Vol. 69, No. 10 November 2003

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CDA — The Year in Review

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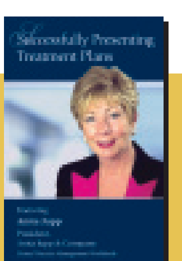

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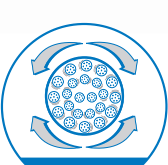

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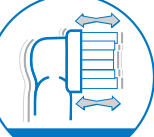

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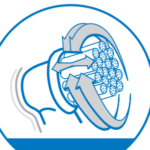

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Editorial

EXPERIMENT AND INNOVATE OR DIE

Dr. John P. O'Keefe

Please don't adjust your set! The content line-up for this month's *JCDA* is an experiment — perhaps a one-off. While for much of the past 6 years, I have made a clear distinction between the contents of *JCDA* and *Communiqué*, our members-only newsletter, the paper version of this edition is like a mixture of the content of both publications. In fact, we won't be publishing a November-December edition of *Communiqué* this year.

The line-up for this edition is comprised of 5 "scholarly" articles; the full text appears only in the electronic version of *JCDA*, with 1-page summaries in the paper version. The additional clinical features in this edition of the paper version are the shorter and more practically focused features we recently introduced: *Clinical Showcase*, *Point of Care*, *Clinical Abstracts* and *Diagnostic Challenge*.

Because the abridged versions of the scholarly articles take up only 5 pages of print, space is freed up for other material. We have chosen to provide an extended CDA news section that highlights some of the organization's initiatives and successes over the past year. We also give an insight into where the organization is going in the year ahead. This content would normally fit in the *Annual Review* edition of *Communiqué*.

I recognize that mixing content genres like this is risky, especially when readers tell us they want *JCDA* to be more clinically focused. Many have told us they don't want to read about political matters. Yet, we find ourselves in a dilemma as an organization: often, Canadian dentists tell us that they don't know CDA's agenda. Potential members in particular tell us this. Our idea with this edition, which is circulated to all dentists in Canada, is to make that agenda clear for those who are interested in knowing about it.

Inspired by a small book called *Crisis in Communication* penned in 1965 by a former editor of *The Lancet*, I wanted to conduct this experiment for some time. In the book, author Sir Theodore Fox opines that there are 2 kinds of biomedical publication: the journal of record and the biomedical newspaper. The communication crisis alluded to in the book's title is caused by the fact that publishers fail to recognize that the classic "journal" is really a publication aimed at researchers and academics, while the biomedical newspaper is sought by the vast majority of busy practitioners.

Back in 1965, Sir Theodore recommended that research articles should appear in 2 formats: a summary version for practitioners and a full version for researchers who might want to replicate the study. Today's information technology allows us to publish the full text of such articles in the electronic version of the publication, with a summary in the paper version. The edition of *JCDA* you now hold in your hands is thus a biomedical newspaper (in Sir Theodore's terms), while the electronic version is effectively the journal of record.

Clearly, I look forward to hearing what you think of this experiment. It is very important to me that we provide Canadian dentists with high-quality information that is timely and pertinent to daily practice. For this goal, my mantra is "answer the questions the dentists of Canada are asking."

But, as I understand it, we have another goal with our publication, which is to develop and edify our profession by disseminating knowledge of a scholarly nature. Ours is a knowledge-based profession. Professional journals (which have a format defined by certain rules) are still a recognized means of profession enhancement. This explains our continued publication of a journal. Of course, this begs the question: "Is this a business that CDA should be in?"

Whatever business CDA is in now is bound to change in the years ahead. Our association is in a state of transition and all our products and services, publications included, need to be guided by a spirit of innovation in order to provide value to members in a changing world. Keeping close to and listening to the opinions of our members are vital in creating a successful and innovative organization. Please tell me what you think of this particular experiment.

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President's Column

PLANNING FOR THE FUTURE

Dr. Louis Dubé

The first meeting of the new CDA took place in Ottawa in September. A team of representatives was elected under a new electoral system. We can now state unequivocally that every province and territory is represented on CDA's Board of Directors. Before, the Association's executive was composed of 9 members, including the president, president-elect and vice-president. Members represented regions. Now we have one Board member per province and 3 open seats. Each member will bring to the table issues, concerns and ideas from a local, regional or national perspective. However, when decisions have to be made, it will be from a national perspective.

One of the new Board's most pressing tasks is to re-examine the committee structure and synchronize input to the decision-making process. Over the years, we have felt that in some cases, our committee members or experts were "tagged" to a certain committee and could not be used to their full potential. Sometimes, in the past, committee members felt obliged to meet in order to fulfill their mandate, even if the agenda wasn't always a full one. In today's world, money and time are precious and must always be accounted for. There is no room for unnecessary expenses. The new format and structure will address this issue and participants will be able to work to their full potential in a cost-effective manner.

A knowledge-based decision-making process like the one CDA has been engaged in implies that a new way of doing business must be embraced. Standing committees will be developed and a pool of experts and advisors drawn up. When an issue comes up, the General Assembly will mandate the Board to set up a task force or working group tailored to the issue. The best experts are expected to come up with a solution. This means that merit will be the basis for selection. Once the group's mandate is fulfilled, the expert's names remain in a databank until a new mandate is given. This structure will permit the Association to respond rapidly and effectively to developing issues.

This structure must be organized, flexible and responsive. A knowledge-based decision-making process implies that 4 critical questions must be asked before any steps are taken: 1) Is this in our mandate? 2) Do our members need it? 3) What is already available out there on this issue? 4) What are the ethical aspects involved? All our decisions at CDA are based on these 4 questions, which help us respond and be accountable to our individual and corporate members.

Another important activity at our upcoming planning session in November will be to do an update for the Board members. Some were elected for the first time at the General Assembly and we need to have everybody on the same level of understanding, if we want decisions to be made in the knowledge-based process. Finally, the November session will be the meeting where CDA directors initiate the process of addressing the issues brought forward at last September's General Assembly and Strategic Forum (during which the topic of oral health promotion was discussed). The Strategic Forum brings together key stakeholders of dentistry to define emerging issues through formal presentations and roundtable discussions. The session's outcomes will shape the different task forces and working groups needed to find solutions to pressing issues and initiate the process for establishing next year's budget.

As you can see, your Association's Board and staff are very active these days. CDA is equipped, as never before, to deal with issues in a fashion that today's fast-paced world demands. CDA is more than ever involved and present in the national media to ensure that the point of view of the Canadian dentist is well known, in keeping with our vision to provide "leadership in oral health care for Canadians — ethical and contemporary, caring and responsive."

Dentistry is an ever-changing landscape. We cannot and should not stop changes from occurring. What we do need to do is work together to manage change. I am confident that our new approach will pay big dividends in the near future.

Louis Dubé, DMD
president@cda-adc.ca

President's Profile

DR. LOUIS DUBÉ TAKES A FRESH LOOK AT THE DENTAL PROFESSION

CDA's new president, Dr. Louis Dubé of Sherbrooke, Quebec, first became socially *engagé* during his years studying at the Cégep de Bois de Boulogne in Montreal, where he worked on the campus radio station, and then at the University of Montreal, where he contributed to the dental faculty newspaper. Dr. Dubé received his DMD from the University of Montreal in 1980.

For several years, he was active in the affairs of the Quebec Dental Surgeons Association (QDSA), becoming a director in 1992. In 1994, Dr. Dubé was elected to CDA's Executive Council. He has been very involved in CDA affairs since then, having chaired the Government Relations Steering Committee, Leadership and Awards Committee and Steering Committee on Dental Benefits Issues, while serving on many other committees. In 2001, he was elected vice-president of the Association.

As Dr. Dubé begins his term as CDA president, he says he wants to ensure that all dentists in Canada are represented by CDA. He also pledges to do his utmost to attract the younger generation of dentists to the Association. "I believe that younger dentists are more responsive to services, while the previous generations were more responsive to ideas and ideals. So I think we have to address this. In the next few months, CDA is offering a multitude of new services that will be of particular interest to younger dentists."

Dr. Dubé is intent on completing the work that will be required following CDA's reorganization; that is, setting up the permanent committees and the consultative process for the various files. "With our new panel of advisors, we will be able to use people with the most expertise in given areas, maximizing their full potential for providing input to committees, working groups and task forces."

In the longer term, Dr. Dubé would like to resolve the matter of QDSA's withdrawal as a corporate member of CDA. "We need to ensure that CDA represents its member-dentists from Quebec, but we also need to find a way to enable all dentists in Canada to be represented within CDA," he stressed. "The increasing fragmentation of the profession is undoubtedly the greatest challenge facing dentistry today. The possibility that other national bodies are emerging to compete with CDA is worrisome. If other organizations say they are representing a national constituency, then we might someday find ourselves in a conflicting position, where 2 national bodies will have different opinions on critically important issues. This is not good for dentistry or for patients because, as an example, government legislators and policy-makers prefer it when we as a profession speak with one voice. To strengthen CDA's position as the representative of all Canadian dentists, we should give voice (and votes) to representatives of more stakeholders, such as licensing bodies and dental regulatory authorities. They would participate in debate and decisions, but would continue to be accountable to the government, as they should be, while CDA would continue to be the national authoritative voice of the profession."

Another aspect of fragmentation is competition for expanding scopes of practice, Dr. Dubé observed. "Dentists cannot engage in a turf war with allied professions. Hygienists,

Incoming CDA president Dr. Louis Dubé of Sherbrooke, Quebec (left) receives the chain of office from outgoing president Dr. Tom Breneman of Brandon, Manitoba. The installation ceremony took place at the President's Dinner, held September 5 at Ottawa's Chateau Laurier Hotel during CDA's General Assembly.

denturists, assistants and dental therapists are here to stay and these professions all have their role to play. On the other hand, I still believe that dentists should be the leaders of the dental team. I'm not saying this in a 'paternalistic' way, but I think that by working as a team, each member can be efficient and act with some degree of independence. By working together, I believe that we can serve and treat our patients in a cost-effective way and also with better results. Dentists need to work together with the other professions. At the same time, we need to make sure the public is well served. The world of dentistry needs to work together; if we don't, others will be only too pleased to swallow us up.

"I believe that the patients primarily come to our offices to see their dentist," Dr. Dubé continues. "These patients expect that the dentist will see them, develop treatment plans for them and perform the treatment themselves or with their professional team. CDA has been presenting this concept over the last few years and I think that we should continue to do so. At the Strategic Forum in September, representatives of dental assistants, hygienists and denturists participated in the debates for the first time in many years. I believe that this is a step in the right direction. We don't need to agree on everything, but at least we are keeping the dialogue going."

Dr. Dubé is concerned by the great unmet need for dental services. "I see many people who cannot get access to dental treatment. These are people who make enough money to avoid the social net, but don't have access to dental plans — such as seniors, small business employees and single parents. Many people can go through their childhood without even receiving basic oral preventive and treatment services. CDA and dentistry in general are present in the media, but often the spin is on high tech and cosmetic dentistry. I understand that these aspects of dentistry are appealing, but more effort should target the basics of dentistry.

Dr. Dubé with Dr. Michèle Aerden, president-elect of the FDI World Dental Federation. Dr. Dubé was part of the Canadian delegation attending the FDI 2003 World Dental Congress held in Sydney, Australia, September 18-21.

The dental profession is now at a turning point, says CDA's newly installed president. "Baby boomers are on the verge of retirement. This means that more patients with a lot of extensive dental work will be losing their dental plan coverage. More dentists will be leaving the profession through retirement than entering it. More than ever, there will be a need for working as a team and providing services where they are needed. Immigration and certification of foreign dentists will be a beneficial relief valve, but the high standard of dental care in Canada cannot be jeopardized."

As for interests outside dentistry, Dr. Dubé says he enjoys snowboarding, rollerblading and winter sports in general. He is also an avid photographer.

"I've always been involved in all kinds of activities since school days," Dr. Dubé reflects. "Being one of the leaders has always been gratifying. I wish that all people could live such an experience as the one I'm living now. But there's not only CDA. When I give a lecture on behalf of CDA to dental students, I always make a point of telling them how important it is to be actively involved in organizations. It can be the local soccer league, the church choir, the Lions Club or the Kinsmen, for example. Not only does one grow from such involvement in the community, but it is also one of the best ways to attract new friends and patients." ◆

***Harvey Chartrand** is senior writer/editor with the Canadian Dental Association.*

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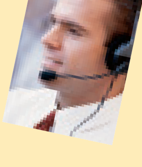

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Letters

Editor's Comment

The *Journal* welcomes letters from readers about topics that are relevant to the dental profession. The views expressed are those of the author and do not necessarily reflect the opinions or official policies of the Canadian Dental Association. Letters should ideally be no longer than 300 words. If what you want to say can't fit into 300 words, please consider writing a piece for our Debate section.

Bridging Implants

Implant manufacturers have reported successful osseointegration, in excess of 95%. However, many of today's successfully integrated implants are failures waiting to happen. The preponderance of failures will occur not due to peri-implantitis but to trauma and excessive occlusal load on the supporting scaffold. Inadequate numbers of implants, inadequate implant length and diameter, excessive occlusal forces and premature loading are a few of the more common causes that lead to implant failure over time.

In *Can implants be bridged to natural teeth?* (*Point of Care, JCDA*, July-August 2003), Dr. Dennis Nimchuk recommends rigidly joining an implant to a natural tooth in the construction of a 3-unit bridge. Although he carefully lists the conditions that encourage this approach, most dentists may well ignore them and initiate treatment that has a high failure rate when inappropriately applied.

As well, the clamour by many impatient clinicians and the aggressive marketing by implant manufacturers to promote immediate loading of implants, is certain to yield higher rates of failure and, with time, discredit the valuable service that dental implants can provide. In jest, it was recently suggested that we will soon see claims of an implant system that can be loaded 2 days before insertion of the implant.

Faster and easier are not necessarily better! Doing things properly is certainly better!

To be of optimum benefit to our patients, treatment should be evidence-based, respecting underlying physical and basic science principles. Modifications of the *ideal* need not be abandoned, but should be recognized for what they are — convenient and expedient compromises, which too often fall short of long-term successes.

Dr. Frederick I. Muroff
Montreal, Quebec

CDA Resources

The Town of Tecumseh (Ontario) had problems with fluoride equipment and has not been adding fluoride to the municipal water supply for over a year. In view of this problem and the expense involved, the town council considered the possibility of not adding the fluoride at all. The health unit I work for and the Essex County Dental Society spoke to the Tecumseh town council on 2 occasions. On May 13, the council voted to replace the equipment and to again add fluoride to the water supply to bring it up to recommended levels.

Much of the material we required for our presentations to town council came from CDA's Resource Centre. Dr. John O'Keefe also provided me with a copy of the May 2003 *JCDA*, so that we had the excellent article by Dr. Steven M. Levy ("An Update on Fluorides and Fluorosis") to refer to. Some of the anti-fluoride delegation accused us of not being up-to-date. The material from the Resource Centre and *JCDA* proved to town council that we were in fact up-to-date. I believe that this contributed significantly to the outcome of the vote.

In my 40 years of dentistry, I have used the Resource Centre many times. The staff there has always helped me in my research, my clinical practice and my efforts to locate current and past literature. I believe the Resource Centre alone makes my membership in CDA worthwhile.

Dr. Arnold Abramson
Windsor, Ontario

Five Decades — Where Have They Gone?

Not all your readers are aware of Dr. Wesley J. Dunn's contribution to dentistry over these past 50 years, and the impact he has had on the profession as a result of his involvement in dental organizations, including the Royal College of Dental Surgeons of Ontario (RCDSO). I have always admired him.

In his editorial in the July-August *JCDA*, Dr. Dunn mentions an example of unacceptable progress — namely, advertising by dentists, which he describes as demeaning to the profession. Many dentists would like to see restrictions on advertisements similar to those that existed before the Supreme Court decision. The rules of the land dictate otherwise and, as he noted, the governing bodies cannot be faulted.

As a staff person at RCDSO for over 10 years, with direct involvement in advertising issues that come to the College's attention, I disagree with one of Dr. Dunn's comments — specifically, that "we are not commercial competitors." Over the last decade, we have witnessed a tremendous growth in demand for elective dental procedures, especially with respect to cosmetic dentistry. That aspect of our profession, which is the most heavily advertised in all media, has indeed led to commercial competition.

I agree that some advertisements by dentists may be considered professionally demeaning. My remarks to you are just meant to bring the practical reality

into this discussion. For good or ill, we have become commercial competitors.

Dr. Fred Eckhaus
Toronto, Ontario

Increase in Decay

I practise in a middle-class to upper-middle-class area in a Vancouver suburb. My practice provides treatment for many children. In my first 18 years of practice, it was usual for most children to be consistently cavity-free. Indeed, it would be unusual for any child to have more than a couple of cavities at any given time. About 3 years ago, I noticed a gradual increase in decay. It has now developed into a truly worrying phenomenon. I now routinely see children (ages 5 to 18) with 6, 8 and 12 cavities — usually interproximal, but also many occlusal. Much of this decay is rapidly progressive.

A recent article in the *National Post* described a similar pattern throughout North America. At a symposium not long ago, I had a chance to speak to Dr. Max Anderson (an expert in the bacterial basis of decay) and asked if he was aware of this increase in caries. Dr. Anderson confirmed that he was also aware of this trend.

So my question is *why*? My suspicion is a diet heavy in carbonated beverages. Coke machines are very prevalent in schools nowadays and access to candy has probably never been higher. The *National Post* article suggested it was the increase in drinking nonfluoridated bottled water, but I doubt this is the cause. Are you aware of any up-to-date statistics in this area? I suspect that most of the data is not yet showing this trend.

Dr. Harold H. Punnett
Fort Langley, British Columbia

SOCAN Licensing Fee

The tariff that the Society of Composers, Authors and Music Publishers of Canada (SOCAN) is attempting to impose on dentists is unreasonable. How do dental offices differ from shops and restaurants where music is played in the background? Evidently, SOCAN will go after them as well. Where will it end?

If I play music of my choosing — my own CDs — at my workplace, how does that differ from playing music at home for guests? Should I have to pay a fee whenever I have a party?

I do not profit from playing music at work. I am not selling compilations to patients, nor would I lose any patients if I did not have background music. In fact, I turn a lot of patients on to a lot of music. They in turn make recommendations to me and we all go out and buy more CDs. Is that not a good thing?

I have already purchased my CDs legitimately. Why should I have to pay for their use again? What SOCAN is attempting to do is double-dipping.

Dr. John Martins
Ottawa, Ontario

Ronald McDonald House

On behalf of all those associated with the Ronald McDonald House in Westmead, New South Wales, I wish to thank you for the generous donation of Braun/Oral-B electric toothbrushes. *(The toothbrushes were donated to CDA by Oral-B. — Ed.)* Your support is vital and does make a difference to the lives of these seriously ill children and their families.

When families find out that their child has a serious illness, life takes an abrupt departure from the realm of the normal. Doctors agree that children tend to respond better to medical treatment if their family is with them. Ronald McDonald House is there for these families, providing a home away from home and helping families stay together and support their child, while drawing comfort and hope from staff, volunteers and other families.

Our doors are open to accommodate hundreds of families of seriously ill children who come from all over Australia and the Pacific/Asia Region. With your generosity and support, together with the dedication of our staff and volunteers, we can make a huge difference in providing much needed assistance to these children and their families.

Julie Neave
Ronald McDonald House Coordinator
Westmead, Australia

Great Experience for Dental Volunteers

I recently returned from Jerusalem, where I volunteered my services for the third time at a clinic catering to the dental needs of underprivileged children aged 5 to 18. The services of the Dental Volunteers for Israel (DVI) clinic are available free of charge for all needy Jerusalem children, regardless of their race, colour or religion. Since the clinic's inception in 1980, over 4,000 dental professionals from all over the world have served as volunteers. Some have returned many times.

The volunteer dentists (up to 3 at any one time) provide amalgam and composite restorations, simple extractions and, occasionally, pulpotomies and stainless steel crowns. The volunteers work from 8 a.m. to 1:30 p.m. 4 days a week for 1 to 4 weeks. Their trip is tax-deductible from Canada, the United States and France. Otherwise, dentists must come totally at their own expense. They are given a rent-free apartment in Jerusalem for the duration of their volunteer work.

The DVI offers a most rewarding working vacation in Israel, as there is ample opportunity for the volunteer, alone or with accompanying family, to relax and tour. I highly recommend this to any dental colleague (notably general dentists, pediatric dentists and endodontists) who has any interest in donating his or her time and expertise to this worthy cause.

Dr. Lorna Katz (Lornakatz@hotmail.com)
Montreal, Quebec

White Teeth, Fresh Breath.
A Great Incentive To Get Your Patients To Brush!

White Teeth and
Fresh Breath They'll Brush For.

Give your patients good reason to brush frequently. New Crest® Whitening Plus Scope toothpaste has the anti-cavity and tartar control* benefits you expect from Crest and the freshening power of Scope®.

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London	1-800-265-6050	Quebec	1-800-463-5199	Calgary	1-800-661-1054
Ottawa	1-800-267-1366	Halifax	1-800-565-7798	Edmonton	1-800-661-9656

or on-line at *www.dentalcare.com*

*with regular brushing

Children under 6 years of age should use only a pea-sized amount and be supervised while brushing.

OJAN02586

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Official Meeting of the Association of Dental Surgeons of BC

News

NIHB Dental Faxback Confirmation Form C Is Unacceptable

Recently, First Canadian Health began to implement the Non-Insured Health Benefits (NIHB) Next Day Claims Verification Program, requiring dentists to fill out Dental Faxback Confirmation Form C. CDA finds both the program and the form to be flawed and unacceptable.

CDA publishes the Uniform System of Coding and List of Services (USC&LS), which provides the procedure codes used by dentists to document treatments for their patients. The USC&LS contains more than 3,000 codes. It is used by provincial dental associations to develop their fee guides, providing specific and detailed descriptions of procedures.

CDA believes that First Canadian Health's request for more details about services provided should not be required. CDA's *Guidelines for Prepaid Dental Plans* states: "CDA believes that any inquiry that goes beyond the routine confirmation of patient-related financial data is deemed to be an audit and within the sole discretion of the provincial licensing body."

Says Andrew Jones, CDA's director of corporate and government relations: "We firmly believe that the level of detail provided by procedure codes should be sufficient to allow claims processors to properly adjudicate dental benefits payments."

CDA's Audit Working Group is now looking into the matter of Dental Faxback Confirmation Form C. "It is our goal that Health Canada implement a Next Day Claim Verification program that meets or exceeds current industry best practices," Mr. Jones emphasizes. "While Dental Faxback Confirmation Form C remains in use, we recommend that dentists only provide the description of the code and not additional details, as requested on the form. We believe this is an audit and that it should be handled by the provincial licensing body."

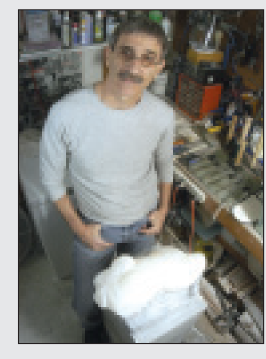
U of S College of Dentistry to Join Medicine

In September, faculty at the University of Saskatchewan College of Dentistry voted to dissolve the College and become one of 2 schools in the College of Medicine. This is the third dental faculty in Canada to be folded into a medical faculty. The other 2 merged faculties are at the University of Alberta in Edmonton and the University of Western Ontario in London.

"We will be a school rather than a department in medicine," says Dr. Charles Baker, dean of the faculty of dentistry at U of S. "We will retain our own budget, business plan, staff, accreditation mandate, and clinic. The advantages of this merging will be to obtain the support of medicine for dentistry, totally integrate the basic science program of both colleges, and reduce administrative overhead. With the research groups in medicine as a greater critical mass, we will now be able to increase our research intensity and attract more staff members with master's and PhD degrees to carry out health research, while also increasing our chances of obtaining collaborative grants from the Canadian Institutes of Health Research. There will be no layoffs. We will retain all our staff and infrastructure."

Dr. Baker will remain as an associate dean and director in the College of Medicine. "It's a rare day that a dean forcibly pushes forward on removing his position," he reflected. "But I think that it is essential for achieving the long-term goal of reconnecting dentistry to general health in Canada, which was sadly lost due to worry within dentistry about autonomy."

COVER ARTIST



Dr. Bruce Blasberg is a certified specialist in oral medicine, now in private practice in Vancouver. He received his DMD degree at the University of Pennsylvania in 1970 and completed a 3-year residency in oral medicine at the same institution. Following his oral medicine training, Dr. Blasberg joined the full-time faculty at the University of British Columbia and headed the division of oral medicine and pathology. Dr. Blasberg was recently named director of the orofacial pain program at Vancouver General Hospital.

Dr. Blasberg provides some context for the art that graces this month's cover of *JCDA*: "Two years ago, I began learning to carve stone from a master sculptor, Alberto Replanski, who was born in Argentina and now lives in Vancouver. The stone used for the 'face' is a cream-coloured alabaster. It is 16 inches long and weighs about 50 pounds. Alabaster is a little softer than marble and easier to carve with hand tools. The piece was carved using a mallet and chisels. It was finished with files and increasingly finer grades of sandpaper. Carving stone is physical work, but there is magic in seeing a form emerge from the rough stone."

The merger will have no impact at all on tuition fees, which will remain at $32,000 a year, as specified in the College's business plan. "However, all medical colleges are looking to increase their base fees, and within 5 years, their tuitions should be more in line with ours," Dr. Baker said. "There will continue to be a difference as long as dental schools maintain responsibility for the clinical portion of the professional education."

Dr. Patti Grassick, president of the College of Dental Surgeons of Saskatchewan, told *JCDA*: "We would like to see the College of Dentistry retain its identity and maintain a stable and independent budget. We realize that the merger will mean savings in administrative costs, and we hope it is with no loss of faculty positions. We realize it won't happen, but we would like to see a reduction in student tuition as a result of the merger to bring dentistry tuition more in line with medicine." ◆

New Dental Research Facility at McGill

On hand for the opening ceremonies at 740 Dr. Penfield were: *(Top photo, l. to r.): Jennifer Wong; Pierrette Wong; Dr. James Lund, dean of McGill University's faculty of dentistry; and Tanya Wong.*

(Bottom photo, l. to r.): Dr. David Goltzman, director, Centre for Bone and Periodontal Research, McGill University; Dr. Tom Hudson, director, Genome Quebec Innovation Centre; Lucienne Robillard, president of the Treasury Board of Canada and Minister Responsible for Infrastructure; Heather Munroe-Blum, principal and vice-chancellor, McGill University; Michel Audet, Quebec Minister of Economic and Regional Development; Gérald Tremblay, Mayor of Montreal; Dr. John Bergeron, chair, Department of Anatomy and Cell Biology; and Paul L'Archevêque, president and CEO, Genome Quebec.

Monday, September 8 marked the official opening of 740 Dr. Penfield, a new research hub at Montreal's McGill University, housing a major dentistry facility — the Jamson T.N. Wong Laboratories for Bone and Periodontal Research. 740 Dr. Penfield stands on the site of the former William H. Donner Building, which provided offices and laboratory facilities for McGill's faculty of dentistry from 1947 until its demolition in 2001.

The new building houses 3 facilities for genomics, proteomics, and bone and periodontal research. The latter facility, called the Jamson T.N. Wong Laboratories, was made possible because of a large grant from the Canada Foundation for Innovation that was obtained primarily by members of the McGill Centre for Bone and Periodontal Research, plus a $500,000 donation from the family of the late Mr. Wong, a Hong Kong industrialist who emigrated to Canada in the 1960s. His family has lived in Montreal since that time.

"This is a common laboratory facility," said Dr. James Lund, dean of McGill University's faculty of dentistry. "Most of the space will house common equipment for storing cell lines, for cell culture and for tissue preparation for advanced types of analyses, as well as facilities for whole animal imaging and 3-dimensional reconstruction of tissues. The facility also contains equipment for biomechanical testing of bones and teeth, and an animal facility housing mouse models of skeletal and oral diseases. The Wong Laboratories will be used by the entire community of academic and industrial researchers — not just at McGill but across Montreal, Quebec and Canada — who work on calcified tissues of the skeleton and periodontium." ◆

DIAC Survey Points to Growing Interest in Cosmetic Dentistry CE

Cosmetic/esthetic dentistry is the Continuing Education (CE) topic

that most dentists are interested in for the coming year, according to the 7th Annual Dental Industry of Canada (DIAC) Future of Dentistry Survey report, released on August 30. Results show that 73% of survey respondents chose this topic, followed by endodontics (56%); implants (50%); dental materials (42%); and practice management (40%).

The top aspects of cosmetic/esthetic dentistry that dentists would like to learn more about were esthetic veneers (selected by 17.9% of respondents); restorative (15.4%); new techniques/materials (7.7%); and all-porcelain crowns (7.7%).

The vast majority of practitioners prefer their CE provider to be a dental convention (34.5%); local society (25.1%); or university (22.8%). ♦

ACFD Meeting Focused on Ethics and Professionalism

Ethics and Professionalism in Dental Education was the theme of the Biennial Conference of the Association of Canadian Faculties of Dentistry (ACFD), which took place June 13–15 in Winnipeg.

The keynote speakers were Dr. Jos Welie, associate professor, Center for Health Policy and Ethics, Creighton University, Omaha, Nebraska; Dr. Muriel J. Bebeau, professor, department of preventive sciences, School of Dentistry, director of the Center for the Study of Ethical Development and a faculty associate in the Center for Bioethics, University of Minnesota, Minneapolis; and Dr. Richard H. Carr, director of student services at the University of Nevada, Las Vegas (UNLV) School of Dental Medicine.

Dr. Welie addressed the topic of *Teaching Ethics and Professionalism to Dental Students*. The subject of Dr. Bebeau's address was *Testing Ethics and Professionalism in Dental Students*. Dr. Carr talked about *Raising the Profile of Ethics in the Dental Curriculum*.

These topics were also discussed in workshop groups consisting of deans, faculty chairs and ethics representatives. The reports from the recorders of each group will form the basis of a *Meeting Report* in a future edition of *JCDA*. ♦

Special Care/Disability Conference Double-Header

Mark your calendar: The 16th Annual International Conference on Special Care Issues in Dentistry and the 17th Congress of the International Association for Disability and Oral Health (IADH) will be held August 25–27, 2004, in Banff and Calgary.

The overarching theme of the joint conference is *Building Bridges — Stepping Stones to the Future*. Discussion will centre on all age groups of patients with special needs, sedation delivery methods, alternative practice settings, quality of life issues and educational programs to train more providers in the care of elderly, hospitalized and disabled patients.

For more information, visit Special Care Dentistry's Web site at www.SCDonline.org and IADH's Web site at http://www.iadh.org. ♦

ICD Convocation

The annual convocation of the International College of Dentists (ICD), Canadian Section was held in Jasper on May 24, during the 2003 Jasper Dental Congress, cosponsored by CDA and the Alberta Dental Association & College.

Immediate past president Dr. Frank Lovely of Halifax inducted 22 new Fellows. The guest of honour was Dr. Laureen DiStefano, a Jasper dentist who works in Central America with the Kindness in Action Society of Alberta, an organization that has received support from ICD on 4 occasions.

The ICD's slate of officers for 2003–2004 includes Dr. Garry W. Lunn of Vancouver (president); Dr. Donna M. Brode of Windsor, Ontario (president-elect); Dr. Gordon W. Thompson of Edmonton (vice-president); and Dr. C. Filip Cappa of London, Ontario (registrar).

ICD's next annual meeting and convocation will be held on March 6 in Vancouver, during the Pacific Dental Conference, cosponsored by CDA and the Association of Dental Surgeons of British Columbia.

To view the complete list of the inductees, go to *Related News* on CDA's Web site at www.cda-adc.ca, under *News and Events*. ♦

EU Follows Canada's Lead on Cigarette Packages

The European Union (EU) is looking for graphic photographs to illustrate the harmful effects of smoking on cigarette packages. The EU has put out a tender, calling for photos similar to those used on Canadian cigarette packs, in the hope that its member-countries will start using them in October 2004. The EU is also suggesting that packs contain quit-line numbers and Web addresses for smoking cessation programs. ♦

10,000 Steps to Better Health

10,000 steps every day can take sedentary people a long way toward better health, according to a new study by the University of Wisconsin-Milwaukee.

Over a 2-month period, 18 inactive and overweight women were given pedometers and the goal of walking 10,000 steps every day. Those who reached the target significantly improved their health, seeing beneficial changes in blood glucose levels and lower blood pressure.

Most sedentary people log between 4,000 and 6,000 steps per day. Upping that to 10,000 steps represents about 2 miles of extra walking.

The report — entitled *Increasing daily walking improves glucose tolerance in overweight women* — appears in the October 2003 edition of *Preventive Medicine: An International Journal Devoted to Practice and Theory*. ♦

Recommended Reading

There is plenty of food for thought in *I Have Had Enough!*, a column

in which world-renowned dental lecturer and educator Dr. Gordon Christensen sounds off about what he perceives as the profession's lack of ethics. This broadside appears in the September 2003 edition of *Dentaltown Magazine Online* (http://www.dentaltown.com/). ◆

OBITUARIES

Elliott, Dr. Duncan C.: A 1951 graduate of the University of Alberta, Dr. Elliott died on April 15 at age 81. He was a life member of CDA.

Grégoire, Dr. Roger: Dr. Grégoire of Montreal was a 1954 graduate of the University of Montreal. He passed away on May 22 at the age of 74.

Harley, Dr. Blake M.: Dr. Harley of Fonthill, Ontario, graduated from the University of Toronto in 1950. He practised in St. Catharines, Ontario, all his working life. A life member of CDA, Dr. Harley was a *JCDA* cover artist in November 1998 and February 2001. He died on September 6 at age 83.

Miller, Dr. Douglas A.: A 1965 graduate of the University of Manitoba, Dr. Miller of Fort Frances, Ontario, passed away on August 2 at the age of 70.

Orpe, Dr. Jim: Dr. Orpe of Regina graduated from the University of Newcastle-on-Tyne in England in 1963. A past president of the Regina and District Dental Society, Dr. Orpe passed away on June 3.

Wardach, Dr. Joseph: A 1966 graduate of the University of Alberta, Dr. Wardach of Edmonton passed away on February 25.

For direct access to the Web sites mentioned in the News section, go to the November *JCDA* bookmarks at http://www.cda-adc.ca/jcda/vol-69/issue-10/index.html.

Continuing Dental Education

CDA maintains a current listing of continuing dental education courses to help dentists stay informed about various learning opportunities offered to them in Canada and abroad. To view the complete calendar of CDE events, visit CDA's Web site at www.cda-adc.ca.

CANADIAN COLLABORATION on CLINICAL PRACTICE GUIDELINES in DENTISTRY
COLLABORATION CANADIENNE SUR LES RPC EN DENTISTERIE

VOLUNTEERS NEEDED!!

The Canadian Collaboration on Clinical Practice Guidelines in Dentistry (CCCD) is looking for volunteers to assist in the development of Clinical Practice Guidelines (CPGs).

WHAT IS the CCCD?

The CCCD is the national, autonomous organization responsible for the development and maintenance of CPGs for Canadian dental practitioners. Clinical practice guidelines are "systematically developed statements to assist practitioner and patient decisions about appropriate oral health care for specific clinical circumstances". In this instance they are designed to facilitate the delivery of high-quality oral health care to patients. They are not meant to replace clinical judgment and patient preference, rather to complement them.

WHAT CAN I DO?

An important part of developing guidelines is to ensure they are not only based on the best available evidence, but are going to be used by practising dentists. We need volunteers who are willing to read our *draft* guidelines and provide feedback. This feedback is used to design the final guidelines. All that is required are a few hours of your time, once or twice a year.

HOW DO I SIGN UP?

If you are interested in being on our volunteer list, you can go to our Web site at http://www.cccd.ca or e-mail your name and address to the Chair of the Clinical Advisory Group, Dr. Debora Matthews at dmatthew@dal.ca.

Post-Operative Nausea and Vomiting

Maybe not this time.

10+ YEARS Zofran® OF SERVICE

Avoidance of PONV was shown to be even more important to patients than avoidance of post-operative pain.[1,¥] Thanks to the prophylactic use of Zofran in high risk surgical patients – greater patient satisfaction was shown to have been achieved compared to placebo.[2,*]

Zofran has demonstrated 24-hour efficacy in the prevention of PONV:

- superior to metoclopramide[3,**]
- similar to droperidol[4,††]

Consider Zofran first line in your high risk patients.[2]

Zofran is indicated for the prevention and treatment of postoperative nausea and vomiting.[5]

¥ In this study, 101 patients completed a survey in which they rank ordered possible postoperative clinical anesthesia outcomes. Vomiting was the least desirable outcome by both the ranking methodology and the relative value methodology (F-test <0.01). Ranking and relative value data were positively and significantly correlated (r^2=0.69, P<0.0001).
*2061 high risk patients (history of PONV or motion sickness) undergoing highly emetogenic procedures in 2 randomized, double-blind studies received either 4 mg ondansetron, 0.625 mg droperidol, 1.25 mg droperidol or placebo 20 minutes before induction. Patients were followed for a period of 24 hours. Ondansetron was more effective than placebo at reducing nausea and vomiting (p<0.05) and reduced mean-median total costs vs placebo (p=0.001). Patients receiving ondansetron were more satisfied than patients receiving placebo (p< 0.05).
** In a double-blind, randomized, placebo-controlled, multicentre study (n=1044) for the prevention of PONV in patients undergoing major gynecological surgery, ondansetron (4 mg IV), n=465, was superior in achieving complete control of emesis and nausea versus metoclopramide (10 mg IV), n=462 (44% and 37%, p=0.049, and 32% and 24%, p=0.009, respectively) over 24 hours.
††Two identical, randomized, double-blind, placebo-controlled studies enrolled 2,061 adult surgical outpatients at high risk of PONV to compare IV ondansetron 4 mg (n=515) with droperidol 0.625 mg (n=518) and droperidol 1.25 mg (n=510) for the prevention of PONV. In the 0 to 24 hour postoperative period, complete responses for ondansetron (53%) and droperidol 1.25 mg (56%) were superior to placebo (36%), p<0.05. Patient satisfaction scores for ondansetron were superior to placebo, p<0.05.
† Reductions in dosage are recommended in patients with moderate or severe hepatic dysfunction.

And Zofran has an excellent safety profile.[5,6,†]

The most frequent adverse events reported in controlled clinical trials were headache (11%) and constipation (4%).[5]

Please refer to Product Monograph for full prescribing information.

**First 5-HT_3 antagonist[5]

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And, while you may not be able to avoid serious illness, ***Critical Illness Insurance*** from the Canadian Dentists' Insurance Program can help you deal with some of the significant financial consequences. Like the high costs of *prescription drugs, out of country treatment, in-home nursing care and the expense of retrofitting your home*.

Critical Illness Insurance pays a **lump sum benefit of up to $500,000** if you are diagnosed with one of 18 specified medical conditions and if the illness persists for at least 30 days after the initial diagnosis.† It's money you can *spend any way you wish*.

So before serious illness strikes, call today to apply for ***Critical Illness Insurance***.
1-877-293-9455, extension 5002*

† A longer time period applies for some medical conditions. The policy owner can only qualify for one benefit payment. Some eligibility and age restrictions apply. If you die with coverage in force and before qualifying for a benefit payment, the premiums you've paid are returned to your estate.

Critical Illness Insurance is underwritten by The Manufacturers Life Insurance Company (Manulife Financial). To download an application now, visit ***www.cdspi.com***.

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A professional review of your insurance portfolio can help you determine whether you have the right coverage for your needs and even show you how to save money on insurance. To obtain a review of your insurance portfolio over the phone — *at no cost to you* — contact a non-commissioned, licensed insurance advisor at Professional Guide Line Inc.* Call **1-877-293-9455** or **(416) 296-9455, extension 5002**.

** Restrictions may apply to advisory services in certain jurisdictions. Quebec and PEI residents, call CDSPI at 1-800-561-9401, extension 5000.*

03-69 09/03

CDA: Year in Review

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This special section of JCDA is sponsored by
Canadian Dental Service Plans Inc.

CDA: 2002-03 Marked by Significant Achievements

"We've had our ups and downs, but I am proud of what we have accomplished together this year," CDA's immediate past president Dr. Tom Breneman told delegates on September 5 during the Association's General Assembly in Ottawa.

While Dr. Breneman was at the helm, two long-anticipated health care reform reports were issued by the federal government — one from the offices of Senator Michael Kirby and the other from Commissioner Roy Romanow. Barely a mention of dentistry was made in either case. "While some interpreted this as apathy for all things dental, on the flip side, it could also be viewed as tacit support for our system of oral health delivery," Dr. Breneman said. "Certainly, I came more and more to view it as the latter, as I had opportunities to meet with government and saw evidence of their understanding of our issues, in large part thanks to CDA's ongoing government relations efforts."

In November 2002, CDA organized a groundbreaking Dental Academic Summit in Alliston, Ontario. Over the course of the previous year, CDA had become increasingly aware that a crisis in dental academia was brewing on several fronts — research investment in oral health is low, tuition is high, and university infrastructure and faculty are in need of immediate and ongoing financial support. The academic community will be a continuing priority for CDA in the coming year.

CDA kicked off the New Year with the Dental Hygiene Shortage Forum in Gatineau, Quebec (jointly organized with the Association of Dental Surgeons of British Columbia). "I realize that many tensions and challenges remain in our relationship with organized dental hygiene, but CDA will continue to meet with the leadership of the Canadian Dental Hygienists Association to look for solutions to current impasses, and areas where we can work together in the future," Dr. Breneman pledged.

In April, CDA had a series of very successful Days on the Hill meetings with members of Parliament, who were briefed on the most important issues facing dentistry and affecting oral health. Over the busy two-day schedule, CDA representatives met with three cabinet ministers, the Speaker of the House, the Leader of the Official Opposition and 30 MPs. This represents about 10% of all Parliamentarians.

"We talked mainly about issues in three broad categories — oral health,

continued on page 650

***From one CDA president to another** — Incoming CDA president Dr. Louis Dubé (left) presents the Past President's Plaque to Dr. Tom Breneman. The presentation was made at the President's Installation Dinner, held in Ottawa on September 5, during CDA's General Assembly.*

Top 10 CDA Achievements in 2002-03

Here are CDA's 10 major achievements of the past year, many of which provide tangible benefits to the Association's membership — and often to non-member dentists as well.

1 ITRANS™ — A secure, Internet-based transaction and messaging service for dentists and other health care practitioners will soon be available nationwide: ITRANS™ will be provided through a strategic alliance between NDCHealth Corporation and Continovation Services Inc. (CSI), a wholly owned, for-profit subsidiary of CDA.

2 RRSP Contribution Levels — CDA's lobbying to increase the level of contributions to Registered Retirement Savings Plans (RRSP) met with success when Finance Minister John Manley increased the levels by $4,500 over 4 years in his March 2003 federal budget.

3 Dental Education and Research — CDA organized two events aimed at increasing the viability of dental faculties across Canada — the Dental Academic Summit in November 2002 and the Dental Admissions Conference in October 2003.

4 *CDAlert* E-mail Newsletter — CDA's new electronic communications vehicle instantly informs members of important matters affecting their practices. Since November 2002, 17 *CDAlert*s were transmitted to 4,500 CDA members (on average), informing them of such matters as changes to CDAnet, how to deal with the SARS outbreak and ways of countering the onslaught of computer viruses and worms.

5 Governance and Elections — In March 2003, CDA adopted a "knowledge-based governance" model that will allow the Board of Directors to clearly identify and manage strategic issues for the ultimate benefit of the membership. For the first time in its 101-year history, CDA board members were elected to be accountable and serve the interests of CDA as a whole.

6 National Oral Health Month (NOHM) TV Ad Campaign — In April, CDA launched its second national television advertising campaign for NOHM. CDA's advertisements, which aired on the Life Network, Prime, the W (Women's) Network and Radio Canada RDI (Réseau de l'information), focused on the message *Oral health — good for life* and were seen by an estimated 1.5 million viewers.

7 Publications — CDA continues to improve its publications and communications vehicles. *JCDA* ran special issues on oral and maxillofacial surgery, pediatric dentistry, prosthodontics, orthodontics, and oral pathology and oral medicine. *Communiqué* introduced several new features — *Dental Practice FAQ*, *The Dentistry Lifestyle*, *Corporate Profile* and *National Overview*.

8 Non-Insured Health Benefits (NIHB) — CDA successfully lobbied Health Canada for changes to the NIHB program for First Nations and Inuit patients that would eliminate intrusive on-site audits of NIHB claimant files at dentists' offices across Canada.

9 Online Dental Aptitude Test (DAT) Registration — This year, dental school applicants were able to register for DAT online through CDA's Web site, speeding up the registration process for applicants and streamlining administration of DAT by staff at the Association's National Office.

10 Dental Hygiene Conference — CDA co-hosted a conference to determine a national position on the provision of oral hygiene service. ■

ITRANS™ Is Coming

ITRANS™ — a uniquely secure, Internet-based transaction and messaging service — will soon enable dentists and other health professionals to send their patients' claims, radiographs and attachments to insurance carriers and to other dentists and health care practitioners. CDA has created Continovation Services Inc. (CSI) as a wholly owned, for-profit subsidiary company for the purpose of providing ITRANS™ and other products. ITRANS™ is scheduled to be available in the first quarter of 2004.

ITRANS™ will improve "first-time-right" accuracy, enable other secure e-commerce transactions, provide better service to patients and help dentists achieve better cost-efficiencies in their practice.

Dentists and their software vendors will be receiving invitations to regional presentations scheduled in late 2003 and early 2004, giving specific details that will help dentists to acquaint themselves with this new e-business model.

With growing concern about privacy and the confidentiality of sensitive information being transmitted electronically via DataPac/1-800 lines or over the Internet, CSI conducted extensive research to identify the best solutions and found that NDCHealth and Soltrus/VeriSign met the requirements of evolving privacy legislation, said Brenda Naylor, president and chief operating officer of CSI, based in Ottawa. (Atlanta-based NDCHealth is a leading provider of health information services to pharmacy, hospital, physician, pharmaceutical and payer businesses. Toronto-based Soltrus — VeriSign's Canadian affiliate — is the leading Canadian provider of Digital Trust Services that enable businesses and consumers to communicate and transact over digital networks with confidence.)

Added Ms. Naylor: "We have therefore established strategic business alliances with NDCHealth and Soltrus to deliver our joint product offerings, so that patients and health care providers can remain confident that ITRANS™ information is viewed and processed by authorized users and that each data exchange will remain safe, secure and completely confidential."

A significant share of the dental insurance market will be serviced by ITRANS™ at its inception, with further growth as CSI develops additional relationships with the insurance industry.

Says CDA president Dr. Louis Dubé: "ITRANS™ is not a replacement for CDAnet™, but rather a whole new way of transmitting claims that will use the CDAnet™ claims standard, or any new standard that may be developed. Dentists who are satisfied with the current services using the Data Pac/1-800 line will be able to send their claims in the usual manner for the foreseeable future and CDA is committed to supporting them as long as technologically feasible."

However, it is likely that the transmission speed requirement of the National E-Claim Standard now being developed will be greater than the capacity of the Data Pac/1-800 infrastructure, forcing its eventual replacement by a secure Internet-based communication system such as ITRANS™, Dr. Dubé noted.

A significant share of the dental insurance market will be serviced by ITRANS™ at its inception, with further growth as CSI develops additional relationships with the insurance industry, Ms. Naylor said.

Dr. Dubé further elaborated that ITRANS™ has the potential to positively impact a dentist's practice, even where electronic claims services are not broadly used, by facilitating dentist-to-specialist communications and opening the way for the introduction of a variety of new services that CSI is already working on.

For more information about ITRANS™, visit www.continovation.com or contact Ms. Naylor at bnaylor@continovation.com. ■

ITRANS™ is a trademark owned by CSI.

High Marks for Admissions Conference

CDA organized a highly successful Dental Admissions Conference, held in Ottawa on October 18-19. This event — a follow-up to last year's Dental Academic Summit — is the second in a series aimed at overcoming challenges facing academic dentistry in Canada, such as chronic shortages of educators and dental researchers.

Issues that were covered at the conference included personnel selection and a pilot design for a national study to determine the validity and reliability of dental admissions tools now in use.

Among the conference invitees were the deans and admissions officers of the 10 faculties of dentistry; and representatives of CDA, the Commission on Dental Accreditation of Canada (CDAC), dental regulatory authorities, the dental industry, the American Dental Association and the American Dental Education Association.

Special guest speakers included: Dr. Jack Dillenberg, inaugural dean of the Arizona School of Dentistry & Oral Health in Mesa; Dr. Vic Catano, professor and chair of psychology at St. Mary's University in Halifax (and author of CDA's admissions interview questions); and Dr. Blaine Cleghorn, clinic director at the faculty of dentistry of Dalhousie University in Halifax.

CDA wishes to thank the Dentistry Canada Fund, Nobel Biocare, Septodont and Procter & Gamble - Makers of Crest products for their generous contributions to this event. ■

CDA Meets with Liberal Caucus

CDA made a presentation on the subject of *Access to Higher Education* to the Liberal Caucus on Post-Secondary Education and Research, held on August 19 in North Bay, Ontario.

Former CDA president Dr. Tom Breneman made a short verbal presentation on the subject of access to education, supported by a written brief. CDA representatives networked with members of Parliament before and after the caucus meeting. "These occasions allowed us to raise other issues of concern related to education and research," said Andrew Jones, CDA's director of corporate and government relations.

Noted Dr. Breneman: "It was significant, since we were the only professional association around the table. It was clear that, at the federal level, there is growing resolve to find workable solutions, something that dentistry will need to continue to push for as the political leadership changes." ■

CDA Hosts 2005 FDI Congress

It's official! *— Dr. Louis Dubé signs the contract for Canada to host the 2005 FDI World Dental Congress in the Montreal 2005 booth set up at the Sydney Convention and Exhibition Centre during FDI's 2003 congress.*

CDA will host the FDI 2005 World Dental Congress, to be held at the Palais des Congrès in Montreal August 24-27. CDA is now working with organizers from FDI and the Journées dentaires internationales du Québec to present Canada's largest dental event in 2005.

FDI congresses are internationally recognized events that focus on the latest scientific developments in the world of dentistry.

The scientific program for FDI Montreal 2005 will feature major symposia on esthetic dentistry, prosthodontics and implantology. Sessions will focus on periodontology, preventive dentistry, nutrition, endodontics, gerodontology, practice management, pain management, oral surgery, oral medicine, pedodontics, orthodontics and traumatology.

A notable feature of the scientific program will be a series of hands-on, limited attendance courses in several disciplines of dentistry, conducted by eminent experts from Canada, the United States and Europe.

Other programs of great interest will deal with motivation, sports dentistry, women in dentistry, young dentists, disability and dentistry in developing countries.

Another major attraction will be the World Dental Exhibition, showcasing the very latest in dental technology, equipment and products.

As a special membership benefit, CDA members are entitled to discount registration fees for FDI Montreal 2005.

For more information, visit the congress Web site at www.fdiworldental.org. ■

CDA: Working with Industry

CDA continues to build solid relationships with the dental industry. Here are a few examples of recent joint activities:

Lab Track: Study of Dentist Satisfaction with Dental Laboratory Services

Work proceeds on CDA's ongoing survey of dentists' satisfaction with the service offered by dental laboratories. Some 665 responses were received, providing enough data to produce useful results for participating laboratories. This is a regional study, given the size of the participating laboratories. Three dental laboratories have committed to funding the project. Reports will be finalized by December.

Dental Product Distribution (DPD) Track Update

The DPD Track research study has been completed, yielding new data about buying trends and customer satisfaction with products and suppliers. Confidential reports were presented to participating dental product distributors. Plans for DPD Track II have started. This second study may deal with the grey market.

Sponsorship

Among this year's sponsors of CDA activities were Ash Temple, Canadian Dental Service Plans Inc. (CDSPI), CareCredit, Colgate, the Dentistry Canada Fund, Kodak, Nobel Biocare, Oral-B, Patterson, Pfizer Canada, Procter and Gamble, and Septodont.

National Oral Health Month

CDA partnered with Colgate in a very successful campaign during National Oral Health Month 2003. Plans are well underway for the 2004 campaign.

Public Education Campaign

CDA is exploring partnerships with several organizations in a public education campaign that will communicate oral health and general health messages to a national audience. ■

Helping CDA Formulate Public Policy

CDA's Resource Centre is more than a library. Under Costa Papadopoulos, manager of health policy and information, the centre is playing a key role in formulating public policy and maintaining the long-term viability of the dental profession.

The Resource Centre is helping CDA's Board of Directors make knowledge-based decisions on matters of policy, by providing a firm foundation of detailed, accurate and sourced information.

When CDA's government relations team needed to know how much money was being spent on oral health research in Canada, Mr. Papadopoulos uncovered information from the Canadian Institutes of Health Research, showing clearly that the level of funding was far too low.

Well-researched presentations also serve as a springboard for discussion in matters of policy. Mr. Papadopoulos provided data for Dr. John O'Keefe's presentation on oral health promotion at last September's Strategic Forum in Ottawa. During the discussion segment, some delegates expressed surprise at the unexpected research findings.

"Dentists need more information on the cost-benefit analysis of oral health promotion campaigns," Mr. Papadopoulos explains. "My research shows that early childhood dental awareness campaigns do not translate into regular dental visits later on in life. More research is also needed to help dental insurers make the right decisions. Their decisions are sometimes based on risk aversion or emotion, and not always on the facts."

Many questions need to be answered more clearly and assumptions proven right or wrong. Mr. Papadopoulos cited examples: "How much is saved from early health promotion? Will it reduce the need for a complicated procedure later on? Is there a definite link between oral health and general health? Between plaque and cardiovascular disease? This is the kind of data that must be collected and disseminated to major players. It is bound to have an impact on future public health policy."

Mr. Papadopoulos cautioned that some of his data-gathering work would only have a long-term payoff for the profession. "It may lead to government programs for dentists in 10 or 20 years' time," he said. ■

DAT Success Story

Geoff Valentine

Fatna Moussali

This year marked the successful introduction of online registration for the CDA-administered Dental Aptitude Test (DAT), given to all Canadian students wishing to enter a first-year university dental program.

Online DAT registration went live on August 27, and in the 20 days up to the September 15 registration deadline, 697 online transactions were made, with a value of $177,476.60.

"This year, we had 1,225 registrants — an all-time record — and about 65% of them registered online," said CDA's DAT coordinator Fatna Moussali. "Once their payment was approved, registrants were e-mailed a confirmation letter, indicating where they should take the test and what photo ID they should bring with them. Students were very happy that they could register online and have their application processed faster. The instructions were quite easy to follow. Admissions officers at faculties of dentistry were also very happy with our online registration process."

"Our main objectives were to improve customer service and streamline processes, finding efficiencies where we could," said Geoff Valentine, CDA's manager of information technology. "We were able to launch the DAT online registration system this year, because all the technical components were ready. In 2001, we migrated the DAT registration database into iMIS, CDA's main membership management tool. Then we launched our new Web site in 2002, so after introducing online membership renewal, we proceeded with online registration for DAT."

"Being able to register online, the applicant can provide us with the information even a few minutes before the registration deadline," Ms. Moussali adds. "This year, almost half the registrants submitted their applications online in the week before the registration deadline. If the applicant made a mistake on the online registration form, he or she was notified immediately and instructed how to fill out the section correctly, which reduced our workload considerably. We knew that when the applications arrived, they were 100% error-free. As soon as the applications were approved, we shipped out supplies to the applicants so they could start preparing for the exam."

CDA implemented online payment, so registration can only be completed if payment is properly received. "We subscribe to the VeriSign credit card payment gateway (through Soltrus, its Canadian reseller)," Mr. Valentine explains. "The card is validated in 3 seconds."

"This saves us enormous amounts of time, as we no longer have to call many applicants to obtain the correct credit card information," Ms. Moussali said. She estimates that the new system cut down her DAT-related workload by 116 hours.

Because each test centre has a limited number of seats, a system was developed to keep track of how many seats were sold, so test centres wouldn't be overbooked.

As an incentive, those who apply online are given priority over those who register by mail.

"We followed the Ticketmaster or airline models, where there are only so many seats for sale," Mr. Valentine said. "Every time someone registers, the inventory declines by one. When you hit zero, that's it!"

As an incentive, those who apply online are given priority over those who register by mail. "We want to encourage as many students as we can to register online, because we're aiming for 100% online applications one of these years," Mr. Valentine sums up. "No more hard copies of anything. That is the dream we eventually hope will become reality." ■

CDA President Addresses Finance Committee

The oral health of Canadians and the infrastructure of the dental profession were the two main themes of CDA president Dr. Louis Dubé's pre-budget presentation to the House of Commons Standing Committee of Finance, delivered on September 30.

Dr. Louis Dubé

Dr. Dubé described the plight of many Canadians who don't have access to proper oral health care: "In my practice in Sherbrooke, not a day goes by that I don't have to extract a tooth. We don't have fluoridation, either, so kids are still getting lots of cavities. It's sad to see a child who is financially disadvantaged and who goes to school with a mouth full of cavities which cause him to suffer pain and make it hard for him to eat nutritious foods, sleep or concentrate in school.

"Most dental screening programs in schools were the victims of cutbacks, so how are these kids getting oral health care?" Dr. Dubé asked. "Many dentists work for no fee where they see a real need, but we can't do this alone. We notice that many people are showing up in hospital emergency wards to be treated for oral health-related problems. We need to find ways to meet the needs of people who are not able to access dental care because of financial barriers."

High dental tuition fees are a symptom of the underfunding of universities.

Dr. Dubé wondered what will happen once aging workers retire and lose their dental plans. He suggested to the committee that systems be set up now to address the needs of older patients, before the majority of the baby boomer generation retires from the workforce. "These are people with high expectations in terms of the oral health care they receive, and they're not going to settle for second-best," he predicted.

Researchers are getting closer to establishing a definite link between the health of the mouth and the health of the rest of the body. "If your mouth is sick, the rest of your body is affected — and the effects may be quite major," Dr. Dubé stated. "We don't have all the answers yet, but it's starting to look like periodontal disease may be a complicating factor in heart disease, pre-term and low-birth-weight babies, and diabetes. These are big health concerns, both in terms of their impact on quality of life and their costs to the health care system. If it turns out that dentists can help to prevent or reduce the severity of these illnesses, so much the better."

As for the health of the dental profession, Dr. Dubé said he was very concerned about high tuition fees and their impact on the makeup of the profession. "Dentistry has the highest fees of any program and we're still concerned about that, so I encourage you to recommend the implementation of changes that will directly assist students," he said. "Over the past year, though, we've come to realize that tuition fees are not the real problem, but a symptom of it, and that is the underfunding of universities. Operating dental schools is very expensive. The equipment and maintenance fees, as well as the operation of public clinics — these all add up in terms of cost. Good faculty is hard to find and even harder to keep. As things stand, university salaries cannot compete with incomes in private practice, so it's hard to interest new graduates in the academic life — especially if they graduate with a debt of more than $100,000."

As well, academics are finding research grants harder to obtain. "Two years ago, we reported to you that the Canadian Institutes of Health Research was devoting only 1.6% of its funding to oral health research," Dr. Dubé pointed out. "Since about 7% of health care spending in Canada is on oral health, we thought this percentage was too low. Since then, the situation has worsened. In the past year, less than 1% of funding was directed to oral health research.

"Without dental schools, we have no dentists," Dr. Dubé summed up. "Without research, we have no improvements to oral health. These are fundamental issues that we want to work with you to resolve."

Another concern is the issue of parental leave. Dentistry is quickly becoming a profession with equal participation of men and women. Often, once a dental practice is established, it evolves into a family business, where both spouses are dentists or one is a dentist and the other manages the office.

But because Employment Insurance (EI) is unfairly structured, neither spouse is eligible to take parental leave, Dr. Dubé noted. "In order to make infant care financially affordable for dentists, staff and other health care workers, CDA recommends that the EI Act be revisited, with a view to including opt-in provisions for self-employed entrepreneurs

and family members in their employ. CDA also recommends that dentists and other self-employed individuals be given the opportunity to withdraw funds without penalty from RRSP savings in order to facilitate maternity leave."

Dr. Dubé then brought forward the issue of child care. "Since women remain the primary family caregivers in our society, the ability for women dentists to return to and stay active in their professional careers largely depends on the availability of quality child care. Many professionals choose home child care, since it offers greater flexibility. However, because of a 1989 legal decision, small business owners are prevented from adding child care providers to their payrolls. The ability to do so would allow dentists to pay child care workers better wages, thus improving the financial situation for another group of female entrepreneurs. It would also encourage female dentists to employ high-quality child care, and thus return to work more quickly and comfortably." ■

Changes to Standard Dental Claim Form

CDA is working closely with the Canadian Life & Health Insurance Association (CLHIA) to ensure that dentists' submissions of requests for advance confirmation of coverage comply with privacy legislation. During these consultations with the insurance industry, some insurers raised concerns about releasing information directly to the dentist, instead of returning it to the patient during the predetermination process.

In practice, most carriers return the results of a predetermination to the dentist. This expedites the treatment process, allowing the dentist to review the results of the predetermination with the patient in a timely manner. However, a few insurers are sending predetermination results to the patient, rather than to the dentist. This practice impedes the flow of information and can delay the decision-making process, says Ákos Hoffer, CDA's manager of practice services.

Responding to the insurance industry's concerns, CDA has amended the standard dental claim form to include the patient's signed consent, authorizing benefits providers to return the results of predeterminations directly to the dentist. The new wording has been approved by CLHIA. CDA asks all dentists to replace their existing forms with the new ones, which will be available on the CDA Web site or by contacting CDA directly.

CDA expects that the new claim form will address the needs of the entire insurance industry, Mr. Hoffer states. However, in the event that insurers persist in refusing to send predetermination results to dentists, members are urged to notify CDA by e-mail at practice_support@cda-adc.ca, so that appropriate action can be taken.

A parallel change was made earlier to the CDAnet consent form to address the privacy issue.

For more information, e-mail practice-services@cda-adc.ca. ■

CDA: 2002-03 Marked by Significant Achievements
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professional matters and financial concerns," Dr. Breneman related. "We were generously received, listened to and queried. It is clear that our messages are gaining profile as we build on them from year to year, and that awareness of dental issues on Parliament Hill has grown as a result."

In May, CDA co-hosted a successful joint convention with the Alberta Dental Association & College. "We enjoyed good meetings in beautiful surroundings, with record numbers of participants from Alberta," Dr. Breneman observed.

CDA raised its media profile significantly this past year. "The number and quality of stories we're seeing in print and on the airwaves reflect a growing awareness of the importance of oral health," Dr. Breneman noted. "I grew quite accustomed to giving interviews on short notice. In addition to the many newspaper and radio interviews in which we were asked to comment, we also made a number of proactive forays into the media world, including the *National Post* oral health supplement and a series of oral health segments on Global TV's *Body & Health* program. We look at each of these successes as stepping-stones in our quest for greater visibility and more opportunities to get our messages across to the public.

"We've also stepped up the efforts in communicating to our own public," Dr. Breneman continued. "Members received *CDAlert*s via e-mail this year on time-sensitive information such as the SARS (Severe Acute Respiratory Syndrome) epidemic, the Dental Association of Canada fraud and the global consent initiative. All this information was critical to CDA members' day-to-day dental practice. *JCDA* and *Communiqué* are continuously improving, and this past year saw the launch of *Dental Teamwork*, a new publication aimed at getting important information into the hands of staff within the dental office."

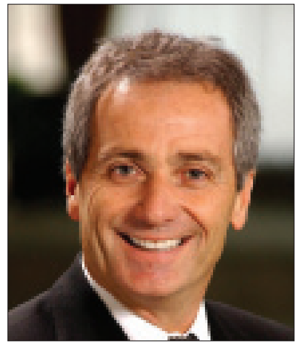
Summing up, Dr. Breneman noted that 2002-03 will go down as one of the most productive years in CDA's recent history. ■

Introducing …

CDA's Board of Directors for 2003-2004

Dr. Louis Dubé
President

Dr. Alfred Dean
President-Elect



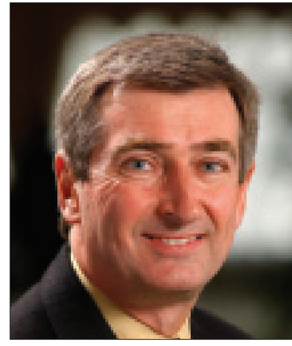
Dr. Jack Cottrell
Vice-President

Dr. Michael Connolly

Dr. Craig Fedorowich

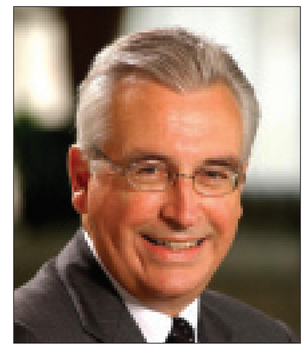
Dr. Wayne Halstrom

Dr. Gord Johnson

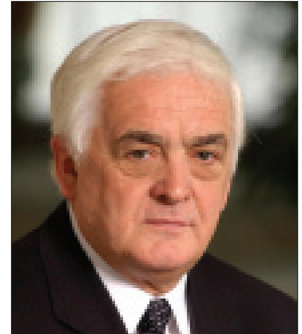


Dr. Robert MacGregor

Dr. Wayne Pulver



Dr. Jack Scott



Dr. Robert Sexton

Dr. Darryl Smith

Dr. Deborah Stymiest

Mr. George Weber
Executive Director

CDA Board of Directors Meeting Highlights
September 3 and 4, 2003, Ottawa

FDI 2005

The Board of Directors unanimously approved an agreement with FDI World Dental Federation to host the FDI 2005 Congress in Montreal August 21-27. A subsequent contract will be signed between CDA and the Order of Dentists of Quebec (ODQ).

Uniform System of Codes and List of Services

On the recommendation of CDA's Committee on Claims Management (CCM), the Board of Directors approved revisions to the Uniform System of Codes and List of Services (USC&LS). A new code was approved for the removal of a fractured cusp, as follows:

72800 Removal of a fractured cusp as a separate procedure, not in conjunction with surgical or restorative procedures on the same tooth

72801 First tooth

72809 Each additional tooth

Another new code was created, as follows:

99222 Laboratory charges for oral pathology biopsy services, when provided in relation to a surgical service from the 30000, 40000 or 70000 code series.

It was further agreed that codes 27720, 27721 and 27722 be amended as follows:

27720 Repairs, Inlays, Onlays or Crowns, Porcelain/Ceramic/Polymer Glass, Porcelain/Ceramic/Polymer Glass/Fused to Metal Base (single units)

27721 Repairs, Inlays, Onlays or Crowns, Porcelain/Ceramic/Polymer Glass, Porcelain/Ceramic/Polymer Glass/Fused to Metal Base, Direct

27722 Repairs, Inlays, Onlays or Crowns, Porcelain/Ceramic/Polymer Glass, Porcelain/Ceramic/Polymer Glass/Fused to Metal Base, Indirect + L

In 2001, the CCM determined that the current approach to coding was resulting in a shortage of codes in the USC&LS and that it was time to conduct a major review of the document. The Board of Directors decided, in the context of the development of the Electronic Health Record, that in order to protect the profession against the imposition of a coding system designed with the needs of physicians in mind, rather than dentists, the goal should be to create a standard electronic language for dentistry. A request for proposal (RFP) has been issued to experts in health informatics. The review process will likely take five years, including three years for implementation by the insurance industry.

Amalgam Waste

CDA will assist Dr. Philip Watson in expanding research on the usage of amalgam across Canada to establish a base figure from which to evaluate compliance with the signed Memorandum of Understanding. (Data will be compiled from a single practice day.) Transportation of the amalgam waste continues to be a hurdle in some jurisdictions.

The Board directed the Dental Materials and Devices Committee to develop a list of design features to look for when selecting an amalgam waste separator for the dental office.

Resource Centre

The Board of Directors reviewed options for the Resource Centre to remain a sustainable operation within CDA. The Board agreed that changes are required and that focus be placed on the collection of periodicals.

Student Membership Program

CDA has learned that many students are interested in connecting with organized dentistry. It was felt that CDA and all provincial dental associations could benefit from a student membership program that would assist with future recruitment and tracking of new graduates. CDA will contact each corporate member to discuss a joint program.

Privacy Policy

The Board of Directors approved a Privacy Policy for CDA activities. It includes designation of a chief privacy officer; identifying the purposes for which CDA collects, uses or discloses personal information; consent issues; and security measures.

Implications of the Loss of Quebec Corporate Membership

CDA continues to discuss transitional measures with the Quebec Dental Surgeons Association (QDSA) on their withdrawal of corporate membership. CDA is applying the bylaws, which indicate a one-year notice period. Despite the loss of corporate membership in Quebec, CDA will continue to recruit and represent individual members in that province. ■

CDA 2003 Award Winners

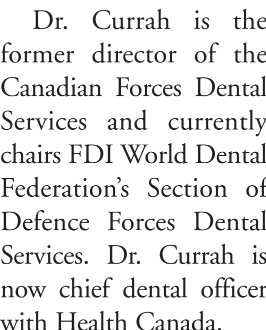
Leading lights in the dental profession were honoured at CDA's annual Awards Ceremony & Luncheon, sponsored by Ash Temple. The luncheon took place on September 5 at Ottawa's Westin Hotel.

Distinguished Service Award

CDA's Distinguished Service Award is given in recognition of an outstanding contribution in a given year or outstanding service over a number of years. Receiving the awards in 2003 were **Dr. John Currah** of Ottawa; **Dr. Gilles Dubé** of Lachute (Quebec); and **Mr. Brian Henderson** of Ottawa.

Dr. John Currah

Dr. Currah is the former director of the Canadian Forces Dental Services and currently chairs FDI World Dental Federation's Section of Defence Forces Dental Services. Dr. Currah is now chief dental officer with Health Canada.



Dr. Gilles Dubé

Dr. Dubé served as president of CDA in 1990-91. He was a member of CDA's Executive Council and Board of Governors from 1986 to 1991. Dr. Dubé was also active on numerous committees of the Order of Dentists of Quebec and the Association of Dental Surgeons of Quebec.

Mr. Brian Henderson

Mr. Henderson is the former director of the Commission on Dental Accreditation of Canada (CDAC). He also served as CDA's associate executive director and as its director of professional services. Mr. Henderson, now president of HealthTeam Associates, still provides consulting services to CDA.

Award of Merit

The Award of Merit is given in recognition of outstanding service in the governing of CDA or a similar outstanding contribution to Canadian dentistry. **Dr. Richard Beauchamp** of Edmonton and **Dr. William MacInnis** of Halifax received the award this year.

Dr. Richard Beauchamp

Dr. Beauchamp has faithfully served the University of Alberta, the Alberta Dental Association & College and CDA since 1972. He is currently president of U of A's Dental Alumni Association.

Dr. William MacInnis

Dr. MacInnis is the recently retired dean of the faculty of dentistry of Dalhousie University in Halifax. From 1997 to 2001, Dr. MacInnis was very active in the affairs of CDAC.

Oral Health Promotion Award

The Oral Health Promotion Award recognizes individuals or organizations that seek to improve the oral health of Canadians through oral health promotion. This year, the award was presented to the **Healthy Teeth Web site** and the **Body & Health Television Program**.

The Healthy Teeth Web site is a production of the Nova Scotia Dental Association, with assistance from CDA and the Halifax County Dental Society. The site — at http://www.healthyteeth.org/ — is designed to teach elementary-age students about the importance of oral health. Healthy Teeth is recognized by SchoolNet, a federal government initiative to identify the best educational resources on the Internet. Accolades and recommendations have also come in from Yahoo!, ABCs of Parenting, Health Links, Web This Week, Education World, Parents' Source and Surfing the Net with Kids. *The Washington Times* has recommended Healthy Teeth in its weekly parents and kids column. Healthy Teeth is updated and upgraded with new interactive features every year. In 2003, the site was completely redesigned to streamline navigation. Healthy Teeth is currently linked to 895 other Web sites around the globe.

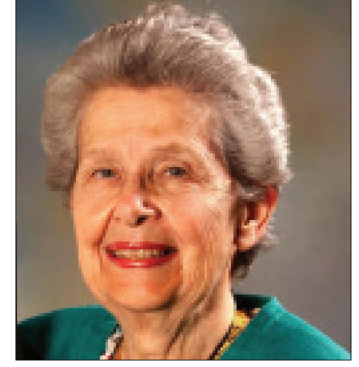
Produced by Global Communications Ltd., *Body & Health* featured a special oral health segment during National Oral Health Month. Four episodes of *Dentist on Call* with then CDA president Dr. Tom Breneman aired in April. Newspaper and Internet versions of *Dentist on Call* were also produced. To learn more about *Body & Health*, visit the program's Web site at http://www.canada.com/health/body/bodyandhealth/.

President's Award

The President's Award is granted to graduating students who have demonstrated outstanding leadership qualities, scholarship, character and humanity. This year's recipients were **Lucien Jules Bellamy** of the University of British Columbia; **Blair Campbell Dalgliesh** of the University of Manitoba; **Yasaman Khalili-Garkani** of the University of Western Ontario; **Steven Ma** of the University of Alberta; **Paul David Morton** of McGill University; **Genny Ilona Ordog** of the University of Toronto; **Sheena Shukla** of Dalhousie University; **Kirk Adam Slywka** of the University of Saskatchewan (4th-year program); **Xuan Huong Tran** of Laval University; and **Thomas Yu** of the University of Saskatchewan (5th-year program).

Friend of Dentistry Award

The Special Friend of Canadian Dentistry Award is given in appreciation for assistance to the Association. This year, the award went to **Dr. Abbyann Day Lynch** of Toronto. A leader in the field of medical ethics, Dr. Lynch is the director of ethics at Health Care Associates, a private consulting group based in Toronto. She is the founding director of the bioethics department at The Hospital for Sick Children in Toronto. ■



Dr. Abbyann Day Lynch

PDP Helps New Dentists

Dental students have a great deal to ponder before graduating. They need to examine their career options and goals and decide what's right for them — becoming an associate, purchasing a practice, forming a partnership or starting a new practice. Then they must consider financial management, insurance and investment planning, patient management, marketing, case management, appointment control, payment control, relations with third parties and staff management.

To help senior dental students through this complex maze of decisions and options, CDA is again offering its Practice Development Program (PDP), this time to third- and fourth-year dental students in dental faculties across Canada. Most faculties of dentistry have committed to a PDP presentation day between now and the end of March 2004, says Lorraine Emmerson, CDA's coordinator of education. "The students enjoy these presentations and find them very informative," she notes. "We now schedule the presentations earlier in the year for their convenience. This gives the graduating students more time to prepare themselves for post-graduation. We try to give them some idea of what to expect when they begin practising dentistry in earnest, whether as an associate in a clinic or as an individual practitioner."

This year's presenters are Dr. Paul Hogan, consultant for The Maritime Life Assurance Company in Halifax; Dr. Edward McIntyre from the University of Alberta; and Dr. Jim Stich from the University of British Columbia.

The PDP is now in the process of being revamped and CDA will report on new features as they are introduced. The program is sponsored by Canadian Dental Service Plans Inc. (CDSPI); ING Novex Insurance Company of Canada; Quikcard Solutions Inc.; Ash Temple; and AVIVA Canada Inc. ■

Thanks to Ash Temple

CDA wishes to thank Ash Temple Limited for its five years of generous sponsorship of the CDA Awards Ceremony & Luncheon.

CDA Down Under

The Canadian delegation at FDI 2003 Sydney *— Canada was well represented at the FDI 2003 World Dental Congress, which took place September 18-21 in Sydney, Australia. Leading the Canadian delegation at the World Dental Parliament were (l. to r.): Dr. Tom Breneman, immediate past president, CDA; George Weber, executive director, CDA; Dr. Louis Dubé, president, CDA; and Dr. Alfred Dean, president-elect, CDA.*

Canadian Reception VIPs *— Attending the Canadian Reception at FDI 2003 Sydney were (l. to r.): George Weber, CDA executive director; Dr. Paul R. Warren, vice-president of dental affairs and clinical research, Oral-B Laboratories, Boston, Massachusetts; Jean Fournier, High Commissioner for Canada to Australia, Canadian High Commission, Canberra; Janie Breneman; and Dr. Tom Breneman, leader of the Canadian Delegation. The event was sponsored by Oral-B.*

Two presidents meet *— FDI's incoming president Dr. Heung-Ryul Yoon of Korea meets with CDA president Dr. Louis Dubé during FDI 2003 Sydney.*

Thanks to Pfizer Canada

CDA wishes to thank Pfizer Canada and Listerine for their decade of generous sponsorship of the President's Installation Dinner.

LISTERINE

New Investment Services for Dentists

In 2003, Canadian Dental Service Plans Inc. (CDSPI), which administers the Canadian Dentists' Investment Program on behalf of CDA, worked hard to introduce new services to make using the Investment Program even better.

"The new services were introduced so we could serve the broader needs of dentists, particularly as they become more established investors and require specialized tools," said Pierre Vézina, vice-president, CDSPI Investment Services. "We intend to continue to enhance services, with the aim of providing everything investors need throughout their lifetimes, all in one convenient place."

Enhancements during the year have included:

- The introduction of an area on the CDSPI Web site where participants can check investment account details and make investment transactions.
- An Individual Pension Plan service using the CDA investment funds, which can offer greater savings for retirement and tax benefits for dentists with incorporated companies.
- An insured annuity service providing income and capital preservation in retirement.
- The Wealth Management Service providing complete financial plans for attractive fees.
- The Retirement InSight™ service for checking progress towards retirement savings goals.
- A series of educational booklets that help dentists understand investing in RRSPs, RESPs, RIFs and non-registered Investment Accounts.
- Guaranteed fund investments as an option in the CDA RESP.
- Special seminars for new dentists to help them start investing.

For more information, call Investment Services at CDSPI. ■

Information provided by Canadian Dental Service Plans Inc.

Canadian Dental Service Plans Inc.

155 Lesmill Road, Toronto, Ontario M3B 2T8
Metro Toronto: (416) 296-9401
Toll-free: 1-800-561-9401 Fax: (416) 296-8920

Dentists Win with Insurance Improvements

Participants in the Canadian Dentists' Insurance Program (which is sponsored by CDA and cosponsored by nine provincial dental associations) will benefit from two major plan improvements for 2004.

The first is an enhancement of the Accidental Death and Dismemberment Insurance plan, which has broadened the types of accidental injuries that result in a benefit payment. Previously, those who lost both a thumb and index finger on either hand would receive 100% of their insured benefit. In 2004, 100% of benefits will be paid for loss of a thumb *or* an index finger on either hand. (Among the other accidental injuries covered are loss of sight in one or both eyes, and loss of speech.) As well, the maximum coverage available has been increased from $500,000 to $1 million.

"This enhancement is of particular importance to dentists, since their hands are so important to their profession," says Susan Roberts, the service supervisor at Professional Guide Line Inc. – A CDSPI Affiliate. "I don't believe dentists could find other accidental injury plans anywhere offering coverage that is this specific to their needs."

Another boon to dentists for 2004 is a 10% reduction of premiums for Office Overhead Expense Insurance.

"It's important that any dentist who is responsible for overhead costs in a practice has Office Overhead Expense Insurance, since the plan can help keep a practice going, should the dentist become disabled," says Ms. Roberts. "With the premium reduction, the coverage is much more affordable, so I hope dentists will take this opportunity to get appropriate coverage."

As well, the reduction formula under the Basic Life Insurance and Dependents' Life plans will now apply at age 70 (with a participant's coverage amount reducing in steps and terminating at age 85), instead of at age 65 (with coverage ending at age 80).

Other changes to the Insurance Program include rate increases for some of the non-personal coverage plans, resulting from insurance industry changes. However, those plans continue to include valuable protections that are not currently found elsewhere.

Complete plan change details are available from CDSPI, which administers the Insurance Program. ■

If You're Recovering from Disability Will Your Practice Have a Setback?

Office Overhead Insurance from the Canadian Dentists' Insurance Program

Disability insurance is designed to financially protect you — not your dental practice.

So if you become disabled, how will you pay for the on-going costs of your practice? For many dentists, these expenses total tens of thousands of dollars each month.

Fortunately, the Canadian Dentists' Insurance Program offers a superior way to fill this coverage gap — **Office Overhead Expense Insurance**.

This exceptional plan provides:

- Monthly benefits to cover practice costs such as rent, utilities and staff salaries
- Valuable options and special features — including maternity leave benefits
- Attractive premiums, including low *HealthEdge* rates

Don't let your practice suffer if you become disabled. Call today to obtain an Office Overhead Expense Insurance application, or download one now from our website.

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New! Higher Coverage Amounts Now Available

Dentists can now obtain more Program office overhead coverage than ever before! The amount of available coverage has doubled over previous years. Now dentists under age 55 can apply to receive up to $40,000 of monthly OOE benefits.

CALL FOR NO-COST ADVICE

To learn how much Office Overhead Expense Insurance will best suit your needs, call Professional Guide Line Inc. — A CDSPI Affiliate, for no-cost insurance planning advice* from a licensed, non-commissioned professional.

Dial: 1-877-293-9455, extension 5002

** Restrictions may apply to advisory services in certain jurisdictions. Residents of Quebec and PEI call CDSPI at 1-800-561-9401, extension 5000 for insurance plan information.*

Professional Guide Line
A CDSPI Affiliate

www.cdspi.com www.proguideline.com

The Canadian Dentists' Insurance Program is sponsored by the CDA and co-sponsored by participating provincial dental associations. CDSPI is the Program's administrator. Office Overhead Expense Insurance is underwritten by The Manufacturers Life Insurance Company (Manulife Financial).

03-68 09/03

Evolution of Interprofessional Learning: Dalhousie University's "From Family Violence to Health" Module

• **Grace M. Johnston,** MHSA, PhD •
• **Helen A. Ryding,** BDS, MSc •
• **Lindsay M. Campbell,** BSc, MHSA •

Abridged Version

The complete article can be viewed on the **eJCDA** *Web site at: http://www.cda-adc.ca/jcda/vol-69/issue-10/658.html*

© J Can Dent Assoc 2003; 69(10):658
This article has been peer reviewed.

The educational "silos" that characterize the training of health care professionals have fostered turf protection and isolation, rather than an integrated system of health care capable of addressing complex health problems. For example, underreporting of family violence remains a problem, and its adverse effects remain a concern, even though the "battered child syndrome" was reported in the medical literature more than 40 years ago. At Dalhousie University, interprofessional (IP) learning modules are used to help future health care professionals learn to work together. This paper describes the evolution of one module, "From Family Violence to Health," an updated version of which was introduced in 2000. By February 2003, 1,182 students from 15 health professions had completed the module.

Initially, the module was framed around one case study of a potentially abused child requiring dental care. Students in health care professions outside dentistry typically lack an understanding of the important role of dental professionals in the detection and management of family violence, and this knowledge gap provided a valuable starting point for IP learning. Subsequently, elder and spousal abuse cases were added to the module.

The 2-hour module begins with a brief plenary session, which is followed immediately by an IP small-group case study. The students then reconvene and present issues to a plenary panel of experts from law enforcement, social work and legal aid.

Before participating in the module, students could identify their role in the recognition of family violence and knew their responsibility to report incidents. However, after the module, there was greater understanding of the reporting of family violence, as well as a more comprehensive and supportive perspective regarding the roles of other health care professionals. The students recognized the need to include family members and other professionals in addressing the problem. They also moved beyond consideration of treatment to consideration of prevention and education.

Before the IP module, many students viewed family violence as a responsibility specific to their own profession. After the module, shared responsibility and the need to work together in the community were apparent. The students became aware of ways to support and collaborate with other health care professionals.

As health care delivery becomes more focused on care teams and system thinking, the provision of IP training is expected to increase. The Dalhousie University IP modules address health and social problems for which it is critical that health care and other professionals work together. The modules are designed to enable critical thinking and reformulation of "uniprofessional" knowledge and assumptions into a transdisciplinary context. They lead to insights and in-depth understanding of the limitations of a uniprofessional approach by allowing students to see their own profession in a larger context.

The Dalhousie IP modules can be viewed at http://www.dal.ca/~fhp/ipl/index.html. ♦

ADVERTISING FEATURE

Dentin Hypersensitivity

Closing the Knowledge Gaps

Canadian Advisory Board on Dentin Hypersensitivity

The high prevalence of dentin hypersensitivity, combined with continued underreporting and underdiagnosis, has intensified the need to focus on the management of this condition. Responding to that need, the Canadian Advisory Board on Dentin Hypersensitivity, a committee representing a broad range of dental care specialties, convened to determine best-practice recommendations.[1] Collectively, they evaluated the scientific evidence as well as condition-related knowledge gaps that were identified by an extensive national survey of 8,000 dental professionals (7% response rate). By contributing their own diverse expertise, the committee produced the first ever "Consensus-Based Recommendations for the Diagnosis and Management of Dentin Hypersensitivity," to provide direction to the dental care profession.

Gordon Schwartz, DDS, PhD, Dip Perio

Véronique Benhamou, DDS, Cert Perio

Gathering evidence: the foundation for a consensus.

The Canadian Advisory Board on Dentin Hypersensitivity began its task by gathering information from two key sources. A thorough search of literature, articles and reviews from 1966 to 2002 was conducted to provide the available scientific evidence; while a large, national, multi-disciplinary survey revealed current clinical knowledge and practices. This Educational Needs Assessment Survey, sent to 5,000 dentists and 3,000 dental hygienists, was implemented to determine practitioners' understanding of the mechanisms and management of dentin hypersensitivity.

The results of the 66-item questionnaire highlighted 14 key knowledge gaps spanning diagnosis, management and treatment, reflecting the limited emphasis on dentin hypersensitivity in the curricula of dental and hygiene schools. The following present some of the identified misconceptions:

- Practitioners underestimated the prevalence of this condition, particularly among young adults.
- Screening was not a primary consideration, putting the onus on patients to initiate conversation about their sensitivity concerns.
- Although dentin hypersensitivity is by definition a diagnosis of exclusion, less than half of the practitioners attempted to exclude other diseases.
- When identifying causes, few professionals knew that enamel erosion is the primary factor leading to dentin hypersensitivity, with 60% incorrectly identifying gingival recession as the primary cause.
- Over 85% incorrectly cited toothbrush abrasion as the reason for continued tubule exposure, even though toothbrushing, with or without toothpaste, has no significant effect on tubule exposure.
- Treatment strategies varied greatly, with only 50% responding that they attempted to modify predisposing factors.
- Over half of the surveyed dental care professionals incorrectly identified fluoride instead of potassium nitrate or strontium chloride as the active agent in desensitizing toothpastes.
- Many were unaware that most desensitizing toothpastes, when used regularly, are effective in preventing caries, just like non-desensitizing toothpastes that contain fluoride.

It is not surprising therefore, that 50% of respondents reported they were only somewhat or very confident about managing their patients' pain.

Clinical and academic experience: a framework for management.

The limited professional knowledge base emphasized the pressing need for clear instruction in managing and treating dentin hypersensitivity. Where science was lacking, board members incorporated learnings from their own diverse clinical and academic experience, developing a framework of fundamental steps to direct clinicians. To provide a systematic approach to the problem, a treatment algorithm was developed, reflecting many of the board's final recommendations. This included diligent screening, correct diagnosis, management and treatment, along with regular follow-up.

SCREEN PATIENT

▼

DIAGNOSE
- Obtain patient history (description of pain, triggers for pain)
- Probe for presence of extrinsic/intrinsic acids
- Examine patient to exclude other causes

▼

INITIATE MANAGEMENT
- Educate patient about condition
- Remove excessive predisposing factors
- Instruct on proper tooth-brushing techniques

▼

FOLLOW-UP

▼

INITIATE TREATMENT
- Non-invasive, reversible techniques (proper use of desensitizing toothpaste; topical agents) should generally precede invasive, non-reversible procedures
- Invasive techniques (mucogingival surgery; resins; pulpectomy)

▼

FOLLOW-UP

See Consensus-Based Recommendations for detailed algorithm on diagnosis and management

Education: a prerequisite for best practice.

While most patients hesitate to report their sensitivity, methodical screening and diagnosis by dental professionals are also lacking. As a result, dentin hypersensitivity is highly prevalent, but underreported and underdiagnosed.* Professionals are often unaware that affected patients may be deterred from keeping regular dental and hygiene appointments, due to the discomfort elicited by various standard procedures.[2] This highlights the importance of ongoing screening and the need for improved management skills.

Dental professionals must initiate conversation about sensitive teeth, provide patient education and long-term counselling to address the high prevalence of this painful condition. Increasing emphasis on dentin hypersensitivity in the curriculum of dental and hygiene schools, as well as the availability of continuing dental education programs, will elevate professional knowledge and confidence. This will provide dentists and hygienists with the tools to assume greater responsibility in addressing this condition, so that patients are not left to suffer in silence.

The Canadian Advisory Board on Dentin Hypersensitivity was supported by an unrestricted educational grant from GlaxoSmithKline Consumer Healthcare.

*Reported prevalence range 8-57%.

1. Consensus-Based Recommendations for the Diagnosis and Management of Dentin Hypersensitivity. Canadian Advisory Board on Dentin Hypersensitivity. *J Can Dent Assoc* 2003;69(4):221-226.
2. Haywood, VB. Dentin hypersensitivity: bleaching and restorative considerations for successful management. Proceedings of a symposium held at the FDI World Dental Congress, Vienna 2002. *International Dental Journal* 2002;52(5):376-384.

Emergency Management of Acute Apical Abscesses in the Permanent Dentition: A Systematic Review of the Literature

• **Debora C. Matthews,** DDS, Dip Perio, MSc •
• **Susan Sutherland,** DDS, MSc •
• **Bettina Basrani,** DDS, Dip Endo, PhD •

Abridged Version

The complete article can be viewed on the **eJCDA** *Web site at: http://www.cda-adc.ca/jcda/vol-69/issue-10/660.html*

© J Can Dent Assoc 2003; 69(10):660
This article has been peer reviewed.

Objective: Although acute apical abscess is the result of an infectious process, the infection is localized, and the pain experienced is a result of inflammation of the periradicular tissues. Thus, the use of antibiotic therapy in the absence of systemic complications may be inappropriate. Nonetheless, up to 75% of patients with painful abscesses are treated with antibiotics. The aim of this study was to perform a systematic literature review and meta-analysis on the effectiveness of interventions used in the emergency management of acute apical abscess in the permanent dentition.

The following clinical question was addressed in the systematic review outlined below: In adult patients presenting with an acute apical abscess resulting from a nonvital pulp, what is the effect, in terms of pain relief, of various interventions? The interventions examined included systemic and local pharmacotherapeutics, local surgical measures, extraction, occlusal adjustment and so-called watchful waiting (no treatment).

Methods: Electronic databases were searched from their inception to March 2002. Data sources included the MEDLINE and Cochrane databases. These searches, combined with manual searching, yielded 85 citations, of which 35 were relevant. Independent application of inclusion criteria by 3 reviewers yielded 8 eligible randomized controlled trials. Data on population, interventions, outcomes (reduction of pain or swelling or both, as reported by patients or clinicians) and methodological quality were determined by independent triplicate review. Disagreements were resolved by consensus.

Results: Five trials compared different antibiotics in combination with either incision and drainage of the abscess, pulpectomy or extraction. The results were not statistically significant. One study, an open-label comparison of azithromycin and co-amoxiclav, showed a statistically significant result favoring azithromycin in terms of reduction of pain alone. In the 2 studies comparing antibiotics with placebo or no treatment, there was no significant difference between the 2 groups.

Conclusions: For the emergency management (i.e., relief of pain and swelling) of an acute apical abscess in an adult, drainage of the abscess should be initiated as soon as possible. This may include nonsurgical endodontic treatment (root canal therapy), incision and drainage, or extraction. For localized infections, systemic antibiotics provide no additional benefit over drainage of the abscess. In the event of systemic complications (e.g., fever, lymphadenopathy or cellulitis), or for an immunocompromised patient, antibiotics may be prescribed in addition to drainage of the tooth. There is no evidence to recommend one antibiotic over another in the management of an acute apical abscess with systemic complications.

This systematic review provided the evidence-based report for the development of a clinical practice guideline for the emergency management of acute apical abscess in adults. The guideline can be viewed at www.cccd.ca. ❖

CANADIAN COLLABORATION on CLINICAL PRACTICE GUIDELINES in DENTISTRY
COLLABORATION CANADIENNE SUR LES RPC EN DENTISTERIE

Guideline for
Treatment of acute apical abscess in adults

This guideline has been developed by the CCCD and was approved by the Council of the CCCD on September 3, 2003. The full version of the guideline and methods used in its development are available at http://www.cccd.ca. Clinical Practice Guidelines are systematically developed statements to assist practitioners and patients in making appropriate oral health care decisions for specific clinical circumstances. They should be used as an adjunct to sound clinical decision making. CCCD guidelines are updated on a regular basis as new research information becomes available.

Goal

This guideline is intended to aid clinicians in ensuring pain relief for patients with acute apical abscesses.

Definition

An acute apical abscess is a periapical inflammation resulting from an untreated, non-vital pulp.

Features of Acute Abscess

- ☐ Tooth is non-vital
- ☐ Pain:
  - ☐ Rapid onset
  - ☐ From slight tenderness to intense, throbbing pain
  - ☐ Marked pain to biting or percussion
- ☐ Swelling:
  - ☐ Palpable, fluctuant
  - ☐ May be a localized sense of fullness
- ☐ Radiographic Changes:
  - ☐ None to large periapical radiolucency

Recommendations

- ☐ In the case of localized and diffuse abscesses, drainage should be started as soon as possible. This may include non-surgical endodontic treatment (root canal therapy), incision and drainage or extraction, depending upon the clinican's judgement and taking into account the patient's preferences.
- ☐ If immediate drainage is not possible, appropriate analgesia (NSAIDs) should be recommended until the infection can be adequately drained.
- ☐ Systemic antibiotics provide **no additional benefit** over drainage of the abscess in the case of **localized infections.**
- ☐ In the presence of systemic complications (fever, lymphadenopathy, cellulitis), diffuse swelling or a patient with medical indications, antibiotics may be a helpful addition. There is no evidence to recommend one antibiotic over another in the management of acute abscesses with systemic complications.
- ☐ Antibiotic therapy may be indicated when drainage cannot be achieved.
- ☐ Patients should be given the appropriate dose of analgesics (NSAIDs if not contra-indicated) pre-operatively, and/or immediately post-operatively. This should be continued as needed to control pain.

Not recommended

- ☐ Antibiotic therapy is not indicated in otherwise healthy patients.
- ☐ Antibiotic therapy is not indicated when the abscess is localized.

A Review of the Functional and Psychosocial Outcomes of Edentulousness Treated with Complete Replacement Dentures

• **Patrick Finbarr Allen,** BDS, PhD, MSc, FDS RCPS •
• **Anne Sinclair McMillan,** BDS, PhD, FDS RCPS, FDS RCS(Ed) •

Abridged Version

The complete article can be viewed on the **eJCDA** *Web site at: http://www.cda-adc.ca/jcda/vol-69/issue-10/662.html*

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This article has been peer reviewed.

Dramatic improvements in tooth retention by adults have been reported in a number of adult dental health surveys in industrialized countries. The prevalence of edentulousness has decreased, but many older adults remain edentulous. This article reviews recent literature on the outcomes of edentulousness and complete denture therapy.

One well-documented consequence of tooth loss is resorption of the residual alveolar ridge. Despite extensive research, reasons for inter-patient variation in the rate and extent of bone loss remain unclear. This variation is likely related to both local and systemic factors. Loss of alveolar ridge, particularly in the mandible, can lead to instability of complete replacement dentures, poor appearance and discomfort. Loss of teeth also compromises ability to chew food and thus may impair food choice. Objective assessment of masticatory performance indicates that chewing is substantially compromised by tooth loss. In studies evaluating the effects of new, optimal dentures, masticatory performance and masticatory ability were not significantly improved. Results of objective and subjective assessments were only moderately correlated. These results have implications for treatment planning and indicate a need for a standardized index of chewing efficiency. However, it should not be assumed that poor diet is simply a direct result of tooth loss. Factors such as socio-economic status, education and food preference also play a major role in diet. Nonetheless, research has shown that edentulous adults have a poor-quality diet that is low in fibre. This has long-term health implications.

Many adults develop the skills required to overcome and eventually accept limitations of dentures. However, some patients do not cope well with the loss of natural teeth and are classed as "maladaptive." The broader issue of handicap associated with edentulousness has not received as much attention in the literature. This domain of health is difficult to measure, and requires expertise beyond the dental disciplines. Some studies have used psychological assessment measures to assess patient acceptance of complete dentures, but no convincing association was described. These measures are not developed for use as oral health status measures and are unlikely to have fully captured the impact of tooth loss and denture-wearing problems. Qualitative studies have probed into the impact of tooth loss on quality of life. Common themes that emerged from these interviews were feelings of bereavement, lowered self-confidence, altered self-image, dislike of appearance, inability to discuss this taboo subject, concern about dignity, behaving in a way that keeps tooth loss secret, altered behaviour in socializing and forming close relationships, and premature aging.

Research into the outcomes of total tooth loss and complete denture therapy has been hampered by lack of randomized clinical trials, questionable use of statistical tests and failure to include comparable control groups. The current evidence base needs to be supplemented with stronger evidence from a more rigorous study design, which will lead to a better understanding of the outcomes of tooth loss and complete denture therapy. ❖

Long-term pain management tool?

Sensodyne-F®

NEW Canadian Consensus Report on dentin hypersensitivity recommends

a long-term approach to management, with desensitizing toothpaste as first-line treatment.†

The Report recognizes that the pain of sensitive teeth can be recurrent and that ongoing management and treatment are key to staying pain-free. An ongoing regimen of twice-daily brushing with desensitizing toothpaste like Sensodyne® is recommended as an efficacious, inexpensive and non-invasive first-line treatment for pain prevention.

Only Sensodyne® offers an extensive line of formulas to provide the many desirable benefits associated with regular toothpaste, making it easy for patients to stay with the treatment you recommend.‡

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A tradition of leadership and innovation

‡ Sensodyne® (with either 5% w/w potassium nitrate or 10% w/w strontium chloride) is recommended to relieve and prevent tooth sensitivity pain in adults and children over 12 years. Brushing twice daily builds and maintains the protective barrier, to help prevent pain from returning.

† Consensus-Based Recommendations for the Diagnosis and Management of Dentin Hypersensitivity. Canadian Advisory Board on Dentin Hypersensitivity. *J Can Dent Assoc* 2003;69(4):221-226.

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The only toothpaste to earn the CDA Seal for reducing tooth hypersensitivity

Platelet-Rich Plasma: A Promising Innovation in Dentistry

• **Tolga Fikret Tözüm,** DDS, PhD •
• **Burak Demiralp,** DDS, PhD •

Abridged Version

The complete article can be viewed on the **eJCDA** *Web site at: http://www.cda-adc.ca/jcda/vol-69/issue-10/664.html*

© J Can Dent Assoc 2003; 69(10):664
This article has been peer reviewed.

The goal of periodontal therapy is to protect and maintain the patient's natural dentition over his or her lifetime for optimal comfort, function and esthetic appearance. More specifically, after periodontal regenerative surgery, the aim is to achieve complete wound healing and regeneration of the periodontal unit. After such surgery, platelets start to form a stable blood clot, releasing growth factors that induce and support healing and tissue formation. A recent innovation in dentistry is the preparation and use of autologous platelet-rich plasma (PRP), a concentrated suspension of the growth factors found in platelets.

Effects of PRP growth factors

A series of well-orchestrated cell–cell interactions starts after injury, whereby disruption of the vasculature as a result of the injury leads to fibrin formation and platelet aggregation. Platelet-derived growth factor, transforming growth factor-beta and insulin-like growth factor are some of the factors that platelets release into the tissues. Basic and clinical research has focused on the applications of factors found in PRP, and these studies have yielded promising in vitro and in vivo results, such as significant improvement in wound healing and induction of tissue regeneration.

PRP-related studies

PRP is a component of blood in which the platelets are concentrated in a limited volume of plasma. In vitro and in vivo studies have shown that the use of this autologous concentrate decreases the frequency of intraoperative and postoperative bleeding at the donor and recipient sites, facilitates more rapid healing of soft tissues, aids in the initial stability of grafted tissue at the recipient site, may promote rapid vascularization of the healing tissue and, in combination with bone replacement grafts, induces regeneration.

Preparation of PRP

A variety of companies have developed systems for preoperative preparation of PRP in the medical or dental office. The literature assessing PRP systems used in dental offices is reviewed, and a step-by-step preparation protocol is given, with details for dental practitioners interested in PRP applications.

Conclusions

PRP is a new application of tissue engineering and a developing area for clinicians and researchers. PRP is a platelet concentrate that influences soft-tissue healing and enhances bone regeneration. Although the mechanisms involved are still poorly understood, the ease of its application in a dental clinic and its outcomes are beneficial and promising. More studies are needed to provide evidence of efficacy. Further clinical trials should be undertaken to determine PRP's capacity for and impact on wound healing and regeneration. ◆

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Evaluation of a Second-Generation LED Curing Light

• **Richard B.T. Price,** BDS, DDS, MS, FDS RCS (Edin), FRCD(C), PhD •
• **Corey A. Felix,** BSc, MSc •
• **Pantelis Andreou,** PhD •

Abridged Version

The complete article can be viewed on the **eJCDA** *Web site at: http://www.cda-adc.ca/jcda/vol-69/issue-10/666.html*

© J Can Dent Assoc 2003; 69(10):666
This article has been peer reviewed.

Background

Light-emitting diode (LED) curing lights last longer and produce less heat than conventional quartz–tungsten–halogen (QTH) curing lights. However, first-generation LED curing lights did not perform as well as conventional QTH curing lights. Second-generation LED lights are now available, and they may offer better performance and shorter curing times. This study compared a second-generation LED light with a QTH light to determine which was better at photopolymerizing a range of resin composites.

Methods

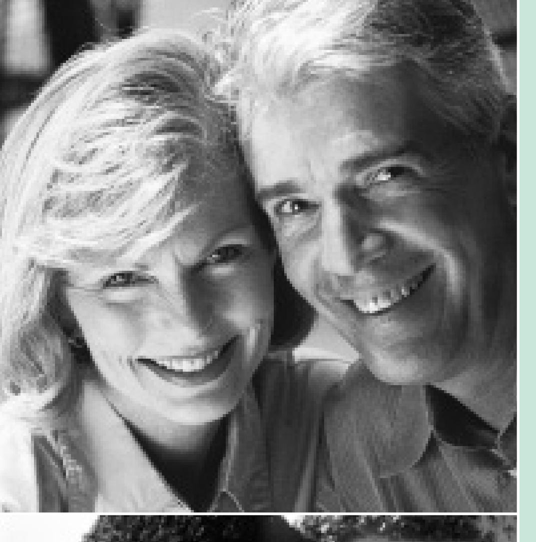
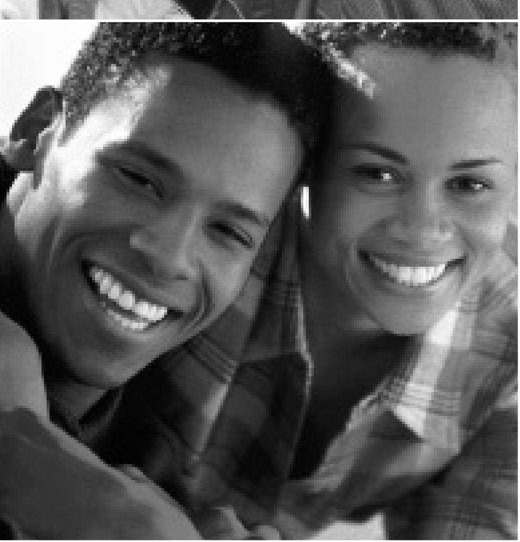
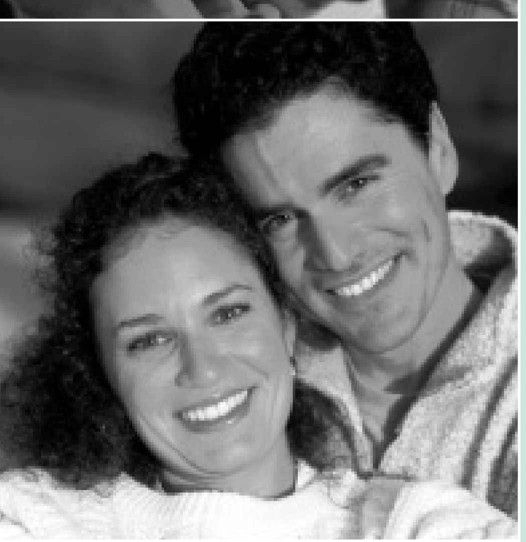
The ability of a second-generation LED curing light, used for 20 and 40 seconds, was compared with that of a traditional QTH light, used for 40 seconds, in the curing of a selection of 10 multipurpose, flowable and posterior resin composites. The light output from each unit was measured with a spectroradiometer. Three examples of each type of curing light were used to irradiate the composites at distances of 2 and 9 mm from the light guide. The 2-mm distance represented the shortest distance from a cusp tip to the composite in a Class I restoration. The 9-mm distance represented a clinical situation with a deep proximal box in a molar tooth. The Knoop hardness at the top and bottom of the 1.6-mm thick composite specimens was measured after 15 minutes in air and after 24 hours in water at 37°C. The hardness values at the top and bottom of the specimens irradiated at both distances were combined, and a general linear model analysis with Sidak's adjustment for multiple comparisons was used to compare the ability of the lights to cure the composites to a depth of 1.6 mm.

Results

The 2 lights delivered similar power densities at 0, 2 and 9 mm from the light guide, but the spectral distributions were very different. The second-generation LED lights produced a narrow spectral output with a mean ± standard deviation peak at 445.2 ± 0.3 nm. The QTH lights had a much wider spectral bandwidth with a peak at 491.3 ± 4.2 nm. The various curing lights and times did not have the same effects on all of the composites ($p < 0.01$). Twenty-four hours after irradiation, the LED light used for 20 seconds was able to cure 5 of the composites as well as the QTH light used for 40 seconds ($p > 0.01$) and 7 of the composites to more than 80% of the hardness obtained when the QTH light was used. When the LED light was used for 40 seconds, 6 of the 10 composites achieved a hardness (after 24 hours) equivalent to when the QTH light was used ($p > 0.01$), and all 10 composites achieved more than 80% of the hardness developed when the QTH light was used.

Conclusions

This LED light could not polymerize all of the composites as well as the QTH light. However, when used for 40 seconds, more than half of the composites were cured as well as when the QTH light was used ($p > 0.01$), and all of the composites achieved a hardness comparable to that produced with the QTH light. ❖

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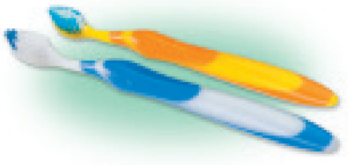

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Diagnostic Challenge

The Diagnostic Challenge is submitted by the Canadian Academy of Oral and Maxillofacial Radiology (CAOMR). The challenge consists of the presentation of a radiology case.

Since its inception in 1973, the CAOMR has been the official voice of oral and maxillofacial radiology in Canada. The Academy contributes to organized dentistry on broad issues related to dentistry in general and issues specifically related to radiology. Its members promote excellence in radiology through specialized clinical practice, education and research.

CAOMR Challenge No. 11

Shaon Datta, BDS, and **Axel Ruprecht,** DDS, MScD, FRCD(C)

An 8-year-old boy presented with bilateral, painless enlargement of the body and angles of the mandible. He had a round face and broad cheeks. Upon examination, the submandibular lymph nodes were enlarged. His father gave a history of having a similar rounded facies himself with bilateral jaw enlargement, which had spontaneously regressed with age.

A pantomograph (**Fig. 1**) showed multilocular radiolucencies in the lower molar regions extending posteriorly into the coronoid processes of the mandible. The maxillary tuberosities were also affected. Multiple impacted and displaced teeth were seen.

Laboratory results showed an increase in the level of the serum alkaline phosphatase.

The patient was followed up for years. At age 22, he presented with superomedial displacement of the right eye and an upward cast of the eyeball, with exposure of the sclera below the pupil. His other facial contours seemed to be normal at this time. A pantomograph (**Fig. 2**) showed signs of new bone formation (healing) in the areas previously occupied by the lesions.

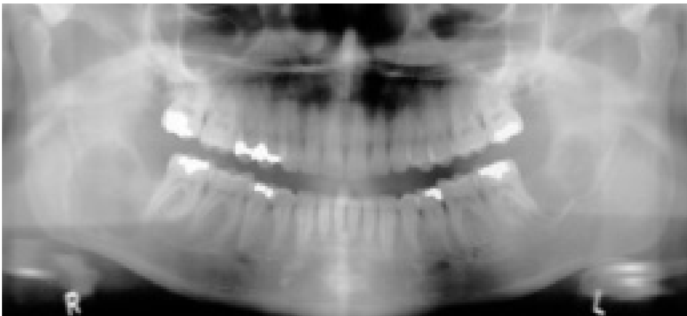

Figure 1: *Pantomograph of 8-year-old patient.*

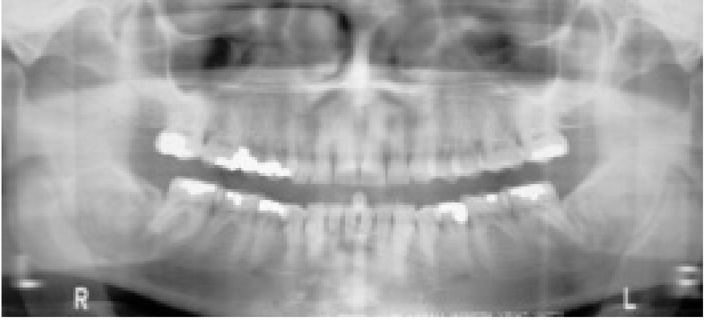

Figure 2: *Pantomograph made when the patient was 22 years old.*

What is your diagnosis?

(See page 670 for answer)

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Answer to CAOMR Challenge No. 11

Cherubism is a rare, self-limiting, non-neoplastic bone lesion that primarily affects the jaws of children and young adults bilaterally. It is considered to be hereditary, with an autosomal dominant pattern.[1] The appearance of affected children is normal at birth but swellings of the jaws appear between 2 to 7 years of age. Males are affected twice as often as females. The penetrance is 100% in men and 50% to 70% in women.[2] The gene for the disease has been mapped to chromosome 4p16.3.[3]

This disease was first described by Jones[4] in 1933 in 3 children of a Jewish family. He made the analogy that the children looked similar to the renaissance cherubs and thus, suggested this clinically attractive name.

The mandible is always involved, whereas the involvement of the maxilla is variable. When the latter is involved, the palate may be V-shaped.[5] Displaced, malposed, impacted and unerupted teeth are common findings. Supernumerary and missing teeth can also occur. Premature loss of deciduous teeth and delayed eruption of the permanent teeth have also been reported.

The exposure of the sclera below the irides results in the apparent upward gaze, which has been attributed to elevation of the eye, retraction of the lower lid and loss of lower lid support. The orbital involvement in this disease usually appears late in affected individuals.

Radiographs show bilateral, multilocular, radiolucent areas within the jawbones. The coronoid processes are commonly involved, whereas the condyles are rarely affected.

Seward and Hanky[6] suggested a 3-tier classification for the disease:

- grade 1: bilateral lesions confined to the mandible extending up to the coronoid processes;
- grade 2: the same as grade 1, but with lesions in the maxillary tuberosities as well;
- grade 3: both jaws diffusely affected.

Although histopathologic investigation is not required in most cases to establish the diagnosis, when performed, it reveals osteoclast-like multinucleated giant cells in a moderately loose fibrous stroma with no evidence of neoplastic change.

Cherubism is reported to be associated with some well-described syndromes, including Noonan syndrome, Ramon syndrome, and Jaffe-Campanacci syndrome. The common features of Noonan syndrome include hypertelorism, "webbed" neck, mental retardation, cardiac defects, cryptorchidism and short stature. Ramon syndrome includes gingival fibromatosis, epilepsy, mental retardation and possibly insulin dependent diabetes. Jaffe-Campanacci syndrome is characterized by multiple nonossifying fibromata of the skeleton, café au lait spots, mental retardation, cryptorchidism, hypogonadism, and ocular and cardiovascular abnormalities.

The differential diagnoses for cherubism include giant cell tumour of the jaw, central giant cell lesion, brown tumour of hyperparathyroidism, fibrous dysplasia and aneurysmal bone cyst.[7–9]

The treatment protocol is primarily based on observation and follow-up. Since this disease often regresses spontaneously, surgical intervention may not be necessary other than for cosmetic and functional purposes. In recent years, experimental use of calcitonin in the treatment of cherubism has been described.[10] ◆

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The views expressed are those of the authors and do not necessarily reflect the opinions or official policies of the Canadian Dental Association.

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Clinical Abstracts

The Clinical Abstracts section of JCDA *features abstracts and summaries from peer-reviewed dental publications. It attempts to make readers aware of recent literature that may be of interest to oral health care workers. It is not intended to provide a systematic review of the topic. This month's selection provides an update on dental trauma. The articles were chosen by Dr. Preeti Prakash, a recent graduate of the Master of Science program in Dental Public Health at the University of Toronto, and Dr. David Locker, director of the Community Dental Health Services Research Unit at the University of Toronto. A commentary is provided that puts these articles into context for readers.*

Commentary

Dental Trauma: An Important Public Health Issue

Preeti Prakash, BDS, MSc
David Locker, BDS, PhD

Dental trauma is injury to the mouth, including teeth, lips, gums, tongue and jawbones. The most common dental trauma is a broken or lost tooth. Dental trauma can have long-lasting implications and prognosis may be uncertain.[1] Most studies of dental trauma have concentrated on specific subpopulations based on age groups or geographic areas. It is difficult to compare the results of various investigations because of differences in trauma classifications used in these studies. The National Institute of Dental Research has developed an index of tooth trauma among both children and adults for use in epidemiologic studies. Using this index, Kaste and others reported the first national U.S. data on injury to the incisor teeth among individuals aged 6–50 years (see Abstract 1). Almost 25% of the U.S. population had at least one traumatized permanent incisor. These injuries may be on the rise. One study of children living in a disadvantaged community in the United Kingdom reported a substantial increase in prevalence over a 3-year period (Abstract 2).

Dental trauma can be classified as intentional or unintentional. Domestic violence, altercations and assaults are examples of intentional injuries; accidents are classified as unintentional. Accidents around the home are a major source of injury to the primary dentition, while accidents at home and school account for injuries to the permanent dentition.[2] Accidents resulting from falls are the most common cause of dental trauma, followed by sports-related injuries, violence and road traffic accidents. An important predisposing factor for dental trauma is a large maxillary overjet, incomplete lip coverage and maxillary protrusion. Childhood obesity also increases the risk of traumatic dental injury (Abstract 3). Dental trauma can leave psychological or psychosocial scars. Most children with dental trauma report some impact on their daily lives, including feeling embarrassed when laughing or smiling and having problems when eating or when cleaning their teeth (Abstract 4).

The economic implications of dental trauma are almost unknown. Depending on the nature and extent of the injury, treatment may require several dental visits and may involve one or more general dentists or specialists. Treatment costs can be in the thousands of dollars. A trauma centre in Copenhagen, Denmark, reported treating more than 7,000 patients with over 16,000 traumatized teeth during an 11-year period. Two-thirds of these teeth had complicated injuries. Annual treatment costs were estimated to range from $2 to $5 million US per one million inhabitants (Abstract 5).

The guidelines of the International Association of Dental Traumatology provide basic information on management of injuries, prevention and first aid.[3] According to Gift and Bhat, although 89% of all U.S. injuries require medical attention, less than half are treated first in hospital (Abstract 6). They report that an estimated 5.9 million episodes of orofacial trauma were treated in private dental practice in the U.S. in 1991, representing an average of 46 episodes of care per year per practice.

Clearly, the prevalence of dental trauma, its psychosocial and economic costs, and the extent of demand for treatment in general practice mean that it should be regarded as an important public health issue. Despite the importance of dental trauma, there are few Canadian data on its prevalence, severity or risk factors. ❖

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What is the prevalence of incisor trauma?

Kaste LM, Gift HC, Bhat M, Swango PA. Prevalence of incisor trauma in persons 6 to 50 years of age: United States, 1988–1991. *J Dent Res* 1996; 75(Spec Iss):696–705.

Background

Traumatic injuries to the teeth are among the most serious of dental conditions, yet little is known about their prevalence in the U.S. population. The purpose of this study was to determine the overall and age-specific prevalence of injury to incisor teeth among individuals 6 to 50 years of age, and to examine differences in the prevalence of dental trauma by age, gender and ethnic group.

Methods

Data were collected as part of the oral examination component of the National Health and Nutrition Examination Survey (NHANES) III, Phase 1, 1988–1991. The tooth trauma index, developed by the National Institute of Dental Research for use in epidemiologic studies, was applied. This index is based on clinical, nonradiographic evidence of tooth injury and treatment received in the 8 permanent incisors, including a positive history of injury obtained from the subject.

Results

A total of 7,569 individuals were examined and the number of people with incisal trauma was 1,702. More than 38 million persons (24.9%) 6 to 50 years of age in the U.S. were estimated to have at least one traumatized incisor. Males had a higher prevalence than females (ratio of 1.5:1). The prevalence of trauma was also positively associated with age, with 18.4% of 6- to 20-year-olds showing evidence of trauma compared to 28.1% of those ages 21 to 50 years. Similar prevalence rates were found amongst whites and blacks, and among non-Hispanic whites, non-Hispanic blacks and Mexican-Americans. Maxillary central incisors were the most commonly affected teeth, representing just over 60% of traumatized incisors.

Clinical Significance

This study provided the first-ever U.S. national data on dental trauma. Results indicate that trauma to the anterior dentition is common and affects one-quarter of those aged 6 to 50 years. The associations with gender and age suggest that some individuals may be prone to dental trauma. ❖

Is the prevalence of dental trauma changing?

Marcenes W, Murray S. Changes in prevalence and treatment need for traumatic dental injuries among 14-year-old children in Newham, London: a deprived area. *Community Dent Health* 2002; 19(2):104–8

Background

Although traumatic dental injury is an important problem among children, there are few data that can be used to determine trends in the prevalence of this condition. This study was undertaken to assess whether the prevalence of traumatic injury to the permanent incisors of 14-year-old children living in a disadvantaged community in the United Kingdom had changed over time.

Methods

Two cross-sectional school-based surveys were undertaken, the first in 1995–1996 and the second in 1998–1999. The criteria used to identify traumatic dental injuries were the same in both surveys, and identical to the criteria used in the U.K. Child Dental Health Survey conducted in 1993.

The first survey included all 14-year-olds attending schools in the community (n = 2,242), while the second included a random sample of 14-year-olds attending those schools (n = 411).

Results

The prevalence of traumatic dental injury was 23.7% in 1995–1996 and 43.8% in 1998–1999. Both estimates were much higher than the prevalence (17%) for the U.K. as a whole. Increases were observed among both boys and girls, although in both surveys the prevalence was higher in boys. The second survey suggested that the treatment of this condition was neglected: a total of 92.7 per thousand incisors were damaged, 28.9 per thousand needed treatment and only 6.7 per thousand had been treated.

Clinical Significance

The study indicated that the prevalence of traumatic dental injury in children living in a disadvantaged community was high and that the frequency of the problem appeared to have increased substantially over a short period of time. Moreover, most of those needing treatment had not received treatment at the time of the study. ❖

3 Is childhood obesity a risk factor for traumatic dental injuries?

Petti S, Cairella G, Tarsitani G. Childhood obesity: a risk factor for traumatic injuries to anterior teeth. *Endod Dent Traumatol* 1996; 13(6):285–8.

Background

Because the prevalence of traumatic dental injuries in children is high, risk factors need to be identified to provide the basis for the development of preventive programs. One possible risk factor is obesity. Childhood obesity is widespread, affecting between 10% and 15% of children in developed countries. This study examined the relationship between obesity and traumatic dental injuries among 6- to 11-year-old schoolchildren in Rome, Italy.

Methods

Four calibrated dentists examined 938 schoolchildren 6 to 11 years old. Overjet, upper lip uncoverage, upper incisor protrusion, subjects' weight to the nearest 0.1 kg and height to the nearest 5 mm were recorded. Body mass index (BMI) was calculated using the formula weight/height^2. When the value of the BMI was equal to or higher than the value of the 97th percentile of the age- and sex-specific reference table, the child was defined as obese.

Results

The sample included 11.4% obese children (n = 107). Overall prevalence of dental injury was 21.3%, and prevalence among obese and non-obese children was 31.8% and 20%, respectively. Variables significantly affecting the probability of injury were upper lip uncoverage (OR = 1.23, 95% CI 1.03–1.49), overjet larger than 3 mm (OR = 1.68, 95% CI 1.21–2.33) and obesity (OR = 1.45, 95% CI 1.08–1.94).

Clinical Significance

The study showed that obesity significantly increased the risk of traumatic dental injury. The obese children included in the study were less active than the other children, suggesting that an active lifestyle may protect a child from dental trauma. Childhood obesity is a concern because of its links to systemic conditions such as heart disease and diabetes. The study provides one more reason for children to adopt active lifestyles. ❖

Can traumatic injuries have an impact on oral health-related quality of life in children?

Cortes MI, Marcenes W, Sheiham A. Impact of traumatic injuries to the permanent teeth on the oral health-related quality of life in 12–14-year-old-children. *Community Dent Oral Epidemiol* 2002; 30(3):193–8.

Background

Children are subject to a number of oral conditions that can impact on quality of life. Many children with traumatic injuries to the anterior dentition are not treated or receive inadequate treatment. This study assessed the social impact and dental consequences of untreated fractured anterior teeth in Brazilian schoolchildren.

Methods

A population-based matched case–control study was carried out (2:1 control-to-case ratio). Sixty-eight cases of 12- to 14-year-old children with untreated and fractured teeth were included. The controls were 136 children without traumatic dental injury. The children were matched by age, sex and socio-economic status. The Oral Impact on Daily Performances (OIDP) index, which assesses 8 physical, psychological and social functions, was used to compare the oral health-related quality of life of the cases and controls.

Results

In all, 66% of children with trauma reported some impact on daily living as a result of their oral condition, compared to 14.7% of children without injury ($p < 0.001$). The former group was more likely to report feeling embarrassed when laughing or smiling (55.9% vs. 13.2%), being irritable (33.8% vs. 5.1%), having problems with eating and enjoying food (19.1% vs. 1.5%) and reduced enjoyment from contact with other people (14.7% vs. 1.5%). These differences remained after controlling for each child's orthodontic condition and caries experience.

Clinical Significance

Children with untreated dental fractures have poorer oral health-related quality of life than those without fractured teeth. The fact that some studies indicate that many children do not receive treatment for their injuries should therefore be of concern to dental professionals and public health officials. ❖

What are the economic implications of traumatic dental injuries?

Borum MK, Andreasen JO. Therapeutic and economic implications of traumatic dental injuries in Denmark: an estimate based on 7549 patients treated at a major trauma centre. *Int J Paediatr Dent* 2001; 11(4):249–58.

Background

Although there have been several studies of the prevalence and incidence of traumatic dental injuries, the economic implications of traumatic dental injuries are almost unknown. The purpose of this study was to analyze the type and extent of traumatic dental injuries treated at a major trauma centre in Copenhagen, Denmark. The study also analyzed acute and subsequent treatment demands and treatment costs.

Methods

A therapeutic and economic analysis was performed for 7,549 patients who visited the trauma centre during an 11-year study period (total of 16,116 injured teeth). All patients answered a questionnaire containing 65 questions about the trauma event and its implications. Cases were classified according to the WHO trauma classification as uncomplicated (enamel and dentin fractures, subluxations and concussions) or complicated (crown fractures with exposed pulps, root fractures, luxation injuries with tooth displacement and bone fractures). The cost of acute trauma services was estimated based on time and materials needed to treat traumatic dental injuries by staff, oral surgeons and other personnel at the centre. The cost of individual restorative procedures was based on information from the Danish Dental Association.

Results

An average of 686 patients per year or 1.9 patients per day presented for treatment of dental injuries; 59.9% had injury to the permanent dentition, while 38.1% had injury to the primary dentition. The average cost of treating a permanent tooth after an uncomplicated injury was $420 US, and $1,490 US after a complicated injury. The average cost of treating a primary tooth injury after uncomplicated injury was $60 US, and $200 US after complicated injury. The cost of treatment was estimated to be $0.6 to $1 million US a year for patients treated in this trauma centre. When this figure was transferred to an estimated trauma population in Denmark, the estimated yearly cost of traumatic dental injuries ranged from $2 to $5 million US per one million inhabitants per year.

Clinical Significance

Because traumatic dental injuries are common and potentially serious, they can result in high costs for patients, insurance companies and public health services. ❖

What is the dentist's role in treating orofacial trauma in private practice?

Gift HC, Bhat M. Dental visits for orofacial injury: defining the dentist's role. *J Am Dent Assoc* 1993; 124(11):92–6, 98.

Background

Dental health professionals play a critical role in the prevention and management of traumatic dental injuries. Although many of these injuries require medical attention, it is estimated that less than half are treated first in a hospital. There is a lack of information on craniofacial and oral injuries, especially from primary care practices. This study was undertaken to provide national estimates of the number of episodes of orofacial injuries treated in U.S. private dental practices.

Methods

The data for this study were collected using a survey of a stratified random sample of 6,391 dentists in private dental practice in the U.S. conducted by the American Dental Association.

Results

At the national level, dentists in private practice treated an average of 46.4 episodes of care for orofacial injury per year. There were significant differences in the number of episodes per year when examined by specialty. Oral and maxillofacial surgeons reported the highest number of episodes (159.5), followed by pediatric dentists (134.9) and general practitioners (41.9). On the basis of these data, an estimated 5.9 million cases of orofacial trauma were treated by dentists in private practice in 1991.

Clinical Significance

This study showed that dental health care professionals encounter traumatic dental injuries on a regular basis. Thus, there is potential for the early identification of high-risk behaviours and predisposing risk factors, and for prompt treatment or referral. Prevention through counselling (use of mouth or face guards during sporting activities), public education and legislative enforcements (use of helmets and restraints in vehicles) can help reduce the prevalence of secondary disabilities and hospitalizations due to orofacial and dental injury. ❖

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03-62 09/03

Point of Care

The Point of Care section of JCDA *answers everyday clinical questions by providing practical information that aims to be useful at the point of patient care. The responses reflect the opinions of the contributors and do not purport to set forth standards of care or clinical practice guidelines. Readers are encouraged to do more reading on the topics covered. This month's responses were provided by Dr. Paul C. Edwards, a resident in the division of oral and maxillofacial pathology, department of dental medicine, Long Island Jewish Medical Center. If you would like to submit or answer a question, contact editor-in-chief Dr. John O'Keefe at jokeefe@cda-adc.ca.*

Question 1

What are the indications for using diagnostic aids such as Orascan, Oral CDx and Vizilite in the evaluation of oral lesions?

Several screening tools are now available in Canada to assist in evaluating intraoral epithelial lesions.

Orascan (Zila Professional Pharmaceuticals, Phoenix, Arizona; distributed by Patterson Dental Supply) is a mouth rinse containing toluidine blue (tolonium chloride), which selectively binds to free anionic groups such as the phosphate groups of DNA. In vivo, toluidine blue reportedly stains malignant epithelial lesions a blue colour. Orascan is recommended by the manufacturer for monitoring of suspicious lesions for which there has been a baseline histopathologic evaluation, screening for the presence of cancerous lesions in high-risk individuals, routine follow-up of patients previously treated for cancer of the upper aerodigestive tract and determination of the optimal site for biopsy of large, heterogeneous lesions.

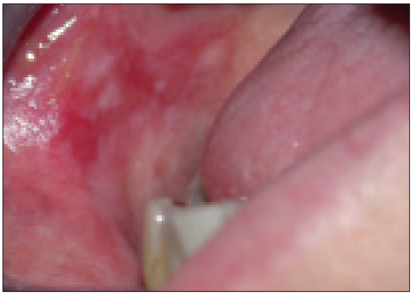

Figure 1: *Patient with unilateral erythroleukoplakic lesion of the right buccal mucosa. Although tissue biopsy results were consistent with lichen planus, long-term follow-up with one of the screening tools described, coupled with periodic scalpel biopsy, would be appropriate. Photograph courtesy of Dr. John Fantasia.*

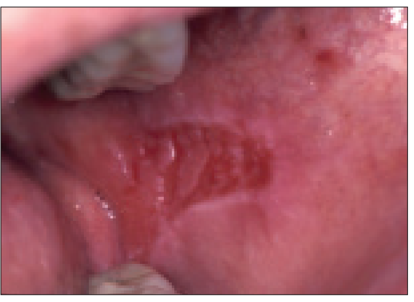

Figure 2: *Patient with unilateral erythroleukoplakic lesion of the left buccal mucosa. Although there was clinical suspicion for carcinoma, the tissue biopsy was interpreted as nonspecific mucositis, and long-term follow-up with one of the screening tools would be appropriate. Photograph courtesy of Dr. John Fantasia.*

Areas of inflammation, irritation and ulceration, as well as the dorsum of the tongue (an uncommon site for squamous cell carcinoma), routinely pick up the dye. When used for screening in populations with a low prevalence of squamous cell carcinoma, the sensitivity and specificity appear lower than when used in high-risk populations.[1] Therefore, in the absence of clinically suspicious areas in low-risk patients, areas that stain should be retested after 10 to 14 days, during which time any transient inflammatory lesions can be expected to heal.

Orascan is not a diagnostic test, and the absence of staining does not rule out cancerous lesions or preclude the need for a scalpel biopsy if the clinical presentation warrants. The Canadian Academy of Oral Pathology has recommended that "lesions suspected clinically of being malignant or premalignant should be investigated by prompt incisional biopsy regardless of staining reaction to toluidine blue."[2]

Oral CDx (Oralscan Laboratories, Suffern, N.Y.; distributed by Henry Schein Dental) is a computer-assisted brush biopsy analysis system. The dentist uses a brush biopsy instrument to obtain cells from all layers of the epithelium. The sample is evaluated to verify adequate representation of the basal layer. Individual cells are examined for a combination of abnormal morphology and spectral abnormalities of keratin that are characteristic of altered epithelial differentiation. Approximately 200 of the highest scoring (most abnormal) cells are selected by the computer for analysis by a cytopathologist.

Oral CDx is not a substitute for traditional scalpel biopsy because the tissue obtained is disaggregated and does not contain the necessary architectural information to histologically assess and grade dysplastic lesions.[3] According to the manufacturer, Oral CDx facilitates the testing of apparently innocuous epithelial lesions with no obvious cause that are not sufficiently suspicious-looking to

warrant conventional scalpel biopsy. It is not intended for the examination of submucosal lesions with intact surface epithelium, such as hemangiomas or mucoceles. It can also be used in the long-term follow-up of patients with erythroplakic (**Figs. 1** and **2**) or leukoplakic lesions in which a baseline histologic diagnosis has been obtained and in patients with a history of oral cancer. However, a negative result on brush biopsy does not obviate the need for conventional tissue biopsy if the clinical presentation warrants.

Vizilite (Zila Professional Pharmaceuticals; distributed by Patterson Dental Supply) is a recently introduced intraoral screening test similar to the acetowhite test, which is used in the detection of uterine cervical dysplasias and carcinomas. The patient rinses for 1 minute with a supplied 1% acetic acid solution to disrupt the glycoprotein barrier on mucosal surfaces. The oral cavity is then examined with a single-use chemiluminescent light, the wavelength of which is absorbed by normal cells. Abnormal cells reflect the light, presumably as a result of an increased nucleus-to-cytoplasmic ratio, and therefore appear white.

As with Orascan and Oral CDx, a positive reading with Vizilite can be caused by minor epithelial abnormalities associated with inflammation, irritation or ulceration and does not necessarily mean that dysplasia or carcinoma is present.

It must be emphasized that these aids are not substitutes for good clinical judgement. The most important component in any oral cancer checkup remains a thorough visual and digital inspection of all intraoral soft tissues, as well as careful examination of the neck and cervical lymph nodes. Ultimately, diagnosis of any suspicious lesion requires histologic examination of biopsy samples. ◆

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Question 2

I recently removed an impacted mandibular third molar with an associated 10-mm pericoronal radiolucency. Follicular tissue was submitted for biopsy. The histopathologic diagnosis was odontogenic keratocyst. What would you recommend for follow-up?

This scenario emphasizes the importance of submitting all surgical tissue to an oral and maxillofacial pathologist for evaluation. In this case, histologic examination revealed that what had the clinical appearance of a dentigerous cyst was in fact an odontogenic keratocyst (OKC). On radiographic examination OKCs range in size from small, unilocular, pericoronal radiolucencies indistinguishable from dentigerous cysts to large, multilocular radiolucent lesions involving the entire mandibular ramus (**Fig. 1**).

OKCs (**Fig. 2**) are potentially aggressive cysts with a tendency to cause significant local destruction. They are one of the most common developmental odontogenic cysts, second in frequency only to dentigerous cysts. They most commonly involve the posterior body and ramus of the mandible and are often associated with an unerupted tooth. Clinically, OKCs tend to expand in an anteroposterior direction within the medullary bone, with little tendency to cause bony expansion.

The presence of multiple OKCs may be the initial presenting sign of nevoid basal cell carcinoma syndrome (NBCCS), which is characterized by multiple OKCs, multiple basal cell carcinomas, characteristic palmar and plantar pits, and calcification of the falx cerebri. Affected patients may also develop neoplasms such as medulloblastoma, meningioma, ovarian fibroma and cardiac fibroma.

Histologically, OKCs are characterized by a thin, parakeratinized, stratified squamous epithelial lining with a hyperchromatic and palisaded basal cell layer (**Figs. 3** and **4**). The cyst lumen may contain desquamated keratin. Detachment of portions of the thin cyst lining is commonly observed at the time of surgery. The presence of satellite cysts within the cyst wall may be responsible for the reported 6% to 66% recurrence rate (**Fig. 5**). It has also been suggested that factors inherent to the cystic epithelium itself or influences involving regional odontogenic epithelium may be responsible for recurrence or for the formation of additional OKCs.

The best method of treatment remains controversial. Current modalities include enucleation and osseous curettage with or without resection of the overlying

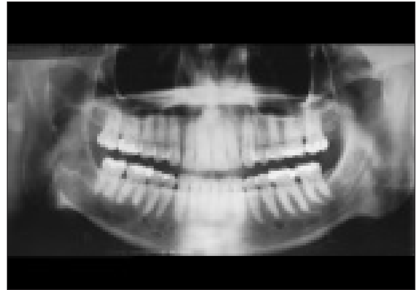

Figure 1: *Panoramic radiograph reveals a large, multilocular, radiolucent lesion of the right posterior mandible with extensive involvement of the ramus. Histologic examination revealed an odontogenic keratocyst. Radiograph courtesy of Dr. Henry Falk.*

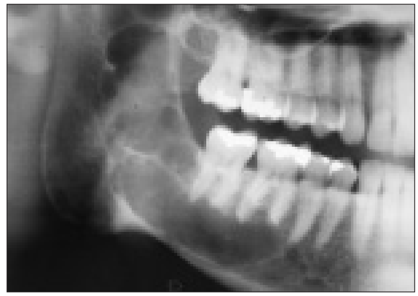

Figure 2: *Close-up view of an odontogenic keratocyst (right side).*

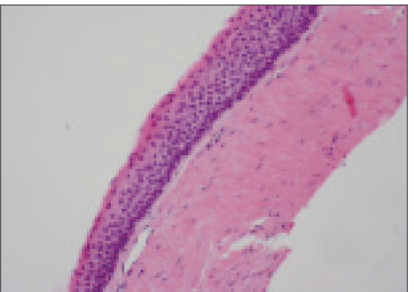

Figure 3: *The lining of this odontogenic keratocyst is composed of corrugated parakeratinized stratified squamous epithelial lining. The connective tissue wall is devoid of inflammation. Hematoxylin and eosin stain. Original magnification ×20.*

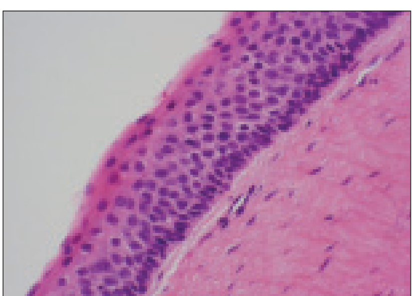

Figure 4: *This odontogenic keratocyst has a polarized, hyperchromatic basal cell layer. Hematoxylin and eosin stain. Original magnification ×40.*

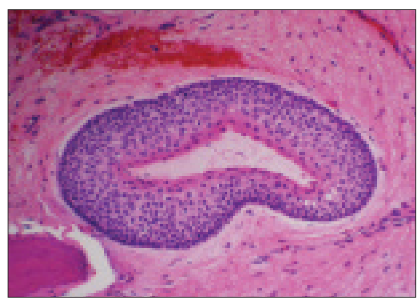

Figure 5: *A satellite cyst is apparent in the connective tissue lining of this odontogenic keratocyst. Hematoxylin and eosin stain. Original magnification ×40.*

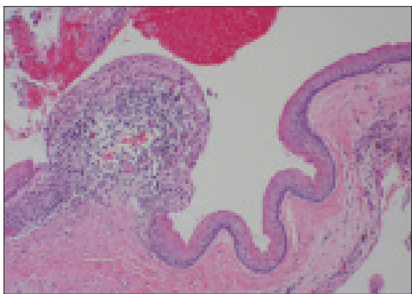

Figure 6: *Inflamed odontogenic keratocyst. On the left side of this photomicrograph, the characteristic features of the lesion are absent as a result of the chronic inflammation. Hematoxylin and eosin stain. Original magnification ×20.*

mucosa. Some surgeons advocate treating the cavity wall with a fixative (Carnoy's solution), with the goal of easier tissue removal, to reduce the likelihood of recurrence. Resection is reserved for more aggressive lesions. Decompression is employed when the lesion encroaches on a nerve or when primary resection would result in significant morbidity. This method involves placing an indwelling catheter into the cyst and following the patient clinically and radiographically until the size of the lesion is significantly reduced, at which time definitive surgery is performed. The effectiveness of decompression may be related to the observation that chronic inflammation alters the characteristic histologic features of the OKC, such that the cyst lining is more reminiscent of that of an inflamed dentigerous cyst (**Fig. 6**).

When the dentist receives a histopathologic diagnosis of OKC after removal of a presumed dentigerous cyst, consultation with an oral and maxillofacial surgeon is recommended. Factors influencing the need for re-excision include the location of the tumour and the ease and completeness of cyst removal at the time of initial surgery. Patients must be placed on long-term clinical and radiographic recall. In the case of maxillary lesions, in which recurrence can be difficult to diagnose by plain film and panoramic radiography, computed tomography is recommended. ◆

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Question 3

Are there any simple tests that can be employed at chairside to confirm a suspected case of candidal overgrowth?

Candida albicans is a commensal organism found in the oral cavity of an estimated 50% of healthy patients. Local factors, such as reduced vertical dimension of occlusion secondary to worn dentures, and systemic factors, including reduced host defences secondary to immunosupression (**Fig. 1**), xerostomia (**Fig. 2**), endocrine disorders, or use of antibiotics or corticosteroids, can predispose a person to candidiasis. Patients with classic signs of candidiasis can be diagnosed clinically. However, when the clinical presentation is ambiguous (**Fig. 3**) and the patient's chief complaint (e.g., burning of the tongue or oral mucosa) could be caused by conditions other than candidal overgrowth, it is appropriate to confirm or exclude the clinical impression before initiating therapy.

Direct culture techniques are too sensitive to distinguish cases of candidal overgrowth from commensal populations and should be reserved for identification of candidal species in immunocompromised patients who are resistant to treatment with conventional antifungal agents.

Candidal organisms can be identified microscopically in tissue obtained by biopsy or exfoliative cytology. In the latter case, a potassium hydroxide preparation can be used, which involves lysing the background epithelial cells to allow easier visualization of candidal hyphae and spores. This technique has several disadvantages: several steps must be performed in the dental office, the clinician must possess a microscope, and no permanent record is generated.

An alternative to the potassium hydroxide preparation test is a relatively simple and accurate exfoliative cytology test that can be performed at chairside (**Fig. 4**). Use a moistened wooden tongue depressor to scrape the suspect area. If the patient wears a removable prosthesis, sample the tissue side of the prosthesis as well. Transfer the material to a glass slide and spread evenly with a gentle back-and-forth motion (**Fig. 5**). Immediately spray the slide with a thin

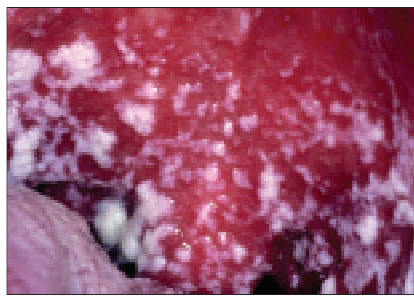

Figure 1: *Widespread acute oropharyngeal candidiasis in a patient with no obvious risk factors. Further testing revealed that the patient was HIV positive. Case provided by Dr. John Fantasia.*

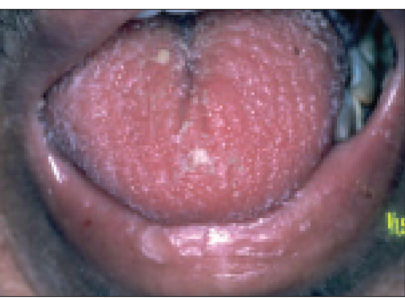

Figure 2: *Candidiasis of the dorsal tongue. The patient presented with medication-related xerostomia and burning of the tongue. The fungal infection resolved after a 14-day course of fluconazole. Case provided by Dr. John Fantasia.*

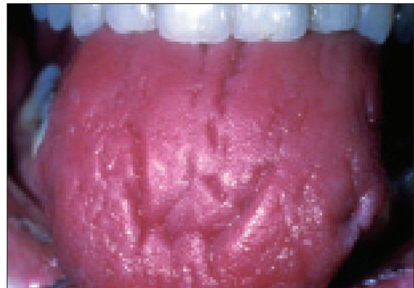

Figure 3: *Acute atrophic candidiasis. The patient presented with a chief complaint of burning sensation of the tongue. Clinical examination revealed diffuse loss of the filiform papillae of the dorsum of the tongue. On further inquiry, the patient revealed that he had recently completed a course of broad-spectrum antibiotics.*

Figure 4: *Set-up for chairside exfoliative cytology test for* Candida. *Required supplies include glass slides, cytology fixative and wooden tongue depressor.*

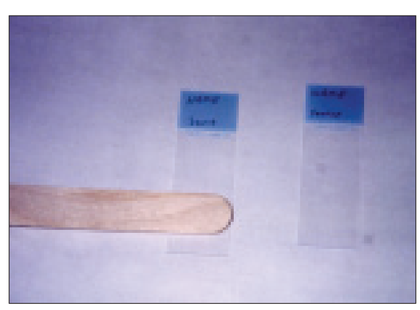

Figure 5: *Chairside exfoliative cytology test for* Candida. *The material is transferred to a glass slide and evenly spread by a gentle back-and-forth motion.*

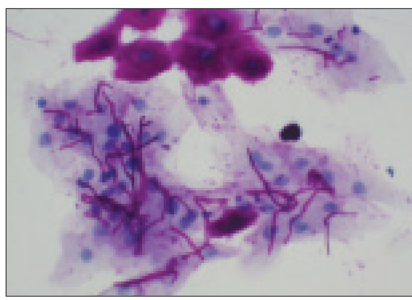

Figure 6: *Periodic acid-Schiff staining of the cytologic preparation. Numerous purple-staining fungal hyphae are evident. Epithelial cells are visible in the background.*

film of tissue fixative (95% ethanol), allow to air dry for several minutes, label the slide in pencil with the patient's name and source of the sample, and place it in a slide holder. Send the specimen to an oral pathology biopsy service with a request for fungal evaluation. On staining with periodic acid-Schiff (PAS), cylindrical fungal hyphae (**Fig. 6**) and ovoid spores can be readily identified.

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Question 4 What are the best treatment options for a patient with oral candidiasis?

Once candidiasis has been confirmed but before antifungal treatment is instituted, an attempt should be made to identify and, if possible, correct any contributing factors (outlined in Question 1). In mild cases in nonimmunocompromised patients, topical preparations are usually best for initial treatment.

Nystatin, a polyene antifungal agent, interacts directly with ergosterol, the main sterol component of certain fungal cell membranes. Its effectiveness depends on direct contact with the organisms, so multiple daily doses are needed. Nystatin is generally prescribed in tablet form (500,000 units/tablet), to be dissolved slowly in the mouth 5 times daily for 10 to 14 days. It can also be administered as an oral suspension (1–2 mL of a suspension with 100,000 units/mL), to be rinsed slowly in the mouth 4 or 5 times a day and either expectorated or swallowed.

Patients with full or partial dentures should soak their dentures at night in nystatin oral suspension. Angular cheilitis is treated with a combination cream containing 100,000 units/g nystatin and 0.1% triamcinolone (compounded by a pharmacist), or Kenacomb cream (Westwood-Squibb Canada, Montreal, Quebec), which contains the antibiotics neomycin and gramicidin in addition to nystatin and triamcinolone, applied after each meal and at bedtime.

Clotrimazole, an imidazole-derived antifungal, inhibits the cytochrome P450 enzyme that converts lanosterol to ergosterol. Like nystatin, it is poorly absorbed in the gastrointestinal tract, necessitating prolonged direct contact with the fungal organisms. Clotrimazole is generally prescribed as a 10-mg troche, dissolved slowly in the mouth 5 times daily for 10 to 14 days. Caution must be exercised in prescribing clotrimazole for patients with hepatic impairment, as liver enzymes become mildly elevated in approximately 15% of patients.

Other orally administered antifungal agents include ketaconazole, fluconazole and itraconazole.

Ketaconazole is not recommended in the dental setting because of its significant toxicity, including a 1 in 15,000 risk of symptomatic hepatitis.

Fluconazole has a lower risk of side effects and is therapeutically superior to ketaconazole. A 200-mg oral loading dose followed by 100 mg/day for 14 days is highly effective in the treatment of oropharyngeal candidiasis. Fluconazole oral suspension (10 or 40 mg/mL for a total dose of 100 mg/day) swished for 2 minutes and then swallowed results in a significantly higher salivary concentration but plasma levels comparable to the same dose administered in tablet form. Fluconazole is generally well tolerated, the most common adverse effects being nausea, vomiting, diarrhea and abdominal pain in 1% to 4% of patients and headache and rash in 1% to 2%. Rare cases of serious hepatotoxicity have been reported. Fluconazole should be avoided during pregnancy and in patients with severe hepatic insufficiency. The dosage should be reduced in patients with renal dysfunction. Fluconazole leads to increases in the plasma concentrations of several commonly used medications, including orally administered hypoglycemic agents, warfarin, cyclosporine, triazolam and theophylline. Cardiac arrhythmias have been reported in patients taking fluconazole along with cisapride, terfenadine or astemizole, and there have been reports of nephrotoxicity in patients taking both fluconazole and tacrolimus.

Resistance to fluconazole in the immunocompromised patient has become a concern. Certain candidal species, such as *C. krusei* and *C. glabrata*, are unresponsive to fluconazole therapy. However, these species are uncommon in healthy patients who have not recently received systemic antifungal treatment.

Itraconazole is a recently introduced triazole antifungal agent, available in pill form or solution, that is best restricted to rare clinical situations such as immunocompromised patients with fluconazole-resistant candidal infections. It is not recommended for routine antifungal therapy in an otherwise healthy patient.

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__Dr. Edwards__ has no declared financial interests in any company manufacturing the types of products mentioned in Point of Care.

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Clinical Showcase

Clinical Showcase is a series of pictorial essays that focus on the technical art of clinical dentistry. This new section features step-by-step case demonstrations of clinical problems encountered in dental practice. If you would like to propose a case or recommend a clinician would could contribute to Clinical Showcase, contact editor-in-chief Dr. John O'Keefe at jokeefe@cda-adc.ca.

Single-Tooth Implant Reconstruction in the Anterior Maxilla

Morley S. Rubinoff, DDS, Cert Prosth

Everyone wants to "get into implants." "Just start with single teeth," they say. "Just screw in a post and slap on a crown, it's that simple." In truth, fabricating an implant crown in the esthetic zone can be a nightmare. Colour matching, hard and soft tissue management, concerns about root proximity, occlusal considerations such as a deep overbite or parafunctional habits are just some of the challenges practitioners face when preparing an implant in the anterior maxilla.

This article discusses 2 important prosthodontic issues relating to the placement of dental implants in the esthetic zone. Tissue management is paramount in achieving a good esthetic result when restoring the single-tooth implant. Tissue "training" helps to develop a proper emergence profile and natural tooth appearance. Far too frequently, dentists do not fabricate provisional crowns before insertion of the final prosthesis, which may result in compromised esthetics. As to the question of whether to choose a screw-retained restoration or a cement-retained restoration, soft-tissue position and occlusal considerations will often influence this decision.

Patient Presentation

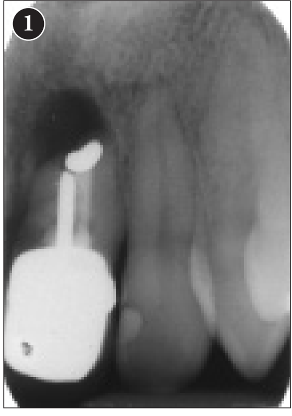
Our patient was a 39-year-old woman with a noncontributory medical history. She had a fractured post–core on a nonrestorable abutment (tooth 21), where endodontic treatment had failed. No buccal plate of bone was present due to pathologic changes.

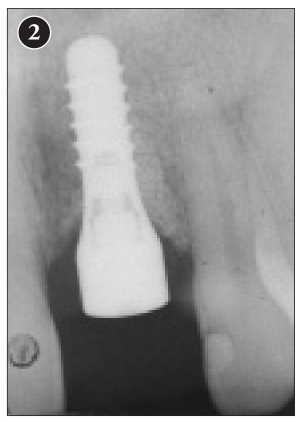
The surgical phase of treatment included extraction, debridement and bone augmentation using bovine bone (Bio-Oss, OsteoHealth Co., Shirley, N.Y.) and a barrier membrane (Cytoplast Regentex TXT-200, Osteogenic Biomedical, Lubbock, Texas). An implant (Straumann ITI implant, Institut Straumann AG, Villeret, Switzerland) measuring 4.1 mm in diameter × 12 mm in height with an Esthetic Plus collar measuring 1.8 mm in height was surgically placed. The patient wore a partial denture (flipper) during the 6-month healing period.

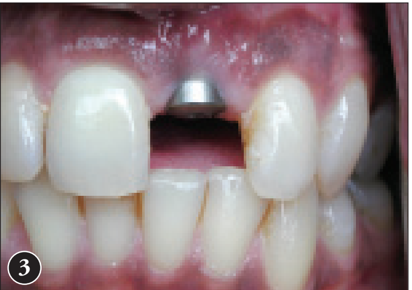
Soft-Tissue Management

The crestal bone surrounding the dental implant must remain at the same level as the adjacent bone of the natural teeth after implant surgery. Soft tissues will collapse around the transmucosal healing collar. Tissue "training" with a provisional crown helps to re-establish normal gingival tissue contours and interdental papillae and to achieve adequate tooth emergence. The final impression must capture the "trained" soft tissue for successful restoration in the dental lab.

Figures 1 to 3: *Preoperative radiograph of apical lesion (**Fig. 1**). Surgical treatment included placement of a Straumann ITI implant (**Fig. 2**). Six months after surgery (**Fig. 3**), tissues appear collapsed around the healing collar.*

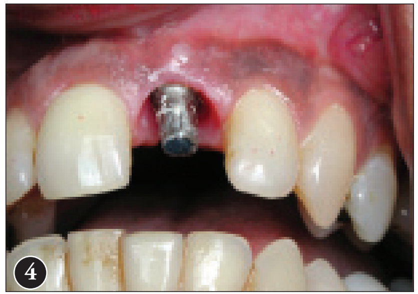


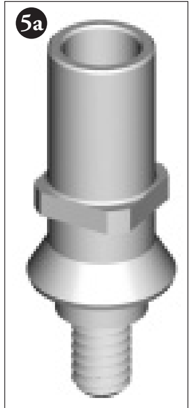




Before placement of the provisional crown, the head of a temporary titanium post was adapted and a temporary acrylic crown modified to re-establish the interdental papillae with normal tissue contours. Relining technique for the provisional crown included initial relining of an acrylic shell in the mouth followed by adaptation of the subgingival margins in the laboratory. This technique establishes a straight line emergence from the beveled margin of the post head and helps "train" the soft tissues.

Figures 4 and 5a to 5e: *Modified head of temporary titanium post 3 weeks after insertion of the provisional crown (**Fig. 4**). Straumann titanium post head before adaptation (**Fig. 5a**). The modified post head was placed on an analog and adjusted in the lab (**Figs. 5b** to **5e**).*



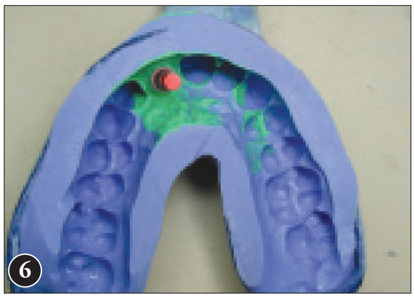


Screw-Retained Restoration vs. Cement-Retained Restoration

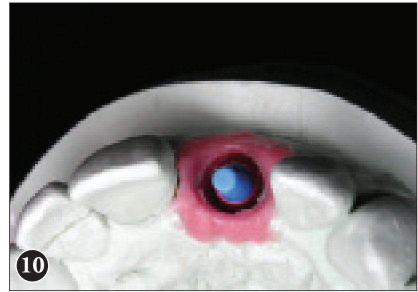
In the anterior maxilla, the palatal alveolar crest of bone is often 4 to 6 mm below the gingival tissue crest. With the bone levels this deep, cement is often entrapped deep subgingivally around implant abutments. Two treatment alternatives can help avoid this problem. One approach uses a screw-retained crown with a lingual set screw attached to a shorter implant abutment (e.g., TS abutment with transversal screw). Another approach uses a custom post head attached to a standard implant abutment. In the latter case, the crown margins of the post head are positioned just slightly below the gingival tissue crest, allowing the practitioner to cement a conventional crown with ideal tissue control.

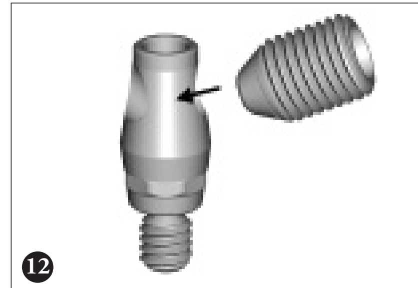
How does the lab technician decide which abutment to use? Will an angulated abutment, a solid cementable abutment or a screw-retained abutment be the best choice? A prosthetic planning kit with plastic abutments can help the dental technician and the dentist work together to plan the best treatment approach.

Figures 6 and 7: *Three weeks after the fabrication of the temporary crown, a final impression is made with polyvinyl siloxane using light and regular body material (**Fig. 6**). Master cast impression (**Fig. 7**) with soft tissue material around the implant. Note the deep subgingival position of the analog. Use of a cemented crown in this situation would likely result in entrapped dental cement.*

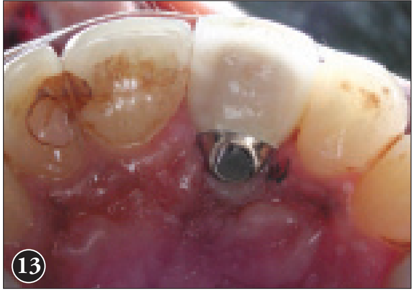


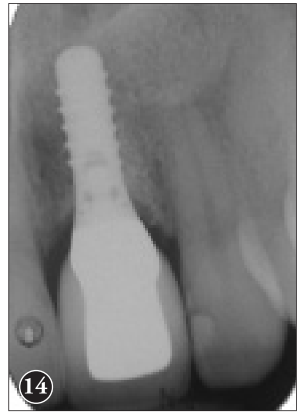
Figures 8 to 12: *Straumann Prosthetic Planning Kit (**Fig. 8**). A solid abutment (**Fig. 9**) is tried into the abutment analog (**Fig. 10**). Note how far subgingivally the finish line will be if a cementable abutment is used. A TS abutment (red plastic abutment) is tried into the abutment analog (**Fig. 11**). With this 4.4 mm-high abutment, a lingual set screw (**Fig. 12**) will allow retention of the anterior crown.*

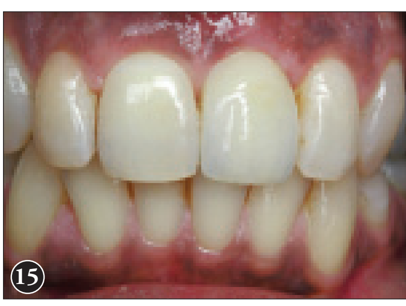


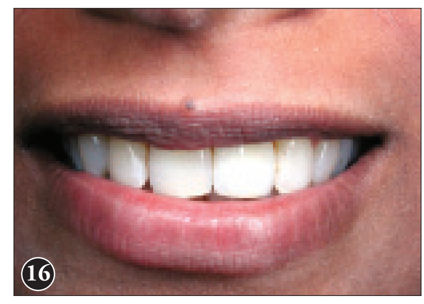


Figures 13 to 16: *Single crown with lingual set screw retained to the TS abutment (**Fig. 13**). Periapical radiograph of the screw-retained final prosthesis taken on insertion day (**Fig. 14**). View of the porcelain-bonded-to-metal crown retained with the synOcta TS abutment one week after insertion (**Fig. 15**). Extraoral view of the finished restoration, one week after placement (**Fig. 16**).*









Surgical management of soft tissues and bone was paramount to the successful placement of a single crown on abutment tooth 21. Prosthetic treatment with a cemented restoration was not possible because of the deep subgingival location of the dental implant. Dental cement would likely become entrapped as a result. Prosthetic options for this patient included a screw-retained crown with a lingual set screw (the TS abutment) or a screw-retained custom post head (using a synOcta 1.5 mm abutment from Straumann) that raised the crown margin of the post to a level just subgingival to the crest of the gingival tissues. ◆

Acknowedgements: *The implant team for this case was Dr. Rubinoff, Dr. Howard Switzman (referring dentist), Dr. Ken Hershenfield (periodontist and implant surgeon), and Baluke Dental Studio (dental laboratory).*

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The author has no declared financial interests in any company manufacturing the types of products mentioned in this article.

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1 Heanue et al. Manual versus powered toothbrushing for oral health (Cochrane Review). In: The Cochrane Library, Issue 1, 2003, Oxford: Update Software.
Full report online at www.update-software.com/toothbrush. BRAA32111 © 2003 Oral-B Laboratories

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Canadian Equity fund (Trimark)†1	up to 1.65%	16.6%	1.9%	8.1%	8.3%
Special Equity fund (KBSH)†2	up to 1.45%	18.6%	-21.3%	8.2%	14.0%
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European fund (KBSH)	up to 1.45%	-0.6%	-23.4%	-4.9%	n/a
International Equity fund (KBSH)	up to 1.45%	9.1%	-20.8%	0.4%	n/a
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† *Returns shown are those for the following funds in which CDA funds invest: [1]Trimark Canadian Fund, [2]KBSH Special Equity Fund, [3]KBSH US Equity Fund, [4]Trimark Fund, [5]Templeton Global Stock Trust Fund, [6]McLean Budden Fixed Income Fund, [7]McLean Budden Balanced Value Fund.*

†† *Returns shown are the total returns for the index tracked by this fund.*

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The Canadian Dental Association (CDA) is seeking nominations for the 2004 Oral Health Promotion Award. This award recognizes individuals or organizations who have improved the oral health of Canadians through oral health promotion.

Oral health promotion aims to increase the control of individuals and communities over their oral health. It involves members of those communities and adopts a number of complimentary approaches. These include building healthy public policy, creating supportive environments, strengthening community action, developing personal skills, and increasing the prevention of oral diseases and disorders.

Programs, projects, and policies recognized by the Oral Health Promotion Award would include, but not be limited to, those that:

- meet the oral health needs of the growing number of older Canadians;
- increase the prevention of oral diseases and disorders in special populations and high-risk groups; and
- reduce inequalities by improving the oral health status of disadvantaged groups and communities.

Entry Criteria

1. Any individual or organization responsible for creating and implementing a project, program, or policy concerned with oral health promotion may submit an entry.
2. Programs or projects that are developed to promote a commercial product or service are not eligible.

Evaluation Criteria

Programs (or projects or policies) will be evaluated using the following criteria:

1. Goals and objectives of the program;
2. Oral health care need addressed by the program;
3. Number of people served by the program, as compared to the size of the target populations;
4. Level of community and/or volunteer involvement;
5. Documented accomplishment of the program goals;
6. History of, or potential for, continuous program operation; and
7. Ease of duplication by other individuals/organizations.

The CDA Nominating Committee will review all nominations and supporting documents and CDA's Committee on Community and Institutional Dentistry will be consulted, prior to the Nominating Committee's recommendation of the award recipient to the Board of Directors.

Nominations

For an application form, contact the CDA Nominating Committee at 1-800-267-6354, ext. 2273, or e-mail kacs@cda-adc.ca.

Please note that nominations for the Oral Health Promotion Award should be submitted no later then February 10, 2004 to:

Nominating Committee
Canadian Dental Association
1815 Alta Vista Drive, Ottawa, ON K1G 3Y6

All nominations should be kept in confidence until a final decision regarding the award has been made.

New Products

JCDA*'s New Products section provides readers with brief descriptions of recent innovations in dentistry. Publication of this information does not imply endorsement by* JCDA *or the Canadian Dental Association. If you would like material to appear in* JCDA*'s New Products listing, send all news releases and photographs to Rachel Galipeau, coordinator, publications, at rgalipeau@cda-adc.ca. English- and French-language material will be given priority.*

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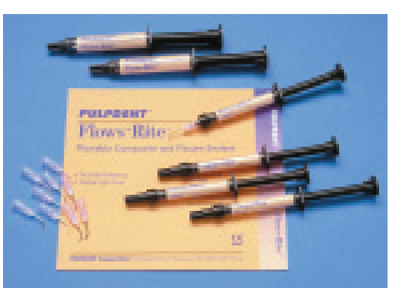

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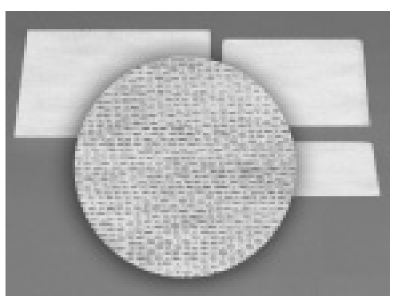

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Centre for Community Oral Health
Faculty of Dentistry, University of Manitoba
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Winnipeg, Manitoba R3E 0W2
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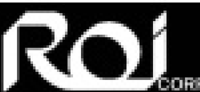
E-mail brothwel@ms.umanitoba.ca

D1428



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D1236

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NORTHWEST TERRITORIES - Yellowknife: Seeking experienced orthodontic lab technician to live and work in the city of Yellowknife, Northwest Territories. Attractive salary and compensation package. Please send application including CV and salary expectations, to: CDA Classified Box # 2828. D1216

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Département de santé buccale
Faculté de médecine dentaire
Université de Montréal
C.P. 6128, succ. Centre-ville
Montréal, Qc H3C 3J7

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D1432

Classified Ads

(ondansetron)

4 mg and 8 mg ondansetron tablets
(as hydrochloride dihydrate)

4 mg/5mL ondansetron oral solution
(as hydrochloride dihydrate)

4 mg and 8mg ondansetron orally disintegrating tablets

2 mg/mL ondansetron for injection
(as hydrochloride dihydrate)

THERAPEUTIC CLASSIFICATION

Antiemetic
(5-HT_3 receptor antagonist)

INDICATIONS AND CLINICAL USE:

ZOFRAN® (ondansetron hydrochloride; and ondansetron) is indicated for the prevention of nausea and vomiting associated with emetogenic chemotherapy, including high dose cisplatin, and radiotherapy.
ZOFRAN® is also indicated for the prevention and treatment of post-operative nausea and vomiting.

CONTRAINDICATIONS:

ZOFRAN® (ondansetron hydrochloride; and ondansetron) is contraindicated in patients with a history of hypersensitivity to the drug or any components of its formulations

WARNINGS:

Cross-reactive hypersensitivity has been reported between different 5-HT_3 antagonists. Patients who have experienced hypersensitivity reactions to one 5-HT_3 antagonist have experienced more severe reactions upon being challenged with another drug of the same class. The use of a different 5-HT_3 receptor antagonist is not recommended as a replacement in cases in which a patient has experienced even a mild hypersensitivity type reaction to another 5-HT_3 antagonist. ZOFRAN® ODT (ondansetron) contains aspartame and therefore should be taken with caution in patients with phenylketonuria.

PRECAUTIONS:

ZOFRAN® (ondansetron hydrochloride; and ondansetron) is not effective in preventing motion-induced nausea and vomiting. There is no experience in patients who are clinically jaundiced. The clearance of an 8 mg intravenous dose of ZOFRAN® was significantly reduced and the serum half-life significantly prolonged in subjects with severe impairment of hepatic function. In patients with moderate to severe hepatic function, reductions in dosage are therefore recommended and a total daily dose of 8 mg should not be exceeded. This may be given as a single intravenous or oral dose.
As ondansetron is known to increase large bowel transit time, patients with signs of subacute intestinal obstruction should be monitored following administration.

Ondansetron does not itself appear to induce or inhibit the cytochrome P450 drug-metabolizing enzyme system of the liver. Because ondansetron is metabolized by hepatic cytochrome P450 drug metabolizing enzymes, inducers or inhibitors of these enzymes may change the clearance and, hence, the half-life of ondansetron. on the basis of available data, no dosage adjustment is recommended for patients on these drugs.

Use in Pregnancy:
The safety of ondansetron for use in human pregnancy has not been established. Ondansetron is not teratogenic in animals. However, as animal studies are not always predictive of human response, the use of ondansetron in pregnancy is not recommended.

Nursing Mothers:
Ondansetron is excreted in the milk of lactating rats. It is not known if it is excreted in human milk, however, nursing is not recommended during treatment with ondansetron.

Use in Paediatrics:
Insufficient information is available to provide dosage recommendations for children 3 years of age or younger.

Interactions
Specific studies have shown that there are no pharmacokinetic interactions when ondansetron is administered with alcohol, temazepam, frusemide, tramadol or propofol.

Ondansetron is metabolised by multiple hepatic cytochrome P-450 enzymes: CYP3A4, CYP2D6 and CYP1A2. Due to the multiplicity of metabolic enzymes capable of metabolising ondansetron, enzyme inhibition or reduced activity of one enzyme (e.g. CYP2D6 genetic deficiency) is normally compensated by other enzymes and should result in little or no significant change in overall ondansetron clearance or dose requirement. In patients treated with potent inducers of CYP3A4 (i.e. phenytoin, carbamazepine, and rifampicin), the oral clearance of ondansetron was increased and ondansetron blood concentrations were decreased.

Data from small studies indicate that ondansetron may reduce the analgesic effect of tramadol.

ADVERSE REACTIONS:

ZOFRAN® has been administered to over 2500 patients worldwide in controlled clinical trials and has been well tolerated. The most frequent adverse events reported in controlled clinical trials were headache (11%) and constipation (4%). Other adverse events include sensations of flushing or warmth (<1%).

Metabolic:
There were transient increases of SGOT and SGPT of over twice the upper limit of normal in approximately 5% of patients. These increases did not appear to be related to dose or duration of therapy. There have been reports of liver failure and death in patients with cancer receiving concurrentmedications including potentially hepatotoxic cytotoxic chemotherapy and antibiotics. The etiology of the liver failure is unclear. There have been rare reports of hypokalemia.

Central Nervous System:
There have been rare reports of seizures.

Hypersensitivity:
Rare cases of immediate hypersensitivity reactions sometimes severe, including anaphylaxis, bronchospasm, urticaria and angioedema have been reported.

Cardiovascular:
There have been rare reports of tachycardia, angina (chest pain), bradycardia, hypotension, syncope and electrocardiographic alterations.

Dermatological:
Rash has occurred in approximately 1% of patients receiving ondansetron.

Special Senses:
Rare cases of transient visual disturbances (e.g. blurred vision) have been reported during or shortly after intravenous administration of ondansetron, particularly at rates equal to or greater than 30 mg in 15 minutes.

Local Reactions:
Pain, redness and burning at the site of injection have been reported.

Other:
There have been reports of abdominal pain, weakness and xerostomia.

Post-Market Experience:
Over 128 million patient treatment days of ZOFRAN® have been supplied since the launch of the product worldwide. The following events have been spontaneously reported during post-approval use of ZOFRAN®, although the link to ondansetron cannot always be clearly established.

Transient episodes of dizziness (<0.01%) have been reported during or upon completion of iv infusion of ondansetron. Rare reports (<0.01%) suggestive of extrapyramidal reactions such as oculogyric crisis/dystonic reactions (e.g. orofacial dyskinesia, opisthotonos, tremor, etc.) have been reported without definitive evidence of persistent clinical sequelae.

There have been rare reports (<0.01%) of myocardial infarction, myocardial ischemia, angina, chest pain with or without ST segment depression, arrythmias (including ventricular, supraventricular tachycardia, premature ventricular contractions, and atrial fibrillation), electrocardiographicalterations (including second degree heart block), palpitations and syncope. There have also been rare reports of hiccups.

Occasional asymptomatic increases in liver function tests have been reported.

Rare cases of hypersensitivity reactions, such as, laryngeal edema, stridor, laryngospasm and cardiopulmonary arrest have also been reported.

SYMPTOMS AND TREATMENT OF OVERDOSAGE:

At present there is little information concerning overdosage with ondansetron. Individual doses of 84 mg and 145 mg and total daily doses as large as 252 mg have been administered with only mild side effects. There is no specific antidote for ondansetron, therefore, in cases of suspected overdosage, symptomatic and supportive therapy should be given as appropriate.
The use of Ipecac to treat overdosage with ondansetron is not recommended as patients are unlikely to respond due to the antiemetic action of ondansetron itself.
"Sudden blindness" (amaurosis) of 2 to 3 minutes duration plus severe constipation occurred in one patient who was administered 72 mg of ondansetron intravenously as a single dose. Hypotension (and faintness) occurred in another patient who took 48 mg of oral ondansetron. Following infusion of 32 mg over only a 4-minute period, a vasovagal episode with transient second degree heart block was observed. In all instances, the events resolved completely.

DOSAGE AND ADMINISTRATION
CHEMOTHERAPY INDUCED NAUSEA AND VOMITING:

ZOFRAN® (ondansetron hydrochloride; and ondansetron) should be given as an initial dose prior to chemotherapy, followed by a dosage regimen tailored to the anticipated severity of emetic response caused by different cancer treatments. The route of administration and dose of ZOFRAN® should be flexible in the range of 8-32 mg a day. The selection of dose regimen should be determined by the severity of the emetogenic challenge as shown below.

Use in Adults:
***HIGHLY EMETOGENIC CHEMOTHERAPY* (e.g. regimens containing cisplatin):**
ZOFRAN® has been shown to be effective in the following dose schedules for the prevention of emesis during the first 24 hours following chemotherapy:

Initial Dose: ZOFRAN® 8 mg infused intravenously over 15 minutes given 30 minutes prior to chemotherapy. OR ZOFRAN® 8 mg infused intravenously over 15 minutes, given 30 minutes prior to chemotherapy, followed by 1 mg/h by continuous infusion for up to 24 hours. OR ZOFRAN® 32 mg diluted in 50-100 mL of saline or other compatible infusion fluid and infused over not less than 15 minutes [i], given 30 minutes prior to chemotherapy.

Post-chemotherapy: After the first 24 hours, ZOFRAN® 8 mg orally every 8 hours[ii] for up to 5 days. No significant differences in terms of emesis control or grade of nausea have been demonstrated between the 32 mg single dose, the 8 mg single dose, or the 8 mg dose followed by the 24 hour 1 mg/h continuous infusion. However, in some studies conducted in patients receiving medium or high doses of cisplatin chemotherapy, the 32 mg single dose has demonstrated a statistically significant superiority over the 8 mg single dose with regard to control of emesis.
The efficacy of ZOFRAN® in highly emetogenic chemotherapy may be enhanced by the addition of a single intravenous dose of dexamethasone sodium phosphate, 20 mg administered prior to chemotherapy.

***LESS EMETOGENIC CHEMOTHERAPY* (e.g. regimens containing cyclophosphamide, doxorubicin, epirubicin, fluorouracil and carboplatin)**

Initial Dose:
ZOFRAN® 8 mg infused intravenously over 15 minutes, given 30 minutes prior to chemotherapy; or ZOFRAN® 8 mg orally 1 to 2 hours prior to chemotherapy.

Post-chemotherapy:
ZOFRAN® 8 mg orally twice daily for up to 5 days.

Use in Children:

Clinical experience of ZOFRAN® in children is currently limited; however, ZOFRAN® was effective and well tolerated when given to children 4-12 years of age. ZOFRAN® injection should be given intravenously at a dose of 3-5 mg/m² over 15 minutes immediately before chemotherapy. After therapy, ZOFRAN® 4 mg should be given orally every 8 hours[ii] for up to 5 days.

Use in Elderly:

Efficacy and tolerance in patients aged over 65 years were similar to that seen in younger adults indicating no need to alter dosage schedules in this population.

RADIOTHERAPY INDUCED NAUSEA AND VOMITING:

Use in Adults:

Initial Dose:

ZOFRAN® 8 mg orally 1 to 2 hours before radiotherapy.

Post-radiotherapy:

ZOFRAN® 8 mg orally every 8 hours[ii] for up to 5 days after a course of treatment.

Use in Children:

There is no experience in clinical studies in this population.

Use in Elderly:

Efficacy and tolerance in patients aged over 65 years were similar to that seen in younger adultsindicating no need to alter dosage schedules in this population.

POST-OPERATIVE NAUSEA AND VOMITING:

Use in Adults:

For prevention of post-operative nausea and vomiting ZOFRAN® may be administered as a single dose of 16 mg given orally one hour prior to anaesthesia. Alternatively, a single dose of 4 mg may be given by slow intravenous injection at induction of anaesthesia. For the treatment of established post-operative nausea and vomiting, a single dose of 4 mg given by slow intravenous injection is recommended.

Use in Children:

There is no experience in the use of ZOFRAN® in the prevention and treatment of post-operative nausea and vomiting in children.

Use in Elderly:

There is limited experience in the use of ZOFRAN® in the prevention and treatment of post-operative nausea and vomiting in the elderly.

PATIENTS WITH RENAL/HEPATIC IMPAIRMENT:

Use in Patients with Impaired Renal Function:

No alteration of daily dosage, frequency of dosing, or route of administration is required.

Use in Patients with Impaired Hepatic Function:

The clearance of an 8 mg intravenous dose of ZOFRAN® was significantly reduced and the serum half-life significantly prolonged in subjects with severe impairment of hepatic function. In patients withmoderate to severe hepatic function, reductions in dosage are therefore recommended and a total daily dose of 8 mg should not be exceeded. This may be given as a single intravenous or oral dose. No studies have been conducted to date in patients with jaundice.

PATIENTS WITH POOR SPARTEINE/DEBRISOQUINE METABOLISM:

The elimination half-life and plasma levels of a single 8 mg intravenous dose of ondansetron did not differ between subjects classified as poor and extensive metabolisers of sparteine and debrisoquine. No alteration of daily dosage or frequency of dosing is recommended for patients known to be poor metabolisers of sparteine and debrisoquine.

ADMINISTRATION OF INTRAVENOUS INFUSION SOLUTIONS:

Compatibility with Intravenous Solutions: ZOFRAN® Injection is compatible with the following solutions:

For Ampoules

0.9% w/v Sodium Chloride Injection;
5% w/v Dextrose Injection;
10% w/v Mannitol Injection;
Ringers Injection;
0.3% w/v Potassium Chloride and 0.9% w/v Sodium Chloride Injection;
0.3% w/v Potassium Chloride and 5% w/v Dextrose Injection.

For Vials

5% w/v Dextrose Injection;
0.9% w/v Sodium Chloride Injection;
5% w/v Dextrose and 0.9% w/v Sodium Chloride Injection;
5% w/v Dextrose and 0.45% w/v Sodium Chloride Injection;
3% w/v Sodium Chloride Injection.

Compatibility with Other Drugs:

ZOFRAN® Injection should not be administered in the same syringe or infusion with any other medication with the exception of dexamethasone (see below). ZOFRAN® may be administered by intravenous infusion at 1 mg/hour, e.g. from an infusion bag or syringe pump.

The following drugs may be administered via the Y-site of the administration set, for ondansetron concentrations of 16 to 160 µg/mL. If the concentrations of cytotoxic drugs required are higher than indicated below, they should be administered through a separate intravenous line.

For Ampoules and Vials:

Cisplatin — concentrations up to 0.48 mg/mL administered over 1 to 8 hours.

Dexamethasone — admixtures containing 8 mg of ondansetron and 20 mg of dexamethasone phosphate, in 50 mL of 5% dextrose infusion fluid stored in 50 mL polyvinyl chloride infusion bags, have been shown to be physically and chemically stable for up to two days at room temperature or up to seven days at 2° C–8° C. In addition, these same admixtures have demonstrated compatibility with Continu-Flo® administration sets.

In a clinical study (Cunningham *et al*, 1989) ondansetron (standard dosing regimen) was given to patients receiving cisplatin or non-cisplatin chemotherapy. Eight patients who continued to experience nausea and vomiting were given dexamethasone in addition to ondansetron. In every case there was an improvement in the control of emesis and all patients preferred the combination of ondansetron and dexamethasone.

For Ampoules:

5-Fluorouracil — concentrations up to 0.8 mg/mL, administered at rates of at least 20 mL/hour. Higher concentrations of 5-fluorouracil may cause precipitation of ondansetron. The 5-fluorouracil infusion may contain up to 0.045% w/v magnesium chloride.

Carboplatin — concentrations of 0.18 mg/mL–9.9 mg/mL, administered over 10–60 minutes.

Ceftazidime — bolus i.v. doses, over approximately 5 minutes, of 250–2000 mg reconstituted with Water for Injections BP.

Cyclophosphamide — bolus i.v. doses over approximately 5 minutes, of 100–1000 mg, reconstituted with Water for Injections BP 5 mL per 100 mg cyclophosphamide.

Doxorubicin and Epirubicin — bolus i.v. doses, over approximately 5 minutes, of 10–100 mg as a 2 mg/mL solution. Lyophilized powder presentations can be reconstituted with 0.9% Sodium Chloride Injection USP.

Etoposide — concentrations of 0.144 mg/mL–0.25 mg/mL, administered over 30–60 minutes.

STABILITY AND STORAGE RECOMMENDATIONS:

ZOFRAN® Tablets, Oral Solution, Injection and ODT orally disintegrating tablets should be stored below 30°C.

ZOFRAN® Oral Solution should be stored upright and should not be refrigerated.
ZOFRAN® Injection should not be frozen and should be protected from light.
ZOFRAN® Injection must not be autoclaved.

Stability and Storage of Diluted Solutions:

Compatibility studies have been undertaken in polyvinyl chloride infusion bags, polyvinyl chloride administration sets and polypropylene syringes. Dilutions of ondansetron in sodium chloride 0.9% w/v or in glucose 5% w/v have been demonstrated to be stable in polypropylene syringes. It is considered that ondansetron injection diluted with other compatible infusion fluids would be stable in polypropylene syringes.

Intravenous solutions should be prepared at the time of infusion. ZOFRAN® Injection, in ampoules and vials, when diluted with the recommended intravenous solutions, should be used within 24 hours if stored at room temperature or used within 72 hours if stored in a refrigerator, due to possible microbial contamination during preparation.

Hospitals and institutions that have recognized admixture programs and use validated aseptic techniques for preparation of intravenous solutions, may extend the storage time for ZOFRAN® Injection in admixture with 5% Dextrose Injection and dexamethasone phosphate Injection (concentration of 0.34 mg/mL) in Viaflex bags, at a concentration of 0.14 mg/mL, to 7 days when stored under refrigeration at 2° to 8°C.[iii]

DOSAGE FORMS:

AVAILABILITY

ZOFRAN® Tablets 8 mg:

Oval shaped, yellow, film-coated tablets, engraved '8' on one face and 'GLAXO' on the other. Each tablet contains 8 mg ondansetron (as hydrochloride dihydrate). Available in a tamper-evident polypropylene container of 100 tablets and a unit dosed blister pack of 10 tablets.

ZOFRAN® Tablets 4 mg:

Oval shaped, yellow, film-coated tablets, engraved '4' on one face and 'GLAXO' on the other. Each tablet contains 4 mg ondansetron (as hydrochloride dihydrate). Available in a tamper-evident polypropylene container of 100 tablets and a unit dosed blister pack of 10 tablets.

ZOFRAN® Oral Solution:

Ondansetron 4 mg/5 mL (as hydrochloride dihydrate) is supplied in 50 mL bottles.

ZOFRAN® ODT 4 mg and 8 mg orally disintegrating tablets:

White, round, plano-convex orally disintegrating tablets with no markings on either side, packaged in double-foil blister packs with a peelable, aluminum foil laminate lidding, in paperboard carton with 2 x 5 orally disintegrating tablets per blister. Each 4 mg tablet contains 4 mg ondansetron (base) and each 8 mg tablet contains 8 mg ondansetron (base).

ZOFRAN® Injection:

Ondansetron 2 mg/mL (as hydrochloride dihydrate) for intravenous use is supplied in 2 mL (4 mg) and 4 mL (8 mg) ampoules, in boxes of 5 ampoules and 20 mL (40 mg) vials, packed in individual cartons.

Ondansetron hydrochloride is a SCHEDULE “F” drug.

Full prescribing information available to healthcare professionals upon request.

Revised September 16, 2003.

- i Infusion of 32 mg ZOFRAN® for injection should take place over a period of not less than 15 minutes, because of increased risk of blurred vision.
- ii The efficacy of twice daily dosage regimens for the treatment of post-chemotherapy emesis has been established only in adult patients receiving less emetogenic chemotherapy. The appropriateness of twice versus three times daily dosage regimens for other patient groups should be based on an assessment of the needs and responsiveness of the individual patient.
- iii As with all parenteral drug products, intravenous admixtures should be inspected visually for clarity, particulate matter, precipitate, discoloration and leakage prior to administration, whenever solution and container permit. Solutions showing haziness, particulate matter, precipitate, or discoloration or leakage should not be used.

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1. Marcario A, Weinger W et al. Which Clinical Anesthesia Outcomes Are Important to Avoid? The Perspective of Patients. Anesth Analg. 1999;89:652-658. 2. Hill RP, Lubarsky DA et al. Cost-effectiveness of Prophylactic Antiemetic therapy with Ondansetron, Droperidol, or Placebo. Anesthesiology 2000; 92:958-67. 3. Morris RW, Aune H, Feiss P et al. International, multicentre, placebo-controlled study to evaluate the effectiveness of ondansetron vs. metoclopramide in the prevention of post-operative nausea and vomiting. Eur J Anaes 1998;15:69-79. 4. Fortney JT, Gan TJ, Graczyk S et al. A comparison of the efficacy, safety, and patient satisfaction of ondansetron versus droperidol as antiemetics for elective outpatient surgical procedures. Anesth Analg 1998;86:731-8 5. Zofran® Product monograph GlaxoSmithKline Inc., September 16, 2003. 6. Kovac AL, Prevention and treatment of postoperative nausea and vomiting. Drugs 2000; 59(2):213-243.

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2004 Call for CDA Award Nominations

The Canadian Dental Association (CDA) is seeking nominations for its 2004 awards recognition program, including CDA Honorary Membership, Distinguished Service, and the Award of Merit. Nominations received by **February 10, 2004**, will be reviewed by the CDA Nominating Committee, which will then make recommendations on suitable award winners to the Association's Board of Directors. The 2004 award recipients will be recognized during the CDA Awards Ceremony & Luncheon on April 23rd at the Fairmont Chateau Laurier Hotel in Ottawa.

Persons responding to this Call for Nominations should submit the name of only one individual for the Honorary Membership or Distinguished Service Awards. All submissions must include a detailed curriculum vitae for each person nominated. Although submissions should indicate the award an individual is being nominated for, the Nominating Committee reserves the right to recommend which award, if any, will be granted to the nominee.

Honorary Membership

Honorary Membership is the highest award of the Association. Its purpose is to recognize the individual deemed to have made outstanding contributions to the art and science of dentistry, or to the dental profession, over a sustained period of time. Although this award may be for service that is provincial, national or international in nature, an outstanding contribution at the national level shall be a principal consideration. Most often, recipients of the Honorary Membership would be dentist members of the CDA.

Honorary members receive a personalized framed certificate and a gold lapel pin. Those who are licensed dentists are exempt from CDA membership dues, and all recipients may attend Association-sponsored scientific and social functions, as well as annual meetings and conventions at no registration cost.

Distinguished Service Award

This award may be given to a dentist or other person to recognize either an outstanding contribution in a given year, or outstanding service over a number of years. It may also recognize outstanding contributions to the dental profession at the academic level, corporate level, specialty society, council, commission or committee level. Recipients receive an engraved wall plaque.

Award of Merit

The award will be conferred upon an individual who has served in an outstanding capacity in the governing of the Canadian Dental Association or who has made similar outstanding contributions to Canadian dentistry.

- at least 2 full terms on the former Executive Council and/or Board of Directors;
- a number of years of service to any dental organization, institution or specialty section;
- at least 4 years as chair of a CDA Council/Commission/Committee/Task Force

Recipients receive an engraved wall plaque.

Nominations

Nominations for Honorary Membership, Distinguished Service or the Award of Merit should be submitted no later then February 10, 2004 to:

Nominating Committee
Canadian Dental Association
1815 Alta Vista Drive, Ottawa, ON K1G 3Y6

Nominations should be kept in confidence until a final decision regarding the awards has been made.

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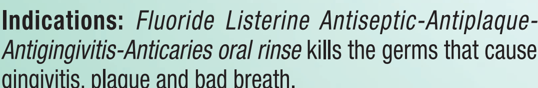

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