

# **Histology of tonsils**

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**Histologically 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 epithelium tissue. 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 surface.**

### **Types of tonsils**

**There are four types of tonsils in humans; palatine, pharyngeal, lingual and tubal.**

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## *Palatine tonsils*

*These tonsils 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.*



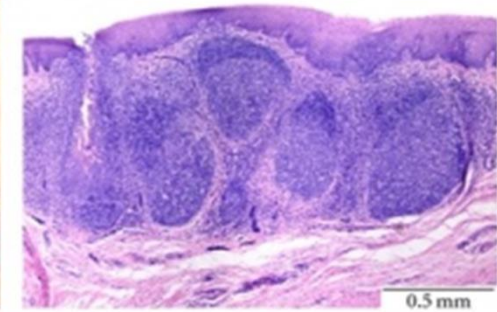


# Lingual tonsils

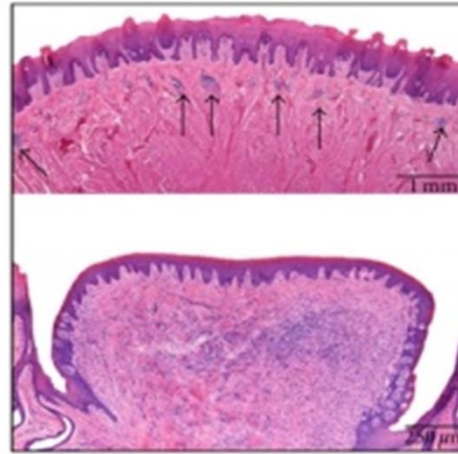
*These are small round elevations that sit on the most posterior part of the tongue base. They are considered a collection of lymphoid tissue which varies greatly in size and shape. They are covered by stratified squamous epithelium which invaginates to form a single crypt.*



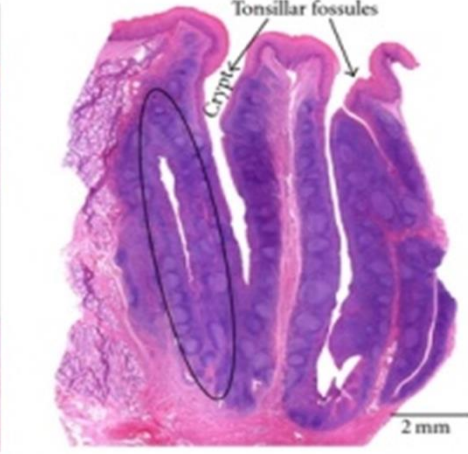
(a)



(b)



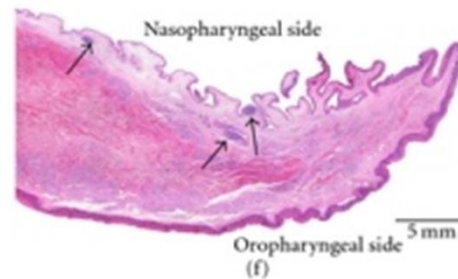
(c)



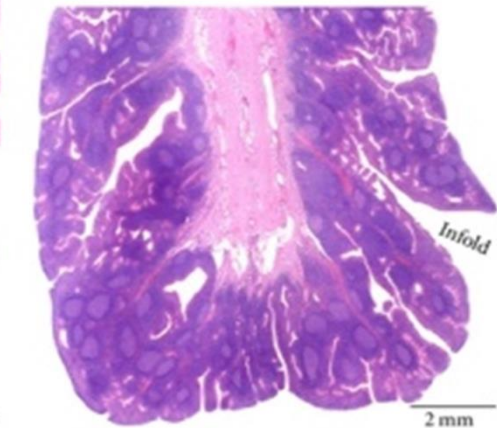
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(e)



(f)



(g)



## *Pharyngeal tonsils/adenoids*

*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*

## *Tubal tonsils*

*These tonsils are located just posterior to the opening of the Eustachian tube in the nasopharynx covered by simple columnar epithelium.*

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Type	Epithelium	capsule	Crypts	Location
<u>Adenoid</u> (also termed "pharyngeal tonsil")	<u>Ciliated pseudostratified columnar (respiratory epithelium)</u>	Incompletely encapsulated	No crypts, but small folds	Roof of <u>pharynx</u>
<u>Tubal tonsils</u>	Ciliated columnar epithelium			Opening of Eustacain tube
<u>Palatine tonsils</u>	<u>Non-keratinized stratified squamous</u>	Incompletely encapsulated	(15-20) crypts	Sides of <u>oropharynx</u> between palatoglossal and palatopharyngeal arches
<u>Lingual tonsils</u>	Non-keratinized stratified squamous	Incompletely encapsulated	Long, unbranched <sup>[2]</sup>	Behind <u>terminal sulcus (tongue)</u>





***THANKS FOR LISTENING***

