From Oslo to Toronto: Dr. Asbjørn Jokstad Sets His Sights on Canada

In November 2005, Professor Asbjørn Jokstad of Oslo, Norway, became the second Nobel Biocare chair in prosthodontics at the University of Toronto. Dr. Jokstad's primary fields of research are restorative dentistry, temporomandibular disorders (TMD) and prosthodontics. He is also actively involved with the FDI World Dental Federation (FDI), serving as FDI scientific affairs manager since 2002.

In this month's *JCDA*, Dr. Jokstad contributes 4 "Point of Care" articles (see p. 223). He also took time to sit down with *JCDA* to reflect on his academic career in Norway and to offer his perspectives on Canadian dentistry.

JCDA: *Tell us about your time in Norway and how you became involved in dental academia.*

Dr. Asbjørn Jokstad (AJ): I graduated from the University of Oslo dental faculty in 1979 determined to never go back to school. From there, I went straight into Norway's 12-month mandatory military service and continued to work in the dental corps until 1982. After military service, I worked part-time in private practice and in a dental clinic for children in the public health system. Not long after, I became an instructor at the pre-clinical dental materials course at the faculty and enrolled in post-graduate courses.

Dr. Jokstad and his wife Anne at the University of Toronto Awards of Distinction Gala in 2006.

Several twists of fate led me down a variety of academic avenues, and I emerged with a unique combination of knowledge in anatomy, computing, electron microscopy and clinical trials on dental materials.

I was eventually drawn to the multidisciplinary environment at the Nordic Institute of Dental Materials, a phenomenal, high-quality institute under the directorship of Dr. Ivar Mjor. One of Dr. Mjor's fundamental beliefs was that clinical trials should always be carried out in realistic settings to reflect real life dentistry. This posed major problems in terms of external and internal study validity, so I spent many hours reading up on statistics, trying to devise a clever approach that combined scientific rigour with uncontrolled general practice settings. Statistics expertise was soon added to my growing list of required competencies.

This proved to be valuable when I submitted my PhD thesis in 1991 — a longitudinal trial on amalgam restorations placed in general practice settings and followed over 10 years. My thesis was initially rejected by my opponent committee due to an unfounded dispute on the statistical analyses.

As a young aspirant, I was devastated by this rejection and lost all faith in so-called "scientific truths" and ambiguous theories upheld by senior professors in dentistry with impressive academic titles. I quickly became a strong believer in evidence-based medicine — what I considered to be the most anti-authoritarian stance one could take toward traditional academia and science.

Only some gentle coaching by a wonderful professor, the late Dr. Jacob Valderhaug, brought me back into the university environment. After slowly recovering from my days as a disillusioned academician, I completed my specialty training in prosthodontics, which led to an engagement as research fellow in the department assisting on several projects in TMD.

The restorative dentistry and cariology department eventually offered me tenure as an associate, and subsequently, full professor. In 2003, the prosthodontics department was looking for professors and I felt committed to support the discipline that had brought me

Dr. Jokstad at the 2002 Indian Dental Association/FDI World Dental Federation joint CDE meeting in Goa, India.

back into academia and clinical research. I held this position for less than a year when I received the first enquiries from the University of Toronto due to the imminent retirement of Professor George Zarb.

JCDA: *What prompted your decision to accept the chair position at the University of Toronto?*

AJ: If you ask any dentist, at least those in Europe, what they associate with the University of Toronto and dentistry, 2 themes are usually mentioned: dental implants and Professor George Zarb. I'm not sure whether dentists in Canada truly grasp what a profound impact Dr. Zarb has had in dentistry worldwide. The reputation of Canadian dentistry has benefited to a large extent from his scholarly and scientific achievements. It is a great honour and a fantastic challenge to try to follow in his footsteps.

JCDA: *What are some of your priorities during your tenure as chair?*

AJ: One of Dr. Zarb's many legacies are the detailed recordings of the clinical performance of prosthodontic treatments provided at Toronto's implant prosthodontic unit (IPU). This documentation is one of the most comprehensive and detailed in the world dating back to 1979. I anticipate that research data extracted from this database will form the foundation for many research projects to come.

Another area that I think warrants attention is how the curriculum in dental materials and dental technology has been minimized to the point where some new graduates know less about biomaterials than dental technicians! Developments in the advanced use of biomaterials allow modern dental laboratories to offer innovative technical solutions that some dentists either simply aren't aware of, are sceptical about because they can't judge their merits, or perhaps don't want to use because the learning curve becomes too steep. Whatever the reason, our patients are the ones that will ultimately suffer.

JCDA: *What are some of the most promising areas for research in dentistry?*

AJ: I believe that establishing research networks that allow dentists to work and generate clinical data in their own clinical settings can dramatically open up the possibilities for more meaningful and relevant knowledge platforms that will aid practitioners in their treatment planning. Several networks like this are in existence today amongst physicians as well as among some dentists.

Data from many operators can be amassed on a range of procedures and material properties, which allows statistical analyses and estimates of diagnostic and therapeutic intervention outcomes. The Internet and other communication technologies can have a synergistic effect by allowing participating clinicians to access the database at any time and compare their own performance with average values.

For example, in this month's "Point of Care" (p. 223) I write about root posts in endodontically treated teeth. As a practitioner, wouldn't you just love to know which posts to avoid and which one to use in your grandmother's tooth? This sort of practical information can be corroborated if there is a collective effort to report one's own results in a central database. Conversely, there is no other way to uncover clinically what works or does not work in practice. The profession needs to set up a system to record and document clinical performance of products and procedures in realistic, everyday settings.

JCDA: *What are some of the greatest challenges facing dental academia?*

AJ: The biggest challenge for the academic community worldwide is the lack of clinician scientists. There is a screaming need for more clinician scientists in dental schools. They are sorely missed here in Canada, so I believe they need to be attracted from abroad. If there is a genuine wish to expose Canadian dental students to proficient dentists who can provide high-quality clinical care based on scientific merits, regional and local barriers should be minimized to ensure these scientists can come to Canada.

JCDA: *How can Canadian dental academia raise its profile on the global scene?*

AJ: This can be answered by first trying to establish who dental researchers should primarily be serving. Research

that is required to demonstrate outcomes of clinical interventions in dentistry is given relatively low priority in Canada and elsewhere. Nobody seems to be willing to pay for this type of research. Canada can play a leading role internationally if its professional dental organizations can establish research funds and mechanisms to support clinical research that will have direct relevance to the practising community of dentists.

JCDA: *Can you talk about your involvement with evidence-based clinical practice guidelines in dentistry?*

AJ: The biggest challenge facing proponents of evidence-based dentistry (EBD) is how to get relevant research results incorporated into our daily practices in the shortest amount of time. I believe that formulating and maintaining clinical practice guidelines is an effective way to translate new research to practical ends. My contribution has been to develop an extensive database of guidelines in dentistry to support FDI's member national dental associations worldwide (http://www.fdiworldental.org/resources/2_0guidelines.html).

The profession itself — either dental associations, dental educators, practice owners or individual general practitioners — must assume the responsibility of developing clinical practice guidelines. The alternative is that outside parties will impose guidelines upon us.

JCDA: *How can dentistry bridge the gap and convince practitioners to incorporate evidence-based guidelines into everyday practice?*

AJ: EBD is not going to thrive until the general practitioner realizes that the concept will actually result in improved patient care, more effective interventions, less remakes and stress, and more clinical freedom in the selection of alternative interventions. In fact, these factors will combine to increase revenues for the dentist.

When EBD emerged, the insurance industry instantaneously recognized the benefits of implementing its principles in health care and therefore endorsed EBD. This was unfortunate in retrospect, as the deep-rooted scepticism amongst health professionals toward the insurance industry prevailed. There are still segments amongst professionals who erroneously regard EBD as some hidden scheme invented by the industry to restrict patient care.

JCDA: *What are some of your overall impressions of Canadian dentistry?*

AJ: The Canadian profession is fortunate to have many gifted ambassadors working within FDI. Moreover, I received messages from many colleagues around the world saying they were very impressed with the FDI Congress held in Montreal in August 2005.

Within my primary field of dental research, several names from Canadian institutions stand out: John Davies, Jocelyn Feine, Alan Hannam, Derek Jones, Jim Lund, Michael MacEntee, Robert Pilliar, Dennis Smith and John Wolfaardt are a few that immediately come to mind. I find it intriguing that many of the renowned people within my field chose to emigrate to this country, although I don't have a deeper explanation for this apparent phenomenon.

JCDA: *How does the Canadian experience compare to that in Europe?*

AJ: The strong focus on biocompatibility of dental biomaterials and nutrition that we have in Scandinavia and many countries in Europe seems to be non-existent in North America. Of course there are the anti-amalgam and anti-fluoride groups, but there seems to be very little focus on the health and safety of other dental biomaterial usages. I'm aware of the mandatory reporting processes in Canada on the side effects of drugs, but it seems that the side effects from medical devices are given less prominence — which I find baffling, as we all know that these side effects exist.

JCDA: *Will you continue your involvement with the FDI World Dental Federation?*

AJ: I am honoured to fulfill my duties as FDI scientific affairs manager, acting as the executive director's advisor on all issues that relate to science in dentistry. The work is mostly honorary, although I am fortunate to partake in scientific conferences and meetings that require the presence of an FDI representative. The position has opened an exhaustive network of contacts within the dental research and practising communities. I strongly believe that an organization such as FDI has great merits and that the important work is done through the exchange of information.

JCDA: *What exciting adventures are on the horizon for you during your time in Canada?*

AJ: My wife and I are excited about the prospects of seeing all parts of Canada. I believe Norwegians and Canadians share the same awe and respect for nature since we are often exposed to its harsh realities. Truly being close to nature is achieved by trekking, hiking and skiing, and not through watching the Discovery Channel on television. We hope to get as far east, west and north as possible. The Roald Amundsen Hotel in Gjoa Haven, Nunavut, is a must, as are the Vinland settlements at L'Anse aux Meadows in Newfoundland. We will love the discoveries!