

## How to manage ear wax obstruction?

In general, by the time when the ear canal is blocked-up, ear wax may have already hardened. We may apply ear wax softener before attempting to remove it. Commercially available softeners can be oil-based or water-based but there is not significant difference in their performance. Although softeners can be purchased without prescription, we advise that parents should seek consultation and instruction from health care personnel before using them. This is the procedure for using ear wax softener:

1. First clean your hands.
2. Then use cotton balls to clean outer ear of the affected person.
3. Hold the bottle of softener in your palm for several minutes to warm the bottle to near body temperature.
4. Affected person lying on the bed/sofa sideways with the ear to be treated facing upward.
5. Pull the ear slightly upward and backward to straighten the ear canal.
6. Drip the prescribed quantity of softener into the ear canal.
7. After that, press down the triangular cartilage (tragus) at the entrance of ear canal and rub it slightly.
8. Affected person staying at the same position for two minutes.
9. Affected person stand up slowly with a towel pressed to the ear.



Research showed that about 40% of patients with impacted ear-wax had improvement after using softener for a week. Some may still require removal by a doctor, when the removal procedure becomes easier after use of softener.

There is no evidence that ear candle can remove ear wax effectively. Instead, there were cases that such method resulted in outer ear infection and facial burn.

## How to prevent ear wax obstruction?

Do not pick your ears by yourself, especially not with ear picks or other hard objects to avoid injury.

Keep your ear canals clean and dry when swimming or washing your hair. You may use earplugs or cotton balls to prevent inflow of dirty water. Dry your ears with dry cloth or cotton balls afterwards.



# About Ear Wax



## What is ear wax?

Ear wax is a mixture of the keratin cells in the epidermis of shredded skin and the secretion of the glands in the external ear canal. The secretion of ear canal consists mainly of anti-septic and water repellent triglyceride from sebaceous glands. Some people may have brownish cerumen from modified apocrine sweat glands. These glands are located in the outer 1/3 of the ear canal. Hence, ear wax accumulates mainly there.

The oil-based matter in the ear wax lubricates the skin of the external ear canal and forms a waterproof protective layer. Lack of ear wax may cause dryness and itchiness of the external ear canal. The enzymes in the ear wax can protect the external ear canal from bacteria and fungi. Ear wax sticks onto the skin and hair in the ear canal, its stickiness helps to trap foreign body such as dust and insect at the outer part of the ear canal, preventing them from coming close to the eardrum.

Ear wax can be classified into two types: “dry” and “wet”.

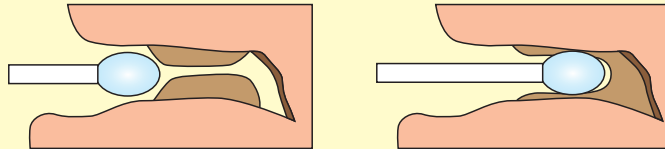
**Dry ear wax** is light grey or greyish brown in colour, with a dry and brittle texture. It consists mainly of keratin cells in the epidermis of shredded skin and secretion of sebaceous glands. It has a low density seldom causes obstruction.

**Wet ear wax** is brown in colour with sticky and wet texture. It consists mainly of secretion from the modified apocrine sweat gland (cerumen gland) in addition to keratin cells in the epidermis of shredded skin and secretion of sebaceous glands. Some wet ear wax is soft and light brown in colour. Some is hard and dark brown. Wet ear wax would harden and darken with prolonged exposure in the air. Wet ear wax mixed with hair follicles and dust would even be harder. Wet ear wax has a higher density and sometimes may cause obstruction.

Genetic studies show that wet ear wax is the dominant phenotype. Wet ear wax is found mostly among Europeans and Africans. Dry ear wax is more common among Asians. Dry ear wax is found in over 80% of Japanese and northern Chinese. Among Chinese from Taiwan, southern Mainland and Southeast Asia, about 60% have dry ear wax and 40% have wet ear wax.

## Is it necessary to clear ear wax?

Most people do not require to clear ear wax. There are self-cleansing mechanisms in the outer ear canal that push the shredded skin out of the ear.



Clearing ear wax with cotton buds, ear pick or other pointed objects may push ear wax further inside the ear canal, causing obstruction, ear discomfort and hearing problem. Attempt to clear ear canal by oneself may cause injury to the skin of the external ear canal, or even rupture of the eardrum and injury to the middle ear if one falls during cleansing. Picking the ear with a contaminated object is a common cause of outer ear infection (otitis externa). If the cotton tip falls off inside the ear canal, it may cause obstruction or other adverse effects to the ear.

Usually, removal of ear wax is required only under the following situations:

- Hearing loss and discomfort due to obstruction of external ear canal by ear wax
- Eardrum is covered by ear wax and cannot be fully visualized during medical examination (e.g. for otitis media)
- People who need to use hearing aid or earphone regularly

## Would ear wax obstruction cause hearing loss?

Impacted cerumen in the external ear canal is a common cause of conductive hearing loss. Hearing would remain normal even when the ear canal is partially occupied by ear wax. Hearing loss and ear discomfort may arise when ear wax is fully impacted in the ear canal. The following are common examples:



- Water has entered the external ear canal during swimming or washing hair, ear wax swollen up due to water absorbed, causing a complete obstruction of the ear canal. Affected person may experience a sudden hearing loss and ear pain. Hearing resumes normal after the ear is dried.
- People with great amount of ear wax (especially wet ear wax), abnormal or narrow ear canal, abnormal growth of keratin cell in the epidermis may have poor self-cleansing mechanisms in the ear canal. Prolonged accumulation of ear wax may cause complete obstruction of the external ear canal, leading to hearing loss, sensation of ear block and itchiness, even tinnitus. If ear wax is impacted deep inside the ear canal, it may cause dizziness. Affected person may experience ear pain and hear a loud noise during jaw movements. If this occurs, consult an Ear-Nose-Throat specialist as soon as possible.

Ear wax obstruction (Impacted cerumen) is not common. Most people would not have this problem even if they have never attempted to clean their ear canal. According to the data in Student Health Service, less than 0.5% of Primary 1 students suffer from hearing loss due to ear wax obstruction.