Effects were reported; 6% of participants reported that the lozenges tasted strong, and 2 patients in the probiotic group and 3 in the placebo group reported having gastric upset.

Why is this study important? This is an important study because it involved a fairly large sample of frail, elderly patients who were living in nursing homes and who may have been at risk for stomatitis associated with overgrowth of Candida organisms. Although the study did not assess the prevalence of stomatitis and was of short duration, the study does offer promise that the use of probiotic supplements may be beneficial for patients who are at risk for oral candidiasis. Studies of longer duration are needed to determine if probiotic supplements are beneficial in preventing stomatitis that may be associated with overgrowth of Candida organisms.

### WATER FLUORIDATION REPORTED TO BE SAFE AND EFFECTIVE IN LARGE POPULATIONS IN ENGLAND


Background. Despite more 50 years of research that has shown community water fluoridation to be safe and effective in preventing dental caries, many people still question its safety. The purpose of this cross-sectional study was to compare the rates of various health outcomes among people living in fluoride-introduced and nonfluoridated areas. Studies have also assessed the prevalence and outcomes from national health statistics, medical officer reports, hospital statistics, and cancer registries. The authors used statistical methods to compare caries and other health outcomes from national health statistics, medical officer reports, hospital statistics, and cancer registries.

Methods. The authors estimated fluoride exposure for people in more than 32,000 administrative districts in England. Between 1,000 and 3,000 people lived in each district; the districts included geographic areas that had water supplies that were fluoridated, nonfluoridated, and naturally fluoridated. They obtained data on dental caries and other health outcomes from national health statistics, medical officer reports, hospital statistics, and cancer registries. The authors used statistical methods to compare caries and other health outcomes among people who lived in communities with and without water fluoridation.

Results. The authors reported that there was strong evidence of lower caries prevalence, fewer teeth with caries (both \( P < .001 \)), and 55% lower hospital admission rates for tooth extractions (\( P = .001 \); 95% confidence interval [CI], −73% to −27%) among children living in fluoridated geographic areas compared with those living in nonfluoridated areas. They also reported no statistically significant association of fluoride exposure and hip fracture, Down syndrome, all cancers, all causes of mortality, or osteosarcoma. The authors reported that fluoride exposure was negatively associated with the incidence of renal stones (7.9% lower; 95% CI, −9.6%...
to −6.2%) and bladder cancer (8.0% lower; 95% CI, −9.9% to −6.0%). The authors concluded that water fluoridation in England was safe and effective.

Why is this study important? This is an important study because it used large databases in England that contained health outcomes data for communities that were fluoridated and nonfluoridated. The findings support many other well-conducted studies that have established the safety and effectiveness of water fluoridation.

THREE-YEAR FOLLOW-UP OF MANDBULAR THIRD-MOLAR CORONECTOMY


Background. Coronectomy of impacted mandibular third molars is a procedure that has been used as an alternative to complete tooth removal, especially when the third molars are in close proximity to the inferior alveolar nerve. The authors of this study noted that many studies have reported a low incidence of immediate postoperative complications of third-molar coronectomy such as pain, swelling, and alveolitis. However, there are relatively few reports of longer-term complications of this procedure. The purpose of this study was to assess the incidence of the immediate and long-term postoperative complications after mandibular third-molar coronectomy.

Methods. The authors conducted a prospective cohort study of 94 patients (aged 17 to 56 years) who had a coronectomy of at least 1 impacted mandibular third molar that required extraction and had radiographic evidence that was strongly predictive of close contact between the inferior alveolar nerve and the third molar roots. They conducted clinical examinations and used radiographs to evaluate complications and migration of remaining tooth roots after coronectomy.

Results. By 3 years, the authors reported that 28 patients had been lost to follow-up. None of the patients who remained in the study experienced any postoperative neurologic impairment of the inferior alveolar or lingual nerves. Overall, 30 patients experienced complications; 25 had complications during the first postoperative month (5 had postoperative alveolitis, 10 experienced postoperative swelling, 10 had postoperative pain). Five patients had complications between 2 and 12 months that consisted of pulpitis (1 patient) and root migration into the oral cavity (4 patients). The authors also reported that surgeons having less than 10 years of experience exposed patients to greater complication risk (hazard ratio, 2.1; 95% CI, 1.04-4.6). The authors reported that 6% of patients required a second surgery to remove retained roots. Moreover, 86% of the retained roots showed migration during follow-up. The rate of root migration averaged approximately 0.8 millimeters per year and decreased with increasing patient age.

Why is this study important? Although this study involved a relatively small number of patients, it is important because it documented that coronectomy of impacted mandibular third molars was associated with relatively few immediate and long-term complications. According to the authors, it is important to note that third-molar coronectomy should not be considered incomplete tooth removal but is a specific procedure that requires proper technique and training.

DENTAL CARIES AMONG MIDSHIPMEN AT THE US NAVAL ACADEMY


Background. The investigators of this study noted that incoming US military personnel have a much higher prevalence of untreated dental caries than does the general population. Moreover, dental caries can have a negative impact on military readiness for deployment to areas of conflict. They also noted that anecdotal reports indicate an increase in dental caries activity during 4 years at the US Naval Academy. The purpose of this study was to assess the prevalence of caries on entry to the academy and the incidence of caries among midshipmen during four the 4-year course of study at the US Naval Academy.

Methods. The investigators conducted a retrospective review of dental caries experience among US Naval Academy midshipmen who had enrolled in the academy in 2007 and graduated in 2011. Five calibrated investigators reviewed the dental records of a randomly selected sample (n = 300) of the graduating class of 1,016 students that involved clinical and radiographic examinations on entry to the academy, and periodic examination at the beginning of the third year and midway through the fourth year of study. The investigators recorded the number of decayed, missing, and filled surfaces (DMFS) and decayed, missing, and filled teeth (DMFT) and assigned each midshipmen to 1 of 3 risk categories based on the number of caries found at the initial examination (low risk = no caries lesions, moderate risk = 1-2 caries lesions, high risk = 3+ caries lesions). Statistical methods were used to calculate the prevalence of caries on entry to the academy, caries incidence over the 4-year course of study at the
academy, and predictive factors for developing caries while enrolled at the academy.

Results. The investigators reported that most of midshipmen had no untreated caries on entry into the US Naval Academy (66%), 13.7% had 1 untreated caries lesion, 3.0% had 2 caries lesions, 6.3% had 3 caries lesions, and the remaining 11% had 4 to 13 caries lesions. Within each risk category, the investigators found that the DMFS and DMFT increased significantly during the participants’ time at the academy. Moreover, compared with midshipmen who were classified as low risk for dental caries, the caries incidence was more than 2 times greater for those classified as being at moderate caries risk and almost 4 times greater for those classified as being at high risk for caries. Among low-risk midshipmen, the number of filled tooth surfaces was the most significant predictor of new caries, and among high-risk and all midshipmen combined, the number of decayed tooth surfaces was the most significant predictors of new caries.

Why is this study important? This is an important study because it documented the prevalence, incidence, and predictors of dental caries among a large random sample among college-aged students in a residential educational setting. Although behavioral and socioeconomic factors were not evaluated in this study, the finding that previous caries experience in low-risk patients (that is, filled tooth surfaces) and decayed tooth surfaces in high risk patients is important information that can be helpful to dentists in implementing caries-preventive programs.

SUBLINGUAL VARICES MAY BE ASSOCIATED WITH HYPERTENSION


Background. Characterized by small dilated veins, varicosities are commonly found in the oral cavity and may be located in the mucosa of the cheek, lower lip, and most commonly the lateral border of the tongue. As noted by the authors of this study, varicosities may reflect a weakened venous wall as a result of degeneration of elastic fibers associated with aging, smoking, cardiovascular disease, and varicose veins in the leg. The purpose of this study was to investigate the association of sublingual varicosities and hypertension.

Methods. The authors conducted a cross-sectional observational study of 431 dental patients at a public dental services facility in Varber, Sweden, to assess the association between sublingual varicosities and hypertension. They invited patients older than 40 years to participate in the study as part of their yearly dental visit. A medical history and oral images of the lateral borders of the tongue were obtained before a routine oral examination. Patients who did not have a history of diagnosed hypertension, but who had a systolic blood pressure of greater than or equal to 140 millimeters of mercury (mm Hg), diastolic blood pressure greater than or equal to 90 mm Hg, or both at the dental clinic, recorded additional home blood pressure measurements during 1 week. Those who had an average home blood pressure reading greater than or equal to 135 mm Hg, a diastolic blood pressure greater than or equal to 85 mm Hg, or both were referred to a primary medical provider from whom follow-up measures of blood pressure were obtained at 3-week intervals. The images of the tongue were evaluated for the presence of varicosities by 2 independent masked examiners.

Results. The authors reported that there was an association between sublingual varicosities and hypertension (odds ratio, 2.25; \( P < .002 \)). They calculated that sublingual varices indicate the presence of hypertension with a positive predictive value of 0.5 and a negative predictive value of 0.80.

Why is this study important? This is an important study because it involved a fairly large sample of middle-aged and older adults who had routine dental examinations. Examination of the lateral borders of the tongue should be part of every oral examination and the presence of sublingual varices may be helpful in identifying people having hypertension. However, because sublingual varices have a relatively low positive predictive value for hypertension, the presence or absence of sublingual varices cannot be taken as an indicator of hypertension and should not be used as a substitute for measuring blood pressure in the dental office.

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