**COMPREHENSIVE USER'S GUIDE**
**Prof. Schmidt®s Nasal Rinsing Set JALA NETI**

## What it is used for:

Nasal rinsing promotes daily nasal hygiene, respiratory health and well-being. The nasal rinsing set consists of a nasal rinsing pot and a measuring spoon for measuring up the necessary amount of salt for mixing a suitable saline solution. The salt concentration should correspond to that found in human blood, i. e. an isotonic concentration (0.9%).

In the yoga tradition, nasal rinsing using a saline solution has probably been practised for centuries together with brushing one´s teeth as a daily, natural, pleasant measure of hygiene. In Sanskrit, the ancient original language of yoga, this is called JALA NETI.
Prof. Schmidt®s Nasal Rinsing Set is a simple medical device for effectively cleansing and moistening the nasal mucous membrane. It is suitable for children, adults, and also pregnant women. When used every day, nasal rinsing supports free and unimpeded breathing through the nose without the use of medications. It aids the natural cleansing function of the nasal mucous membrane and frees it of increased mucus, trapped dust and pollen.

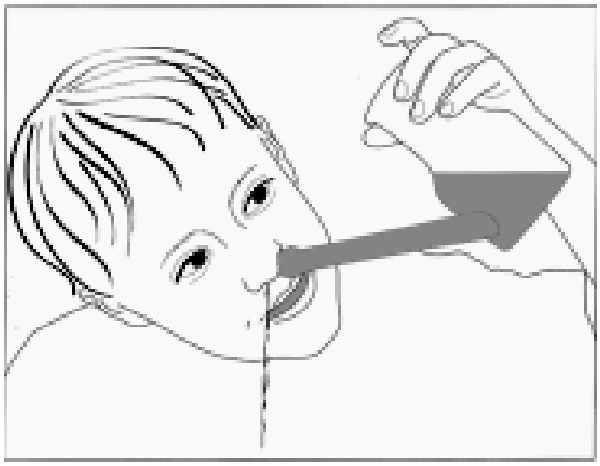
You rinse your nose using a solution made with common salt or a mixture of both salt and baking soda in an isotonic or slightly higher (mildly hypertonic) salt concentration using tap water of drinking water quality. Nasal rinsing can support and activate the movement of the cilia attached to the nasal mucous membrane, which ensure the natural transport of mucus to the throat and thus a continuous cleansing of the nose. Nasal rinsing serves to care for the upper respiratory tract and can prevent as well as bring lasting relief to symptoms and disorders in this area, and it effectively supports healing.

## The reasons for rinsing your nose:

1. To promote daily nasal hygiene, respiratory health and well-being.
2. For prevention and ancillary treatment of air-borne virus infections such as colds and influenza with respiratory symptoms such as sore throat, congested nose, impeded nasal breathing and fever as well as for prevention of gastro-enteric influenza with gastrointestinal symptoms such as vomiting and diarrhoea.
3. For prevention and treatment of respiratory symptoms due to pollen (hay fever), mould and dust allergies such as sneezing, runny nose and watering eyes.
4. In the case of increased mucus production and a congested nose, nasal rinsing supports free nasal breathing.
5. For moistening the nasal mucous membrane if the air is dry.
6. If one´s nose is dry and crusted this moistens the nasal mucous membrane, gently detaches the crusts and reactivates the ciliated epithelium.
7. For washing out the nasal mucous membrane when there is exposure to dust, pollen, cigarettesmoke (passive smoking) and other pollutants.
8. For the ancillary treatment of acute and chronic inflammation of the nasal mucous membrane (rhinitis) and the paranasal sinuses (sinusitis).
9. Following surgery in the region of the nose and the paranasal sinuses in consultation with the attending doctor.
10. As an ancillary treatment and for reducing the risk of infection through severe mucus congestion in diseases such as asthma, chronic bronchitis, bronchiectasis, cystic fibrosis (mucoviscidosis) and ciliary dyskinesia, in children and adults.
11. For prevention and as an ancillary treatment for those who are susceptible to infection and have a suppressed immune system.
12. As an ancillary treatment for snoring.

## When you rinse your nose:

Many people rinse their nose every day as a routine together with brushing their teeth, whereas others only do so when suffering from complaints or during the cold season of the year, when threatened by colds and flu, or to prevent allergy symptoms during the pollen (hay fever) season. As a daily routine it is best to rinse your nose once or twice a day (i. e. in the morning and/or evening before or after brushing your teeth). But you can also rinse your nose more frequently during the day - as often as you wish.



**How to Rinse Your Nose and Take Care of the Set:**

1. You should always only rinse your nose using a clean nasal rinsing pot and a freshly prepared rinsing solution. So please clean the nasal rinsing pot before and after use with warm water.
2. Put a level measuring spoonful of salt (approx. four grams of ordinary table salt) into the nasal rinsing pot. If you would like to use a pleasant isotonic or mildly hypertonic rinsing solution buffered with baking soda, please see below FAQs 2.-4. Do not use just water without salt or a salt concentration lower than isotonic (<0.9%). This will cause stinging in your nasal mucous membrane.
3. Run the warm tap for about a half to one minute and then while stirring fill the pot up to the upper marking line (approx. 444 ml) with lukewarm water. If your tap water does not have drinking water quality, use boiled tap water or heated mineral water cooled down to a lukewarm temperature.
4. The temperature of the rinsing solution should be pleasant, neither too warm nor too cool, so that it is comfortable for your nasal mucous membrane.
5. Hold the pot in your right hand, and place the bulging spout end of the nasal rinsing pot gently at your right nostril, so that it sits as closely as possible. Do not press the spout too firmly into the nostril, so as not to injure your sensitive mucous membrane through too strong a pressure.
6. From now on only breathe through your widely opened mouth.
7. Bend forward over a washbasin, your chin approaching your chest, and now turn your head to the right, so that your left ear approaches your left shoulder.
8. Raise the nasal rinsing pot slightly. Now the saline solution flows in through your right nostril and out again through your left one (see illustration), because there is an open connec-tion in the nasopharynx at the top of the nose between the right side and the left.
9. Allow about half of the saline solution to flow through your nose, then blow your nose gently, first both nostrils toge-ther, then right and left nostrils separately.
10. Repeat the whole procedure from the other side.
11. After use keep the pot and measuring spoon dry. It is best to place the nasal rinsing pot upside down on a clean surface.
12. Disinfect the pot and spoon from time to time with boiling water. The nasal rinsing pot and salt measuring spoon can also be sterilized in autoclaves at 134°C for two minutes, or at 105°C for ten minutes.
13. Do not leave any rinsing solution standing in the pot. Standing solutions can become contaminated by germs after only a short time.
14. Do not use any liquids other than the indicated salt solutions in a concentration suitable for nasal rinsing.
15. You can also clean the nasal rinsing pot and salt measuring spoon in the dish washer. For removing chalky deposits produced by tap water the pot and spoon can be placed for a time in a 5% solution of houshold vinegar.
16. For hygienic reasons everyone should use their own Nasal Rinsing Set. The Nasal Rinsing Set should be replaced once it shows signs of wear (e. g. after 1-2 years) or if it has become soiled.

**When you should not rinse your nose:**

- If your nostrils are sore or inflamed.
- If you have an injury inside your nose.
- If you are suffering a severe nosebleed, and immediately afterwards.

## FREQUENTLY ASKED QUESTIONS (FAQ)

### 1. What kind of salt can I use for nasal rinsing?

Ordinary cooking or table salt of food quality can be used. This is cheapest and effective. Expensive special salts or brines are not necessary for effective nasal rinsing. Iodised salt is also suitable. In the Hanover Nasal Rinsing Study which demonstrated that daily nasal rinsing has a protective, health improving effect on the respiratory system, normal iodized household salt was used. Some people with sensitive nasal mucous membranes find a rinsing solution with non-iodised salt more pleasant.

Table salt contains small quantities of anti-caking agents which prevent it from clumping together through humidity when stored. These anti-caking agents are regarded as being harmless in the amounts used. We consume them every day in our food. With a 500 gram package of table salt you can rinse your nose more than 120 times.

Table salt without anti-caking agents (i. e. natural salt) is also sold in food stores at a slightly higher price. It is also very suitable for nasal rinsing.

Pure pharmacalogical salt in medical product quality (NaCl) is obtainable at a pharmacy, however at a considerably higher price.

Salt without anti-caking agents may become damp and clump together. Damp or clumped salt cannot be measured so accurately with the measuring spoon.

Sea salt can also be used for nasal rinsing, provided it does not trigger any allergic reactions and thus lead to a congested nose. The measuring spoon is not, however, designed for measuring sea salt. A greater volume is usually required, but you can try measuring four grams of sea salt for one rinsing. This amount corresponds approximately to one heaped measuring spoon.

A mixture of table salt and baking soda in the correct proportion and in an isotonic or mildly hypertonic concentration is also very suitable for nasal rinsing. A higher salt concentration has a stronger anticongestive effect, and liquefies the mucus more (see below FAQ 4.). However, using too high a salt concentration (>2%) may cause stinging in your nasal mucous membrane. You can easily make a buffered rinsing solution yourself using the measuring spoon and the nasal rinsing pot.

Plastic containers with screw lids sold at a pharmacy are very suitable for storing and taking out salt and baking powder for nasal rinsing.

### 2. How can I make my own isotonic saline solution buffered with baking soda?

A salt mixture which is also very suitable for nasal rinsing consists of two kinds of salt: common salt (sodium chloride, NaCl) and baking soda (sodium hydrogen carbonate or bicarbonate of soda, $NaHCO_3$). Baking soda buffers the rinsing solution, i. e. it keeps the pH value (degree of acidity) constant at the desired alkaline strength of approx. 8. In human blood, sodium hydrogen carbonate shows the second highest salt concentration after sodium chloride.

This salt mixture used in the correct mixing ratio to create an isotonic solution (7.14 grams of common salt and 2.69 grams of baking soda in one litre of water) is often found to be particularly pleasant for nasal rinsing.

Using the Nasal Rinsing Set JALA NETI it is very easy and inexpensive to make this mixture yourself from these two kinds of salt for individual nasal rinsings. Apart from common salt you need baking soda, which is obtainable at a pharmacy or in a food store.

To make an isotonic salt mixture fill the measuring spoon just up to the upper marking line (see SALT MEASURING SPOON: II) with common salt (approx. 3.2 grams) and put this into the nasal rinsing pot. Then fill the measuring spoon up to the lower marking line (III) with baking soda (approx. 1.2 grams) and put this into the nasal rinsing pot as well. In case of doubt it is better to take slightly more rather than too little salt. Then while stirring add as usual lukewarm tap water up to the upper marking line of the nasal rinsing pot (see NASAL RINSING POT: I). Now you have a very pleasant isotonic saline solution buffered with baking soda, which is slightly alkaline (approx. pH 8) like the nasal mucous membrane. An isotonic saline rinsing solution buffered with baking soda is even better adapted to the salt concentration in the blood than a pure saline solution.

## SALT MEASURING SPOON


**I** = level measuring spoon: approx. 4 grams common salt (NaCl) for approx. 444 ml isotonic, unbuffered saline solution.

**II** = upper marking line: approx. 3,2 grams common salt (NaCl) for a salt mixture with approx. 444 ml isotonic, buffered rinsing solution.

**III** = lower marking line: approx. 1,2 grams baking soda ($NaHCO_3$) for a salt mixture with approx. 444 ml isotonic, buffered rinsing solution.

## NASAL RINSING POT


**I** = upper marking line (approx. 444 ml): for an isotonic saline solution with 4 grams common salt (NaCl) or an isotonic, buffered saline solution with a mixture of 3,2 grams common salt (NaCl) and 1,2 grams baking soda ($NaHCO_3$)

**II** = lower marking line (approx. 250 ml): for other isotonic salt mixtures sold on the market for 250 ml saline solution.

The nasal rinsing pot and salt measuring spoon are unbreakable, and without mechanical pressure heat-resistant up to 275°F (135°C). Both are manufactured from recyclable food grade synthetic material, and are thus ecofriendly.

### 3. Can I also use a rinsing solution with a stronger (hypertonic) or a slighter (hypotonic) salt concentration for nasal rinsing?

As an ancillary treatment of inflammations of the paranasal sinuses (sinusitis) as well as pollen, mould or dust allergies it can be of advantage to use a stronger saline rinsing solution, i. e. a hypertonic solution. Treatment with a hypertonic saline solution can lead to a more greatly reduced congestion of the nasal mucous membrane and an improved liquefaction of the mucus. An impeded pressure compensation in the ears through a swollen mucous membrane in the nasopharynx, causing a pressure sensation on the ear-drum in one or both ears, can be improved by nasal rinsing using a hypertonic salt concentration. The considerably liquified nasal secretion may then make your nose run for a while. The hypertonic saline rinsing solution can be made in different strengths, i. e. 1-2%, by using either a heaped measuring spoonful or 1 1/2 to 2 measuring spoonfuls of salt per nasal rinsing pot filling. The salt concentration of sea water corresponds to slightly less than four measuring spoonfuls of salt (3,5% or 35 grams in one litre of water). When using a hypertonic rinsing solution it is more pleasant to buffer it with baking soda (see FAQ 4.).

Most suited for daily nasal rinsing is an isotonic saline solution with or without baking soda as a buffer. For this no documented serious side effects are known. A salt concentration lower than isotonic (0,9%), a so-called hypotonic saline solution, or just water without salt usually stings unpleasantly and is not recommended. The use of inadequate nasal rinsing solutions may damage your nasal mucus membrane.

### 4. How much salt and baking soda are necessary for making a buffered hypertonic saline solution?

A hypertonic saline solution buffered with baking soda is more agreeable for nasal rinsing than if it is unbuffered. It supports the cleansing function of the nasal mucous membrane, i. e. the mucociliary clearance which is the mucus transport system.

1. For a very mild, buffered hypertonic rinsing solution you put one, or one heaped measuring spoonful of salt per rinsing pot filling into the nasal rinsing pot and then add about half a measuring spoonful of baking soda.
2. For a medium strong, buffered hypertonic rinsing solution you need per rinsing pot filling 1 1/2-2 measuring spoonfuls of salt and a half to one measuring spoonful of baking soda.
3. For a strong, buffered hypertonic rinsing solution you need per rinsing pot filling up to 3 measuring spoonfuls of salt and one measuring spoonful of baking soda.

Nasal rinsing with a very mild buffered hypertonic rinsing solution is just as agreeable as when using an isotonic saline solution.

Stronger hypertonic rinsing solutions can particularly at the initial stage of a treatment, or at the start of a rinsing procedure, be associated with mild undesirable side effects such as irritation and stinging in the nasal mucous membrane.

Nasal rinsings using a hypertonic saline solution for the treatment of disorders of the ear, nose and throat are usually only carried out for a limited time period. This should be done in agreement with the attending doctor.

### 5. Why should I first run the tap for a half to one minute before filling the nasal rinsing pot?

You prevent any bacteria which might be on the tap from getting into the rinsing solution by first running the lukewarm water for about a half to one minute before filling the pot.

In some rare cases germs (e. g. legionella) might in-vade the hot water system (i. e. in showers) if the boiler always only heats the water up to a temperature of maximally 140°F (60°C). If you heat the water in the boiler to above 140°F (60°C) once a week these bacteria will be destroyed. You can arrange through your family doctor for a microbiological laboratory to test whether your hot water system is bacterially contaminated.

### 6. Can I use the microwave for warming the solution in the nasal rinsing pot?

If you warm the saline solution in the nasal rinsing pot in the microwave it becomes much hotter in the spout than in other parts of the pot, and you may scald your nose. Therefore it is safer to warm the water to the right lukewarm temperature before you pour it into the nasal rinsing pot.

### 7. What can I do if the rinsing solution runs down to my throat?

Small amounts of rinsing solution can now and again run down to your throat. Just spit this out and try changing the position of your head, bending slightly further forward. It can be helpful to deliberately make the rinsing solution run down to your throat. This can relieve symptoms in this area (e. g. inflammation), because the connecting passages between nose and throat are then also cleansed. You can do this by drawing the rinsing solution up your nose, until it runs down to your throat. If larger amounts unintentionally get into your throat this might be because your soft palate is not closed, for instance if you are not continuously breathing through your open mouth. Here it can help if you count out loud or sing during the whole of the nasal rinsing procedure.

### 8. What can I do if the rinsing solution does not flow through my nose?

First try blowing your nose cautiously, this may help. If not, you can try rinsing from the other side first, as one side is usually more congested than the other. You can then try again from the congested side, either at once or later on.

Most of the time one of our nostrils is wider open than the other. When breathing calmly through one´s nose most of the air flows through this open nostril. Sometime during the day the other nostril opens up. The body´s internal rhythm determines when the nostrils change sides. This may happen about every 90 minutes or so. In yoga a physiological reflex has been known for a long time which can be used to open one or both nostrils widely. Medical science has studied this reflex extensively in the last part of the 20th century. Beneath the axillary region we have receptors which are sensitive to pressure and open the nostril of the other (contralateral) side respectively when stimulated. When for instance you are breathing mainly through your right nostril and lie down on your right side, after resting in this position for a while you will notice that your left nostril opens up. Another technique is to hang one arm over the back of a chair. Triggered by the pressure created in the axillary region by this procedure the nostril on the other side opens up. With a special yoga technique you may also try to open up the nostrils of both sides. For this you sit down comfortably in an upright position. Cross your arms in front of your body so that you can put each hand firmly underneath the axillary region of the other side, creating a firm pressure there. Sitting relaxed in this position after a while both nostrils may open up slowly. You can use this technique to prepare yourself for nasal rinsing.

If you have a very congested nose it can on rare occasions be helpful to use anticongestive nose drops or sprays beforehand, and then to rinse your nose after they have taken effect. This may be applicable at bedtime, as it can bring relief by facilitating nasal breathing during sleep. Breathing continously through your mouth during sleep dries the mucus membrane of mouth and throat. However, chronic use of anticongestive nose drops and sprays leads to nasal congestion, dries out your nasal mucous membrane and may damage it irreversibly.

### 9. How can I get rid of large amounts of mucus in my nose?

If your nose is considerably congested with large amounts of mucus you can cautiously continue to repeat the rinsing procedure until no more mucus comes out. After the first rinsing procedure inhale deeply and gently blow the inhaled air first out through both nostrils together. It is better to blow out a larger volume of air with less exertion, than to strongly force out a lesser amount of air. In this way you can avoid the risk of damaging your middle ear.

If only a slight amount of mucus comes out, repeat blowing your nose through only one nostril while holding the other one closed for as long as nothing more comes out. Then rinse again, and repeat the whole procedure once more, until the nasal rinsing pot is empty. If still more mucus comes out of your nose, you should rinse it again.

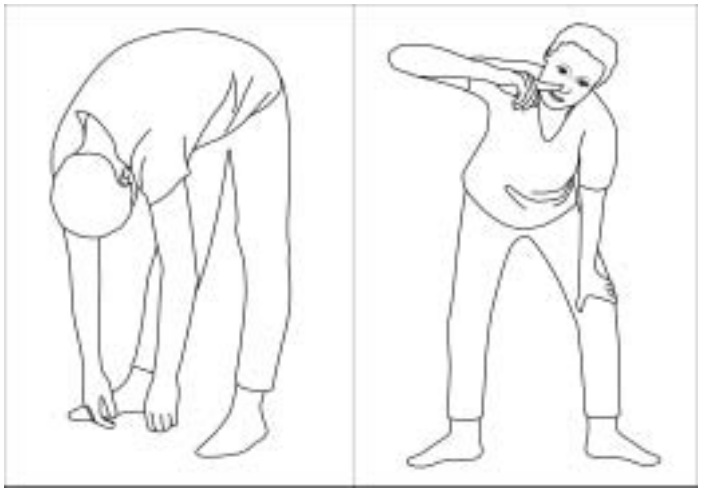
It is important to eliminate as much of the increased mucus as possible from your nose, as it otherwise causes congestion and obstructs nasal breathing. Eliminating mucus also reduces the risk of bacterial infections. Breathing freely through your nose is of central importance for your respiratory health.

## 10. What can I do so that the rinsing solution does not run out of my nose sometime after nasal rinsing?

Some rinsing solution might run unexpectedly out of your nose sometime after nasal rinsing. Responsible for this is the individual anatomical nature of the main nasal cavity and its connection with the maxillary sinus. In this case it may help you to dry your nasal mucous membrane after nasal rinsing (see below). In this way you can prevent any liquid from running out later on. If some rinsing solution does run unexpectedly out of your nose, just blow your nose cautiously.

## 11. How do I dry my nasal mucous membrane after rinsing my nose?

A proven yoga technique for drying one's nasal mucous membrane after rinsing is performed as follows:



1. Stand upright with your legs apart. Bend forward and while relaxing let your head, the upper part of your body and arms hang down for a short time (left drawing). Then straighten up while looking forward so that the upper part of your body is in a horizontal position. You can lean on one hand placed above your knee (right drawing).
2. Hold one nostril shut and in this position turn your head to look to the right (your right ear pointing upwards), and cautiously blow the air out three times through your open nostril. Do not blow too forcefully, because the raised pressure could cause damage to your middle ear. Then turn your head to look to the left (your left ear pointing upwards) and blow again three times, and then three times looking forward (while holding your head pressed back into the nape of your neck), and once again while looking through your legs backwards.
3. Then hold the second nostril shut and repeat the whole procedure, blowing through the other nostril in all four directions.
4. Finally stand up straight again, holding your head pressed back into the nape of your neck and blowing again through both nostrils, or one after the other.

If you practise this technique no more rinsing solution will run unexpectedly out of your nose.

## 12. What effects can I expect from rinsing my nose every day using the Nasal Rinsing Set?

According to scientific research carried out on the foundation of evidence based medicine it has been shown that daily nasal rinsing using Prof. Dr. Schmidt®s Nasal Rinsing Set improves respiratory health. This device has been optimized for maximal effect, safe and easy handling, as well as low running costs.

If you have a congested nose with increased mucus production and impeded nasal breathing, nasal rinsing can give immediate relief without the use of anticongestive nasal drops or sprays by ridding you of mucus, so that you can breathe deeply and freely again. The whole nasal cavity is thoroughly washed and the nasal mucous membrane moistened, improving its natural cleansing function.

When practised daily many kinds of respiratory symptoms can show an effective and sustained improvement within a few days or weeks. Daily nasal rinsing significantly reduces the incidence of symptoms characteristic of air-borne virus infections such as common colds, influenza and gastro-enteric influenza. Typical common cold symptoms such as increased mucus production, congested nose and impeded nasal breathing, sore throat, headache and earache are significantly reduced, as is also the incidence of the more serious influenza symptoms such as fever, confinement to bed, pharyngitis, headache and pains in the limbs as well as the number of medical consultations. Nasal rinsing reduces self-reported sinusitis, tonsillitis, laryngitis (hoarseness) and pharyngitis. Additionally, the risk of air-borne gastro-enteric influenza symptoms such as vomiting and diarrhoea are considerably reduced.

However, daily nasal rinsing does not guarantee that you will not catch any of these air-borne virus infections. One possible reason for this is that these viruses only need a few hours to infect us after first contacting our nasal mucous membrane. Daily nasal rinsing is thus an insufficient substitute for an anti-influenza inocculation.

Nasal rinsing relieves the troublesome symptoms of pollen (hay fever), mould and dust allergies such as sneezing, runny nose and watering eyes by removing allergens and inflammatory mediators from the nasal mucous membrane.

Additional favorable effects are a reduced consumption of medicine when suffering from upper respiratory infections. This applies in particular to anticongestive nasal drops and sprays. If you rinse your nose daily you require less medical care, you are less sick and less confined to bed. Nasal rinsing improves your general state of health. The more regularly you rinse your nose, the better and more sustained are the health effects you achieve. Rinsing one´s nose regularly and at least once a day is more effective than doing it more often on some days, but not at all on others.

Various bacteria populate a healthy nasal mucous membrane. The formation of a large amount of mucus can lead to pathogenic bacteria and viruses spreading considerably. Nasal rinsing frees the nose of the mucus populated by these bacteria and viruses.

Thus it relieves a congested nose. It even often actually makes possible the extremely important function of breathing through the nose. It reduces the danger of upper and lower respiratory tract infections. Expressed as a short maxim: Less mucus, fewer germs!

## 13. Does nasal rinsing have any side effects?

Nasal rinsing with lukewarm isotonic saline solution has no known serious side effects. Very rarely a slight irritative sensation may be felt even when correctly performed. Such very slight irritations may sometimes be noticed when starting a nasal rinsing treatment.

Smarting is usually only perceived when using too weak or too strong a salt concentration, i. e. lower or higher than the isotonic salt concentration in the blood, or else if your nasal mucous membranes are severely inflamed. Please make sure that you always first put salt into the rinsing pot and fill it up with water afterwards. If you first fill up with water and then add salt you get too weak a salt concentration in the spout, and your nasal mucous membarne may smart at the beginning of the rinsing procedure.

## 14. What must I observe when applying medicines via the nasal mucous membrane?

If you apply any medicines via the nasal mucous membrane you should do this after nasal rinsing. Consult your doctor! One exception is anticongestive nose drops or sprays which if necessary for a congested nose should be administered beforehand. You then rinse your nose after they have begun to take effect. An isotonic saline solution (with a saline concentration as in human blood) does not reduce the effect of medicines.

## 15. From what age is it possible to rinse one´s nose?

Usually children can learn to rinse their nose from an age of about four or five years, if their parents help them. If nasal rinsing is necessary for smaller children, this should be performed or taught by experienced medically trained paediatric staff (i. e. paediatricians or physiotherapists). There are no further age related restrictions. Nasal rinsing can be performed lifelong. People prone to respiratory complaints can improve their health by daily nasal rinsing.

## 16. When should I see the doctor?

If you have

- Earache or sinus pain
- Bloody or mattery mucus
- Chronic mucus congestion
- High or continuing fever
- Lump sensation in nose or throat (nasopharynx)
- Long-term cough or hoarseness

you should consult your doctor.

State-of-the-art information as of May 2004.

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