

Eustachian Tube Dysfunction (ETD)

Valsalva

How to do it: Pinch your nose and gently blow air up through your throat and into the Eustachian tubes. The trick is to blow with the right amount of pressure, but not too much. You want to blow as hard as you would if you were inflating a large balloon. Blow no longer than two seconds at a stretch.

What it does: Actively opens the Eustachian tubes with an increase in air pressure.

Otovent

Consider trying the Otovent (www.gluear.co.uk), an autoinflation kit that helps treat Eustachian tube dysfunction. It's a nozzle with a balloon that you inflate with your nose. Using it teaches you how hard you need to blow to open your tubes and over time it 'trains' your ears to open more easily. It is very helpful for making some of these exercises work effectively.

Toynbee

How to do it: Pinch your nose and swallow a mouthful of water at the same time.

What it does: Swallowing tenses the muscles in the throat and soft palate to pull the tubes open, while your tongue compresses air against them.

Lowry

How to do it: Combine Valsalva and Toynbee: Hold some water in your mouth. Breathe in fully through your nose. Pinch your nose and then blow against your closed nose while swallowing a mouthful of water at the same time.

What it does: Pulls open the tubes while forcing air into them to ensure they get open and stay open.

Otovent Lowry

How to do it: As for Lowry, but use the Otovent balloon while you swallow water instead of pinching your nose and blowing. Hold some water in your mouth. Breathe in fully through your nose, hold one side of the nose closed and blow up balloon via nozzle using the other side of the nose. At this stage, while the balloon is still blown up swallow the water. Wait about 5 seconds and then remove balloon from nose.

What it does: Pulls open the tubes while forcing air into them to ensure they get open and stay open. The essential concept is that the water is swallowed while the air in the balloon is creating extra pressure behind the nose where the Eustachian tube is situated. This creates the best possible chance that the Eustachian tube will open and that extra air will be forced up the Eustachian tube to the middle ear.

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Voluntary tubal opening

How to do it: Contract the muscles in your soft palate (the back of the roof of your mouth) and throat while pushing your jaw forward and down. It should feel like yawning with your mouth closed, like you might do when trying to be polite during a boring conversation.

What it does: Tensing and stretching the muscles pull the Eustachian tubes open.

Head tilting/Jaw wriggling

How to do it: While using other equalizing techniques, tilt your head or move your jaw from side to side (the side being stretched should be easier to clear) . Some people also find it easier to clear their ears if they look up or jut their jaw forwards.

What it does: Tilting the head and moving the jaw stretches the folds surrounding the Eustachian tubes so it's easier to open them.

Frenzel

How to do it: Hold your nose and forcefully press your tongue against the back of your throat while making a "K" or "ng" sound.

What it does: Contracts the throat muscles to open the tubes while compressing air against them with the tongue.

Nasal irrigation.

Nasal irrigation systems like NeilMed Sinus Rinse (www.neilmed.com) or saline sprays like Sterimar (www.sterimarnasal.co.uk) reduce sticky mucus, wash away irritants that inflame your nasal mucosa, and stimulate the cilia (little broom-like hairs) in your nose to help them work better at keeping the passages clean and clear. Many people report improvement after performing nasal irrigation. It doesn't sting, and you feel remarkably better afterward.

The NeilMed bottle is very useful for delivering homemade nasal irrigation, so you don't have to continue to buy more sachets to make up. The bottle can be sterilised between uses in the dishwasher or with Milton tablets. You can make your own irrigation using:

- 1 pint boiled water that has been allowed to cool
- 1 tsp table salt
- 1 tsp bicarbonate of soda

Other tips:

- **Drink up.** Dehydration contributes to thick, clumpy mucus. Drinking enough water so your urine is clear will help thin your mucus so it's less sticky and the Eustachian tubes may function better,
- **Stop smoking.** Anyone who's ever experienced a smoker's cough knows that tobacco smoke irritates the lining of the lungs and throat and promotes more mucus production. The same applies to the lining of the ears since it is made of the similar cells to the lining of the lungs. Quitting helps clear your lungs — and your ears.
- **Avoid dairy.** Milk and other dairy products may increase mucus production.

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- **Avoid additives.** The same foods that can trigger migraine headaches also can contribute to congestion and ear clearing problems. Steer clear of red wine, chocolate, aged cheeses and foods containing additives like MSG (monosodium glutamate) and nitrites.

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ETD exercise sheet

Not everyone can do every exercise, so find the ones that work best for you. Many children are able to do some of these exercises from around the age of 5 onwards.

An effective ETD exercise will cause your ears to pop and crackle. The eardrum will be stretched by the air passing up the Eustachian Tube, which may cause slight pain, and your hearing may change temporarily. If pain is excessive, then stop the exercises.

Try to do one or two of the exercises 3-5 times each morning and evening, and whenever you remember through the day. You will need to persevere with them and may not notice any effects for several weeks.

There is no strong evidence for which works best, but an example regime might be:

1. **Nasal irrigation**
2. **Valsalva/Otovent or Lowry (+/-Otovent)**
3. **Toynbee or Voluntary tubal opening**
4. **Repeat steps 2 and 3 twice more**

Below is a table which might help you remember to do your exercises:

	Week 1		Week 2		Week 3		Week 4		Week 5		Week 6	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Monday												
Tuesday												
Wednesday												
Thursday												
Friday												
Saturday												
Sunday												

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