تجمع الرياض الصحي الثاني
Riyadh Second Health Cluster

Middle Ear Infection

What is a middle ear infection?

- **It is an inflammation of the middle ear that occurs when fluid accumulates behind the eardrum. It is also known as otitis media (OM).**
- **It can be caused by a bacterial (most common) or viral infection. However, sometimes a person can get fluid in their middle ear but don't have an infection.**
- **According to the U.S. National Institute of Health, five out of six children have at least one episode of middle ear infection by 3 years of age. Although it is much more common in children, it can occur in adults as well.**

What are the risk factors for developing middle ear infections?

- ### Cold and flu season:

Middle ear infections often occurs after a cold, flu, or other respiratory illness, because viruses can result in fluid accumulation in the middle ear, which might lead to bacterial growth in the fluid, thus causing an infection.

- ### Passive/Secondhand smoking:

Inhalation of smoke (from someone else who is smoking) makes a person more susceptible to getting a cold, flu, or other respiratory illness, which in turn may lead to middle ear infection.

- ### Improper feeding position:

Babies who are fed in a supine position (flat on their back) are more vulnerable to getting ear

infections than babies who are fed at an angle of minimally 45 degrees, because there is a higher chance for fluids to travel through the Eustachian tube (the tube that connects the middle ear with the nose and throat area).

- **Heredity:**

  Middle ear infections can be genetic in nature. Children might be at risk of having frequent middle ear infections if an immediate family member (parents or siblings) had repeated middle ear infections as a child.

- **Craniofacial Anomalies:**

  Some children with certain craniofacial anomalies (such as cleft palate) or other conditions where the middle ear is not fully developed (such as

Down syndrome) are at an even higher risk of having frequent middle ear infections.

What are the types of middle ear infections?

Middle ear infections can be categorized into four main types based on their signs and symptoms:

- **Acute Otitis Media (AOM): It is the most common type of middle ear infection. It happens suddenly and causes swelling and redness, in addition to accumulation of fluid and pus behind the eardrum. AOM causes ear pain and may also be accompanied by a fever.**
- **Chronic otitis media (COM): It happens when a middle ear infection remains for a long period of time or reoccurs frequently over several**

months or years. COM can result in ear drainage and is often accompanied by a perforation (hole) in the eardrum and hearing loss.

- **Otitis Media with Effusion (OME): It happens when non-infected fluid accumulates in the middle ear, which sometimes remain even after the infection is resolved. OME can be asymptomatic, meaning it can go unnoticed. OME usually resolves on its own within 4-6 weeks.**
- **Chronic Otitis Media with Effusion (COME): It happens when the accumulated non-infected fluids in the middle ear remain for a long period of time or reoccurs frequently over several months or years. COME can affect hearing temporarily or permanently.**

What are the symptoms of middle ear infections?

- **Fever.**
- **Pus, discharge, or fluid coming out of the ear(s).**
- **Itching or pulling at the ear(s).**
- **Fussiness, crying, or trouble sleeping.**
- **Raising own voice when speaking.**
- **Raising the volume of the TV or other devices.**
- **Asking for repetition of what is said, due to difficulty hearing or understanding from the first time.**

How are middle ear infections identified?

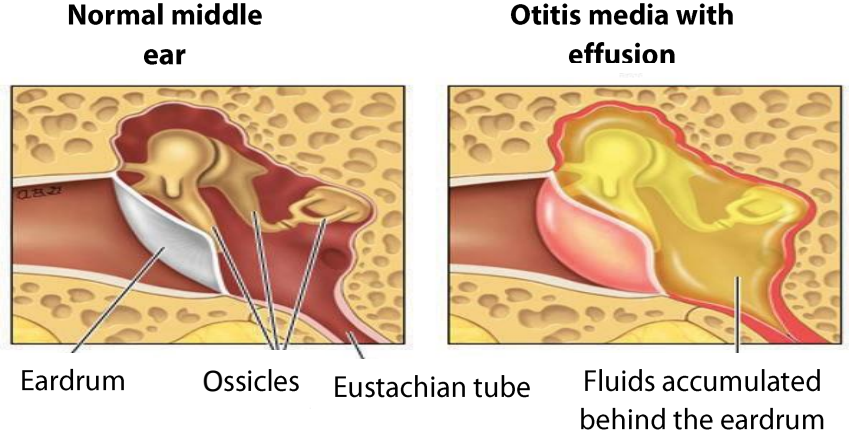
The doctor and audiologist each play a role In identifying middle ear infections through:

1. **Case history: by asking questions about**
2. **Overall health status and symptoms of middle ear infections.**
3. **Physical examination: by using a lighted instrument, called an otoscope, to look at the ear canal and eardrum. A red, bulging eardrum indicates an infection.**
4. **Tympanometry: test that gives an idea of how well the middle ear is functioning. If a middle ear infection is suspected, the doctor/audiologist might use the result of this test to validate the otoscopic findings.**

Why do middle ear infections affect children more than adults?

- **The length and angle of the Eustachian tube is different in children compared to adults. Children have shorter and more horizontal eustachian tubes than adults. These characteristics of the Eustachian tube in children make it difficult for the fluid to drain out of the ear, even under normal conditions. Once the Eustachian tubes are swollen or blocked with mucus due to a cold or other respiratory illness, it becomes even more difficult for fluid to be able to drain.**
- **Children's immune systems aren't as effective as they are in adults, because they are still developing, which makes it harder for children to fight infections.**

- **Adenoids are larger in children than adults. Hence, if they are enlarged, they can prevent the Eustachian tube from properly opening to drain the fluid. Sometimes, the bacteria that passes through the nose and mouth might affect the adenoids, which may lead to adenoid infection. This infection can then pass through the Eustachian tube and into the middle ear.**



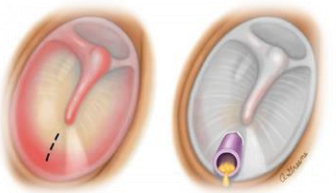
How are middle ear infections? treated?

Many doctors recommend the use of an antibiotic when there is an active middle ear infection, however, some ear infections may resolve without antibiotics. Middle ear infections may also be treated with medication for pain, decongestants, antihistamines, or nasal steroids.

For children with suspected middle ear infections, especially those between the ages of 6 months and 2 years, the American Academy of Pediatrics (AAP) encourages doctors to observe and closely monitor them. If there is no improvement within 48 to 72 hours, they recommend starting antibiotic therapy. Most doctors will have the child return for a follow-up examination to check

if the middle ear infection has cleared and the infection has resolved.

What happens if middle ear infections persist?



It is important to try to limit the factors that might put a person at risk of developing repeated middle ear infections. If the infections keep reoccurring and do not resolve even with antibiotics, doctors may recommend a surgical procedure during which a small hole is created in the ear drum to help drain the fluid out of the ear. A small ventilation tube may also be inserted in the eardrum to help drain and prevent fluid accumulation behind the eardrum. The most commonly used tubes stay in place for six to nine months and require follow-up visits until they fall out on their own. This procedure is usually done

under anesthesia for children and can be done as a routine procedure in the clinic for adults.

Can middle ear infections be prevented?

No, however, the best way to protect oneself from middle ear infections is to reduce the risk factors associated with them. Here are few points for you to consider:

- ✓ **Ensure to get the flu vaccine annually.**
- ✓ **Maintain good hand hygiene. Hand washing prevents the spread of germs and can help a person from catching a cold or flu.**
- ✓ **Avoid exposure to cigarette smoke.**
- ✓ **Ensure babies are fed in a proper position (at an angle of minimally 45-degrees).**

Limit children's exposure to other children suffering from colds or flu as much as possible.

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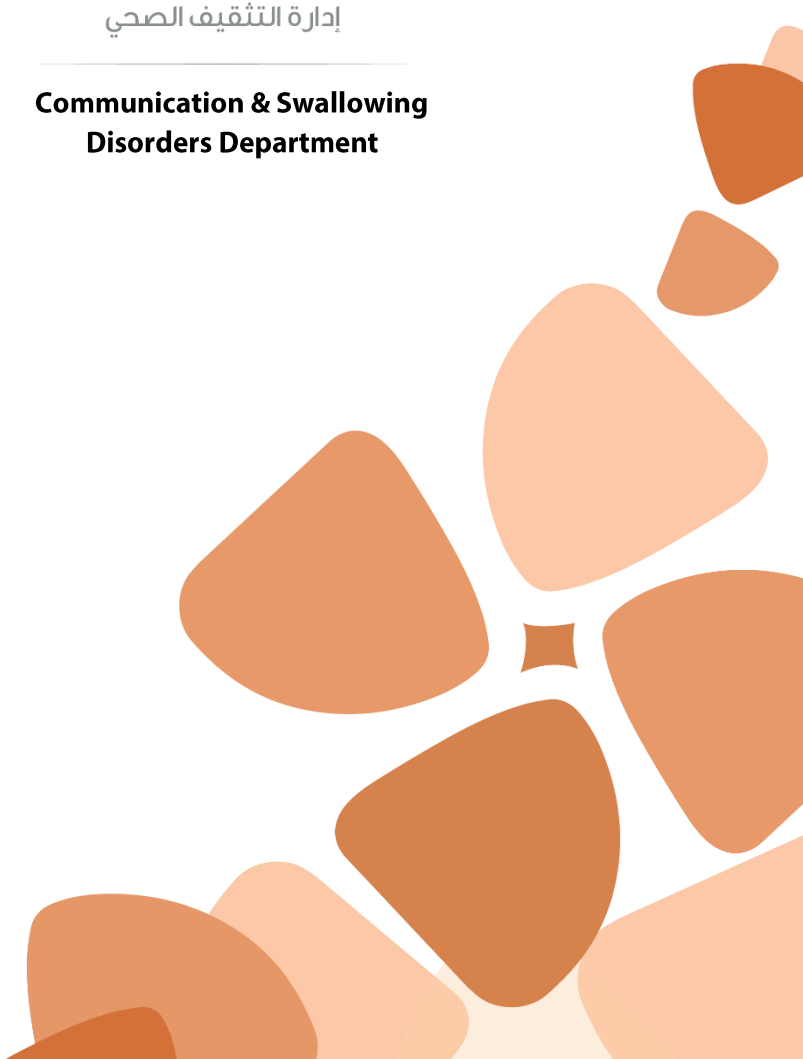
إدارة التثقيف الصحي

Communication & Swallowing Disorders Department



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