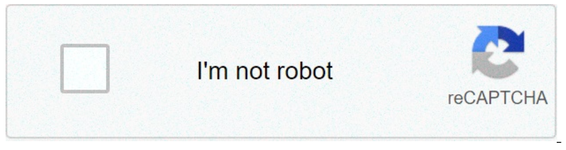

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Tonsils are part of what system

Dr. Gellner: Everybody's heard of tonsils, but not everybody knows what tonsils do or why they sometimes need to be taken out. I'm Dr. Cindy Gellner and we'll discuss that today on The Scope. Announcer: Keep your kids healthy and happy. You are now entering "The Healthy Kid Zone" with Dr. Cindy Gellner on "The Scope." What Do Tonsils Do? Dr. Gellner: So tonsils are the small glands on either side of the back part of the throat. Their main job is to help stop bacteria from getting farther down the throat. Some people have large tonsils and some people have small tonsils. Tonsils are graded on a scale from 0 to 4. Zero means you've had them removed, 1 means they're barely visible, 2 means they're normal, 3 means they're large and just about touching that thing that hangs down at the back of your throat called the uvula, and 4 means they're ginormous. They're touching or overlapping the uvula or kissing each other. Enlarged tonsils can be an ongoing problem or a temporary result of an infection. Your tonsils are part of your immune system, so they do get bigger as your body fights off illnesses. Doctors aren't sure what causes chronically enlarged tonsils, but secondhand smoke and air pollution can make them larger. If your child's tonsils are very large, they may snore really loud, called "heroic snoring," or have trouble swallowing certain foods, mainly breads and meats. Sleep Apnea Some kids with enlarged tonsils have obstructive sleep apnea, where they stop breathing for a few seconds and then snort loudly to restart breathing. This is because the tonsils partially block the airway. A test done overnight in the hospital called a sleep study can help determine if someone has sleep apnea by looking at these pauses. Occasionally, a child with sleep apnea may need to wear a special mask at night that helps with breathing. Strep Then there's strep, the dreaded infection parents worry about with large tonsils and a sore throat. The ear, nose, and throat specialists, those ENT doctors, don't remove large tonsils with strep after only two or three infections a year or if your child only gets it once a year. But if they get it four times in one year or six times in two years, then the ENT doctors are much more likely to say it's time for them to come out. Tonsils enlarged from an infection, whether strep or otherwise, usually return to normal size when the infection gets better. Chronically enlarged tonsils may also shrink as children get older. Most of the time, treatment is not necessary. Sometimes, your pediatrician might recommend a nose spray to try to shrink the tonsils or refer them to an ENT specialist when it is possible your child may need surgery to remove them, called a tonsillectomy. Remember, enlarged tonsils are common. Treatment depends on the size of the tonsils and whether or not they interfere with eating, sleeping, or breathing. Announcer: Have a question about a medical procedure? Want to learn more about a health condition? With over 2,000 interviews with our physicians and specialists, there's a pretty good chance you'll find what you want to know. Check it out at thescoperadio.com. updated: July 16, 2018 originally published: March 18, 2016 URL of this page: Adenoids are a patch of tissue that is high up in the throat, just behind the nose. They, along with the tonsils, are part of the lymphatic system. The lymphatic system clears away infection and keeps body fluids in balance. The adenoids and tonsils work by trapping germs coming in through the mouth and nose. Adenoids usually start to shrink after about age 5. By the teenage years, they are almost completely gone. By then, the body has other ways to fight germs. What are enlarged adenoids? Enlarged adenoids are adenoids that are swollen. It is a common problem in children. What causes enlarged adenoids? Your child's adenoids can be enlarged, or swollen, for different reasons. It may just be that your child had enlarged adenoids at birth. Adenoids can also become enlarged when they are trying to fight off an infection. They might stay enlarged even after the infection is gone. What problems can enlarged adenoids cause? Enlarged adenoids can make it hard to breathe through the nose. Your child might end up breathing only through the mouth. This may cause A dry mouth, which can also lead to bad breath Cracked lips A runny nose Other problems that enlarged adenoids can cause include How can enlarged adenoids be diagnosed? Your child's health care provider will take a medical history, check your child's ears, throat, and mouth, and feel your child's neck. Since the adenoids are higher up than the throat, the health care provider cannot see them just by looking through your child's mouth. To check the size of your child's adenoids, your provider may use A special mirror in the mouth A long, flexible tube with a light (an endoscope) An x-ray What are the treatments for enlarged adenoids? The treatment depends on what is causing the problem. If your child's symptoms are not too bad, he or she may not need treatment. Your child might get nasal spray to reduce the swelling, or antibiotics if the health care provider thinks that your child has a bacterial infection. In some cases your child may need an adenoidectomy. What is an adenoidectomy and why might I my child need one? An adenoidectomy is surgery to remove the adenoids. Your child might need it if He or she has repeated infections of the adenoids. Sometimes the infections can also cause ear infections and fluid buildup in the middle ear. Antibiotics can't get rid of a bacterial infection The enlarged adenoids block the airways If your child also has problems with his or her tonsils, he or she will probably have a tonsillectomy (removal of the tonsils) at the same time that the adenoids are removed. After having the surgery, your child usually goes home the same day. He or she will probably have some throat pain, bad breath, and a runny nose. It can take several days to feel all better. Enlarged Adenoids (Nemours Foundation) Also in Spanish The information on this site should not be used as a substitute for professional medical care or advice. Contact a health care provider if you have questions about your health. Your tonsils and adenoids are part of your immune system. They’re similar to the lymph nodes found throughout the rest of your body.Your tonsils are located in the back of your throat. They’re the two round lumps of tissue you see when you open your mouth wide. You can’t easily see your adenoids, but they’re found in the upper part of your nasal cavity.Read on to learn more about how your tonsils and adenoids function and why some people have them removed.Both your tonsils and adenoids help to trap pathogens, such as bacteria or viruses, that enter your mouth or nose. They contain immune cells that produce antibodies that kill these pathogens before they can spread to the rest of your body.Your adenoids are also covered by a layer of mucus and hairlike structures called cilia. The cilia work to push nasal mucus down your throat and into your stomach.In addition, your tonsils and adenoids continue to grow until you’re between the ages of 3 and 7. Then, they start shrinking as you approach your teenage years. They may almost completely disappear in many cases.Tonsils and adenoids often become enlarged or inflamed when they’re fighting a pathogen. However, some children have enlarged tonsils and adenoids without any underlying cause. Experts aren’t sure why this happens, but there may be a genetic link.When your tonsils and adenoids are enlarged, you may have other symptoms as well, such as:voice changestrouble breathing through your noseloud breathing or snoringtrouble sleepinga runny noseUnderlying infections that can cause enlarged tonsils and adenoids include:Tonsillitis and peritonsillar abscesses can also be caused by complications of these infections.Non-infectious things can also irritate your tonsils or adenoids, causing them to enlarge. These include:tonsil stonestonsil cancerallergiesgastroesophageal reflux diseaseSometimes, tonsils or adenoids should be removed. This is usually due to:recurring tonsillitisblockages that cause snoring or sleep apneatonsil cancerWhile your tonsils and adenoids are your body’s first line of defense against many pathogens, they aren’t the only ones. Having your tonsils or adenoids removed, especially as an adult, usually doesn’t have much of an impact on your immune system.The procedure itself is usually straightforward and done on an outpatient basis. You’ll be placed under general anesthesia while your doctor removes your tonsils, adenoids, or both. Following surgery, you might have some pain and inflammation for up to two weeks. Your doctor will likely prescribe some medication to help with the pain as you heal.In the days following your procedure, you’ll need to stick to cold, soft foods, such as ice cream or yogurt. It’s also best to try to rest as much as possible for at least a week to reduce your risk of bleeding.Your tonsils and adenoids are components of your immune system. They help trap pathogens that enter your nose and mouth. They often enlarge in response to irritation or an infection.If your tonsils or adenoids are frequently infected or causing other symptoms, you may need to have them removed. This is a very common procedure, and most people can return to their usual activities about a week after surgery. Tonsils: want to learn more about it? Our engaging videos, interactive quizzes, in-depth articles and HD atlas are here to get you top results faster. What do you prefer to learn with? “I would honestly say that Kenhub cut my study time in half.” – Read more. Kim Bengochea, Regis University, Denver Author: Shahab Shahid MBBS • Reviewer: Uruj Zehra MBBS, MPhil, PhD Last reviewed: October 29, 2020 Reading time: 6 minutes The tonsils are masses of lymphoid tissue and form an important part of our immune system located at the gateway of respiratory and digestive tract. They act as the first line of defense against ingested or inhaled pathogens. Four types of tonsils are arranged into a ring around the pharynx (oropharynx and nasopharynx), known as Waldeyer’s ring of lymphoid tissue.This article will look at the anatomy of the tonsils including the blood supply and innervation, as well as some histological anatomy and embryological development. We will also discuss function and clinical relevance. The tonsils are part of MALT (mucosa associated lymphoid tissue). MALT can also be found in the bowel, in Peyer’s patches. In general MALT is relatively undeveloped at birth with low cellularity. Tonsils start to develop around 14-15th week of embryonic life, while germinal cenres are absent at this stage. Palatine tonsils and tonsillar fossa are believed to be the derivatives of the 2nd pharyngeal pouch. The epithelial lining proliferates and forms buds, which form the primordium of the palatine tonsil. Wondering how you can study the tonsils as efficiently as possible? The answer is interactive anatomy! Find out what it is and how you can sart using it to ace anatomy right now. Microscopically, the tonsil is a mass of lymphoid follicles supported on a connective tissue framework. In addition, the center of each of these nodules is densely packed with lymphocytes, and is referred to as the germinal center. The tonsillar crypts (except the pharyngeal tonsil) will penetrate from the surface, almost down to the very center of the tonsil follicle. The luminal surfaces of the tonsils are coated in non-keratinizing stratified squamous epithelium, which is the same tissue of the surrounding oropharynx. They have antigen presenting cells on their surface that alert the underlying B and T cells, which are part of the adaptive immune response. In addition, the B cells produce antibodies, mainly IgA, which act to provide immune protection on mucosal surfaces. Learn everything about the structure and function of lymphoid tissue with our articles, video tutorials, quizzes, and diagrams. Lymphatic system Explore study unit There are four types of tonsils in humans; palatine, pharyngeal, lingual and tubal. To quickly remember this, you can use the following mnemonic: "PPL have Tonsils", standing for Palatine, Pharyngeal, Lingual, Tubal. These are located between the palatoglossal arch anteriorly and the palatopharyngeal arch posteriorly. They are located in the isthmus of the fauces (a cavity bound laterally by the palatoglossal arches, superiorly by the soft palate and by the tongue underneath). Laterally they are attached to the wall by a fibrous capsule, and are covered in stratified squamous epithelium on the pharyngeal side. The tonsil is penetrated by 15-20 crypts. The lumen of the crypts contain lymphocytes, bacteria and desquamated epithelial cells. The palatine tonsils receive their blood supply from the tonsillar branches of five arteries: Venous drainage is to the internal jugular vein via the peritonsillar plexus of lingual and pharyngeal veins. The nerve supply to the palatine tonsils arises from the maxillary division (V2 division) of the trigeminal nerve (cranial nerve V) as well as the tonsillar branches of the glossopharyngeal nerve (cranial nerve IX). The glossopharyngeal nerve will also continue on to supply taste to the posterior one third of the tongue as well as sensation. These are small round elevations that sit on the most posterior part of the tongue base. They are considered a collection of lymphoid tissue which varies greatly in size and shape. They are covered by stratified squamous epithelium which invaginates to form a single crypt. The blood supply to these tonsils is from the lingual artery, the tonsillar branch of the facial artery and the ascending pharyngeal branch of the external carotid artery. The nerve supply is from the tonsillar branches of the glossopharyngeal nerve (cranial nerve IX). These tonsils are located just posterior to the opening of the Eustachian tube (the torus tubaris) in the nasopharynx. These are the most superior tonsils that lie in the superior part of the nasopharynx. It is attached to the periosteum of the sphenoid bone by connective tissue. The pharyngeal tonsils are covered with ciliated pseudostratified columnar epithelium, having ciliated, basal and goblet cells. The covering capsule is thinner compared to the palatine tonsils and the adenoids have no crypts. The epithelium is thrown into folds, with the lamina propria containing a mass of lymphatic tissue with numerous lymphatic nodules. Ready to round up and reinforce your lymphatic system knowledge? Try out our quiz below: This inflammatory condition of the tonsils is due to viral or bacterial infections. It presents with: Throat infection Fever Hoarseness or loss of voice Issues with swallowing A visible white or yellow coating on the tonsils upon examination. Treatment includes painkillers, as well as antibiotics (for immunocompromised, severe or painful cases only). Recurrent tonsillitis is defined as 4-7 infections a year. In case of recurrent, persistent and enlarged tonsils problems, surgical removal is recommended. This is a surgical procedure where the palatine tonsils are removed from each side of the oropharynx. The surgery is usually needed due to: Airway obstruction from enlarged tonsils Sleep apnoea Snoring Recurrent tonsillitis Other tonsils can also be removed in the same procedure. As the tonsils are highly vascularised, they bleed heavily during the surgery. Hydration and analgesics are essential for good recovery. Tonsils: want to learn more about it? Our engaging videos, interactive quizzes, in-depth articles and HD atlas are here to get you top results faster. What do you prefer to learn with? “I would honestly say that Kenhub cut my study time in half.” – Read more. Kim Bengochea, Regis University, Denver Show references References: Frank H.Netter MD: Atlas of Human Anatomy, 5th Edition, Elsevier Saunders. Chummy S.Sinnatamby: Last’s Anatomy Regional and Applied, 12th Edition, Churchill Livingstone Elsevier. Richard L. Drake, A. Wayne Vogl, Adam. W.M. Mitchell: Gray’s Anatomy for Students, 2nd Edition, Churchill Livingstone Elsevier. Viswanatha B, DO, MBBS, PhD, MS, FACS: Tonsil and Adenoid Anatomy. WebMD LLC (accessed 17/01/2016). Illustrators: Tonsillar crypt (medial view) - Begoña Rodriguez Palatine tonsil (ventral view) - Paul Kim Lingual tonsil (cranial view) - Begoña Rodriguez Pharyngeal tonsil (medial view) - Yousun Koh