

# Research News

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## Targeting early childhood tooth decay

### Workshop will examine the problem on a national scale

BY SEAN MOORE  
Research Promotion

It's hard to smile when you have no teeth. It's even harder when your teeth are causing you incessant pain. But such is the case for many of Manitoba's Aboriginal children who suffer from a preventable, yet prevalent, dental disease.

"Early childhood tooth decay is a big problem in Manitoba," said Robert Schroth, Dentistry. "More than 2,000 young kids go for surgery every year in Manitoba, so it's quite costly and places a big burden on families and kids who often have to travel to urban centers for treatment."

Schroth, a dentist with the Centre for Community Oral Health, is researching ways to improve early childhood oral health and prevent caries. One of his studies focuses on the role of vitamin D levels in urban Aboriginal women in their second trimester of pregnancy, when much of a fetus' teeth and bones develop. When the children turn one year old, their teeth are examined for defects in the outer enamel and for cavities.



Robert Schroth, Dentistry,

A follow-up study of these children is underway.

"Most early childhood oral health studies started at birth. Very few have actually started in the pregnancy period and looked at diets, prenatal care and use of vitamins," Schroth said.

Schroth said studies from the United Kingdom in the 1920s and 1930s suggested that low amounts of vitamin D during periods of tooth formation could predispose them to defects, which cavity-causing bacteria later exploit.

"While we are not giving anyone doses of vitamin D, we are seeing if there is an association between vitamin D levels in the mom and the oral health outcomes of her child," he said, adding that another goal of the study is to determine where the line between deficiency and sufficiency lies.

Even if vitamin D proves essential to healthy dental development, giving supplements will not be a panacea. Schroth said some parental practices — like putting babies to bed with a bottle of sugary liquid — need changing, as well as Dentistry's curriculum, which shies away from infant care.

Recently, the Centre for Disease Control in the United States reported that over the past 20 years the bulk of its population had a decrease in cavities, but preschoolers had an increase.

"So it's probably the same situation here but we don't have any national data on the subject," he said.

This brings us to June 7 and 8, 2007.

Schroth is collaborating with researchers at the University of British Columbia and the University of Toronto in an effort to learn about early childhood tooth decay on a national scale.

In June, they are hosting a workshop at the Manitoba Institute of Child Health. The conference, titled "Oral Health and the Aboriginal Child: A Forum for Community Members, Researchers, and Policy-Makers," is an effort to improve national collaborations, relationships, and research.

"It's an ambitious project," Schroth said, "but by pulling together these groups we are hoping we can have a natural flow between learning what the community wants and needs and implementing those things."

To find out more about the workshop, please contact Robert Schroth at: 975-7764.

## Do spring babies have an edge?

BY SEAN MOORE  
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Do it in August.

If you want your unborn child to have all possible advantages, it might be a good idea to conceive in late summer, because babies born in the late spring reach developmental milestones faster than their counterparts.

It seems strange, even implausible, that seasons affect the speed at which an infant progresses towards, say, crawling and walking. Warren Eaton, psychology, was certainly skeptical when he read this claim on a poster at a conference ten years ago.

"So I started scrutinizing the poster, and I figured there must be something wrong with it," he said. "But after talking to the scientist who was presenting on the topic, I thought her research seemed in order."

"With crawling, for example, we're talking differences of five weeks between children born in different seasons. So I got quite interested and developed a small study using the same method the following year with about 50 parents, and to my surprise we got the same results. The idea that some seasonal process could move development around like that seemed hard to imagine, yet here we were getting the same thing they got at the University of Denver."

This affirmation led Eaton to create the Developmental Milestone Study,

a longitudinal study involving 613 children of various ages that began in 2001 and has been on hiatus since 2005, when the project outgrew its funding. But Eaton said this has had some positive effects, namely the tweaking of the methodology to involve the Internet, which is farther reaching and cheaper than postage.

Scientists are skeptical about the quality of information parents provide about their children, so as a corollary to the milestone study, Eaton is investigating how to best extract information from these underutilized gatekeepers.

"In general, if you can get hundreds or thousands of parents to report on developmental events, you can start to look for possible influences of all kinds and variables that weren't possible to look at before," he said.

"Much research on infant development currently takes place in the laboratory, and these studies produce great findings, but a lot of an infant's development is taking place, undocumented, in a living room somewhere."

The overall goal of the milestone study is to understand the processes that govern infant-child development. By looking at the co-variation between timing of development and other variables Eaton hopes to identify the crucial factors involved in

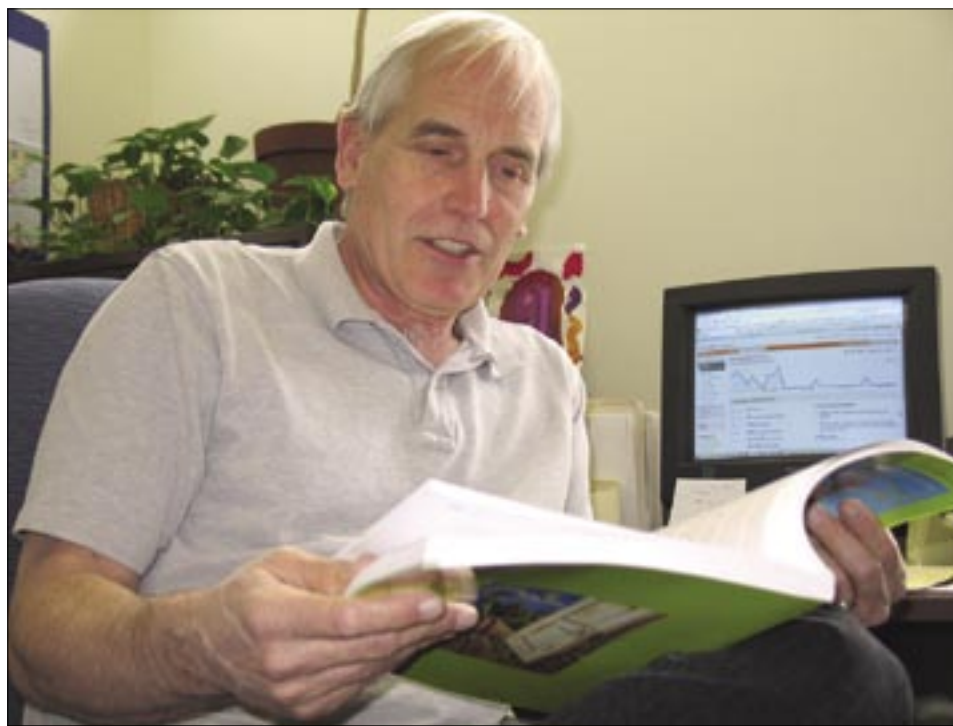


Photo by Sean Moore

Warren Eaton, psychology, is studying the processes that govern infant and child development, as well as the variations between babies born at different times of the year.

development.

So what is going on with seasonal development? Eaton can't say for certain, but he does have a theory.

"I think it has to do with vitamin D exposure or vitamin D levels. So here's the theory: babies born in the late winter and early spring, get more vitamin D exposure the following summer when they're developing the long bones of the legs, which they

need for crawling or walking, whereas babies born in the fall are hitting that developmental window in the late winter," he said.

"I certainly wouldn't tell people when to have babies, but if it turns out vitamin D is important, it might make parents more aware of the virtues of vitamin supplements."

## Bringing Research To Life

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