reasons. A good strategy for prospective participants is to select courses offered by providers that adhere to good educational practices. Guidance in this respect is offered by the course quality approval concepts organized by the Academy of General Dentistry (AGD) or the American Dental Association (ADA). Both parties have identified a set of criteria associated with best practices and invited course providers in North America to be accredited according to these. Once accredited, the providers may advertise with either the AGD PACE logo (Program Approval for the providers may advertise with either the AGD PACE logo (Program Approval for Continuing Education) or the ADA CERP (Continuing Education Recognized Provider) logo. The two programs are fairly similar, and contain requirements regarding, e.g. educational methods, instructors, record keeping, conflict of interest rules, etc.

Six of the 10 Canadian university faculties are CDE providers certified by PACE and/or CERP (Dalhousie, British Columbia, McGill, Toronto, Western Ontario and Montreal). In addition, the University of Victoria in British Columbia is a CERP provider that offers CDE courses, including on implant dentistry topics.

Many implant manufacturers have built training centres near their production facilities. Of the five manufacturers in Sweden (Astra Tech, Dentatus, Nobel Biocare and Ospol) and Finland (Ossfix) only Astra Tech and Nobel Biocare have full-scale clinical and didactic educational facilities. Of the four manufacturers in Canada (Biohex Corp., Innova, Simpler Implants and Tenax) two are CERP and/or PACE certified (Innova and Tenax), although only Tenax can boast a clinical teaching environment. Also, Biomet 3i and Straumann Canada are recognized providers but have no clinical teaching environment. Finally, Nobel Biocare has a clinical and didactic training centre, but is not currently a recognized CDE provider.

The many manufacturers and distributors of dental implants present extensive course activity, and space does not allow description in detail. A practical problem may be in knowing whether or not an implant system is approved for use. This is regulated in Canada by Health Canada, while in Europe all implant systems require a CE certificate to be sold. Currently, there are at least 130 dental implant manufacturers and 375 dental implant systems. Just as the number of manufacturers and implant systems seem to be out of control, so are the educational programs that are being offered.

Interest associations such as implant societies and national dental associations have taken different proactive roles in the six countries. In Canada, several of the provincial dental associations and regulatory bodies have joined the Canadian Dental Association and become recognized CDE providers. The only association besides these is the Canadian Academy of Restorative Dentistry and Prosthodontics, which in contrast to the other groups arranges educational events that focus on implant dentistry. The different national implant societies under the umbrella of the ICOI (International Congress of Oral Implantologists) used to be very active, but their roles seem to have dwindled. Only the Danish society seems to be active. Of course, all the specialty associations in the various countries include implant dentistry themes in their annual meetings. In Norway, the national dental association has undertaken the educational responsibility to bring dentists up to a minimum competency level to receive patients covered by the national insurance scheme. This they accomplish by contracting employees from the dental faculties.

The last source of education possibilities is private enterprise. This avenue is more or less non-existent in the Nordic countries as there is a shared fundamental scepticism towards any form of enterprise based on making profits. Occasional attempts can be found in advertisements, but to date there are no economically prosperous private dental educational enterprises in any of the five Nordic countries. The closest one would come may be the national dental associations, which currently have the awkward role of looking after their members’ interests while organizing economically sound CDE programs, combined with being responsible for accrediting dentists on the basis of their CDE documentation.

This scepticism towards for-profit educational courses seems not so apparent in Canada, where there are 69 CERP and/or PACE providers.

At least 16 providers offer courses on implant dentistry themes, of which 4 are manufacturers and 11 are private enterprises. One of these providers has both CERP and PACE accreditation (Implant Resource Centre, Vancouver).

There is increasing interest internationally in coming to some consensus on a core curriculum for implant dentistry. Differences in educational philosophies and approach to patient care, for example between Canada and the five Nordic countries, make it questionable whether one teaching model will fit all. Despite these differences, if one is to proceed, a competency-oriented education model seems to be the way forward.

A three-circle model for competency assessment of health personnel was introduced by Harden and colleagues in 1999 (Fig. 1). This concept seems to have met with recognition and approval in both the dental and medical education systems. In brief, educational programs should ideally be planned to address dimensions of the work of the competent and reflective practitioner. Harden’s model is to detail these by sets of criteria organized within three circles. The inner circle represents what the doctor is able to do (“doing the right thing” - that is tech-

![Fig. 1. Specification of learning outcomes according to the three-circle model introduced by Harden et al.](image-url)
The next is how the doctor approaches their practice (‘doing the thing right’ - intellectual, emotional, analytical and creative intelligences). The third and outer circle details how the doctor should be as a professional (‘the right person doing it’ - that is personal intelligences).

The key tasks that represent the practical aspects of patient care, within the current theme of implant dentistry, can be identified as clinical information gathering, treatment planning and treatment procedures, but the dentist needs to bring more than practical skills to the patient encounter. ‘How the dentist approaches their practice’ or what they bring to the treatment of each patient should include application of basic clinical sciences, clinical reasoning and judgment, good communication, implementing optimal health promotion, appropriate attitudes, ethical stance and legal responsibilities, and proper information handling. The final dimension to the Harden outcomes model is ‘the dentist as a professional’. This encompasses: the role of the dentist within the health service as well as acceptance of responsibility for personal, career and continuing professional development. The challenge to construct courses in implant dentistry within this competence-oriented education model remains.

References


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