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JAMA Otolaryngol Head Neck Surg 2018 Jun 7

Does Removing Tonsils, Adenoids, or Both in Childhood Increase Illness Later?

The absolute risk for later upper respiratory infections was 19% greater after tonsillectomy or adenoidectomy in a large population of Danish children.

Removal of tonsils, adenoids, or both is frequently considered in hopes of reducing chronic childhood infections or breathing problems. Using a Danish population registry of 1.2 million children born between 1979 and 1999, researchers assessed long-term disease risks after tonsillectomy, adenotonsillectomy, or adenoidectomy prior to age 9 years. The population was followed up to 30 years of age.

Among nearly 12,000 children who underwent tonsillectomy, the absolute risk for upper respiratory infection (URI) increased by 19%. Compared with a large control group, the relative risk for subsequent URI was 2.7. Among nearly 18,000 children undergoing adenoidectomy, the absolute risk for URI increased by 11% (relative risk, 2). The absolute risk for infectious diseases was 2% greater following adenotonsillectomy. The



absolute and relative risks for otitis media and sinusitis were greater following surgeries. Reduced long-term risks were observed for sleep disorders after adenotonsillectomy and for chronic tonsillitis and tonsillitis after any procedure.

COMMENT: The message I get from these data is that removing tonsils, adenoids, or both does not reduce subsequent URI incidence and in fact might increase it. If one assumes that surgeries are reserved for chronic and/or severe conditions, then perhaps these outcomes partially reflect that underlying pathogenic mechanisms in such conditions may be multifactorial and not ameliorated by surgery alone. A concern is that the loss of immune tissue may actually increase the susceptibility to subsequent infections. A surgery recommendation should always be made with careful consideration of the risks and benefits. In the case of these procedures, the benefits have become more questionable.

CITATION(S): Byars SG et al. Association of long-term risk of respiratory, allergic and infectious diseases with removal of adenoids, and tonsils in childhood. JAMA Otolaryngol Head Neck Surg 2018 Jun 7; [e-pub]. (<https://doi.org/10.1001/jamaoto.2018.0614>)

Ann Neurol 2018 Jun 16

Does Primary Progressive MS Share Pathogenic Genes with Other Degenerative Disorders?

Whole-genome sequencing in patients with primary progressive multiple sclerosis identified gene mutations that cause hereditary spastic paraplegias and other disorders.

Investigators sought to determine whether patients with primary progressive multiple sclerosis (PPMS) were enriched for mutations in genes associated with hereditary spastic paraplegia. Whole genome sequencing began in a discovery cohort of 38 PPMS patients and 81 controls matched for European ancestry. Replication cohorts included 746 PPMS, 3049 relapsing-remitting (RR) MS, and 1000 healthy controls.

The investigators identified four phenocopy variants in the discovery cohort with PPMS that were also observed in higher frequency in PPMS patients in the replication cohorts. These variants included mutations in *KIF5A*, a dominant variant for spastic paraplegia; *MLC1*, a recessive variant for megalencephalic leukodystrophy with subcortical cysts; *REEP1*, a dominant variant of spastic paraplegia 31; and *TSC2*, of unknown significance for tuberous sclerosis.

COMMENT: No clear genetic differentiator exists for PPMS versus other MS subtypes. Could the clinical phenotype be due to genes common to other neurologic disorders with similar or overlapping clinical manifestations? The current findings suggest that mutations in genes involved in degenerative paraplegias may confer the progressive myelopathy phenotype in progressive MS. This fits with the concept that MS is a complex genetic disorder consisting of multiple steps that confer susceptibility, disease continuation, and expression of disease. The goal someday would be to identify patients with more-severe phenotypes and be more aggressive in our approach for modifiable therapeutic targets.



Note to readers: At the time we reviewed this paper, its publisher noted that it was not in final form and that subsequent changes might be made.

CITATION(S): Jia X et al. Genome sequencing uncovers phenocopies in primary progressive multiple sclerosis. *Ann Neurol* 2018 Jun 16; [e-pub]. (<https://doi.org/10.1002/ana.25263>)

JAMA Oncol 2018 Jun 21

Teasing Out the Association Between Premenopausal BMI and Breast Cancer Risk

This inverse relation was strongest among women aged 18 to 24.

Higher body-mass index (BMI) has been associated with lower risk for premenopausal breast cancer but higher risk for postmenopausal breast cancer. To examine this relation in more detail, investigators pooled individual data from cohorts in North America, Europe, Asia, and Australia. Women without breast cancer were recruited from 1963 through 2013, and BMI was categorized according to participants' age (ranges, 18–24, 25–34, 35–44, and 45–54). The primary outcome was invasive or in situ breast cancer diagnosed in premenopausal women.

Among 758,592 women (median age at recruitment, 40.6; median follow-up, 9.3 years), 13,082 breast cancers were diagnosed. Increasing BMI was linearly associated with decreasing risk for breast cancer among all age strata, although this inverse association was strongest among women aged 18 to 24 (risk reduction of 23% per 5 kg/m² difference; hazard ratio, 0.77 [*P*<0.05]). The risk gradient between the highest and lowest BMI strata in this youngest age category was 4.2-fold. This inverse association was also noted among women within the normal BMI range. Hazard ratios per 5 kg/m² difference did not significantly vary by race/ethnicity. Associations were strongest for hormone–receptor-negative tumors and in situ tumors.

COMMENT: The stronger inverse associations between premenopausal BMI and breast cancer risk suggests that adiposity in young women (and probably girls) plays an important role in establishing such risk later in life. Although neither the authors — nor I — advocate weight gain as a protective strategy, teasing out the mechanisms whereby low BMI in young women contributes to subsequently greater risk for breast cancer could lead to important advances in understanding and preventing this common malignancy.

CITATION(S): The Premenopausal Breast Cancer Collaborative Group. Association of body mass index and age with subsequent breast cancer risk in premenopausal women. *JAMA Oncol* 2018 Jun 21; [e-pub]. (<https://doi.org/10.1001/jamaoncol.2018.1771>)

JAMA Surg 2018 Jun 20

Breast Reconstruction After Mastectomy: Autologous or Prosthetic?



Although autologous reconstruction had a higher overall complication rate, patients were more satisfied with their breasts 2 years later.

Many patients still need or desire mastectomy as treatment for (or prophylaxis against) breast cancer, and subsequent breast reconstruction can improve a woman's quality of life and psychological well-being; moreover, this procedure is covered under the law by the Women's Health and Cancer Rights Act of 1998.

Now, investigators report 2-year complication rates in a longitudinal prospective cohort of 2343 participants in the Mastectomy Reconstruction Outcomes Consortium study. About 70% of reconstructions were done with prosthetic expanders and implants, and the remainder with various autologous flap techniques. Overall complication rates were 33% (any complication), 19% (complication requiring reoperation), and 10% (wound infections). Complications (with or without reoperation) were significantly more likely for autologous flap reconstruction of any type than for implant-based reconstruction. However, rates of failure (defined as implant/expander removal or flap loss) were higher for prosthetic implants (7% vs. 2%). Women with delayed reconstruction (i.e., performed months after mastectomy and cancer therapy), unilateral rather than bilateral mastectomy, no radiation therapy, and nonsmoker status were significantly less likely to experience any complication.

In a companion study involving a subcohort of 2013 women, 2-year self-reported satisfaction using the BREAST-Q survey was reported. Women with autologous breast reconstruction reported greater satisfaction with their breasts, psychosocial well-being, and sexual well-being than those with prosthetic implant reconstruction.

COMMENT: Prosthetic expanders and implants represent a simpler, more common technique than breast reconstruction, especially in community settings. Reimbursement rates have remained stable for implant procedures but have diminished for the more-complicated, labor intensive autologous flaps, relegating these flap procedures mostly to high-volume specialty cancer centers. Women who are morbidly obese or who require postmastectomy radiotherapy generally fare better with delayed autologous flap reconstruction; still, patients must be appropriately selected so as not to delay lifesaving adjuvant treatments. Mastectomy and reconstruction are not simple procedures to be taken lightly; both have potential complications and lifelong repercussions on quality of life.

CITATION(S): Bennett KG et al. Comparison of 2-year complication rates among common techniques for postmastectomy breast reconstruction. JAMA Surg 2018 Jun 20; [e-pub]. (<https://doi.org/10.1001/jamasurg.2018.1687>)

Santosa KB et al. Long-term patient-reported outcomes in postmastectomy breast reconstruction. JAMA Surg 2018 Jun 20; [e-pub]. (<https://doi.org/10.1001/jamasurg.2018.1677>)

Fan KL and Song DH. Autologous vs prosthetic breast reconstruction: Where do we stand? JAMA Surg 2018 Jun 20; [e-pub]. (<https://doi.org/10.1001/jamasurg.2018.1693>)



JAMA Netw Open 2018 Jun; 1:e180143

Is the Tide Turning on Mandatory Flu Vaccination for Healthcare Workers?

More than 60% of surveyed U.S. hospitals “mandated” healthcare worker influenza immunization in 2017, compared with 37% in 2013.

Because of the concern that patients could acquire influenza in healthcare settings, for decades the Centers for Disease Control and Prevention has recommended that healthcare workers (HCWs) receive the influenza vaccine annually, a position supported by multiple other national organizations. Recent data indicate that HCW vaccination rates are higher in institutions with programs mandating HCW influenza immunization. To assess whether this information is leading institutions to change their approach to promoting HCW influenza immunization, researchers performed national surveys of infection control practitioners in 2013 and 2017, asking whether their hospitals have mandatory HCW influenza immunization programs.

Information was obtained from 463 hospitals in 2013 and 599 in 2017. The rate of all hospitals reporting mandating HCW influenza vaccination increased from 37% in 2013 to 61% in 2017; the rates for non-VA hospitals increased from 44% to 69%. However, 94 (26%) of the 366 hospitals mandating influenza immunization did not impose penalties for noncompliance with the mandate, and 13% allowed HCWs to decline immunization without a specific reason.

COMMENT: As an editorialist notes, the ambiguity in how respondents to the surveys interpreted the definition of “mandate” limits this study's findings. Still, healthcare institutions have an obligation to prevent healthcare-acquired influenza infections. These results show that, increasingly, mandatory HCW influenza vaccination is being adopted as one strategy to prevent these events.

CITATION(S): Greene MT et al. Changes in influenza vaccination requirements for health care personnel in US hospitals. *JAMA Netw Open 2018 Jun; 1:e180143.* (<https://doi.org/10.1001/jamanetworkopen.2018.0143>)

Babcock HM. Continuing to move the needle on health care personnel influenza vaccination rates. *JAMA Netw Open 2018 Jun; 1:e180144.* (<https://doi.org/10.1001/jamanetworkopen.2018.0144>)

J Antimicrob Chemother 2018 May 9

Antibiotic Prescribing Skills Among European Medical Students: Call for Better Teaching



A multinational survey found medical students not prepared for prescribing antibiotics. Participants in an e-learning module had significantly better knowledge even after 6 months.

Antibiotics are among the most commonly prescribed drugs. However, many physicians have insufficient antibiotic prescribing skills. Further, antibiotics are often prescribed by young physicians without supervision by an experienced clinician. These factors result in mis- and overuse of antibiotics, which promotes antibiotic resistance. Two recent investigations shed some light on how well medical students feel prepared to prescribe antibiotics and which measures might improve physician knowledge about antibiotic use.

Dyar and colleagues invited European medical students to voluntarily participate in a web-based questionnaire on prudent antibiotic use. Among the 7328 participants from 179 medical schools in 29 European countries, 37% declared that they wanted more education on prudent use of antibiotics, and 26% wanted more information on prudent use and on general use of antibiotics. Only 31% felt they did not need more information. On a country level, rates of resistant pathogens were inversely correlated with perceived knowledge on antibiotics and positively correlated with need for further specific training. Respondents rated the top three preferred teaching methods to be discussions of clinical cases and vignettes, small group teaching, and infectious diseases clinical placements.

Sikkens and colleagues conducted a prospective, controlled intervention study to evaluate the effects of an interactive e-learning course on antibiotic prescribing among fourth year medical students in a Dutch university. The e-learning module was offered as a non-compulsory course taken by 71 students (intervention group), of whom 77% rated the e-learning module as entirely relevant. The percentage of those who were insecure or severely insecure about antibiotic prescribing dropped from 74% to 37%. After 6 months, 356 students, including the 71 in the intervention group, underwent a structured clinical examination simulating postgraduate antibiotic prescribing. Significantly more students in the intervention group passed the test (97% vs. 86%; odds ratio, 5.9). Knowledge and drug choice grades were also significantly higher in the intervention group.

COMMENT: Antibiotic stewardship programs should address not only doctors in practice but also students in medical school. This situation is likely true not only in the 29 European countries who participated in the study, but also worldwide. Our medical students feel the urgent need for and might appreciate intensified teaching on antibiotic use.

CITATION(S): Dyar OJ et al. Do medical students feel prepared to prescribe antibiotics responsibly? Results from a cross-sectional survey in 29 European countries. *J Antimicrob Chemother* 2018 May 9; [e-pub]. (<https://doi.org/10.1093/jac/dky150>)

Sikkens JJ et al. Improving antibiotic prescribing skills in medical students: The effect of e-learning after 6 months. *J Antimicrob Chemother* 2018 May 9; [e-pub]. (<https://doi.org/10.1093/jac/dky163>)



JAMA Psychiatry 2018 Jun 20

DBT Is Useful for Lowering Suicidal Attempts in Adolescents

A randomized, controlled study of dialectical behavioral therapy, studied comprehensively in adults, extends findings of effectiveness to an adolescent population.

Dialectical behavior therapy (DBT) decreases risk for suicide attempts in adults, but its usefulness for this purpose in adolescents is not well studied. In a multisite, randomized, controlled study, researchers compared DBT with a manual-based control (individual and group supportive therapy) in 173 self-destructive adolescents (mean age, 15; 95% female; 56% white). Patients had attempted suicide at least once, showed a recent increase in suicidal ideation, had ≥ 3 lifetime episodes of self-harm, and met ≥ 3 DSM-IV criteria for borderline personality disorder.

After 6 months of active treatment, DBT patients, compared with control patients, had about one third the risk for attempting suicide or for engaging in nonsuicidal self-injury or self-harm. After 6 months without treatment, the superiority of DBT was no longer significant. In a secondary analysis, significantly more DBT patients than control patients reported no self-harm at 1-year follow-up. More patients remained in DBT than in the control treatment, but longer treatment exposure did not explain the findings.

COMMENT: An earlier study similarly indicated usefulness of DBT for adolescent suicidality, other forms of self-harm, and treatment nonadherence. However, as an editorialist points out, both studies focused on adolescent girls with borderline personality features; thus, the benefits in these studies cannot be generalized to other populations. In the current study, both groups continued to improve after treatment, so much so that the significant advantage of DBT faded after treatment discontinuation. This might suggest that longer active treatment, perhaps on a maintenance schedule, would enhance results. DBT should be considered for self-destructive behavior and treatment nonadherence in patients with personality disorders, but even then, it has not been shown to resolve other problems, and so additional modalities are often necessary.

CITATION(S): McCauley E et al. Efficacy of dialectical behavior therapy for adolescents at high risk for suicide: A randomized clinical trial. JAMA Psychiatry 2018 Jun 20; [e-pub]. (<https://doi.org/10.1001/jamapsychiatry.2018.1109>)

Wilkinson PO. Dialectical behavior therapy— A highly effective treatment for some adolescents who self-harm. JAMA Psychiatry 2018 Jun 20; [e-pub]. (<https://doi.org/10.1001/jamapsychiatry.2018.1079>)

Pediatrics 2018 Jul; 142:e20174085

Adequate Sleep in Adolescents Reduces Obesity and Improves Cardiometabolic Health

Short sleep duration and sleep inefficiency are associated with adiposity and increased cardiometabolic risk in adolescents.

In a cross-sectional study, researchers used objective measurements of sleep characteristics and quality to evaluate their effect on cardiometabolic risk and adiposity in adolescents. Sleep duration, sleep efficiency, and physical activity were measured using wrist actigraphy in 829 adolescents (52% girls; mean age, 13 years) who had been followed since birth as part of a mother-child study in Massachusetts. A metabolic risk score was determined based on waist circumference, systolic blood pressure, high density lipoprotein cholesterol level, triglyceride level, and insulin resistance. Higher scores indicated increased risk. Socioeconomic status, race, pubertal status, TV time, and diet were included in the analysis.

Median sleep duration was 7.4 hours per day. Sleep efficiency (percentage of time spent asleep between sleep onset and final awakening) was 84%. Only 2.2% of adolescents met the lowest acceptable level of adequate sleep duration (>8 hours per day for 14- to 17-year olds; >9 hours per day for 11- to 13-year olds). One third of adolescents slept less than 7 hours per day.

Adolescents with longer sleep duration and higher sleep efficiency had lower metabolic risk scores and were less likely to be obese. Each increment of 55 minutes of sleep per day was inversely proportional to adiposity. Sleep duration had a stronger association with adiposity than did sleep efficiency.

COMMENT: This large, well-designed study demonstrates that an adequate duration of sleep is associated with less obesity and lower cardiometabolic risk. Screening and counseling our adolescent patients about sleep hygiene is important for their long-term health. TV and device screen time, stress, noise, caffeine intake, and exercise are all factors that impact sleep duration and efficiency.

CITATION(S): Cespedes Feliciano EM et al. Objective sleep characteristics and cardiometabolic health in young adolescents. *Pediatrics* 2018 Jul; 142:e20174085. (<https://doi.org/10.1542/peds.2017-4085>)

J Dev Behav Pediatr 2018 Jun 11

Increasing Numbers of Pediatric Providers Oppose Spanking

About three quarters of surveyed pediatricians reported negative views of spanking as discipline, expressing concern about the effects on child behavior and development.

Corporal punishment (CP; spanking or hitting as punishment with the goal of correcting child behavior) is associated with higher risk for child abuse, aggressive behavior, and mental and physical health problems into adulthood. However, most surveyed Americans consider it acceptable or sometimes necessary.

To get an update of pediatric provider attitudes toward CP (last survey, 1997–1998, when only half of pediatricians opposed its use), researchers distributed a survey completed by 787 US pediatricians. Most respondents (79%) believed that spanking is a bad disciplinary technique overall, 72% that it is harmful for children, and 70% to 80% that it leads to worse child outcomes. Most did not consider spanking the only way to get a child to behave (78%) or a normal part of parenting (75%). Pediatricians who were male, black, from



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Southern states, or who experienced CP as a child held more positive views of CP and felt it was linked to more positive and fewer negative outcomes.

COMMENT: Research linking CP with adverse child outcomes is solid but may not motivate parents who may use spanking in the moment because they feel overwhelmed or are using their parenting “instincts” (i.e., replicating how they were raised). Parents may be more motivated by practical ideas — e.g., that spanking models that it's OK to solve problems with aggression, that it doesn't teach the child what to do next time or help them understand what underlying emotion drove the behavior. This study also highlights how childhood experiences may bias what we consider appropriate parenting. We should strive for self-awareness when providing disciplinary guidance.

CITATION(S): Taylor CA et al. US pediatricians' attitudes, beliefs, and perceived injunctive norms about spanking. J Dev Behav Pediatr 2018 Jun 11; [e-pub]. (<https://doi.org/10.1097/DBP.0000000000000592>)

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