What's New in Dentistry

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Higher numbers of overweight individuals now appearing for oral and maxillofacial surgery. Occasionally, adult orthodontic patients will be overweight. Some of these obese adults may require orthognathic surgery to treat malocclusions. Mild obesity may not be a surgical risk, but significant obesity might increase the patient's morbidity during surgery. How often does this problem exist? A study published in the Journal of Oral and Maxillofacial Surgery (2000;58:137-143) examined the prevalence of obesity in oral surgery patients. Over a 1-year period at a major university hospital in the United States, a consecutive sample of 225 adults seeking oral surgery were evaluated for obesity. On the basis of the author's analysis, more than half of the population was overweight, and 25% were considered obese. When the sexes were compared, women showed a higher incidence of obesity. Men were overweight about 40% of the time, and 20% were considered obese. However, about 60% of the women were overweight, and 25% were defined as obese. The authors warned that obese surgical candidates might have a higher incidence of hypertension, diabetes, and coronary artery disease and therefore present a higher risk for oral and maxillofacial surgery.

Longer fluoride exposure earlier in life creates a higher risk of fluorosis. The incidence of fluorosis among individuals in the United States has increased dramatically in recent years. Not only do children receive fluoride in the water supply and in toothpaste, but it may also be found in certain foods and liquids. However, fluorosis occurs when enamel is developing. What then is the critical time of exposure for children, especially for the maxillary central incisors? A study published in Acta Odontologica Scandinavica (2000;57:247-256) reported the results of a metaanalysis of 143 scientific articles on this subject. A comparison of these studies produced several important observations. First, children who are introduced to fluoride during the first 2 years of life have a significantly higher risk of developing dental fluorosis compared to those exposed after 2 years of age. Second, if a reduction in fluoride intake occurs during the first 2 years of life, it has a significantly greater effect on reducing fluorosis than a fluoride reduction after 2 years. Last, children with a history of long exposure have a significantly higher risk of developing dental fluorosis compared with children with a short exposure.

Open reduction of condylar fractures not always sta-

ble long-term. Condylar fracture is a common sequel to facial or mandibular trauma in children. The treatment of choice in younger individuals is generally closed reduction or no treatment, allowing the condyle to heal and remodel as facial growth continues. In adults, however, condylar fractures are treated differently. Open reduction of the fracture is common, and the results are thought to be stable long-term. However, a study published in the Journal of Oral and Maxillofacial Surgery (2000;58:27-34) questions the stability of open reduction. The sample consisted of 61 patients with unilateral condylar fracture that had been treated with open reduction and internal fixation. Radiographs were made and traced before surgery, immediately after surgery, after 6 weeks, and after 6 months. The results showed good reduction of the fractures immediately after surgery. However, after 6 months, 10% to 20% of the patients showed postsurgical changes in condylar position of greater than 10 degrees. The authors attribute these changes to a loss of internal fixation.

Break in water fluoridation affects fluorosis but not caries. Water fluoridation has been a key factor in the decline of dental caries among children in the United States. However, occasionally, breaks in water fluoridation occur because of local popular opinion and its influence on local political decisions. Do temporary disruptions in water fluoridation affect the caries rate in children? Does it influence the occurrence of fluorosis in the population? These questions were answered in a study that was published in the Journal of Dental Research (2000;79:761-769). The article reported on the effects of an 11-month cessation in water fluoridation that occurred in a major southeastern city in the United States. The observations were made 5 years later in children who were in elementary school in this same county. Controls consisted of children born after the break in water fluoridation. Although the study was cross-sectional, examinations were spread over 3 years, so the children were as close as possible to the target time. The incidences of caries and fluorosis were evaluated in these children. The results showed that a break in water fluoridation had little effect on caries but had a significant effect on the prevalence of dental fluorosis. The greatest sensitivity occurred in children between 1 and 3 years of age.

Chlorhexidine has negative effect on collagen production. Chlorhexidine is an effective method of preventing plaque accumulation, especially in patients who are susceptible to periodontal disease. Therefore, it has become a very attractive adjunctive therapy in periodontics. Unfortunately, chlorhexidine also has toxic properties. It has been shown to be noxious to certain cells. Are these negative effects a concern in humans? A study published in the *Journal of Periodontology* (1999;70:1443–1448) addressed these concerns. The purpose of the study was to determine if chlorhexidine is toxic to human fibroblasts and the production of collagen. In order to answer these questions, fibroblasts were harvested from healthy human gingival papilla biop-

sies and cultured in vitro. Then various doses of chlorhexidine were added to the environment of the cultured cells. The degree of collagen production was measured and compared to the amount of chlorhexidine. The results suggest that chlorhexidine will induce a dose-dependent reduction in collagen production and that this drug is toxic to periodontal connective tissue cells at concentrations far below those introduced therapeutically into the oral cavity. Therefore, the authors suggest that chlorhexidine may be contraindicated during healing after periodontal surgery.