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THROAT AND SWALLOWING PROBLEMS
A guide for Mr Watson's patients

Swallowing of food occurs in three phases. The oral phase, pharyngeal phase and the oesophageal phase.

The oral phase is where food is in the mouth. Food in the mouth is chewed by the teeth to make it smaller. This also releases the taste of the food into the mouth, where the taste buds detect the taste quality. It is in the mouth, that the food mixes with saliva to lubricate it and determine its volume, texture, temperature and taste. It is the oral phase of taste that determines whether the food is liked, or whether it is dis-pleasing. It is this phase that makes or breaks a restaurant by the food critics.

There are four primary sensations of taste. These include, sweet, sour, salty and bitter.

Sweet

This taste is not just sugar. There are numerous chemicals in food that produce the sweet flavour.

Sour

The sour taste is caused by acids. The more acid present, the more the sour taste.

Salty

Salty is caused by ionised salts. Sodium Chloride is the most common of the salts.

Bitter

Bitter taste is like the sour taste, in that it is not one group of compounds. There are numerous compounds which provide the bitter taste.

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The sensations of taste from the tongue and the mouth are sent back to the brain by nerves. The brain then codes the information from the taste buds. The main taste nerve runs from the tongue through the ear (Chorda Tympani Nerve) via the facial nerve to the brain. Certain types of surgery therefore, for example, the ear, (Stapedectomy or Myringoplasty) or Mastoid operations may therefore result in damage to the Chorda Timpani Nerve and this therefore results in a change in taste on the side of the tongue for which the surgery is performed.

The taste of food is also related to the smell of the food. Generally good tasting food also smells good. The sensation of smell is the most complex and least understood of the senses. The smell (Olfactory Receptors) are located in the upper part of the inside of the nose. The Olfactory cells have protruding hairs (naked to the eye) that bathe in mucus produced by nearby mucus cells. The chemicals that produce taste sensation stimulate these hair cells. As previously described, the classification of taste was in regard to sweet, sour, salty and bitter. In terms of smell, we relate these to common odours such as camphor, musk, floral, peppermint, Ether (alcohol), pungent or putrid.

Nasal problems such as sinus disease, in particular nasal polyps, affect this system of smell and as a result a loss of smell and taste can occur. The brain registers all the information provided to it by the nose and mouth. Certain brain problems such as Epilepsy or even brain tumours, may be associated with a loss of smell or sometimes even a heighten awareness of certain smells. In Epilepsy, this is often referred to as an Aura.

Some people have troubles with taste and smell. To determine the reasons why this occurs in a particular patient, an examination of the ear, nose and throat is done. This generally includes nasendoscopy which is a telescope placed inside the nose to exclude a nasal problem, an MRI scan of the brain is often also performed.

Swallowing (Pharyngeal Phase)

The pharyngeal phase occurs whether food leaves the mouth and passes down the back of the throat to the gullet (Oesophagus). The tongue pushes the food backwards while the nose and larynx (airway) are momentarily closed. The food therefore passes into the gullet (Oesophagus). This requires a co-ordination of muscles which is controlled by nerves. After a stroke or in elderly patients, this swallowing mechanism may be affected.

People may sometimes ‘choke’ at this phase. People who report (choking) occurs where a food bolus either enters the airway (larynx) or alternatively becomes stuck in the gullet (upper Oesophagus). If food lodges inadvertently in the airway, then airway obstruction occurs. This immediately results in coughing to clear the food from the airway. Obviously, if the food cannot be cleared then airway obstruction may occur, which is clearly life threatening. More often however, food may be felt by the patient to be within the airway, but in fact is lodged in the upper gullet. The upper gullet is located immediately behind the airway. This often gives the impression that they cannot breathe and panic sets in. The patient may feel therefore that they may stop breathing, which further causes the sensation of restricted breathing.

Swallowing (Oesophageal Phase)

The Oesophageal phase is where food enters the gullet (Oesophagus) and travels down to the stomach. The Oesophagus is basically a tube from the back of the throat to the stomach. Food, once in the Oesophagus (gullet), does not pass to the stomach by gravity, as it is possible to swallow by standing on

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your head. The Oesophagus has a graded squeezing mechanism that allows food to pass to the stomach and this is called Peristalsis.

Muscles of the Oesophagus (gullet) squeeze in a sequence to pass the food downwards into the stomach. Food particularly if not chewed well, can get stuck within the Oesophagus. Commonly a piece of steak can typically get caught within the Oesophagus (gullet). In this case, the patient is sometimes unable to swallow even their own saliva, due to the blockage of the Oesophagus. Manual removal of this food is required under a general anaesthetic (patient asleep).

Swallowing is a blend of voluntary and involuntary actions. Voluntary action means we are aware of what we are doing as we swallow. For example, eating a meal, you are aware of swallowing the food. We however, swallow saliva constantly and consciously think about it.

Difficulties in swallowing is called **Dysphagia.** Odynophagia is pain on swallowing. These may occur in both the Oral, Pharyngeal and Oesophageal phases of swallowing. Patients may feel problems in starting the swallowing of food. They feel that the food sticks within the mouth, or in the upper throat. In children, drooling of saliva is the most common symptom. There may be a wet pillow in the morning, where the child has been drooling their own saliva.

When there is an Oesophageal cause of swallowing problem, the patient often reports a sticking sensation in the lower part of the throat or the upper chest. Some patients report a burning sensation in their throat or upper chest (heartburn). Other people report that something is in the back of their throat and no matter what they do to clear it, they cannot clear the sensation.

Post Operative Dysphagia

The most common operation to result in troubles with swallowing is Tonsillectomy. After the tonsils are removed, the throat is sore and patients have trouble with swallowing. Other operations where this occurs is a UPPP and Laryngeal surgery (see further details on website). After any operation, people sometimes have trouble swallowing for a few days and this is due to the breathing tube which has been inserted by the Anaesthetist.

Causes of Dysphagia (Troubles with Swallowing)

My general classification for dysphagia problems is as follows:

1 Inflammatory/infective
2 Trauma/foreign body
3 Neo-plastic (cancer)
4 Neurological/Neuromuscular
5 Reflux Oesophagitis (Heartburn)
6 Structure/anatomical problems
7 Post operative problems
8 Psychological

Further explanation of these problems are detailed below:

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1 Inflammatory/Infective

A patient who has an active **tonsillitis or pharyngitis** will have troubles with swallowing. A Quinsy is an abscess of which occurs between the tonsil and the pharyngeal wall. This causes patients to have (Trismus) which is the inability to open the mouth due to the pain and presence of the abscess.

The treatment of a Quinsy is to drain the pus from the back of the throat and thereafter treat the patient with some intravenous antibiotics until the infection settles. If a Quinsy occurs on two occasions, then this is certainly indication for Tonsillectomy. When the tonsils are removed, there is now no space between the tonsil and the pharyngeal wall and therefore a Quinsy cannot develop again. Should a Quinsy develop in a patient that has a strong history of recurrent tonsillitis, then once again, the option of Tonsillectomy is certainly worthwhile.

Retro Pharyngeal Abscess

This is an abscess in the back of the throat. The most common cause of this is trauma to the back of the throat. This most commonly occurs where a child falls upon, for example, an icy pole stick which injures the back of the throat and then a few days after the injury, results in an abscess formation. This can be a life threatening situation and needs surgical drainage under a general anaesthetic (patient asleep). Intravenous antibiotics are also required.

Plummer-Vinson Syndrome

Also known as Patterson Kelley Syndrome.

This is a syndrome which occurs 90% in women and 10% in men. It mostly occurs in women of a Scandinavian descent. This is associated with iron deficiency and an upper oesophageal web. A web is where there is a partial blockage of the oesophagus due to a web of tissue. Dysaphia (trouble with swallowing) is the most common symptom. The treatment of this condition is iron replacement and dilation of the oesophageal web. This improves the swallowing.

Other infective causes that affect swallowing include mouth ulcers and oral thrush. Mouth ulcers themselves are very painful indeed. They are caused by numerous problems and may often be associated with a reduction in the immune system. Ulcers within the mouth can be caused by numerous organisms. These include numerous types of viruses including the Herpes (cold sores) and also various forms of bacteria. Thrush (fungal infection) can also occur within the mouth and back of throat, in people particularly who have a reduced immune system. It is also more commonly in people that have recently used broad spectrum antibiotics.

2 Trauma/Foreign Body

Fish bones or food with bones can get stuck in the throat. A fish bone probably is the most common bone of which gets caught within the throat, most commonly within the tonsils. The patient complains of pain on swallowing and it may be so severe to drool their own saliva. When found and removed, the pain relief is immediate. If left, an infection may occur where subsequent abscess formation, as previously outlined. Bones always need to be removed. If a bone is stuck within the Oesophagus (gullet), then it needs to be removed by rigid Oesophagoscopy (this is a tube inserted into the Oesophagus when the patient is asleep to remove the foreign body). A food bolus may also be stuck within the Oesophagus. Classically the patient complains of stuck food. The patient

cannot sometimes swallow their own saliva and dribbles it from the mouth and it is usually extremely uncomfortable. If stuck within the gullet, the patient will not stop breathing, as the gullet is separate to the breathing tube. Patients however may become anxious about the foreign body stuck within their gullet and panic, which makes the patient feel as though the airway is restricted. As the patient becomes more anxious, it is more difficult for the patient to clear the bolus by themselves. Food which sticks in this matter, is usually something like a piece of steak and it is usually where the patient has not adequately chewed it sufficiently for it to be swallowed without problems.

If the patient cannot clear the bolus by themselves by swallowing, then they need to undergo a general anaesthetic (patient asleep) and a rigid Oesophagoscopy to manually remove the food bolus.

Trauma and Burns

Trauma and burns to the mouth and pharynx include a simple burn from a hot piece of food, through to inhaled burns from smoke, fire or chemicals. Chemicals, particularly Alkali or acids are extremely dangerous. If ingested, for example, with a suicide attempt, then the whole gullet (Oesophagus) may result in severe damage. The Oesophagus itself may essentially disintegrate which is a life threatening problem, or alternatively become so scarred that no swallowing is possible.

3 Neo-Plastic (Cancer)

Tumours of the mouth, pharynx and larynx or Oesophagus may present with Dysphagia. Tumours in general are classified as either being benign (not cancer) or malignant (cancer). Malignant cancers usually occur in smokers. Lymphomas also occur in these areas, particularly in the tonsil or back of nose. Tumours, whether benign or malignant occur within the:

Tongue
Tonsil
Salivary glands
Posterior nose
Pharynx – throat cancer
Larynx (voice box) throat cancer
Oesophagus (gullet)

Clearly, any tumour needs to be determined as either benign or malignant and treated accordingly.

4 Neurological/Neuromuscular

Neurological problems are numerous. It is common for example, after a stroke or a Cerebrovascular accident (brain injury) that people may have troubles with swallowing. Other problems include:

Multiple Sclerosis
Muscular Dystrophy
Fibromyalgia
Polymyositis (degenerative changes within the muscle)
Diabetes
Age (Presbyesophagus)

Alcoholism
Polio
Thyroid disease
Scleroderma
Myasthenia Gravis

5 Reflux (Heartburn)

Reflux Oesophagitis

This is where acid which is normally present within the stomach, enters the gullet (Oesophagus) and causes inflammation. Acid is produced by cells of the stomach which help to digest the food. The acid is strong and has a low PH, which will burn skin. The stomach itself has a protective layer that prevents it itself from being eroded away. If acid escapes from the stomach and tracks up into the Oesophagus (gullet), then it causes a burn and heartburn is the lay term. It is not related to the heart, but is so named, as the pain generally occurs in the chest or upper abdomen. It sometimes however does not cause the burning sensation, and is referred to as silent reflux. In such cases, the patient does not so much report a burning sensation, but instead a sticking sensation in the back of the throat.

Reflux Oesophagitis is often investigated by either a Gastroscopy, Barium Swallow, Breath tests, PH testing or biopsy. It is known that a bacteria called Helicobacter is the cause of stomach ulcers. This is treated with a combination of three medications. The treatment of the reflux with medications and diet control is essential. Surgery is also sometimes suggested. This condition is more often associated with a Hiatus Hernia.

A Hiatus Hernia is where part of the stomach passes up through the diaphragm (muscle floor diving the abdomen from the chest). In this case, reflux occurs more commonly. Dysphagia (difficulty in swallowing) also occurs. It is also associated with pregnancy and obesity. In these situations, the abdominal contents being under pressure are pushed upwards into the chest.

Barrett's Oesophagitis

This is where the lower Oesophagus has undergone a change in its cell type due to the constant reflux of acid. This can proceed to cancer in 10-15% of patients. A biopsy of the Oesophagus is required for diagnosis.

6 Structural/Anatomical Problems

This occurs where there is a blockage of the Oesophagus due to a structural or anatomical problem. This is where the Oesophagus itself is narrowed by something either within the Oesophagus itself (Intrinsic) or something pressing upon the Oesophagus (external cause). Examples of Intrinsic causes are an Oesophageal web, stricture or tumour. Examples of something pressing upon the Oesophagus include an enlargement of the thyroid or swelling of the neck, lymph nodes within the neck or tumour of the neck. Likewise a mass within the chest or abdomen can press up into the neck and cause the same symptoms.

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Oesophageal Diverticulum

This is where the Oesophagus itself has a pocket formed within it. It is just like a pocket within a pair of pants. As food passes down the Oesophagus, it likewise passes into the pocket. This results in the collection of food within the pocket and classically this results in Dysphagia (problems with swallowing), regurgitation of undigested food or coughing, as food spills over into the lungs from the gullet. Foul smelling breath also occurs.

The diagnosis of this condition is made by performing a Barium Swallow or Gastroscopy. A Barium Swallow is where a dye is swallowed whilst a Radiologist takes x-rays. In this way, the Barium Swallow shows the pocket within the gullet. The treatment of this condition is surgery in most cases. This condition occurs more commonly in the elderly.

7 Post Operative

The post operative causes have already been discussed. These include most commonly problems with swallowing after having tonsils removed, a UPPP or Laryngeal surgery. This is treated with pain relief.

8 Psychological

After all other causes of dysphagia (problems with swallowing) have been investigated, a Psychological component is considered. People often feel that there is a sticking sensation in the back of their throats despite all investigations being reported as normal. In this case, we term this Globus Hystericus. This is an anxiety problem and is treated with Psychological counselling.

Please read this entire document carefully and if there is anything which is not understood, then Mr Watson would like you to reschedule another appointment with him to discuss your concerns or questions.

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