

# Prevention of Ear, Nose and Throat diseases for swimmers

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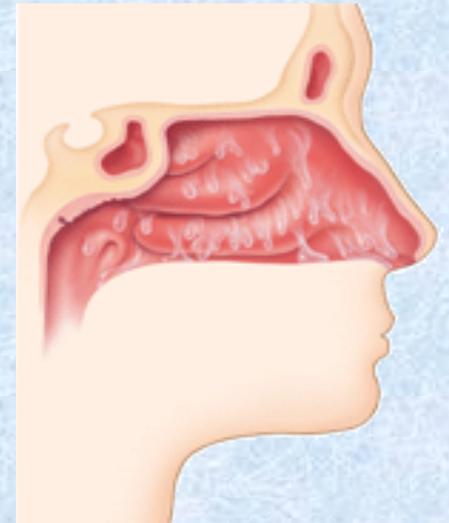
# Prevention of Ear, Nose and Throat Diseases for swimmers

What are the common conditions that would  
encounter by swimmers?





# Rhinitis





Tonsillitis (Mandelentzündung)



Ear problems commonly encounter in swimmers:

1. Injury:-

- contusion to ear/auricle
- blow across the side of head by hand flap when swimming too close in swimming pool
- Laceration

These can result in auricular haematoma, perforation of eardrum

2. Infection: Otitis externa

3. Allergies: chemical irritants(chlorine, metal ring)

4. Exotosis of external ear canal

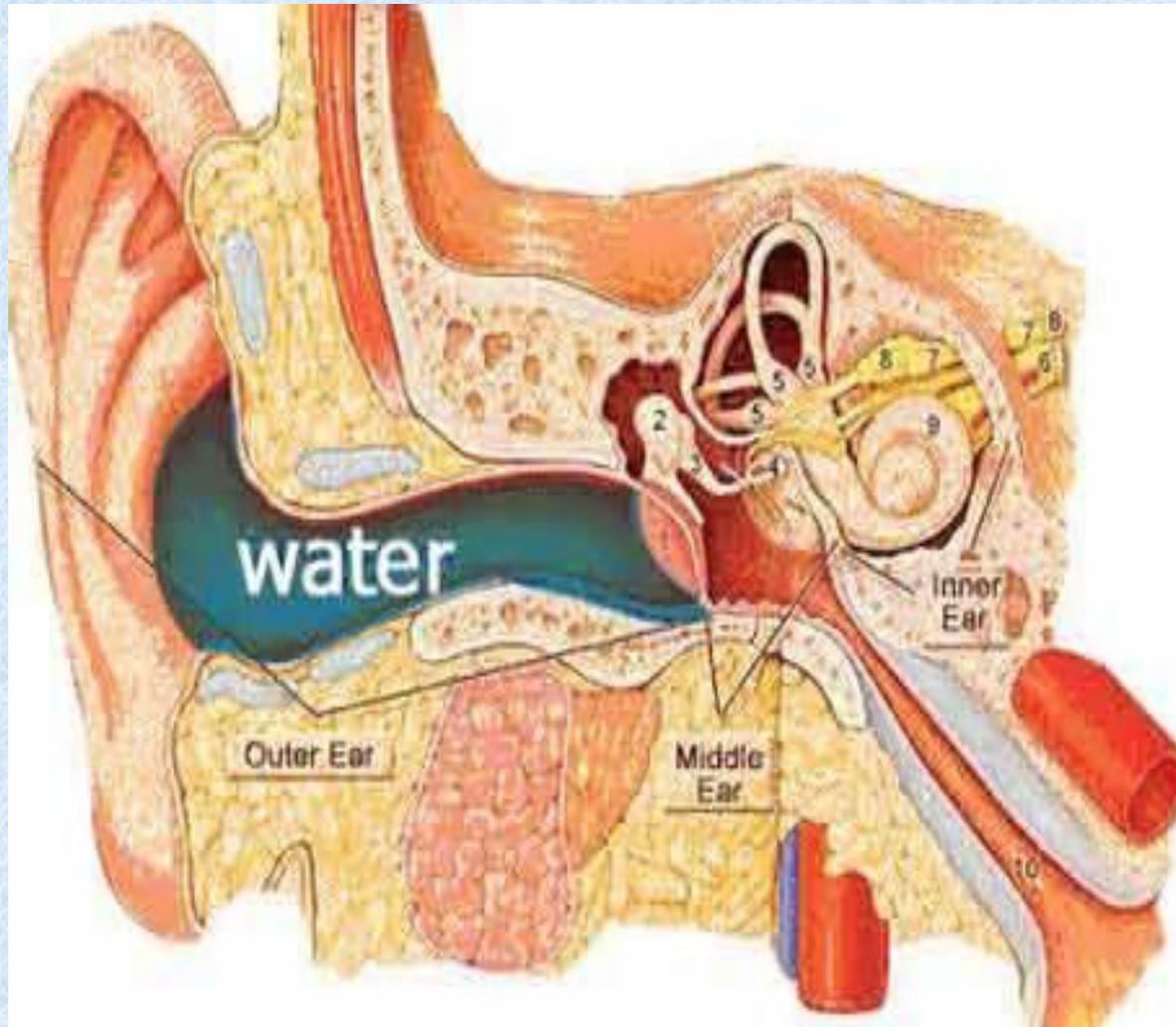
# Swimmer's ear

The term “swimmer's ear” has been used to describe any inflammatory condition of the ear that commonly occurs in the athletes participating in water sports.

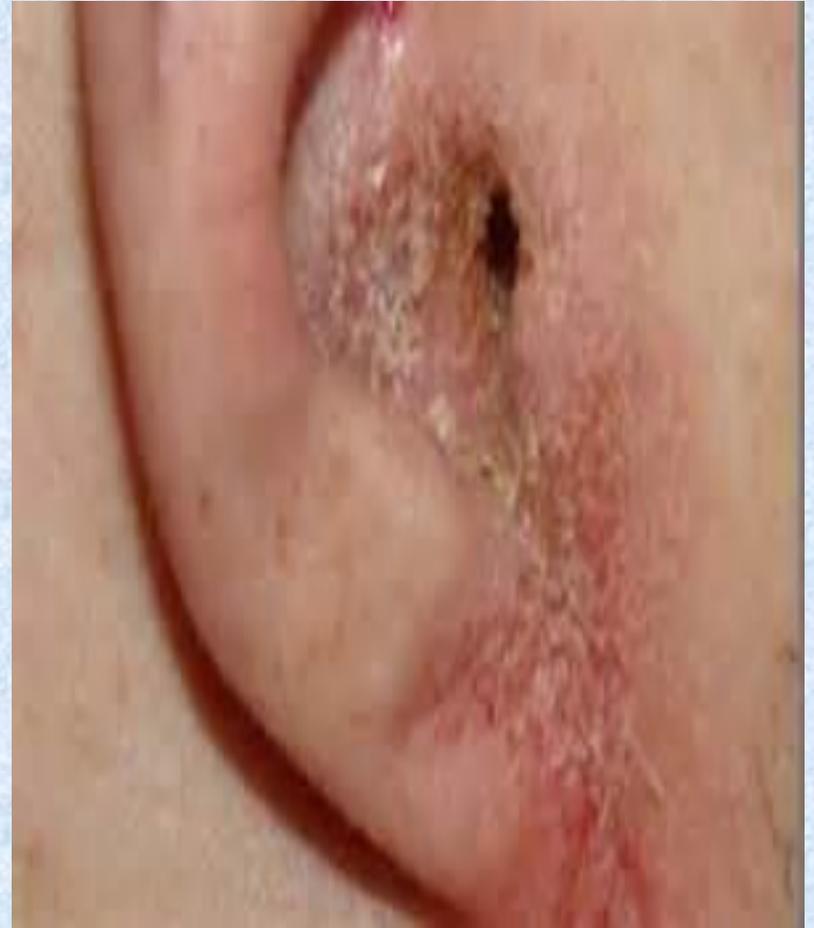
In particular refer to conditions in the external auditory canal or the middle ear in swimmers

Otitis externa is the most common disease of the external auditory canal associated with water sports.

# Otitis externa(OE)

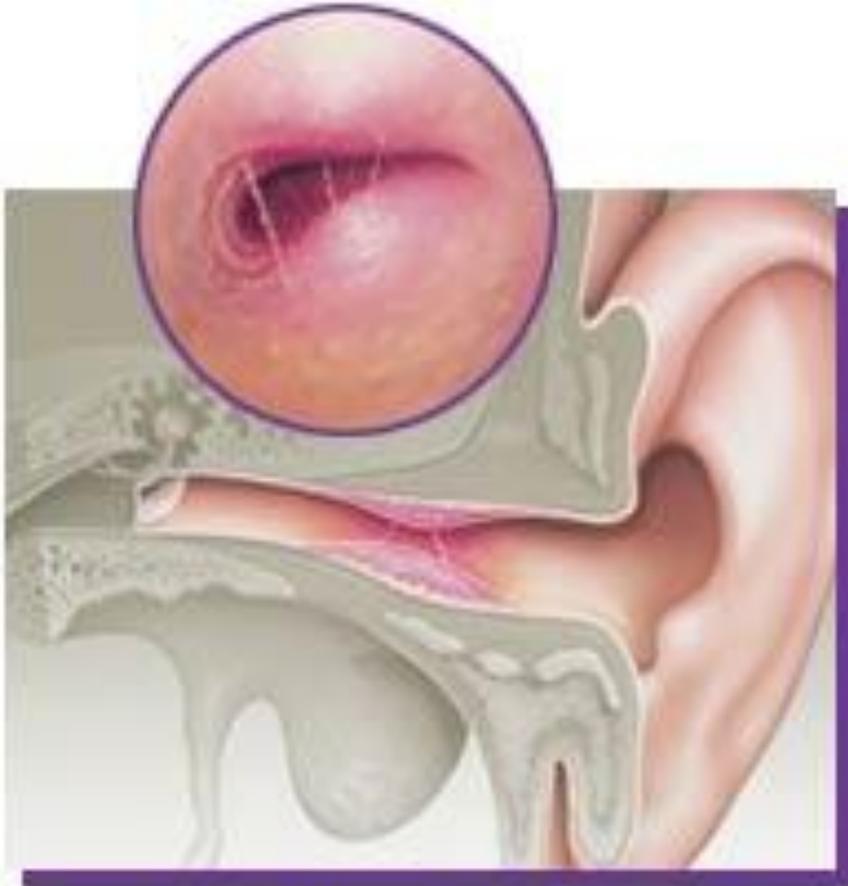


# Otitis externa(OE)





# Otitis externa(OE)



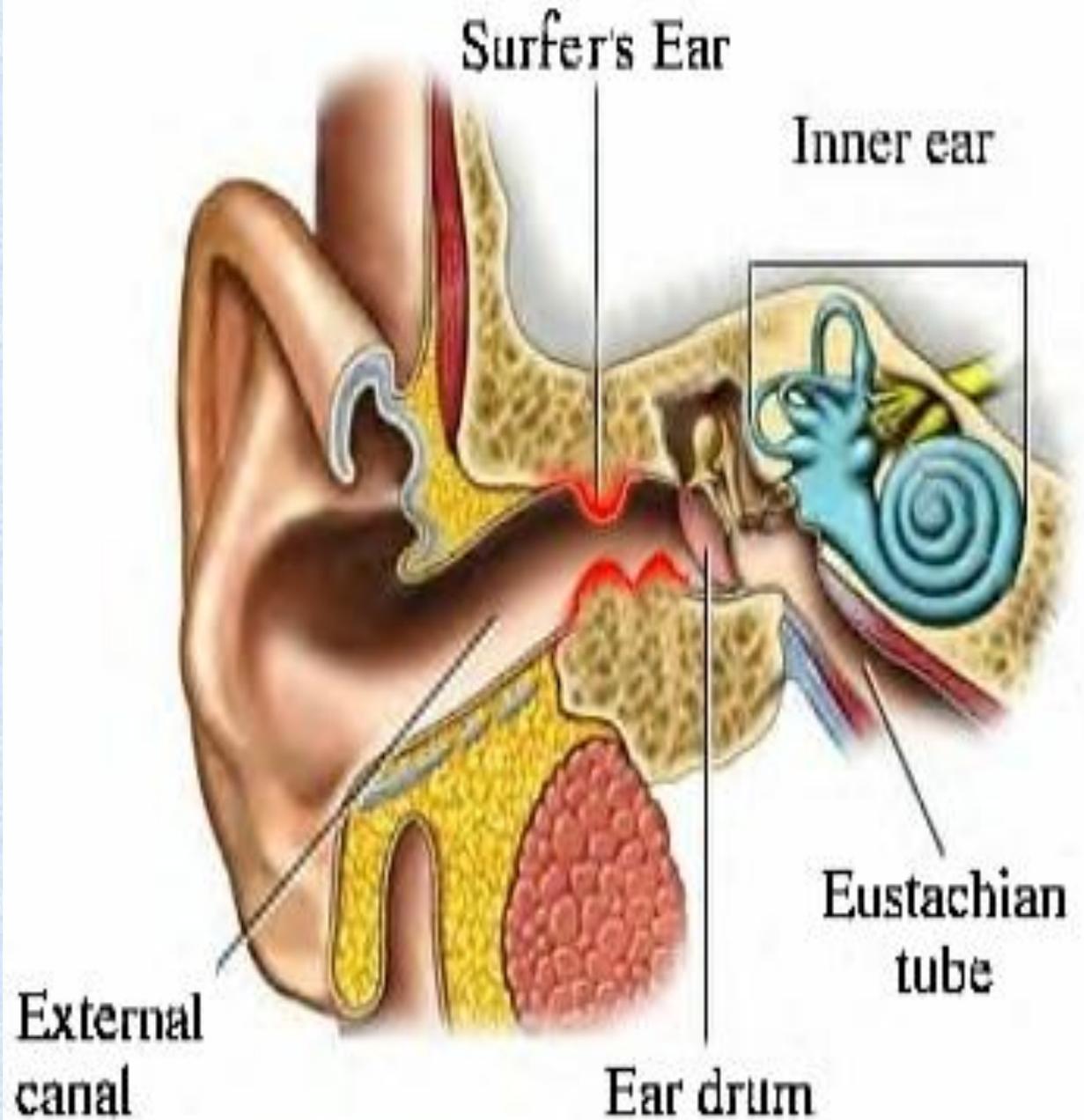
**Swimmer's Ear (AOE)**



# Otitis externa

- The condition should be managed by a qualified medical practitioner with the suitable instrument for aural toilet. Topical anti-infective and anti-inflammatory agents can be applied at the same time. Swimmers should ideally abstain from sports for a week or until the condition has subsided.
- Prevention of the condition from occurring is essential and will be elaborated further.





# Surfer's Ear

It is the common name for exostosis, abnormal bone growth, within the ear canal.

Surfer's ear is not the same as swimmer's ear

Prevalence among cold-water surfers: six times the rate of warm water surfers

# Custom-fitted ear moulds



# Prevention of otitis externa

CDC Report 2011, Estimated burden of acute otitis externa:

- In 2007, an estimated 2.4 million U.S. health-care visits (8.1 visits per 1,000 population) resulted in a diagnosis of acute OE(AOE)
- AOE was diagnosed in an estimated 2,067,335 ambulatory-care clinic visits and 377,440 ED visits during 2007, for a total of **2,444,775** visits for AOE, representing 8.1 visits per 1,000 population.
- Thus, an estimated 1 in 123 persons was affected by AOE in the United States during 2007

# Preventing otitis externa in swimmers— Recommended Practical tips:

- **Keep your ears as dry as possible--** Use a bathing cap, ear plugs, or custom-fitted swim molds when swimming to keep water out of your ears, wear a hood when surfing or sailboarding.





# Preventing otitis externa in swimmers—

## Practical tips:

- **Dry your ears thoroughly after swimming or showering--** Use a towel to dry your ears gently, tilt your head to hold each ear facing down to allow water to escape the ear canal, pull your earlobe in different directions while your ear is faced down to help water drain out, consider using a hair dryer to move air within the ear canal (**use lowest** heat and speed/fan setting)

# Preventing otitis externa in swimmers—

## Practical tips:

- **Avoid touching or scratching the ear or put any object into the ear canal e.g. cotton-tip swab, tissue paper**
- **Do not try to remove ear wax. Ear wax helps protect your ear canal from infection**

# Preventing otitis externa in swimmers—

## Practical tips:

- **Consult your health-care provider about using commercial drying agent, alcohol-based ear drops or a 1:1 mixture of rubbing alcohol and white vinegar after swimming--** Persons with ear tubes, damaged ear drums, outer ear infection, or ear drainage (pus or liquid coming from the ear as in otitis media) should not use drops

# **Preventing otitis externa in swimmers—**

## **Practical tips:**

- **Consult your health-care provider if your ears are itchy, flaky, swollen, or painful, or if you have drainage from your ears**

# **Preventing otitis externa in swimmers—**

## **Practical tips:**

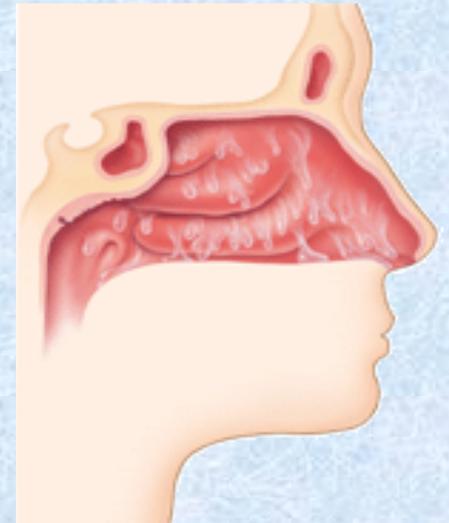
- **Enquire the pool operator on use of disinfectant(Chlorine, ozone, UV light) in that pool and frequency of pH levels(acidity) checking**

# Nose and throat diseases in swimmers

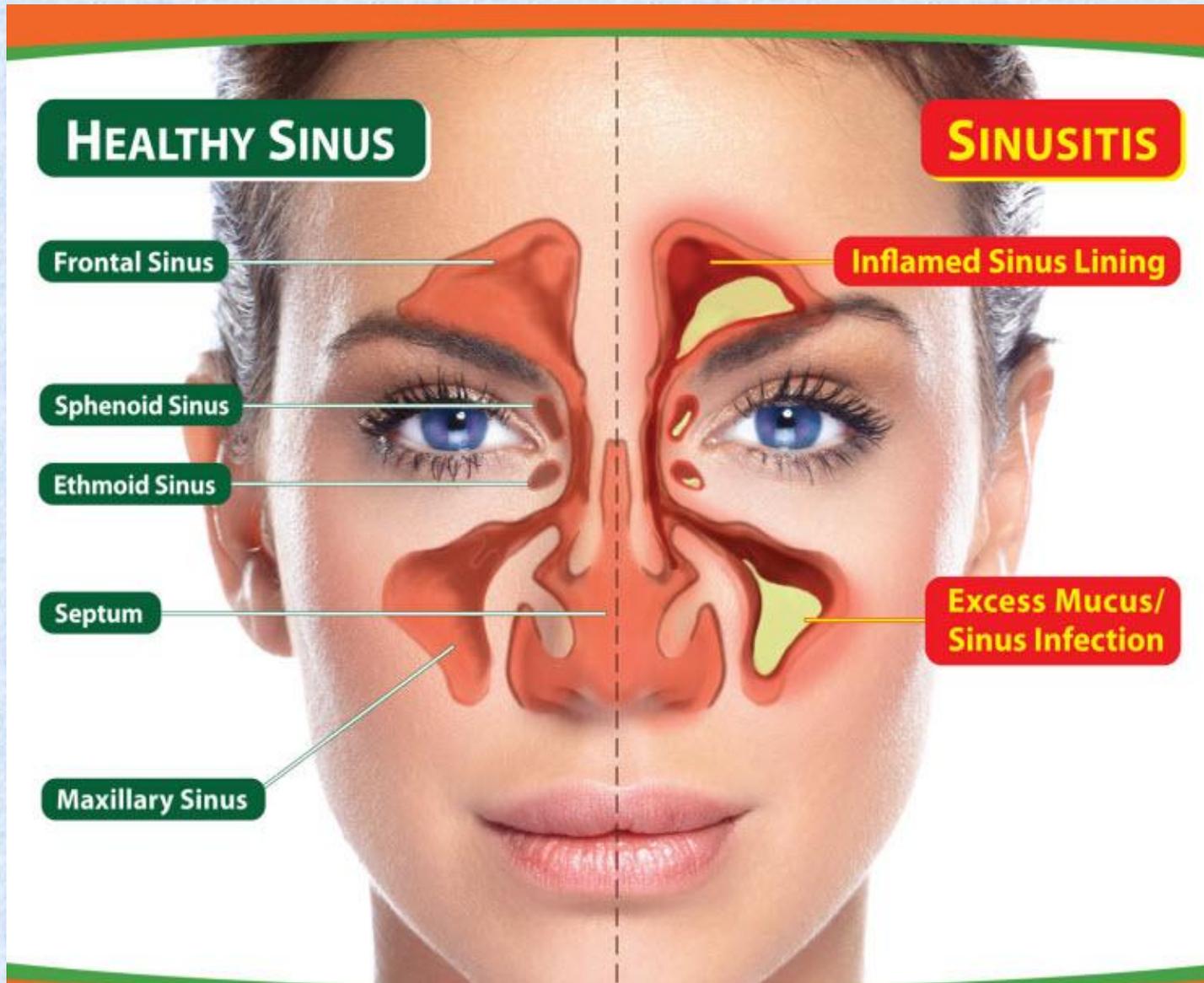
Nasal problems commonly encounters in swimmers

- Nasal injuries, recent nasal operations
- Rhinitis, Rhinosinusitis: infective, allergic and non- allergic
- Rhinopharyngitis, laryngitis (Upper respiratory tract infection or allergic condition)

# Rhinitis



# Rhinosinusitis



# Pathogenesis of sinusitis

- Swimming and diving increase your risk of sinusitis in part because of the pressure changes you experienced when you go underwater
- Sinuses openings block up and the pressure change in your sinuses creates pain. Infection or allergic responses will result in further mucosal edema in the nasal lining, aggravate more obstruction and hence the nasal symptoms
- Swimming pool chemicals might cause your nasal tissues to redden and swell
- When mucus thickens and plugs the sinuses, any viruses or bacteria in the pool water introduced may grow and replicate, causing full-blown infection
- Young swimmers or in children, their ears will block due to concurrent adenoid enlargement

# Tips to decrease sinuses problems

- **Nose Plugs**
- **Check the tightness of your Goggles**
- **Avoid overly Chlorinated pools**
- **Manage your preexisting allergy or sinuses condition**
- **Saline douche**



# Normal saline douche



# Others suggestions to prevent or avoid rhinitis and sinusitis

- Repeated sinus headaches mean you might need to change your swimming regimen, or the location where you swim.
- Avoid exposure to sudden temperature changes
- Consult your doctor for obvious infections or any uncertainty. OTC drugs would be discouraged.

# Throat and upper airway diseases in swimmers

Inflammatory conditions:

Rhinopharyngitis with postnasal drip causing throat discomfort

Pharyngitis, tonsillitis and laryngitis:- Infections and allergies( may associated with asthma, EIB)

# Prevention of upper airways diseases by health promotion and protection

- Maintain healthy life-style, balanced diet, adequate sleep
- Adequate carbohydrate intake during intense and prolonged training or swimming activity
- Health supplement e.g. Vit. C 500mg/day
- Space apart prolonged and high intensity exercise

# Swimming exercise and infection

- Brief immuno-suppression after acute, intense physical activity
- Some evidence that intense training is associated with a higher level of infection
- Exercise performed during illness requires greater cardiopulmonary effort
- Dilemmas: to decide whether or not to train or compete in presence of a viral infection

# Upper Respiratory infection

Management: supportive, prevent development of complication

- URTI with sore throat, running nose, congestion and no fever would allow to continue with mild to moderate training below 70% of maximum ability.
- Those with generalized malaise, excessive fatigue, muscle pain, and tenderness, chest pain, cough and lymphadenopathy with temperature over 100F or resting HR >10 beats above normal should avoid exercise until return to normal

Safe and healthy swimming !

***THE END***

# Exercise advice for Asthmatics

- Make sure the underlying asthma is well-controlled
  - exercise is not recommended during exacerbation
- Pre-medication before exercise is essential-self assurance
- Adequate warm-up
- Wear a mask to capture some of the heat and water on expiration to reduce the severity of EIB
- Educate the parents and caregivers
  - anxiety
- Swimming is an exercise most suitable for asthmatics beside slow jogging.

# Exercise-induced asthma or Exercise-induced bronchospasm (EIA/EIB)

Problems breathing within five to 20 minutes after exercise. Symptoms may include:

- Wheezing
- Tight chest
- Cough
- Shortness of breath
- Chest pain (rarely)

Aware conditions that mimic EIB