



## Maternal Vitamin D Status and Infant Oral Health

*Robert J. Schroth, DMD, MSc, of the University of Manitoba presented an abstract titled "Influence of maternal vitamin D status on infant oral health" at the 86th General Session of the International Association of Dental Research, held in Toronto in July 2008.*

*Dr. Schroth and his fellow researchers, Drs. Michael Moffatt and Christopher Lavelle, measured the vitamin D levels of 206 pregnant women in their second trimester and subsequently examined the dentition of 135 infants. Dr. Schroth summarizes the pertinent details of this study in the following Q&A session.*

**JCDA:** What were the main findings of your study?

**Dr. Robert Schroth:** This study investigated the vitamin D status of pregnant women and the influence of vitamin D levels on the oral health of their offspring. We found that many mothers had low levels of vitamin D during their second trimester, when primary teeth begin to develop and calcify. Most mothers were aboriginal women recruited from 3 inner-city health centres in Winnipeg. Their mean vitamin D level was  $48.2 \pm 24.4$  nmol/L and nearly 90% had levels below the recommended threshold of vitamin D adequacy. Meanwhile, many of the infants examined had early childhood caries (ECC); 36% had lesions including white spots, while 23% had cavitated lesions. Our preliminary findings suggest that mothers of children who developed ECC had significantly lower vitamin D levels than mothers of children who were caries-free.

**JCDA:** Did these results reflect your hypothesis when you began your research?

**Dr. Schroth:** Our original hypothesis was that low vitamin D levels during pregnancy would be associated with increased enamel hypoplasia and caries in offspring. The results are encouraging and we hope to conduct further investigations in this area to validate our findings. Our plan is to also develop more studies exploring the relationship between vitamin D and the oral health of infants and preschool children. We have already begun to conduct some other pilot studies to further our understanding of this relationship.

**JCDA:** What were the relative strengths and limitations of the study?

**Dr. Schroth:** One of its strengths was that it was a prospective study that followed women and their offspring over time. In addition, most of our participants were from Winnipeg, which controls for some of the influence that geography has on vitamin D attainment. The study design was ideal to examine the influence of vitamin D during pregnancy. As for limitations, our sample size was small and many of our participants were disadvantaged individuals, which made retention of the cohort a challenge.

**JCDA:** Why did you choose to examine vitamin D levels rather than other variables?

**Dr. Schroth:** Many aboriginal Canadians are known to have low vitamin D levels and many aboriginal children experience ECC. We thought it would be interesting to explore the potential association between these 2 issues. Lady May Mellanby, whose husband Edward Mellanby discovered vitamin D, was a real pioneer in this area with her work on the role of vitamin D in dental development and caries. Her early work provided us with the rationale to undertake this study.

**JCDA:** How do you anticipate the results of your study being used in the future?

**Dr. Schroth:** I hope that these early results will help us expand this area of research. We certainly believe that publications arising from this research will contribute to the literature on oral health. This important

information is not only of interest to dental researchers, but to parents, communities and health policy decision-makers.

**JCDA:** What are the key findings that Canadian dentists should take away from this study?

**Dr. Schroth:** Considering the growing interest in oral–systemic health, dentists should be aware that pre-natal diet and good nutrition can play a key role in the development of healthy baby teeth. Dentists should also be aware that many Canadians may have below average vitamin D levels, which can also have an influence on their oral health. ➤

*Dr. Schroth is an assistant professor at the University of Manitoba, a researcher at the Manitoba Institute of Child Health, and was a CIHR strategic training fellow in the Canadian Child Health Clinician Scientist Program at the time of this research project.*

*Dr. Moffatt is a professor in the faculty of medicine at the University of Manitoba and executive director of research and applied learning at the Winnipeg Regional Health Authority.*

*Dr. Lavelle is a senior scholar at the University of Manitoba.*

## Student Research On the Rise at the University of Manitoba

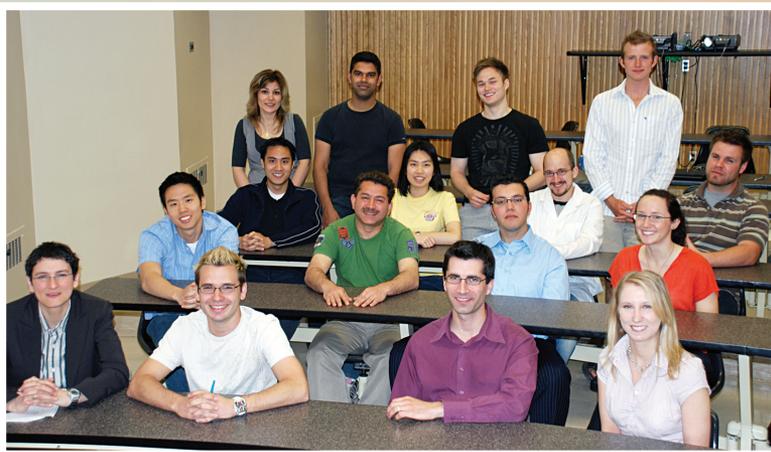
Student research at the faculty of dentistry at the University of Manitoba is resurging, which is good news for the faculty and the dental community. The number of student researchers at the faculty has slightly more than doubled in the past year.

The research boom is largely thanks to interest generated by the Student Research Group at the University of Manitoba. The group is the Manitoba section of the Canadian Association for Dental Research National Student Research Group (CADR NSRG). Formed after a CADR meeting in Winnipeg in September 2007, the national group is composed of one student from each of the 10 dental schools in Canada. Its mission is to form local research groups and encourage undergraduate research work in each dental faculty.

NRSRG student representatives serve as the presidents of the local research groups and work to recruit other officers, student members and a dedicated faculty advisor. The local groups organize students interested and involved in research, advocate

for curricula that support student research and provide targeted opportunities for these students. Emphasis is on student recognition, mentorship, providing information regarding future academic and research careers, and obtaining financial support for student research efforts.

“It has been inspiring to see the interest from the students in performing and presenting research,” said Dr. Tammy Bonstein, the faculty advisor for the University of Manitoba’s Student Research Group. “They are really taking to it well and have done a great deal of excellent work in a short period of time.” ➤



Members of the Student Research Group of the University of Manitoba dental faculty.

## Program Rewards Northern Kids for Healthy Mouths

Children of Norway House Cree Nation, Manitoba, now have more reasons to smile, thanks to the Variety Children's Prevention Project. Variety, the Children's Charity of Manitoba and the Centre for Community Oral Health (CCOH) of the University of Manitoba faculty of dentistry have launched a unique program aimed at reducing tooth decay in northern children.

The project will give a gift card, redeemable at a community store, to 3- to 6-year-olds who are free of caries when they visit the Kinosao Sipi Dental Centre in Norway House. Additional cards will be given every time the children return for a regular check-up and have no tooth decay.

The initiative was launched in Norway House in October. The Royal Bank of Canada (RBC) is supporting the project with a \$10,000 contribution; the North West Company created the reward cards and ongoing promotional materials to help support the project.

"Norway House is the ideal location to offer this kind of oral health outreach program," says Dr. Doug Brothwell, director of CCOH. "We have real hope that this initiative can and will go a long way to improving the quality of life for northern children."

CCOH is dedicated to educating the public about the links between oral and overall physical health, and has a long history of community outreach initiatives. Such programs are not only highly popular with communities, but typically cut tooth decay rates significantly in participating children. Free dental services as part of the Variety Children's Prevention Project will include fluoride treatments, sealants and information about the prevention of dental decay.

Variety has been a funding partner with the University of Manitoba's faculty of dentistry through the Variety Children's Dental Outreach Program since 2005. ❖



Launch of the Variety Children's Prevention Project (from left): dental student Joanna Godlewski; Michael McMullen, vice-president of the North West Company; Wayne Rogers, executive director of Variety, the Children's Charity of Manitoba; Dr. Doug Brothwell, director of the Centre for Community Oral Health; Jim Mason, RBC community manager; and Adrienne Keam with her daughter Testiney, who is about to get checked for caries.

## Class of 2012 Welcomed in White Coat Ceremony

The Class of 2012 at the University of Manitoba's faculty of dentistry was welcomed in August at the faculty's annual white coat ceremony. Almost 30 new dentistry students shared the stage with 26 members of the School of Hygiene's Class of 2010, as they were presented with their white coats during the faculty of dentistry's opening assembly.

The white coat ceremony, a symbol of a student's commitment to the profession, is a long-standing tradition at the faculty. Students are presented with white coats by their mentors, who are practising professionals in the Manitoba oral care community. This mentorship program is very popular among University of Manitoba students. ❖



Jordan Gigliotti and Wisam Helewa recite the Community Code during the white coat ceremony.



Dr. Mariajosé Ruiz and white coat recipient Nina Lee.