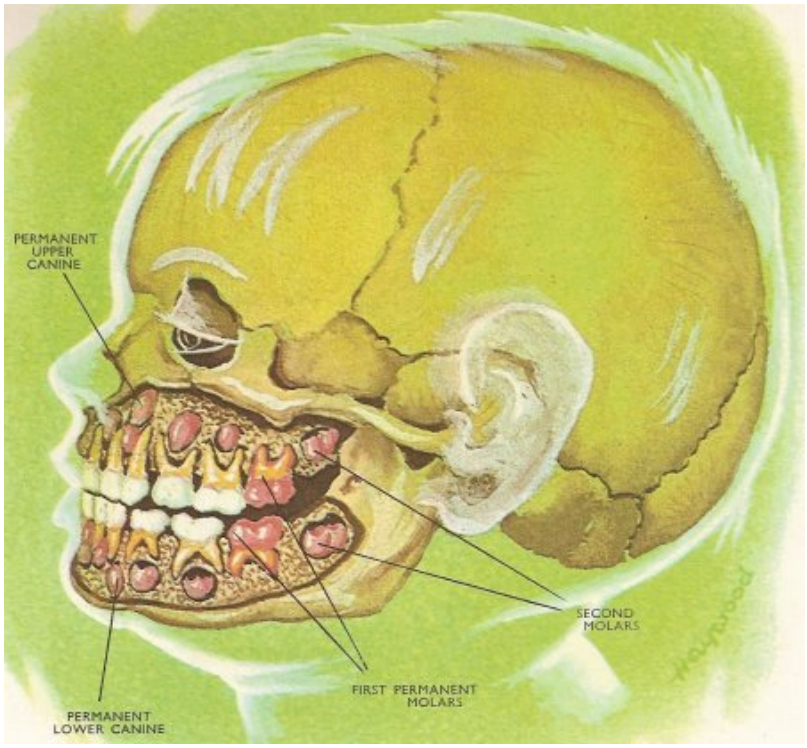

Dentists may inadvertently destroy incipient third molars when they administer alveolar nerve blocks in young children, a new study shows.

Jerry Swee, MS, DMD, a clinical instructor from the Department of **Pediatric Dentistry**, School of Dental Medicine, Tufts University, Boston, Massachusetts, and colleagues found a correlation between mandibular quadrants missing third molar buds and mandibular quadrants in which inferior alveolar nerve blocks were administered in patients younger than 6 years. Their study is published in the April 1 issue of the Journal of the American Dental Association.

The finding suggests a possible method of eliminating third molars with much less trauma than surgery in older patients, corresponding author Anthony Silvestri, DMD, a clinical professor from the Department of Prosthodontics and Operative Dentistry, School of Dental Medicine, Tufts University, told Medscape Medical News.

He cautioned that the finding is only preliminary."I'm not suggesting for a minute that we do this," he said. "I'm suggesting we look into it."

Third molars cannot emerge until the jaw is sufficiently long. When an individual is between 2 and 6 years old, the third molar buds begin growing.

Third molars rarely serve much purpose, said Dr. Silvestri. "Sixty percent of chewing is on first molars, and almost all the rest is on second molars." In addition, since the advent of implants, third molars have become less useful as anchors for bridges, he said.

Yet most people develop at least a single impacted third molar, which can cause halitosis, pain, and infection, he noted. The surgery to remove third molars can also be painful and has a significant rate of complication.

A developing tooth bud is vulnerable to injury for a relatively long time because it is tiny and covered only by a thin layer of soft tissue, rather than bone. In addition, when a tooth bud first forms, it is no bigger than the diameter of a needle and the soft tissue surrounding it is close to where a needle penetrates during an inferior alveolar nerve block.

Using the Tufts digital dental record system, Dr. Swee and colleagues identified records of patients who had received treatment in the Tufts pediatric dental clinic between the ages of 2 and 6 years and who also had a dental **X-ray** taken 3 or more years after initial treatment in the clinic.

The authors eliminated records with confounding factors, such as delayed dental development, and, from 220 patient records, analyzed a total of 439 sites where wisdom teeth could develop in the lower jaw.

One group of 376 sites (the control group) contained **X-rays** of patients who had not received anesthesia on the lower jaw where wisdom teeth could develop. The other group of 63 sites (the comparison group) contained **X-rays** from patients who had received anesthesia.

In the control group, 1.9% of the sites did not have **X-ray** evidence of wisdom tooth buds. In

contrast, 7.9% of the sites in the comparison group did not have tooth buds. The comparison group was significantly more likely to have missing wisdom tooth buds than the control group, with an odds ratio of 4.35 (95% confidence interval, 1.37 - 13.83; P = .013 for the slope of the comparison of the test group with the control group).

Dr. Silvestri has previously published research showing that diode lasers and electrosurgical energy can both stop third molars from developing in rats.

Asked to comment, Louis K. Rafetto, DDS, a spokesman for the American Association of Oral and Maxillofacial Surgeons, said the research is only preliminary. "It's certainly not anything definitive," he told Medscape Medical News. "It's the kind of thing that says maybe it's something we should look into."

Dr. Rafetto, a clinical professor at Christiana Care Health System in Wilmington, Delaware, was not involved in the research.

He pointed out that the study was small and retrospective and said he would like more information about the techniques used in the inferior alveolar nerve blocks.

He also questioned the advisability of eliminating children's third molars. "In some people, third molars are functional and viable teeth," he said. "But you could not know that at 5 years of age."