

# **Olfaction regained, using the Polite yawning technique. A brochure for laryngectomees**

This is part of an edited version of the Book and CD-rom in Dutch:

**‘Reukrevalidatie na totale laryngectomie;  
een handleiding voor logopedisten’**

**by Rianne Polak, Corina van As, Frits van Dam, Frans Hilgers.  
Publisher: Swets en Zeitlinger, Lisse; ISBN 90-265-1723-8; 2003.**

From the:

Department of Head and Neck Surgical Oncology and  
Department of Psychosocial Research and Epidemiology  
The Netherlands Cancer Institute/Antoni van Leeuwenhoek Hospital  
Amsterdam, The Netherlands

in collaboration with the

Dutch Cancer Foundation/Queen Wilhelmina Fund (NKB/KWF) and the  
Dutch Association of Laryngectomees (NSvG)

**Editor Frans Hilgers  
ISBN 90-75575-07-6; 2004  
© Netherlands Cancer Institute**



## Contents

1. Introduction .....	3
2. Olfaction (sense of smell) .....	3
3. Polite yawning technique.....	4
4. Manometer.....	5
5. If it does not work properly .....	6
6. Olfaction using the polite yawning technique.....	7
7. Less obvious olfaction .....	7
8. Summary.....	8

## **1. Introduction**

Some time ago you underwent a total laryngectomy, a surgical procedure removing your voice box. You experience the consequences of this operation daily. Speech and breathing are altered, but also the act of smelling is not the same as it was.

This brochure is about the act of smelling following a laryngectomy, using a special smell rehabilitation method. It should help you to apply this method correctly and should lead to you being able to smell well once again.

## **2. Olfaction (sense of smell)**

The nose contains an important sensory organ, able to perceive odours. Odours play significant roles in our lives, in various ways. They may bring about a certain mood or help you remember something. By smelling odours, the formation of saliva may be stimulated allowing you to taste. By smelling specific alarming odours like gas and smoke, you may be incited into action. Thus, the sense of smell has a considerable impact on many aspects of daily life.

To be able to smell, it is necessary that air flows into the nose, past the sensory olfaction organ. This small organ can be found in the upper part of the nose, and has elements, which are able to trap odours. Information about the odours is then sent via nerves to the brain in order to recognize (is smell) the odour. Normally, air flows along the sensory organ automatically because most people almost always breathe through their nose. This means that odours are perceived automatically, as well.

Research has shown that following a laryngectomy people are not able to smell as well as before. This is the result of the fact that laryngectomees discontinue breathing through their nose, and are only able to breathe via their tracheostoma. Airflow therefore does not pass the olfaction organ in the nose, and thus smelling is no longer automatic. The nose and its olfaction organ have not been altered during the operation because only the throat area is affected during a laryngectomy. This implies that smelling can still take place via the nose. However, this will be more difficult after a laryngectomy because the air does not flow past the sensory organ anymore. You probably recognize this. Perhaps you are unable to smell certain odours, or have more difficulty smelling them. And perhaps there are certain odours you can smell particularly well. An example of this may be when you walk outside and odours are carried by the wind into your nose. The odours are still able to reach the sensory organ. In this way, odours may still be smelled following a laryngectomy. This may be the case as well for odours, which are extremely strong, or those, which vaporise quickly.

The Netherlands Cancer Institute/Antoni van Leeuwenhoek hospital has developed a technique allowing laryngectomees to lead air through their nose once again. It allows the laryngectomees to smell odours, which are extremely strong or which vaporise quickly as well. This method is called the polite yawning technique. It has been proven that a high percentage of laryngectomees is better able to smell when making use of this technique. How this works will be explained in the following chapters.

### 3. Polite yawning technique

The name polite yawning technique implies what is at the core of this method. The basis of the method is a yawning movement, but with the lips closed. In this way air flows into the nose so that odours also enter the nose and are smelled again. This may seem fairly easy, but there are a few important points to keep in mind:

- Close your mouth and keep your lips closed;
- Keep your tongue against the roof of your mouth;
- Now open your mouth, but keep your lips closed;
- When you open your mouth, simultaneously move your entire tongue from the roof of your mouth downwards.

These four points constitute the entire polite yawning technique. It resembles yawning with your mouth closed. Figures 1 and 2 indicate how this works:

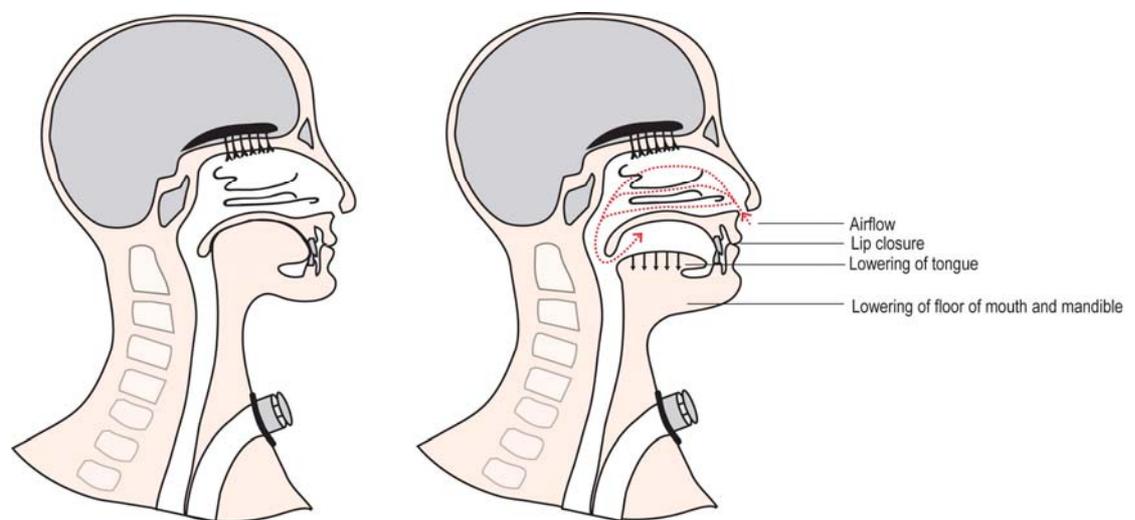


Figure 1 and 2: How the polite yawning technique works

To be able to smell something using the polite yawning technique it is not sufficient to make the movement just once. You will have to repeat the movement many times quickly as though you are chewing on something. It is also important to make the movement in a relaxed manner. This will make things easiest for you and results in the best possible airflow. Make use of a mirror to check that the movement is being made correctly.

Continue breathing regularly while executing the polite yawning technique. If you breathe too quickly or too deeply, the airflow will go only directly through the tracheostoma to the lungs and still miss the sensory organ of the nose completely: in contrast to the situation preceding the laryngectomy, deep breathing will no longer lead to a better perception of odours. Besides, deep breathing may make you dizzy

#### 4. Manometer

Although the polite yawning technique may look fine in the mirror, if no air is flowing past the sensory organ, you will still not smell anything. By using a manometer you can see if this airflow is being created or not.

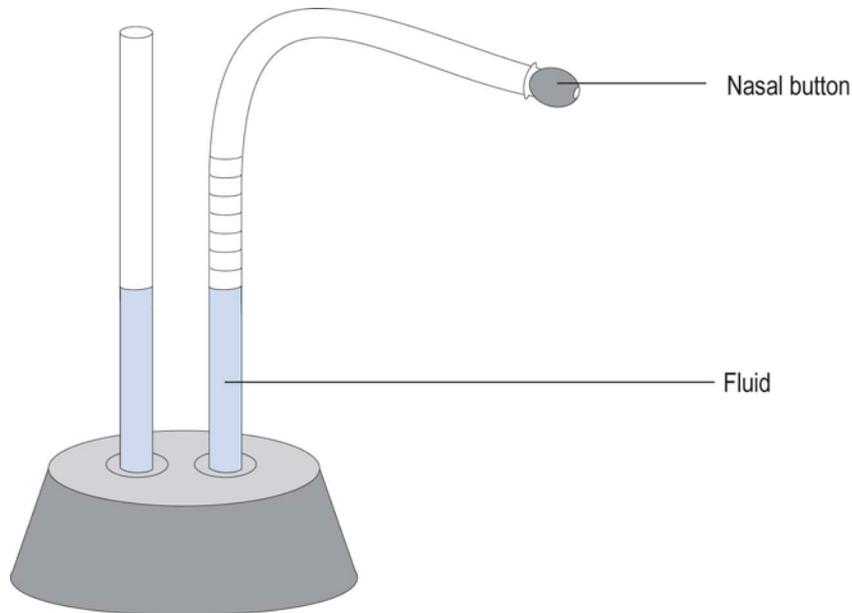


Figure 3: The manometer is ready for use

- Fill the manometer with water, up to the first line;
- Hold the nose 'button', attached to the end of the plastic tube, against one of your nostrils. The hole in the button should be inside your nostril;
- Keep the other nostril closed with your finger;
- Now execute the polite yawning technique.

If you are carrying out the technique correctly, water should move towards your nose:

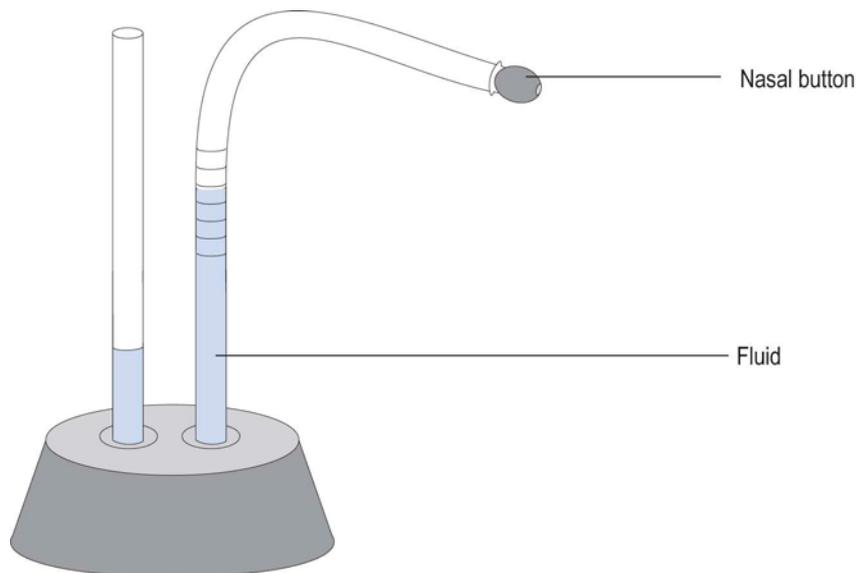


Figure 4: Water is moving correctly, towards the nose

Once you are able to move the water towards the nose a few times without too much effort, you should practice getting the water to move higher up in the manometer. This should also be done without too much effort. By just moving your tongue from the roof of your mouth downwards with a bit more power and speed, there should be more airflow towards your nose. The movement of the water will also be larger.

The manometer should only be used as an aid when practicing. To use the manometer, one nostril must be closed off. When you have mastered the polite yawning technique and you wish to use the method to really smell something, you will no longer need the manometer. Obviously, it will also be unnecessary to close one of your nostrils then.

### **5. If it does not work properly**

When performing the polite yawning technique, you must be aware of a number of things at the same time. This is cumbersome and it is a distinct possibility that water in the manometer will not move at all, or not properly. Water may stay stationary or may even move away from the nose. If this happens, please read the foregoing paragraph attentively once more. Practice the movements again, step by step, with a mirror and without the manometer. Be aware that you perform the four most important points of the polite yawning technique correctly. Attempt the polite yawning technique once again while using the manometer.

If the water still remains stationary or it still does not move towards you, then you should read the following to determine what may be doing wrong and how you can correct this.

#### **If water remains stationary or moves only slightly**

Check if the reason the water remains stationary is a blockage of the plastic tube, for example because it is pressed shut against the inside of your nostril. The opening in the tube should not be blocked. If the hole in the tube is not blocked, try switching nostrils: usually the one nostril allows for easier airflow than the other. If switching nostrils does not help, then it may be that you have not lowered your jaw sufficiently when executing the polite yawning technique. Make the movements once again in front of the mirror and try to move your jaw and tongue further downwards. Pretend to chew something large, but keep your lips closed.

#### **If water moves upwards in the wrong tube**

Figure 5 is indicating this. The cause of this is that the lower jaw and tongue are moving stronger upwards than downwards. Discontinue making the movement and keep your teeth and lips together. Press your tongue against the roof of your mouth. This is the starting position of the polite yawning technique. Place the nose button of the manometer in your nostril and close the other nostril with your finger. Open your mouth as wide as possible, but keep your lips together. Simultaneously while opening the mouth, move your tongue down from the roof of your mouth towards the floor of your mouth. At that moment the water in the manometer should move towards your nose.

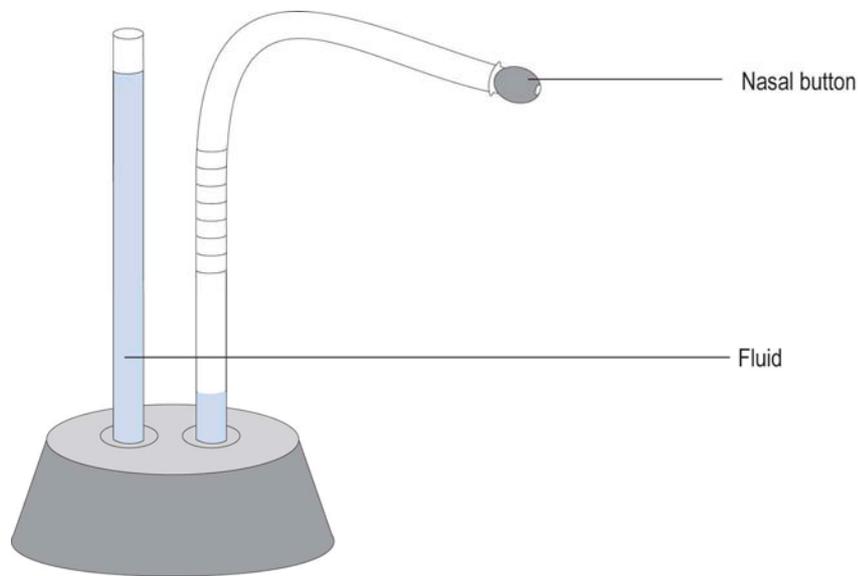


Figure 5: Water in the manometer moves the wrong way

If you have dentures it may be helpful to start practicing the technique without having your dentures in. You will be better able to feel your tongue against the roof of your mouth and subsequently that it moves downwards.

### **How can you avoid irregular breathing and shortness of breath?**

If you are still used to breathing deeply in order to smell something, you may become short of breath or dizzy when practicing. Before the laryngectomy it was most natural to breathe in in order to smell something. Now that method is most harmful. If you breathe in too deeply while trying to smell, you may even start to hyperventilate. Attempt to continue relaxed regular breathing, independent of the movements of your tongue and jaw. If this does not work, then you should practice without breathing by temporarily closing the opening of your tracheostoma with a finger. If it seems that the water is moving correctly by using this method, try to reduce it while breathing regularly.

## **6. Olfaction using the polite yawning technique**

When you have mastered the polite yawning technique you should try some real smelling exercises. Try smelling things like coffee, aftershave, soap, flowers or soup. Again, you do not have to close off one nostril while doing this. If you are able to smell most odours in this way, try getting used to the polite yawning technique by practicing regularly and at set moments. Try to find moments that are practical for you to use the method. For example, you could practice every time you enter a new room, every time you meet someone, or when you are cooking or are going to eat. In this way, smelling will seem most like the way it was before the operation. The polite yawning technique will become more of a habit and automatism, and therefore more a part of who you are.

## **7. Less obvious olfaction**

Finally, you may attempt to make the movements smaller and thereby less obvious. By keeping your teeth pressed together, holding the tip of your tongue still in the front of your mouth and only moving the back of your tongue from the roof of your mouth downwards, only a slight movement of the floor of the mouth will be seen. The movement of the lower jaw is eliminated. In this way the movement and thereby the act of smelling will be less obvious to people around you.

## 8. Summary

This brochure contains a lot of information, which may be summarized in the following “ten commandments”:

How can I smell well?

Pretend to yawn politely or chew on something large by:

1. Keeping the lips closed;
2. Moving the lower jaw and the floor of the mouth downwards;
3. Moving the tongue from the roof of the mouth downwards as well;
4. Repeating these movements quickly;
5. Doing this not too powerful;
6. Keeping breathing calm and regular;
7. Practicing these movements with a manometer;
8. Using the polite yawning technique to smell practice odours;
9. Practicing to make the movements less obvious, by refining the movements (with the help of the speech therapist);
10. Using the polite yawning technique so frequently that it becomes second nature.

Hopefully the polite yawning technique will help you so much during smelling that you will be able to smell things at every moment you use the method.

If the polite yawning technique is unsuccessful in your situation do not hesitate to ask your speech therapist to help you again. Your speech therapist can give you more information if you are interested.

Personal points of interest:

Your speech therapist:

Name:

Address:

City and zip code:

Telephone number:

Contact on: Monday Tuesday Wednesday Thursday Friday

Fax:

E-mail: