

The Roller-Coaster Ride of My Life

or the Life of a Dental Hygienist/Dental Manager in a Pediatric Facility

by Anne Clift, RDH



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I am the dental hygienist/dental manager of the Dental Department at the Janeway Children's Health and Rehabilitation Centre in St. John's, Newfoundland. The Janeway, as it is referred to, is a pediatric health care centre offering comprehensive in-patient, emergency, ambulatory, outreach, and rehabilitation programs in a family centred environment. It is located in my hometown in the Health Sciences Centre and is operated by the Health Care Corporation of St. John's (HCCSJ), which also operates a women's health centre, an adult rehabilitation centre, an adult mental health centre, and three additional adult health centres. As you can imagine, this means a lot of employees—over 6,000 in fact—and only one of them is a dental manager.

If this article seems to take many twists and turns, it's because that's the way my life is these days. For instance, this morning I planned to do the final edit on this article. However, before I could start, I had to return a call from a dentist looking for the instructions for home fluoride trays for a patient receiving radiation treatments to the head and neck; I received word the summer secretarial replacement I was expecting was seconded to another area and I had to decide when to start training a new person; and one of the physicians in the emergency department called regarding a child with a severely swollen face. I contacted our pediatric dentist, who happened to in the operating room today, took

a panorex x-ray for him, and just sat down. I've been at work for two hours and unable to follow through on anything I started.

My "to do" list used to be a full page, but lately I just staple the pages together. This is my job and I love it! My position is funded 75 per cent by the Janeway and 25 per cent by the pediatric dentist, with whom I work part-time. Although my primary role is working with children, that doesn't begin to describe my actual day-to-day activities. Because I am the only dental hygienist and dental manager within this huge organization, I am often called upon by other areas for assistance; and for those of you who don't know me, I like to help out.

In my six years at the Janeway, I have done everything, from ordering dental equipment for the emergency rooms at the adult centres, to coordinating the HCCSJ dental emergency on-call system. I met with architects and engineers responsible for designing the new pediatric dental clinic where I currently work. I was also temporarily reassigned, along with other managers, to scrub floors and toilets at an adult hospital during a general strike by unionized workers—and I still love my job. I look back on all the times I could have

Anne Clift (left) receiving Outstanding Alumnus Award from Glenda Butt, Director of School of Dental Hygiene, Dalhousie University, May 2001

protested that these duties didn't fall within my job description, and then I think of all the amazing experiences I would have missed.

How it all began...

Following graduation from Dalhousie University School of Dental Hygiene in 1974, I worked for many years in private practice. I also worked in public health, including a stint at the Janeway from 1979 to 1982. In late December 1995, I was living in London, Ontario, with my doctoral-candidate-husband and our three children when my sister called regarding an ad for a dental hygienist in the local paper. I pointed out the obvious: two of my children and my husband were still in school, and the Janeway wanted someone to start immediately. She insisted it couldn't hurt to apply.

My telephone interview must have impressed someone, and I was hired to replace the long-time dental hygienist/dental manager at the Janeway, already part of the Health Care Corporation of St. John's (created in April 1995). They also agreed to wait until my children finished the school year in London. Luckily my husband completed his comprehensive exams early, so we all moved home at the end of June.

I started my new job the first week of July 1996 and quickly realized major changes were about to occur. These changes were completely out of my control but would have a direct impact on my department and my role in the hospital. Program management, a term with which I was to become intimately familiar, was not yet in place.

It's a good thing I'm not a worrier by nature because, although I didn't realize it yet, I had just fastened my seatbelt for the roller-coaster ride of my life. I confess to having days when I wonder if my predecessor is the luckier one, because she left before the roller coaster started to accelerate. However, most of the time, I am grateful to her for giving me the greatest opportunity of my career.

Restructuring and program management

In September 1996 (eight weeks after my start date), the Janeway and the Children's Rehabilitation Centre, which was housed in our building, became part of the Child Health Program overseeing all aspects of children's treatment. Some of the other programs created during the restructuring were Ambulatory Care, Cardiac Care, Emergency/Trauma, Medicine, Mental Health, Quality Initiatives, and Surgery. Each program has a director reporting to a vice president of the corporation. Most have clinical chiefs and division managers. Under the new system, Janeway Dentistry would be under the surgical division manager of the Child Health Program.

It's now four hours since I started this edit. I've stopped to take two panorex, one for a patient from adult hematology and another for a child oncology patient with a toothache; met a family with a newborn baby with cleft lip and palate; arranged to have a piece of equipment delivered which was needed by the pediatric dentist to fabricate a special obturator, requested by the

plastic surgeon to help shape a baby's nose for future surgery; returned a call from a dentist wondering when I'd be organizing the next CPR re-certification. On a brighter note, the dietician stopped by to see if I would prefer quiche or lasagna for lunch at our Diabetes Team Retreat next week.

Now, back to program management. Fortunately for me, the new surgical division manager, a nurse with many years' experience as a Janeway nurse manager, was also my long-time neighbour. As I got into my managerial car on the roller coaster, she guided me through budgets, expense codes, quarterly reports, my first staff meeting...and payroll. In program management, the person in charge of payroll is the department manager. When I passed this information on to my skeptical MBA husband, he looked at me as if he thought the people I was working for had lost their minds. He assumed that someone who had never worn a watch in her life and who rounded out cheque book balances to the nearest dollar wouldn't manage the computerized payroll system. But after a half-day training session, I have managed just fine. I supervise the Janeway dental clinic staff as well as the operating room dental assistant. I also interact with the emergency/trauma division managers at the adult sites because of my involvement with the Corporate Dental Emergency On Call System. It's amazing to see how this huge organization oversees health care in the St. John's area and, to some degree, the entire province; we are the provincial referral centre for medical conditions such as hemophilia and cleft lip and palate, to name just two. The pediatric dentist I work with is the only one with that specialty in Newfoundland and Labrador.

Construction and a new children's hospital

On the heels of the major restructuring to program-based management was the announcement that the Janeway and one of the adult hospitals would close and a new children's hospital would be built adjoining the main Health Sciences Centre. While it was indeed exciting to think we would be moving to the first new children's hospital to be built in Canada in a decade, there were many meetings with architects and engineers who knew a great deal about building hospitals but not so much about dentistry.

I was fortunate from the start to have wonderful support within senior management at the Janeway and from the pediatric dentist. Even with the great changes, provision of quality care to children, youth, and their families remained the first and foremost priority at the Janeway.

Oops, I was called away again, first to talk to a dentist in the community who needed some information on administration of a non-traditional local anesthetic not prepackaged for dental use. I got what he needed and called him back. He'll come by in the morning to pick everything up. I met briefly with the pediatric dentist to discuss the minutes of a recent corporate dental staff meeting. The secretary of the Child Health Program director called regarding recommendations of the Dental Accreditation Report.

Now, to continue...because of that commitment to family centred care, many aspects of the dental hygiene/manager position have not changed. As was my predecessor, I am still a member of the Hemophilia, Diabetes and Cleft Lip and Palate Teams. Both the diabetes and hemophilia teams have been recognized with "TEAM AWARDS" from the HCCSJ, and I have received an individual BRAVO Award, so my photo's been in the corporation newsletter. I also maintain a long-standing affiliation with the Newfoundland and Labrador Cancer Treatment Centre to see patients requiring radiation to the Head and Neck. The protocol developed by the oral and maxillofacial surgeon at the cancer centre calls for patient education, prophylaxis, impressions for home fluoride trays, and panoramic x-rays.

Working in pediatric dentistry

Working with the pediatric dentist in a clinical capacity was a new aspect of the position and one that I have come to enjoy very much. I had to quickly learn patient management techniques far removed from my private practice days when my biggest concern was how to convince patients they should floss every day. First to go was the facemask. Much of pediatric dentistry is based on voice modulation and facial expression, neither of which can be done well with a mask on. Plus, the children we see have probably already tried a visit with their family dentist that did not go well and are quite apprehensive when they arrive. The mask frightens them even more. Of course I don't do much deep scaling or use ultrasonics on children so my risk from an infection-control perspective is considerably less than in private practice.

Another interesting aspect of pediatric dentistry is interpreting behaviour. For example, I can now tell from a child's cry (and yes, most of the preschoolers do cry) if they are truly phobic or would just prefer to be somewhere else other than in my chair. You can usually talk and reason with the latter group and have a good appointment, whereas the former are so terrified they do not hear anything you say. Treatment must be as gentle and quick as possible for these children because it is only through many encounters—sometimes over a period of years—that you will gain their trust.

In addition to the fearful child, I also see medically compromised children and those with special needs (both children and adults). Again, treatment is very different from that I had provided to my patients in private practice. "Best treatment" takes on a different meaning. Sometimes just accessing the mouth is so difficult that I am exhausted when the appointment is finished and I know I have not done a thorough job. But the patient and I have done the best we can on that day and with that I have to be satisfied.

Accreditation surveys

The biggest changes have come with construction of the new children's hospital. First, the building was barely started when the Health Care Corporation of St. John's underwent its first Canadian Council of Health Services Accreditation (CCHSA) survey. For those of you unfamiliar with the accreditation process, all policies, processes, outcomes, and

leadership of the organization are reviewed by independent surveyors and compared with national standards for health care. The CCHSA certificate of accreditation is recognized internationally. I was proud to be invited to sit on the Child Health Surgical Care team and worked hard to develop dental appendices to policies relating to infection control and latex precautions. At the end of the visit by the CCHSA survey team, the spokesperson for that group noted that, "despite the tremendous changes that have occurred, we still have our core services intact and we are seen as a caring organization." She told us, "You all need to feel proud."

It was an incredible learning experience that proved extremely valuable when, only a year later, I was asked along with two quality facilitators to help organize the initial survey of the organization by the Commission on Dental Accreditation of Canada (CDAC). The Janeway had been successfully accredited for many years, but this would be the first time the Health Care Corporation of St. John's would undergo a Dental Accreditation. In evaluating ourselves and preparing documents prior to the accreditation site visit, it was evident the Child Health and the Mental Health programs had comprehensive dental facilities, and certain other adult groups such as head and neck cancer patients were well cared for. There was, however, a lack of dental equipment and supplies in the adult centres. Again, senior management recognized the importance of having adequate dental equipment to treat emergencies and I worked with them to identify what was needed. I was then given a budget to order the equipment and have it installed. I then oriented our dental staff to the new areas, located in the emergency rooms at the two adult sites.

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Theresa Morris (left), Surgical Division Manager, and Anne Clift: Choosing a winner of Janeway NDHW Coloring Contest

The snow, the strike, and the move

We had hoped to be in the new building prior to the accreditation site visit, but it was not to be. The survey team arrived in January 2001. We were already into the third month of the snowiest winter on record for St John's. (The total snowfall recorded for the winter of 2000–2001 was 644.6 cm or 21 feet, 1.8 inches.) We were able to show the team the unfinished dental clinic and they were most impressed. Our space in the old building was unsuitably located on an inpatient ward and was very cramped. Since accreditation, the two quality facilitators and I have continued to meet to address the recommendations and suggestions given by CDAC in their report.

We actually moved in May 2001, but before that big event, we survived a five-day strike by support staff in all the hospitals. This resulted in managers, like me, being reassigned to cover duties normally carried out by those workers. I was assigned to a large adult facility to work 12-hour shifts on housekeeping duty. And yes, that meant emptying garbage, mopping floors, and scrubbing toilets. I think I survived only because I ended up with a wonderful bunch of managers who found humour in our blisters and sore backs. Fortunately the strike did not last long and when it was over, the Housekeeping Manager presented us with "Awards." My award was a certificate for "MOST MILES TRAVELLED," complete with a pair of pink plastic high-heeled shoes. My duties during the strike included cleaning a clinic in a separate building up the street from the main hospital. I would have to get dressed for the snow, cross the picket line, trudge up the road to the other facility, clean it up, then dress and go back again, sometimes twice a day. So that is where the "MOST MILES TRAVELLED" came from. At least I didn't get the "MOST BLISTERS AWARD"! On the bright side, I did get some fresh air on my shift. After the strike, it took a few days to readjust to the routine. Then it was back to the regular roller coaster and THE MOVE.

The move to the new building was accomplished with surprising ease. I guess all that advance planning paid off. Dentistry shut down on a Wednesday afternoon and started up again the following Monday. I still smile every morning when I enter the beautiful new clinic. Our corridors are wide and treatment rooms large enough to accommodate patients on stretchers and others with special needs with the same dignity afforded you or me as we visit a dental office.

It's now three o'clock in the afternoon and I have not looked at this article at all today. I did, however, help the dentist on call find OR time to treat an adult patient and aided another dentist with materials needed to treat a patient with an amide allergy; contacted a dental researcher at the University of Toronto for permission to use his subjective oral health indicators (he said yes); spoke to one of our active staff dentists regarding new dental surgical instruments for the operating room; and met with my division manager to discuss the 2002/2003 budget for dentistry.

Will this ride ever end...?

The Teddy Bear B.A.S.H.

Once the move was accomplished, things didn't settle down as much as I had anticipated. In fact, the roller coaster had only momentarily dipped before picking up great speed. Our first Teddy Bear B.A.S.H., a special day developed by the Children's Miracle Network to introduce children to hospital procedures through their teddy bears, was a huge success. Thanks to our local dental supplier, I had an actual working dental operatory, complete with chair, lights, and tools set up in a tent in a park. The day was such a success in fact that staff were relieved when the rain started to pour down mid-afternoon. As it was our first B.A.S.H., we had no idea if 10 or 100 children would show up. In fact, there were 1,500 children and their stuffed toys through the big B.A.S.H. tent, while more than 500 people passed through the Tooth Booth.

September 11, 2001

Then came September 11, a terrible day but one that you wouldn't think would affect local dental personnel. But when more than 25,000 diverted passengers landed in Newfoundland and Labrador and were directed off their planes without any personal belongings, including toothbrushes, I sprang into action. With the help of the dental community, we supplied thousands of toothbrushes to stranded passengers in St. John's and Gander. (Note: Oral-B replaced all donated toothbrushes once they heard what had happened.)

More restructuring

Just a few weeks ago, the roller coaster plummeted again, taking my stomach with it, when in yet another round of restructuring, my long-time surgical division manager retired, leaving me not knowing my future. Luckily my new boss, the perioperative (operating room/recovery room) division manager, is a person I already know well and with



At the Teddy Bear B.A.S.H.

whom I have had many day-to-day interactions ever since I started working at the Janeway.

Since the move, the new children's hospital is physically connected to the largest adult acute care facility in the province. Because of that, I receive more calls involving patients requiring dental assessment prior to cardiac surgery. Treatment can range from thorough cleaning of teeth, patient education, and x-rays to full mouth clearance. Patients wishing to go on a transplant list must also have a dental assessment. In view of the ever-growing body of evidence linking oral health and general health, it's exciting to see hospital policy recognizing that trend. When one of the adult facilities began doing stem cell transplants last year, the oral and maxillofacial surgeon asked me to get involved with those patients; I quickly agreed.

Telemedicine

The HCCSJ is affiliated with Memorial University's Faculty of Medicine, and through that affiliation, I can take advantage of their facilities in the Telemedicine Department to organize teleconferences and videoconferences with dental personnel all over the province. Marilyn Goulding (scientific editor of *Probe*) and Salme Lavigne (immediate past president of CDHA and director of the School of Dental Hygiene at the University of Manitoba) are just two of the people who have presented via live, interactive videoconference from the medical school to remote areas of Newfoundland and

Labrador. Recently our hemophilia team at the Janeway presented via videoconference to the medical staff at a hospital more than 200 miles away. Being able to see and speak to each other was almost as good as being there. The policies I helped develop for the corporation on infection control for dentistry and latex precautions have been circulated to all dental offices in the province. The quality initiatives program is very supportive of such activities.

Community work

There is no community health dental hygienist so I am often called upon to do school and community visits. Nursing students use my resources as well to complete their assignments on oral health. I am currently working on revising the dental portion of the Early Childhood Education Manual for the province and recently gave a presentation to a Pediatric Diabetes Symposium.

One evening last week I volunteered to give a presentation, at a meeting of immigrants' families, on oral health care for their children. The families were from as far afield as Colombia, Sierra Leone, and Kazakhstan...and had quite a range of understanding of English. I have also spent days with seniors at the Seniors Health Fair organized by the Victorian Order of Nurses (VON).

These are but some of the things my weekly schedule entails. I never know what each week will bring but certainly realize by now that it definitely will be a learning experience! 🐾

"WHAT IS A COMMUNITY?" (continued from page 121)

ists are qualified, safe professionals who should be directly answerable to the public. These volunteers, working together toward a common goal, are also exhibiting another characteristic of community: mutual support.

Learning from one another is something else that benefits us as members of a community. Sometimes it is difficult to know where to start when looking for an expert to assist you. CDHA would like to facilitate your ability to learn from your peers. Forget the physical boundaries of a geographical community. Log onto the *Members Only* portion of our web site and locate colleagues who have identified their areas of expertise. Share in one another's successes and discover previously untapped resources.

You can also share an event with your colleagues. If you are organizing an event, or know of one coming up that fellow dental hygiene community members would find informative, share the details using the convenient on-line form in the *Calendar of Events* section of the *Members Only* area of our web site. If you are looking for an event, search by province, city, or other search categories to find what you are looking for.

Communities celebrate their successes. CDHA and many provincial associations do this in the form of Life Memberships, Distinguished Service Awards, Student Scholarships, and Dental Hygiene Awareness Awards. Are there leaders you would like to recognize? Please contact us, note the announcements in *Probe*, or check out the web site for nomination and award guidelines.

A community needs a voice: CDHA serves its community members as the collective voice of dental hygiene in Canada. We support each other in developing national position statements and policy positions to assist dental hygienists serve the Canadian public. This year we have spoken to the Finance Committee of the federal government and made submissions to the Romanow and Kirby commissions. For full reports of these submissions, please check out the web site. You can also refer clients and other interested people to the public portion of the web site where these reports are posted. We produced a national television advertisement on the dental hygiene profession to raise public awareness about the important role you play in their health care. We are also helping you inform your clients of their rights to a qualified professional through the *Dental Hygiene Client's Bill of Rights*, published in the January/February 2002 issue of *Probe*, and also available in a printable format on the web site.

A community attempts to bring benefits to all its members. CDHA does this through providing professional liability programs and offering affinity programs such as our disability insurance, home and auto insurance programs, and investment programs. We have been reviewing all of our programs and will have some announcements of new offerings in the coming months.

We are all members of a number of communities. Become an active participant in your dental hygiene community and help us all learn from and share with one another. Let's not be content to simply have dental hygiene in common. Be a part of the community. Add to the dental hygiene voice. 🐾

des défis de plus en plus considérables, de sorte qu'il se trouvera des individus prêts à passer à des postes de leadership. Je crois que la force motrice dans une collectivité est constituée des efforts combinés des personnes qui s'impliquent dans quelque capacité que leur permettent le temps dont elles disposent ou les talents qui leur ont été impartis.

Le sentiment d'être isolées dans nos problèmes peut être frustrant, décourageant et difficile. Partager le défi allège le fardeau et aide souvent à résoudre le problème. En tant que collectivité de professionnelles, je crois que nous devons nous rallier autour de nos collègues dans leurs défis parce que la plupart des problèmes nous affecteront à un certain point, directement ou indirectement. À la réunion des présidentes provinciales, on a pu partager des préoccupations communes sur des questions comme celles de trouver des bénévoles pour jouer des rôles de leadership, de poursuivre la quête de l'auto-réglementation, de lutter contre les obstacles qui s'opposent à la prestation de services dentaires directs aux clients contre rémunération. La capacité d'amener ces défis au niveau national (ACHD) nous permet de partager l'expertise, l'expérience et les ressources pour aider à élaborer des solutions synergétiques qui peuvent venir en aide aux hygiénistes dentaires dans plusieurs provinces.

Soyons les championnes les unes des autres. Soutenons les braves entrepreneurs qui entrouvrent les portes des soins

Vous pouvez trouver que les récompenses de la camaraderie et le sens de l'accomplissement vous conduiront à accepter des défis de plus en plus considérables, de sorte qu'il se trouvera des individus prêts à passer à des postes de leadership.

gériatriques de longue durée et les institutions correctionnelles, et qui rejoignent les personnes éloignées et retenues chez elles. Ces efforts permettront éventuellement aux hygiénistes dentaires de pénétrer directement dans ces milieux de pratique alternatifs. Dans les provinces où l'auto-réglementation reste encore à faire, encourageons les hygiénistes dentaires à continuer la poursuite de l'auto-réglementation parce que le fait d'y parvenir aura un impact sur toutes les hygiénistes dentaires dans les enjeux nationaux. Soutenons les efforts des éducateurs qui s'efforcent de rendre possible, pour les praticiennes actuelles et futures, l'obtention d'un diplôme en hygiène dentaire si elles désirent cette option. Ajoutons de la crédibilité à la profession en contribuant à la recherche effectuée par et pour les hygiénistes dentaires. Les individus faisant partie d'une collectivité devraient être là les uns pour les autres.

Une collectivité célèbre les victoires des individus et de la collectivité dans son ensemble. Un petit nombre sélect d'hygiénistes dentaires ayant un esprit d'entrepreneur exploitent maintenant des services mobiles et des services d'extension en hygiène dentaire. Dans toutes les provinces, les hygiénistes dentaires s'efforcent d'apporter les changements qu'elles perçoivent comme nécessaires pour atteindre à l'auto-réglementation et/ou pour améliorer l'accès de tous les Canadiens aux services d'hygiène dentaire, et elles font des progrès. Une éducation innovatrice, améliorée avec un diplôme ou des programmes de fin d'études menant au diplôme sont en voie de développement ou l'ont été. Des campagnes de sensibilisation du public primées ont été produites, et le public et les professionnels de la santé de disciplines connexes connaissent plus que jamais l'importance de la santé buccale et de la profession de l'hygiène dentaire. Quiconque a assisté aux conférences annuelles de l'ACHD conviendra que ce sont des affaires "stellaires". Ces conférences sont tenues sous les auspices des collectivités locales d'hygiène dentaire de tous les coins du pays, cette année par un groupe enthousiaste de Moncton (Nouveau-Brunswick), du 20 au 22 septembre (le thème de la conférence sera "Ensemble, soyons fier(e)s de notre profession"). Chaque année, les hygiénistes dentaires sont mises en candidature pour des prix reconnaissant leurs contributions à leurs associations, à la profession ou à leurs collectivités. Célébrons ces réalisations.

L'implication dans la collectivité de l'hygiène dentaire est une expérience dynamique. Interagir avec une variété d'individus, d'enjeux et de réalisations font que nous sommes continuellement sur le qui-vive, fières et en état d'apprentissage les unes des autres. L'implication nous propose le défi de participer pleinement et nous récompense en nous donnant un sens de réussite parce que nous nous révélons capables d'innover et de faire une différence. Cette activité nous garde intéressées et intéressantes. Une collectivité qui peut harnacher ses ressources les plus précieuses, c'est-à-dire ses membres individuels, possède un potentiel extraordinaire de transformer une situation. Soyons des membres fières, actives et responsables de notre collectivité des hygiénistes dentaires.

On peut communiquer avec Barbara Gibb à l'adresse president@cdha.ca. 

Diabetes is an immune deficiency disease associated with six health complications, including periodontal disease, retinopathy, nephropathy, cardiovascular disease, impaired wound healing, and neuropathy. The connection between uncontrolled diabetes and oral health and the whole body is becoming well known. To date, approximately 2.25 million cases of diabetes have been diagnosed in Canada.¹ The majority of the diabetic population, approximately 85–90 per cent, has type 2 or non-insulin dependent diabetes mellitus. However, there is also a large group of individuals who are undiagnosed.

Type 2 diabetes was once considered a disease of middle age, but now it is diagnosed in children and in people who are 20 to 30 years old. It is most common in Canadian Aboriginals, individuals of African and Asian descent, and individuals with a previous family history of the disease. Some contributing factors are poor diet and a lack of physical activity leading to obesity. Factors such as stress, smoking, hormones, medication, poor diet, and poor oral self-care contribute further to the problem of both diabetes and periodontal disease. As dental health care professionals, it is our responsibility to educate our clients on the prevention and treatment of this debilitating disease.

1. In slowed or impaired wound healing and other diabetic complications, cells need glucose for energy but insulin production/sensitivity is defective, not allowing glucose to enter the cells efficiently.

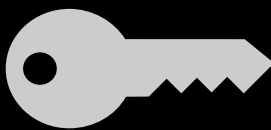
The key mechanisms involved in diabetic complications are as follows:

- Hyperglycemia (too much glucose and not enough insulin) causes cell death.
- Advanced glycation end products (glucose binding with proteins and fats) form on collagen, altering the blood circulation by thickening the blood vessel wall, thus decreasing the size of the lumen of the blood vessel. Platelet aggregates now adhere to the roughened blood vessel wall, further decreasing the diameter. This causes a decrease in circulating red blood cells, and a decrease in the ability of the hemoglobin to carry oxygen. A lack of circulating oxygen and an underutilization of glucose may result in fatigue. At the wound site, the blood vessels and basement membrane in the capillaries thicken, stopping the diffusion of nutrients and oxygen, and the removal of waste products. Increased fibronectin receptor protein response to high glucose levels increases basement membrane thickness, affecting wound healing, cell adhesion, and cell migration.

Oral Health and Diabetes:

Key Points to Educate the Client

by Katharine Cashman, BSc, RDH



- The key protective white blood cell (polymorphonuclear leukocytes) response is depressed.
- Wound collagen is decreased and collagenase is increased. Wound collagen is needed for healing, as well as for platelets adhering to the wound site. The enzyme collagenase destroys newly formed collagen.
- The mechanism in diabetic complications and periodontal disease is similar. In periodontal disease, increased crevicular glucose increases gram-negative bacteria, which causes disease by attacking the periodontal ligament. Similarly, there is cell death in diabetes when there is no insulin.

- In a diabetic individual with uncontrolled diabetes, who has

moderate to severe chronic generalized periodontal disease, the total surface area affected would be a wound the size of the palm of your hand, constantly being attacked by bacteria.

- Heart and circulation diseases, which are accumulative and non-reversible, are three times greater in uncontrolled diabetics. Periodontitis is a risk indicator for heart disease, meaning that if you have heart disease, you may have periodontal disease.

2. The relationship between gum disease and diabetic complications is as follows:

- Both diseases are controlled, not cured.
- Uncontrolled diabetes is a major risk factor for bone loss, tissue breakdown, and tooth loss, even when there is little plaque and calculus.
- There is a shift to more aggressive bacteria, such as *Porphyromonas gingivalis*, *Bacteroides forsythus*, as well as *Actinobacillus actinomycetemcomitans* (or A.a.), in younger diabetic clients. When clients with similar bacteria are compared, those with uncontrolled diabetes have more abscesses, granulation tissue, and more extensive periodontitis.
- Uncontrolled diabetes and periodontitis are correlated with an increase in glucose in the saliva. Uncontrolled diabetes and onset of diabetes influence the severity of periodontal disease and susceptibility to oral infections.
- Controlled diabetes results in decreased oral inflammation. Following periodontal treatment, consisting of mechanical debridement and antibiotics, insulin requirements decrease, due to a decrease in inflammation. Chronic infections have a negative affect on diabetes.
- Severe chronic periodontitis results in a greater insulin resistance (<periodontitis=<insulin resistance). There is a 2.8 to 3.4 times greater risk of developing periodontitis in uncontrolled long-term diabetics.²

- Advanced diabetic complications, such as retinopathy, kidney dysfunction, and cardiovascular disease, are correlated with severe chronic periodontitis, possibly due to the fact that all of these conditions are linked with glucose/cell permeability dysfunction.
- Well-controlled diabetics without local factors (such as plaque and smoking) who follow a good diet have healthy periodontal tissue, which may be healthier than non-diabetics since the diabetics' sugar intake is low.
- Periodontal disease is a progressive chronic inflammatory disease where the periodontal tissue is in a constant state of wounding and repair. Diabetes impairs wound healing. Therefore client compliance and diabetes management are important for success. This includes early diagnosis, strict plaque control, and strict glucose/insulin control.

3. Other oral complications that result from poor glucose control:

- Dry mouth, burning mouth or tongue, candidiasis, oral ulcers, altered taste/smell, oral/facial pain, lichen planus (a possible link to immune deficiencies), and an increase in caries—all due to an increase in glucose in the saliva. These side effects may also be the result of hypertensive medications that produce dry mouth. Dry mouth is also associated with kidney dysfunction.

4. Diabetes and smoking:

- Smoking affects the immune response.
- Smoking and uncontrolled diabetes are also correlated. Smokers also have impaired wound healing. Nicotine and toxic additives, such as cyanide, carbon monoxide, and aryl hydrocarbons, break down collagen and

inhibit gingival fibroblasts. Collagen synthesis is needed for healing.

- Circulation and blood flow are affected by the vasoconstrictive properties of tobacco.
- Both uncontrolled diabetes and smoking increase the level of aggressive bacteria (*P. gingivalis* and *B. forsythus*).

5. Oral self-care:

- Brushing, flossing, using a sulca brush, interproximal aids, tongue debridement, and fluoride for exposed roots can be used for uncontrolled diabetics.
- It is important to increase the frequency of professional maintenance appointments to every three to six months, depending on the client's needs. Controlled diabetics responds well to periodontal treatments.
- There is a correlation between oral health behaviour and diabetes self-care. Poor oral self-care can lead to periodontitis and poor glucose control leads to diabetic complications. Success is attributed to effort, ability, and insight into health problems.
- Dry mouth can be relieved by chewing gum, sucking on sugarless candies, water, humidifiers (not with asthma), sucking on ice chips, pilocarpine medication, and avoiding alcohol mouthwash. Fluoride treatments and chlorhexidine rinses can prevent increased decay associated with dry mouth.
- Ill-fitting dentures and/or partial dentures can lead to inflamed tissue, complicating the diabetic condition. In candidiasis, soak the denture (not a partial denture) in 10 parts water to 1 part sodium hypochlorite for five minutes for four to seven days, and rinse well. A regimen of nystatin is recommended for candidiasis.

6. Dental appointment times should be made, keeping in mind the following points:

- Regular meals should be eaten prior to the appointment to maintain the correct insulin regimen. Missed or delayed meals can increase the risk for hypoglycemia. Fasting or disrupted meal times should be avoided.
- Morning appointments are preferred since glucose levels are stable at this time and stress, which affects insulin levels, is generally lower in the morning.
- For insulin-dependent clients, appointments should be made after insulin dosage and breakfast, not around meals when glucose is low. Insulin peak times can vary from 1.5 to 3 hours, depending on the type of medication. In type 1 diabetes, lispro, a rapid-acting insulin, is taken prior to a meal. It acts in 15 minutes, peaks in 30 to 90 minutes, and lasts for 5 to 6 hours. It could therefore peak mid-morning. Discuss the medication and insulin peak times with the clients or their doctor.
- Exercise and physical activity should be kept to a minimum prior to the appointment.
- Acetylsalicylic acid (ASA) can increase insulin secretion and sensitivity.
- If solid foods cannot be eaten following the appointment, then recommend soft foods or fluids.

Dental Appointment Checklist

Pre-appointment

- ☐ make appointment in morning if possible
- ☐ check medication and insulin peak times for client
- ☐ check with client's physician whether antibiotic required
- ☐ request client to observe regular mealtimes
- ☐ request client to limit physical activity
- ☐ exercise caution with use of ASA, unless OK'd by physician
- ☐ request client to self-monitor glucose levels

During the appointment

- ☐ request client to self-monitor glucose levels
- ☐ watch for symptoms of hypoglycemia
- ☐ have sugar and glucose tablets for emergencies

Post-appointment

- ☐ make diet recommendations, if necessary

Medications and Dosages	Peak Times	Possible side effects
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

- Glucose levels should be self-monitored prior to and during long appointments. Serum glucose levels should be between 5 per cent and 8 per cent (80–180mg/dl). Levels above 8 per cent (>180mg/dl) result in decreased healing and risk of infection. Consult with the client's physician to determine if pre-medication such as an antibiotic is needed. Reschedule if the level is above 12 per cent (>300mg/dl) or less than 4 per cent (<70mg/dl).
- Ask the client if they have hypoglycemic problems.
- Clients may become desensitized over time to early hypoglycemic symptoms such as sweating, tremors, shaking, confusion, increased heart rate, cold clammy skin, and nausea. The symptoms can also be masked by alcohol and beta blockers.
- Keep sugar on hand for emergencies. Also, for those on a glyburide/acarbose combination, use glucose tablets because this combination reacts in the gut and the body is able to use the glucose readily.

Findings support the need for assessment, diagnosis, treatment planning, implementation, and reassessment in the dental office to monitor the client's needs. Controlled diabetics who maintain good oral self-care have minimal problems and better oral health than non-diabetics because of a good diet and a lack of sugars.

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PROBING THE NET

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by Karen Wolf, DipDH

WELCOME SUMMER! WELCOME WARMTH! I'm dedicating this column to web sites that can assist you with your projects for the next year. The sites below are devoted to providing you with a variety of oral health resources—from waiting room books to tools for classroom lesson plans. Check out these sites, bookmark them for future reference, and then enjoy your summer.

Lätsä (www.latsa.com)

"Dental health and health educational products for early childhood education, preschools, childcare, & Head Start and excellent for occupying your young patients in the reception area of dental and medical offices."

This site has sections such as *Ask Latsa Questions*, *Our Products* (books, manuals for teachers and parents, puzzles, posters, educational play, and more), *Order Online*, and more.

HealthLinks (www.healthlinks.net)

This is a "portal" or gateway site—a database of over 33,000 links to health care sites, arranged by topic. The database is growing at the rate of up to 1 per cent per day with a focus on "making the Internet a practical tool for research and collaboration within the healthcare community."

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"The HealthLinks website is a free World-Wide Directory - Portal Service for healthcare professionals and consumers. Our main focus is to assist in the task of locating medical and healthcare information, products, resources, services and practitioners on the World-Wide-Web. We also provide a series of forums for healthcare discussions, a free classifieds ads area, a monthly newsletter containing articles about healthcare, computer and Internet subjects and the largest listing of Hospitals on the Internet."

On this site, I typed "oral health" in the search box and came up with 12,339 sites! One of the sites listed was Healthy Teeth, a site sponsored by the Canadian, Nova Scotia, and Halifax County dental associations.

Healthy Teeth: Oral Health Education Database (www.healthyteeth.org)

This site is based on the belief that it is "important that students have access to quality, innovative information on oral health. By understanding the how and why of healthy tooth growth and development, the science of cavities and methods of prevention, it is hoped that students will learn to take better care of their teeth and gums."

"Healthy Teeth is an oral education database built upon the science of oral health and designed for elementary grades 3 – 6. It features animated graphics, easy-to-understand text, simple classroom experiments and much more." It is available to anyone and can be either a "stand alone lesson on oral health" or incorporated into the health or science curriculum. Toothbrush icons launch different sections of the site, *Teeth & gums*, *Prevention*, *Cavities*, *Braces*, *Experiments & activities*, and *Teacher's guide*.

Have a pleasant, safe, and relaxing summer.

Until next time. 

TIM@NOFIXEDADDRESS.COM



"Reaching Families with Young Children":

A Community Dental Health Project for Preventing Early Childhood Caries

by Maureen O'Neil,¹ RDH, and
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Abstract

This paper reports on a community dental health initiative focused on the prevention of early childhood caries (ECC) in the South Fraser Area of the Fraser Health Authority, British Columbia, Canada. The goal of the promotion was to "reach families with young children" and provide them with important key messages about preventing ECC. Family physicians were involved in planning, delivery, and evaluation of the project. Low literacy, culturally specific educational materials were developed for use in various ECC prevention activities. Educational materials were sent to physicians with the request that they make the materials available to families in their practice and pass on preventive messages during child immunization appointments and well-baby visits. The results of initial evaluations indicate that the project succeeded in involving physicians in passing on key preventive information to families in their practice.

Background

The South Fraser Area (SF) of the Fraser Health Authority is a large health area with a population of approximately 600,000 people. There are many young families in the region with 29 per cent of the population being children 0–19 years of age. SF is culturally and socio-economically diverse with

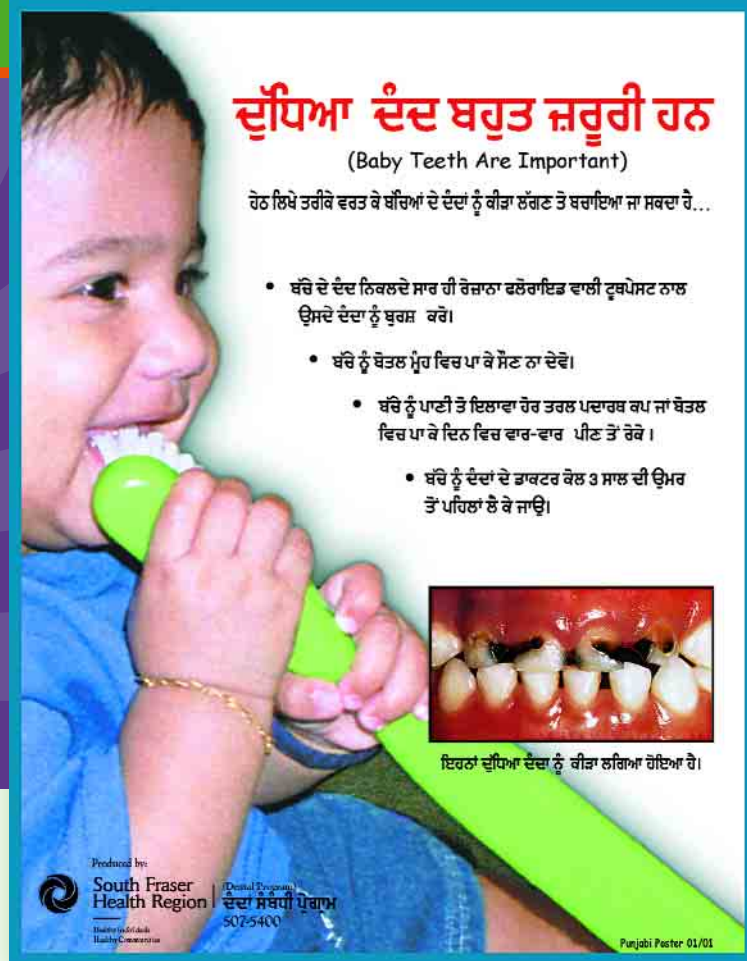


Figure 1. Posters in Punjabi and English

approximately 19 per cent of the population having English as a second language. Two communities in SF have a large percentage of people (27 per cent and 16 per cent) whose first language is Punjabi.¹

School dental screening statistics for 2000/01 revealed that 40 per cent (2,750) of children in SF had experienced dental caries by the time they reached kindergarten and that 3 per cent (183) were experiencing pain and/or infection at the time of screening.² In the SF during 1998/99, one-quarter of all children's daycare surgery was for dental procedures.³ In 1997, the Provincial Health Officer reported that dental treatments were the most common hospital-based surgical procedures for children less than 14 years of age in British Columbia.⁴

In a recent report to the Association of Dental Surgeons of British Columbia (ADSBC), the Children's Dentistry Task Force estimated that the annual cost to the private and public sector of treating ECC is well over \$10 million. Furthermore, more than 5,000 children are treated in British Columbia hospitals under general anesthetic each year.⁵



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Figure 2. Front covers of English and Punjabi pamphlets

Introduction

Community dental programs in all regions of British Columbia initiated efforts to reduce the incidence of ECC. Programs were developed that focused on the identification of infants and toddlers at risk for ECC. Once identified, families were provided preventive information and support. The majority of families were accessed through child immunization appointments at the local health unit.

This particular approach, however, proved to be less effective in the SF. Two pilot projects revealed that only a small percentage (under 30 per cent) of babies born in SF received their immunizations at the health unit. It was also determined that babies at greatest risk for ECC were more likely to visit their family physician for immunizations and well-baby visits.

In an attempt to access a greater percentage of the target group (families with children ages 0–5), Community Dental Staff from SF initiated an educational program in partnership with local physicians. Family physicians see children earlier than dentists and can play a critical role in the development and delivery of perinatal preventive and educational programs.⁶ This strategy is in keeping with recent recommendations made to British Columbia's Ministry of Health in the May 2001 report, *Strategies to Enhance the Oral Health of British Columbians*.⁷ It was suggested that efforts be made to "enhance the awareness and availability of resources about oral health promotion to all health-care workers, social workers and teachers."⁷

Project description

For the purposes of this report, ECC is defined as any sign of tooth decay in the primary dentition during the first five years of life. This definition extends to age five, because the caries experience of SF children is measured by data obtained through a kindergarten-screening program in elementary schools. The goal of the project was to access families with young children through their family physicians and to provide these families with preventive dental information before detrimental habits were formed. Ultimately, the goal was to reduce the incidence of ECC and the number of children needing dental treatment in hospitals in SF.

Immunizing family physicians were consulted; those wishing to participate were then sent specifically designed educational materials. They were asked to make the materials available to young families in their practice.

Community Dental Staff felt it was important that young families have multiple exposures to the health messages, to reinforce the information they were obtaining from their physician. The educational materials were distributed throughout the region, to places such as dental offices, health units, community pharmacies, hospital waiting areas, community centers, schools and daycares—virtually anywhere young families might be. The intent was to make the preventive information available for all families.

Educational materials

Educational materials were developed that suited a wide range of audiences and reflected the needs of the high immigrant, low socio-economic nature of some of the communities in SF. The materials, in the form of posters, pamphlets, and stickers, were developed based on current scientific information about the etiology and prevention of ECC (Figures 1 to 3).

The materials focus on the most common factors associated with the development of ECC—lack of mouth cleaning with fluoride toothpaste and inappropriate feeding and comforting habits. Lack of mouth cleaning with fluoride toothpaste is considered a high-risk factor, as there is no water fluoridation in SF.

The poster and pamphlet encourage families to seek dental advice by the time the child reaches age one. This follows the current Canadian Dental Association (CDA) recommendations for the first dental visit.

The poster is small, 8½" x 11" and was designed to be displayed in prominent locations in physicians' offices and to accommodate those with limited wall space (Figure 1).

The pamphlet consists of a self-test designed to help families determine if their children are at risk for decay and offers strategies for reducing the risks (Figure 2). The intent was that the pamphlet could be made available in waiting rooms or handed out as an adjunct to preventive teaching. The stickers are used to deliver one key message: "Baby Teeth are Important!" (Figure 3).

Methods

Two pilot projects were conducted to assess children at risk for ECC. Families of 12-month-old children, born in SF, were accessed through immunization appointments at local health units and telephone surveys. Information gained from the pilot projects led to the ultimate design of the project described in this report.

Surveys were sent to 353 immunizing family physicians in the SF. They were asked about their willingness to participate in the promotion, if they would like additional information about ECC, whether they would be willing to attend an educational session for physicians, and if they would like the educational materials translated into other languages.

The educational materials were translated, based on physicians' requests, into Punjabi to target the large Indo-Canadian population in the region. Currently, the Punjabi versions of the poster and pamphlet advise families to "Visit the dentist early, before age 3". These materials are currently being updated to reflect the CDA recommendations for the first dental visit (Figures 1 and 2).

The materials were peer reviewed and focus tested. Materials were then sent to participating physicians, along with the other requested resources.

Follow-up evaluations were done at three months to determine if the physicians were using the materials, if they were counselling families about preventing ECC and if they agreed the promotion was an effective way to reach families.

Initial survey results

Of the 353 immunizing family physicians who were sent the initial surveys inviting them to participate in the ECC promotion, 34 per cent (120) responded. Thirty-three percent (118) of physicians agreed to participate.

In general, initial survey results showed that physicians were willing to utilize the promotional materials in their practice. Results indicated physicians wanted more oral health information and expressed interest in attending educational sessions about ECC. They also requested educational materials in other languages (Table 1).

Participating physicians' involvement	n = 118	
	No.	%
Displayed small poster about ECC in their office	107	91
Wanted the poster in other languages (predominantly Punjabi and Cantonese)	42	36
Willing to distribute an ECC pamphlet to parent with young children	91	77
Would be interested in attending an educational session on ECC, featuring leading researcher	44	37
Wanted more information or resources on ECC	62	53

Table 1. Initial survey results

Twenty-three percent (27) of responding physicians made additional comments or suggestions about how dental health strategies could be delivered to families with young children, and some of these suggestions were incorporated into program plans.

Examples of physician comments were:

"PSA's on TV, poster/brochures in pharmacies and dentist's offices";

"6 month (oral) checks, handouts on fluoride/care or dental package at birth";

"Display posters where baby bottles are sold."

Only one responding physician, a local pediatrician, felt that it was not the role of physicians to discuss preventing dental caries with their patients. He felt there was enough dental information out there and people could access it from places other than their physician's office.

Three-month follow-up evaluation results

Three-month follow-up evaluation results showed that using family physicians was an effective way to reach families with young children and provide them with information on ECC (Table 2).

Many physicians made additional comments about the project, comments such as:

"The visual impact of the poster is very effective; often parents ask about it and it serves as a reminder to physicians";

"As a result of this promotion, the pamphlets are handed out at our well-baby clinics."

Figure 3. Stickers in Punjabi and English



Physicians' involvement – at 3-month follow-up	n = 38	
	No.	%
Made the materials available to families	30	79
Counselled families about key preventive strategies	35	92
Counselled families about not putting babies to bed with bottles	38	100
Agreed the promotion was a good way to reach families	25	66

Table 2. Three-month follow-up evaluation results

Discussion

This project is ongoing with continued activities focusing on the reduction of ECC involving physicians and other health care professionals. Educational opportunities for physicians, including grand rounds presentations at local hospitals, were held in February 2002. Dr. Rosamund Harrison, Associate Professor and Chair, Pediatric Dentistry, University of British Columbia, spoke about the health consequences of ECC and the cost to our health care system of this preventable disease. She described the risk factors for the disease and the role health care professionals can play in improving the oral health of children.

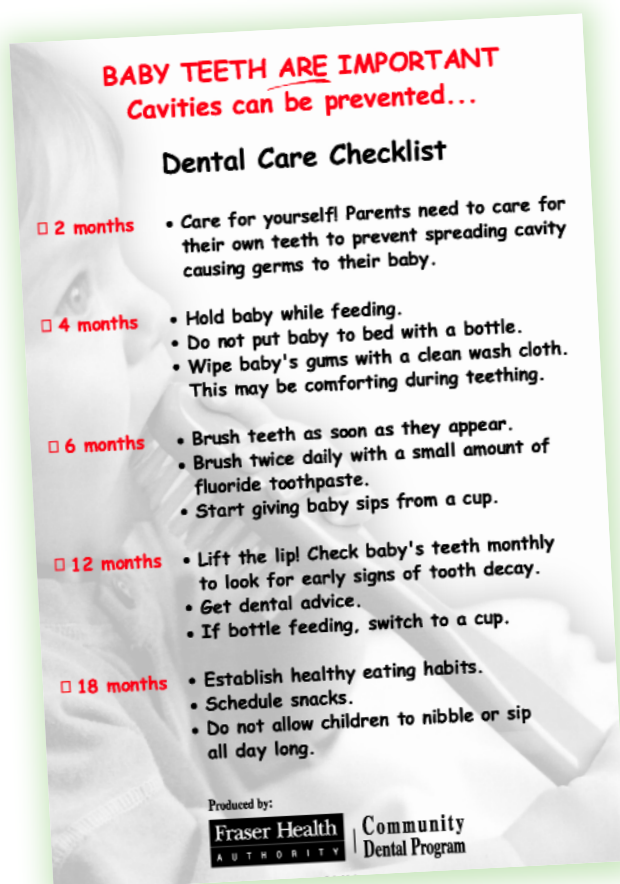


Figure 4. Dental Care Checklist

The SF Community Dental Program regularly submits dental news to the College of Pharmacists of British Columbia's newsletter, *Bulletin*. Pharmacists are often seen as front-line health care providers and are asked questions about dental health.

Translations of the educational materials into Cantonese and Vietnamese are planned. The Punjabi (and English) versions of the materials are now available on the MultiLingual Health Education web site (www.multilingual-health-education.net), which is a database of translated health education material.

A new *Dental Care Checklist* was developed that provides key dental messages for families with young children (Figure 4). Messages correspond with the ages of the immunization schedule. This resource was developed for all health care professionals who see young children, particularly for physicians and public health nurses who regularly immunize.

Conclusion

The BC Children's Dentistry Task Force recommends the development of collaborative models and programs involving dental professionals as well as other health care providers in the prevention of ECC.⁵ The "Reaching Families with Young Children" project succeeded in involving physicians in transmitting dental information to families in their practice. ECC is a complex problem. Physician participation in ECC prevention activities is part of the solution.

It is hoped that future evaluations will show a decrease in the incidence of ECC and the number of SF children needing dental treatment in hospitals.

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HAMILTON Direct Dental Staff Placement. Let us do the searching! We work hard to ensure your success in finding an attractive employment situation. Placement is available to all dental staff from temporary to full-time positions, and it is complimentary. Call us at (519) 658-4917, or fax résumé to (519) 651-1621.

KINGSTON Full-time dental hygienist required for 10-month maternity relief starting July 22, 2002, with possible opportunities beyond this time period. This is a chance to join a busy, progressive practice, with new equipment, and a friendly, experienced staff. Wages negotiable and commensurate with experience. Send or drop off résumé to Dr. Robert Oldfield, 262 Wellington Street, Kingston, ON K7K 2Z1, or fax it to (613) 544-5380.

TORONTO and GREATER TORONTO AREA Perrier Dental Placement Service. Temporary or permanent, full-time or part-time positions available in Toronto and the Greater Toronto area. Confidential service for all dental personnel! Absolutely no cost to register with our service. Please call (905) 477-2063 or (416) 700-1772; fax: (905) 477-8467.

TORONTO Our clients are constantly looking for motivated, patient-oriented Registered Dental Hygienists for full-time, part-time and on-call positions. New grads welcome. Great locations to match your needs throughout the greater Toronto area. For details, please contact NHI Personnel. Telephone (416) 368-9871; fax résumé anytime to (416) 368-9034, or e-mail to <lawrence@nhihealthcare.com>.

NEWFOUNDLAND AND LABRADOR

Earn over \$60,000/year. Full-time dental hygienist required in Newfoundland and Labrador immediately to work with 4 dentists in need of a hygienist. Possibility of working with a visiting orthodontist, with extra pay. Suitable for hygienists having big education loan to be paid. Please fax your résumé to (709) 896-9797, Attn: Dr. Chandra. For more information, please call (709) 896-8889.

INTERNATIONAL

AUSTRALIA Opportunities exist to work and live down under. For specific information, please e-mail Dental Hygiene Consultants at <heartld@rivernet.com.au>.

SWITZERLAND Opportunities for adventurous dental hygienists to work in Switzerland. If you like to travel and are willing to learn German, contact me for more information. Pia Kolliker, Placement Service for Dental Hygienists Overseas. Telephone (250) 497-7981; fax (250) 497-7982; e-mail <piakolliker@shaw.ca>.

EMPLOYMENT AGENCIES

www.dentaljobs.ca provides a free service that connects dentists, dental hygienists, and other dental personnel with long- and short-term jobs. A simple on-line form allows you to list your personal availability, and an employer can list a vacancy for any office position.

Global Hygienists Community (International) Are you interested in a change? A challenge? A global adventure? Global Hygienists Community is one of the leading resources and placement liaisons for dental hygienists interested in international career opportunities. Perfect "one-stop-shopping"—job postings, placement liaison services, listing of volunteer projects, links to other affiliations, associations and related web sites, highlighted professional overview of the most frequently asked about countries, information about writing a curriculum vitae, foreign employment checklist, and networking. Contact us at <www.globalhygienists.com>.

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