

Removing Your Tonsils Is a Bad Idea

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STORY AT-A-GLANCE

- > A tonsillectomy (removing your tonsils located on each side of the back of your throat) is one of the more common childhood surgeries; once thought to be redundant tissue, research demonstrates tonsils are integral to the development of the immune system
- > Risks associated with tonsillectomies and adenoidectomies in childhood include an increased risk of asthma, influenza, pneumonia and chronic obstructive pulmonary disease as an adult
- > The surgery is recommended for treatment of recurring, chronic or severe tonsillitis or complications resulting from enlarged tonsils, such as difficulty breathing at night; removal as an adult carries an increased risk of bleeding and secondary surgery
- > Partial removal tonsillotomy reduces postoperative bleeding, pain and complications in children and adults; the procedure leaves a portion of the tonsils, which may help prevent chronic respiratory conditions when performed in childhood

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A tonsillectomy is the surgical removal of your tonsils, two oval-shaped pads of tissue located on each side of the back of your throat.¹ Although the number of tonsillectomies has declined drastically in the last 30 years, the surgery continues to be one of the most commonly performed on children,² with more than 530,000 done each year on children under 15 in the U.S.³

Administration of the guidelines for the surgery differ between countries. For instance, England's National Health Service (NHS) has classified the surgery as "of limited benefit," with some commissioners unwilling to pay for surgery unless a child has had eight cases of tonsillitis documented by a physician visit in one year, strongly adhering to the letter of the Paradise Criteria for Tonsillectomy. 5

This has resulted in a significant drop of routine tonsillectomies, with an increase in emergency admissions to the hospital for tonsillitis. While it may appear as if children are suffering more bad sore throats and infections in their tonsils, research finds the tonsillectomy childhood rite of passage may come with an associated long-term risk.^{6,7}

Risks Associated With Tonsillectomy Years After Surgery

Not all scientists agree with the guidelines for tonsillectomies, believing reducing the criteria could result in a reduction in hospital admissions and overall associated health costs.^{8,9} Now, a first-of-a-kind published study demonstrates early removal of tonsillar and adenoid tissue, which often shrinks in adulthood, may have long-term respiratory system effects.¹⁰

The study was a collaborative effort between Copenhagen Evolutionary Medicine, University of Melbourne and Yale University.

The team analyzed data from just under 1.2 million children born between 1979 and 1999 in Denmark.¹¹ They looked at the first 10 years of the children's lives to determine if they underwent a tonsillectomy or adenoidectomy and then followed their health up to age 30.¹² Of the participants, 17,400 had adenoidectomies, 11,830 had tonsillectomies and 31,377 had a combined adenotonsillectomy, where both the tonsils and adenoids were removed.

The researchers found the risk of preventing a sore throat from tonsillitis nearly vanished by age 40, but the surgery increases the lifetime risk of developing other serious respiratory conditions. Sean Byars, Ph.D., who led the research from the University of Melbourne, explained, "We calculated disease risks depending on whether

adenoids, tonsils or both were removed in the first nine years of life because this is when these tissues are most active in the developing immune system."

Although these tissues shrink by adulthood and were historically presumed redundant, it is now recognized they are strategically positioned in an arrangement known as Waldeyer's ring. Waldeyer's tonsillar ring tissue includes lymphoid tissue from the nasopharynx, tonsils and base of the tongue. 14 The tissue acts as the first line of defense in recognizing bacteria and viruses and begins the immune response to clear the body of foreign invaders.

The analysis of the data revealed tonsillectomies were associated with an increased absolute and relative risk for diseases of the upper respiratory tract, including asthma, pneumonia, chronic obstructive pulmonary disorder (COPD) and influenza. Removal of the adenoids was linked with more than a double relative risk of COPD and nearly double the relative risk of upper respiratory tract diseases.

The researchers concluded it is important to consider long term risk associated with these surgeries, 15 and wrote: 16

"Our observed results show increased risks for long-term diseases after surgery support delaying tonsil and adenoid removal if possible, which could aid normal immune system development in childhood and reduce these possible later-life disease risks.

Given the tonsils and adenoids are part of the lymphatic system and play a key role both in normal development of the immune system and in pathogen screening during childhood in early life, it is not surprising that their removal may impair pathogen detection and increase risk of later respiratory and infectious diseases."

Why Do Doctors Recommend Having Your Tonsils Removed?

Tonsillectomies are recommended for treatment of recurring, chronic or severe tonsillitis or complications resulting from enlarged tonsils, such as difficulty breathing at

night.¹⁷ Rare diseases of the tonsils or bleeding tonsils may also result in a recommendation for tonsillectomy. According to the Paradise Criteria for Tonsillectomy, the minimum frequency must be seven episodes in the previous year or at least five in the previous two years.¹⁸

Tonsillitis often presents with a sore throat and includes a temperature greater than 100.9 degrees Fahrenheit with cervical adenopathy. These are tender lymph nodes along the neck greater than 2 centimeters in size. Children often present with tonsillar exudate, or a white film covering the tonsils, culturing positive for group a beta hemolytic streptococcus.

The initial treatment is antibiotics administered for the streptococcal infection.¹⁹ However, with recurring tonsillitis a tonsillectomy and potentially adenoidectomy would be recommended. Complications from enlarged tonsils can include difficulty swallowing, disrupted breathing during sleep and difficulty breathing.

As with other surgeries, a tonsillectomy comes with risks, including reactions to anesthetics, swelling, bleeding during surgery, or bleeding during healing and infection.²⁰ Since surgery leaves an open wound in the throat, it is often difficult for children to swallow fluids, sometimes leading to dehydration.

Recovery usually takes 10 days and often includes pain in the throat and sometimes the ears, jaw or neck. Complications requiring emergency care include bleeding, fever, dehydration or breathing problems.

In one study, 8% of nearly 140,000 children ages 1 to 18 revisited the hospital within 30 days of having a tonsillectomy.²¹ The revisit rate varied between hospitals. It was as high as 12.6% in some and as low as 3% in others. Bleeding was the most common reason, followed by vomiting and dehydration, pain and infection. Children older than 10 were at a higher risk of returning to the hospital with bleeding, while having a lower risk of vomiting and dehydration.

Adult Tonsillectomy Surgery Holds Greater Risk

Researchers demonstrated the increased risk for chronic respiratory conditions likely formed from tonsillectomies performed prior to full development of the immune system. However, the adult procedure carries different risks. A study in the Journal of the American Medical Association-Otolaryngology looked at the mortality, complications and reoperation rate in adult tonsillectomy.²²

The researchers looked at health records of nearly 6,000 adult patients who underwent a tonsillectomy, evaluating mortality, complications and reoperation in a 30-day postoperative period. In most cases patients had a primary diagnosis of chronic tonsillitis and or adenoiditis.

The most common complication following the surgery was pneumonia, urinary tract infections and superficial site infections. Patients who required a second operation were more likely to be male and to have postoperative complications.

However, results of a second study we're nearly as positive.²³ Researchers from Penn State University found 20% of adults who had a tonsillectomy experienced complications, finding a rate significantly higher than previously published. The team also discovered the complications substantially increase health care expenditures for the patients.

This team analyzed data from over 36,000 adult tonsillectomy patients, finding complications included bleeding, pain, dehydration, blood transfusion, dislocation of cervical vertebra and fever.²⁴ After one week, 15% suffered at least one possible complication. This rose to 20% by week two and four. The researchers found 10% visited an emergency room after discharge and nearly 1.5% were readmitted to the hospital within two weeks after the procedure.

On average, an adult tonsillectomy without complications costs \$3,830, as compared to a surgery with hemorrhage, costing \$6,388. Dennis Scanlon, Ph.D., professor of health policy and administration at Penn State University, commented on the results of the study, saying:²⁵

"Our results highlight the challenges patients face when making informed decisions about medical and surgical treatments, as well as the excess costs and harm incurred due to complications. Patients expect to compare the risks and benefits of treatment options, but as our study shows, credible patient-centered information is often lacking, even for a common procedure that has been in practice for many, many years.

The availability of important risk and benefit information should be expedited, and providers need to be trained to engage patients in how to use this information to make informed choices."

Tonsillotomy Is an Alternative Surgical Option

A tonsillotomy, or partial removal of the tonsils, may be an alternative surgical option for both children and adults. Tonsillotomy has provided favorable outcomes in children presenting with obstructive sleep apnea as it is associated with a lower incidence of postoperative bleeding, higher parent satisfaction and faster recovery time than a total tonsillectomy.²⁶

Research has also demonstrated comparable results to a total tonsillectomy in the improvement of obstructive sleep apnea symptoms in children.

In a second study²⁷ with 43 participating children between the ages of 2 and 9, a randomized trial compared the clinical effects of a standard tonsillectomy against a tonsillotomy using a CO2 laser. During follow-up, both patient groups found comparable relief from sleep apnea and tonsillar hypertrophy at three months and two years.

Tonsillotomy caused no measurable bleeding during the surgical procedure, and postoperative pain and distress were less pronounced than in the tonsillectomy procedure group. These results were replicated in another study group of children ages four to five.²⁸

In a study evaluating the differences between tonsillotomy and tonsillectomy in adults suffering from tonsil-related health conditions,²⁹ researchers concluded the evidence

suggested equal efficacy between both procedures. Adult patients had a preference for the tonsillotomy as there was reduced pain, a reduction in analgesic use, higher patient satisfaction, lower operation time and a reduction in postoperative complications.

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