

Third molars associated with periodontal pathology in older Americans.

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PURPOSE: The study goal was to assess the association between the presence of visible third molars and periodontal pathology in a community-dwelling sample of middle-aged and older adults. **MATERIALS AND METHODS:** Data were obtained between 1996 and 1999 on 6,793 persons aged 52 to 74 from the Dental ARIC Study, a substudy of the Atherosclerosis Risk in Communities Study. The main independent variable was presence or absence of third molars assessed visually, and the dependent variable was assessment of periodontal disease as measured by pocket depth of 5 mm or greater (PD5+). Periodontal measures included pocket depth, gingival recession, and attachment level on 6 sites per tooth on all remaining teeth. Second molars were compared for periodontal pathology based on the presence or absence of a visible third molar in the same quadrant. Associations were determined using odds ratios and 95% confidence intervals. Weighted multivariable models were fit using logistic regression, and variances were adjusted to account for the clustering of quadrants within persons with the use of SUDAAN (Research Triangle Institute, Research Triangle Park, NC). **RESULTS:** A visible third molar was associated with 1.5 times the odds of PD5+ on the adjacent second molar, while controlling for other factors associated with the presence of third molars and periodontal disease. Other factors positively associated with PD5+ in the model were male gender, older age, smoking, and irregular and episodic dental visits. **CONCLUSIONS:** The finding of more severe periodontal conditions associated with visible third molars in these middle-aged and older adults indicates that third molars may continue to have a negative impact on periodontal health well into later life. The relationship between third molars and periodontal disease pathogenesis deserves further study using longitudinal data.

1: [J Oral Maxillofac Surg.](#) 2004 Apr;62(4):440-5.

Third molars associated with periodontal pathology in the Third National Health and Nutrition Examination Survey.

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PURPOSE: Assess the association between visible third molars (VTM) and periodontal pathology in Third National Health and Nutrition Examination Survey (NHANES III). **MATERIALS AND METHODS:** Data were obtained on 5,831 persons aged 18 to 34 from the NHANES III. Relevant to the present study was the presence of VTM and the assessment of periodontal disease in 2 randomly selected (1 maxillary and 1 mandibular) quadrants. Periodontal measures included gingival index, pocket depth, and attachment level on mesiobuccal and buccal sites on up to 7 teeth (excluding third molars) per quadrant. Second molars were compared for periodontal pathology based on the presence or absence of a VTM in the same quadrant. Associations were determined using odds ratios and 95% confidence intervals. Weighted multivariable models were fit using logistic regression, and variances were adjusted to account for the complex sampling design using SUDAAN (Research Triangle Institute, Research Triangle Park, NC). **RESULTS:** A VTM was associated with twice the odds of a probing depth 5+ mm (PD5+) on the adjacent second molar, while controlling for other factors associated with VTM and periodontal disease. Other factors positively associated with PD5+ in the model were age 25 to 34 years, smoking, and African American race. **CONCLUSIONS:** **The finding of more severe periodontal conditions associated with VTM in these young adults indicates that third molars may have a negative impact on periodontal health.** The relationship between third molars and periodontal disease pathogenesis deserves further study using longitudinal data.

[Eur J Orthod.](#) 2005 Oct;27(5):518-23. Epub 2005 Aug 2.

Third molar influence on dental arch crowding.

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The aim of the present study was to measure the dental arches in order to assess the potential influence of third molars on lower incisor crowding. Changes in

dental arch dimensions were assessed in 47 patients (36 females, 11 males) three years following either removal of the third molars or deciding to leave them in situ. A dental pantomogram (DPT) was taken at the start of the study and plaster study models were obtained at both the beginning and end of the observation period. The study models were used to measure crowding, and to prepare photocopies for linear measurements of the dental arch (length and width). Using the DPT, the ratio of retromolar space to the width of the crown of the third molar was calculated using the method originally described by Olive and Basford and later modified by Ganss (Ganss ratio). The results showed that the measurements of crowding and arch length and width had changed in 12 lower and two upper dental arches. The relationship between these results and the Ganss ratio was statistically significant. Calculation of the Ganss ratio may therefore assist investigations into the development of dental arch crowding and also help determine the indications for third molar removal.

[Stomatologija](#). 2006;8(3):80-4.

Effect of the lower third molars on the lower dental arch crowding.

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Increasing lower dental arch crowding with the age is a recognized clinical problem, and one that has become more apparent in recent years as more adults retain their teeth longer. One of the theories is that the erupting third molars push anterior teeth forward and cause their crowding. On the other hand, a number of studies found no correlation between lower third molars and lower incisor crowding. Because of all these contrasting findings this study was started to re-evaluate correlation between third molars presence and lower dental arch crowding. The study group consisted of 91 subjects with an average age 21.01±4.13 years. The individual, quantitative and cast-based analytical registration of crowding was based on the measurements of mesiodistal width of teeth and related to the length of the appropriate segment of the lower dental arch. No statistically significant third molar presence-specific differences were recorded in the lower dental arch crowding between the groups with erupted, unerupted and agenesis of third molars. Although differences between the groups were not statistically significant, some tendency for crowding in the anterior part of lower dental arch was more expressed in the groups with the presence (erupted 0.57 mm and unerupted 0.74 mm) of third molars, than with agenesis (surplus space 0.03 mm). Nevertheless, the present study do not provide enough evidence to

incriminate third molars as being the only or even major etiologic factor in the late lower dental arch crowding.

[Aust Orthod J.](#) 1994 Mar;13(2):76-9.

Tooth movement following third molar removal.

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The mandibular dental arches of 45 young adults (mean age = 24.3 years) were analyzed by measuring study casts taken immediately before and twelve weeks after the removal of impacted third molar teeth. Arch length and width were measured at predetermined points on the study casts. The results showed significant buccal movement of mandibular second molar teeth following surgery ($p < 0.01$). Bilateral mesioangular impactions were associated with larger increases in mandibular arch width following surgery than unilateral mesioangular impactions or other classes of impaction ($p < 0.05$). The greatest amount of tooth movement was observed in cases where mandibular second molars had a pre-operative lingual inclination. It is hypothesised that mesioangularly impacted mandibular third molars can produce sufficient force to displace the adjacent second molar teeth in a lingual direction and when the adjacent third molar is removed this movement is reversed by functional forces.

1: [Br J Oral Maxillofac Surg.](#) 2006 Feb;44(1):42-5. Epub 2005 Oct 5.

Distal cervical caries in the mandibular second molar: an indication for the prophylactic removal of the third molar?

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AIMS: Distal cervical caries (DCC) in mandibular second molar teeth are responsible for the removal of up to 5% of all mandibular third molars. Our aim was to identify the clinical features of these patients. METHODS: We evaluated the records of 100 patients who had 122 mandibular third molars removed because of distal cervical caries in the second molar. RESULTS: Eighty-two percent of third molars had a mesial angulation of between 40 degrees and 80 degrees. The peak age for removal of third molars was 5 years later than in other studies and patients had better dental health than average. The incidence of distal

cervical caries DCC has been shown to increase with age. **CONCLUSION:** Distal cervical caries is a late phenomenon and has been reported only in association with impacted third molars. The early or prophylactic removal of a partially erupted mesio-angular third molar could prevent distal cervical caries forming in the mandibular second molar.

[J Clin Periodontol.](#) 2002 Nov;29(11):1004-11.

Residual periodontal defects distal to the mandibular second molar 6-36 months after impacted third molar extraction.

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AIM: This retrospective study investigated the periodontal conditions distal to mandibular second molars 6-36 months after routine surgical extraction of adjacent impacted third molars. **METHOD:** Subjects were randomly selected by systematic sampling from computer records of 3211 surgical mandibular third molar extractions in the Hong Kong dental teaching hospital. Records and pre-extraction radiographs of the selected cases were retrieved. Selected subjects (n = 283) were invited for an interview followed by a clinical examination. Community Periodontal Index (CPI) protocol was used for the assessment of the general periodontal status (excluding the mandibular second molar of interest, i.e. the subject tooth) followed by a detailed periodontal examination of the subject tooth. **RESULTS:** In all, 158 subjects, aged 29 +/- 7 years, were examined with only 6% (nine subjects) having a highest CPI score of 4 (excluding the subject tooth), but local periodontal defects were prevalent at the distal surface of subject mandibular second molars: mean probing pocket depth (PPD) was 5.4 +/- 1.9 mm with 67% (106 subjects) exhibiting PPD >or= 5 mm and 23% (36 subjects) exhibiting PPD >or= 7 mm; mean recession was 0.8 +/- 1.0 mm; bleeding on probing 96% and suppuration on probing 5%. Multiple linear regression analysis was used to analyse the effects of 12 independent variables on the PPD at the distal surface of the involved mandibular second molar. Three possible risk indicators (P < 0.001, R2 = 0.27) associated with localised increased PPD at the distal surface of the mandibular second molars were identified: 1) third molar 'mesio-angular' impaction; 2) pre-extraction crestal radiolucency and 3) inadequate post-extraction local plaque control. **CONCLUSION:** The results suggest that periodontal breakdown initiated and established on the distal surface of a mandibular second molar in the vicinity of a 'mesio-angular' impacted third molar evidenced by pre-extraction crestal radiolucency in association with inadequate plaque control after extraction can predispose to a persistent localised periodontal problem.

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Pathology associated with impacted mandibular third molars in a group of Jordanians.

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PURPOSE: The aim of this study was to determine the frequency and type of a group of radiographically detectable pathologic conditions around impacted mandibular third molars in Jordanians. **PATIENTS AND METHODS:** A retrospective study of patients referred to the Oral and Maxillofacial Surgery unit for surgical removal of impacted mandibular molars. The analysis outcome measures were the patients' age and gender, and any radiographic lesions associated with the impacted mandibular third molars. The following radiographic lesions were recorded in relation to the impacted third molar: caries, pericoronal radiolucent areas, and periapical radiolucent areas, in addition to odontomes, caries in the adjacent second molars, and external resorption of the roots of adjacent mandibular second molars. Bony radiolucent areas were all verified histopathologically. **RESULTS:** Impacted mandibular third molars (N = 2,432) from 1,398 patients were examined; 46.4% of third molars showed associated radiographically detected lesions. The most common lesion seen on panoramic radiographs was dental caries. Others included pericoronal radiolucent and periapical radiolucent areas. The majority of periapical radiolucent areas were histologically proven to be chronic periapical inflammation. All pericoronal radiolucent areas were histologically found to be either cysts or tumors. The most common cyst was dentigerous cyst; the most common tumor was ameloblastoma. **CONCLUSION:** A high ratio of impacted mandibular third molars in this group of Jordanians had an associated pathologic lesion.

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Change in third molar angulation and position in young adults and follow-up periodontal pathology.

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PURPOSE: This study was designed to assess changes in third molar position and angulation in young adults and the resulting third molar periodontal probing (PD) status. **PATIENTS AND METHODS:** Data derived from patients with 4 asymptomatic third molars with adjacent second molars enrolled in an institutional review board approved longitudinal trial. Inclusion criteria for the

trial dictated that patients be healthy and 14 to 45 years of age. Panoramic radiographs were analyzed for third molar angulation as compared with the long axis of the second molar (mesial/horizontal \geq 25 degrees) and eruption to the occlusal plane. Full mouth PD including third molars was conducted at follow-up. At follow-up, PD \geq 4 mm distal of second molars or around third molars was considered important clinically. RESULTS: Data from 237 patients were available. Median age was 25.9 years (interquartile range [IQ], 22.1 years, 32.8 years). With a median follow-up of 2.2 years (IQ, 2.0 years, 3.7 years), 44% of impacted maxillary third and 26% of impacted mandibular third molars changed angulation or position. One third of vertical/distal impacted third molars in both jaws and 11% mesial/horizontal mandibular third molars erupted to the occlusal plane during follow-up from baseline. If mandibular third molar angulation as compared with the long axis of the second molar was mesial/horizontal \geq 35 degrees , only 3% erupted to the occlusal plane. At follow-up, 11% of the 125 impacted maxillary third and 29% of the 133 impacted mandibular third molars had PD \geq 4 mm. Similarly, 11% of the 307 maxillary third molars at the occlusal plane had PD \geq 4 mm, but 51% of the 312 erupted mandibular third molars were affected. CONCLUSION: A change in third molar position or angulation was common. Erupted mandibular third molars were more likely to have PD \geq 4 mm

[Community Dent Oral Epidemiol.](#) 1992 Dec;20(6):347-50.

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General dental practitioners' evaluation of the need for extraction of asymptomatic mandibular third molars.

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Thirty general dental practitioners were asked to evaluate the need for extraction of asymptomatic mandibular third molars. Thirty-six mandibular third molars with equal distribution of angular positions, impaction status, males and females and age groups were selected. To estimate the consistency of the evaluation, the 36 cases were duplicated so that, in all, 72 teeth were evaluated. The number of molars proposed to be extracted by the observers varied from 0 to 26. There was no third molar which all observers agreed should be extracted. The two molars which most observers, 25 and 23 of altogether 30 observers, proposed to be extracted were partially covered by soft tissue. The decision not to extract two molars was unanimous. Both of these were completely covered by bone tissue and positioned vertically. The mean overall intra-observer agreement for the therapeutical decision was 92%, with a range of 69-100%. The length of professional experience of the observer did not influence the evaluation whether or not to extract. We conclude that there is a great variation among general dental

practitioners regarding their evaluation on the need for removal of asymptomatic mandibular third molars.