

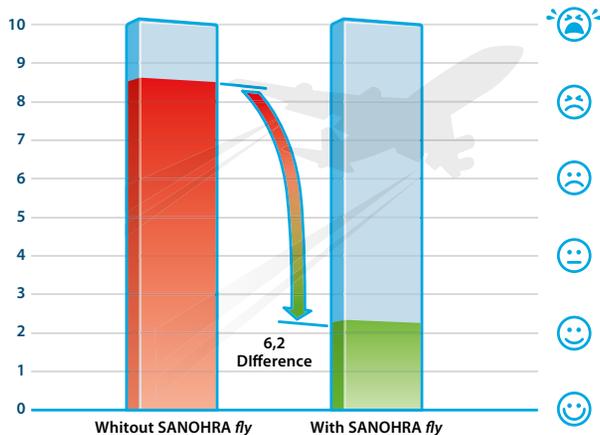


Tested by the passengers themselves

More than 500 passengers were part of a user acceptance study that was conducted by the Institute of Marketing and Management of the Leibniz University in Hannover for the Hannover Airport, TUI-fly.com and Innosan GmbH.

- ✓ The group of test subjects who, in particular, were severely affected by ear pain while flying, achieved an average pain reduction of 6.2 points on a pain scale of 10 by using **SANOHRA fly**.
- ✓ More than 90% of the test subjects reported an improvement in their discomfort level.
- ✓ In the group of test subjects who had earlier rated their ear pain as medium, around 80% of them were completely rid of pain by using **SANOHRA fly**.
- ✓ More than 80% of the test subjects would recommend **SANOHRA fly** to their friends.

Pain scale of 10



PRESSURE EQUALISATION

- ✓ **Protects the ears against changes in pressure**
A special filter regulates the changes in pressure in front of the ear drum, so that the Eustachian tube can equalize the pressure before the ear starts to pain.
- ✓ **For ear pain - and not only while flying**
SANOHRA fly protects the ears in all the situations where the ears are exposed to excessive changes in pressure: For e.g. while traveling in mountain railways, in lifts in high-rise buildings.
- ✓ **Effectiveness proven in studies**
The effectiveness of **SANOHRA fly** was proven by scientific studies at the Charité in Berlin and in cooperation with an airline company.



SANOHRA fly
for adults



SANOHRA fly for children and
adults having small ear canals

Manufacturer: Innosan GmbH · D-68723 Schwetzingen
www.sanohra.com · E-Mail: info@sanohra.com

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PRESSURE EQUALISATION



- ✓ Acts against earaches on flights
- ✓ Protects the ears against strong fluctuations in pressure
- ✓ Easy to use and pleasant to wear



www.sanohra.com



This is how ear pain is caused while flying



An increase in air pressure pushes the eardrum in the direction of the middle ear

More than half of all air passengers know the uncomfortable pressure feeling or pain in the ear that occurs mainly while landing. The ear is a very sensitive organ. The middle ear is located behind the eardrum which is airtight. When the air pressure in the aircraft cabin rapidly increases while landing, a relative low pressure is created in the middle ear.

The Eustachian tube, which is a tubular connection between the middle ear and the nasopharyngeal zone, has to now ensure that the pressure is equalized. If the Eustachian tube is not able to create the active opening that is necessary quickly enough, then a relative low pressure is created in the middle ear. This pushes the eardrum in the direction of the middle ear. This causes ear pain and bleeding, in extreme cases. ENT specialists describes this condition as barotrauma.



SANOHRA fly has been specifically designed to protect the ear from rapid and excessive changes in air pressure. A pressure regulator (apc), which is integrated into the earplug, regulates and slows down the pressure changes in front of the eardrum.

SANOHRA fly protects the ear



SANOHRA fly protects the ear against rapid changes in air pressure

SANOHRA fly is put on 45 minutes before landing. The cabin pressure that rapidly increases in a few minutes is slowed down and increases gradually in front of the eardrum. Thus, the Eustachian tube gets more time to aerate the middle ear, even with restricted functionality, before ear pain sets in.

Tested at the Charité in Berlin



Charité study: Test subject in the pressure chamber

In the first systematic and prospective study at the ENT Clinic at the Charité Mitte campus, a selected group of test subjects who were known to have ear problems while flying, were studied in a pressure chamber. In the process, a significant reduction in the pain sensation could be demonstrated using the filter by delaying the change in pressure.

(Jumah et al., Pressure regulating ear plug testing in pressure chamber, Aviation, Space and Environmental Medicine, June 2010) Caption:

