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### **The role of adenoids in the presence of middle ear fluid**

The adenoids are lymph tissue, similar to the tonsils. The adenoids are located behind the nose and soft palate; they are normally present in all children. With frequent infections of the nose and throat, the adenoids may become enlarged, obstructing nasal breathing. Since the adenoids are next to the area of the eustachian tube, their enlargement or infection may contribute to recurring ear problems.

One way of estimating the size of the adenoids is to obtain a soft tissue X-ray of the back of the nose. This X-ray is very useful in assessing whether the adenoids are obstructing the eustachian area. A rough estimate of adenoidal size can also be generally obtained by noting the size of the tonsils on physical examination. If the tonsils are large, the adenoids are usually enlarged. The adenoids themselves, however, may be enlarged without significant tonsil enlargement.

Research indicates that, in children with persistent ear infections and fluid problems, an adenoidectomy at the time of tube insertion may improve eustachian tube function. This may help prevent ear problems in the future. Studies indicate that removal of tonsils may not be helpful in clearing ear problems, unless the tonsils are chronically infected (four to five infections per year). If the tonsils are diseased, their removal is also advisable.

Most children will eventually outgrow their problems with fluid by late adolescence or the early teens. This is thought to be due to the growth of the head relative to the position of the eustachian tube. The muscles that pull on the eustachian tube change with head growth. This can facilitate and improve eustachian tube function. Some children, despite their growth, continue to have poor function of the eustachian tubes. As adults, some of these children will have chronic ear problems.