Hoarseness is an impairment of the voice, in which the basic sound produced by the glottis has more the character of a rustle or murmur than a tone. Dysphonia includes other voice problems, such as a raspy, quiet or ‘broken’ voice.

Hoarseness can have a number of causes. The most common are discussed below.

*Acute laryngitis* usually occurs as the result of an upper respiratory infection, or by heavy overtaxing of the voice during a short period.

*Chronic laryngitis* is mainly caused by smoking. Voice overuse can also give rise to irritation and oedema of the larynx.

*Polyps, cysts and nodules* are benign tumours of the vocal cords. The first two occur in people of all ages, and the last is seen particularly in children, and is probably caused by improper use of the voice.

*Laryngeal carcinoma* is a rare, but very important, cause of hoarseness. This symptom is an early pointer, and early treatment has a relatively good prognosis.

*Paralysis of the vocal cords* is caused by damage of the laryngeal nerves. This tends to happen on one side and, in general, the position of the paralysed vocal cord (medial, intermediate or lateral) determines the remaining function. The most common cause of this type of injury is iatrogenic (e.g. thyroidectomy). Other causes include trauma, tumours, neurological disease or muscular disorders.

*Functional causes* are quite common. Psychological stress creates increased muscle tone in the larynx. This can give rise to symptoms,
such as hoarseness, a sensation of a lump in the throat, the need to clear the throat and a nervous tickly cough.

*Various medications*, such as diuretics, anticholinergics and antihistamines, can affect the function of the vocal cords. The use of inhaled corticosteroids can cause irritation.

*Hormonal disorders*, such as thyroid and growth hormone problems, or the use of anabolic steroids, can affect the larynx and thereby the voice.

*Intubation* (during anaesthesia) can cause damage to the larynx, which can result in short-term dysphonia.

*Ageing* can cause the voice to weaken, but account should be taken of the fact that the risk of tumours increases with age.

*Anatomical variations* can affect laryngeal structure, resulting in a weak or hoarse voice.

**PRESENTATION**

The patient attends with the complaint of hoarseness, raspiness or loss of the voice. The GP will sometimes also detect this disorder in a patient presenting with an entirely different complaint.

**EPIDEMIOLOGY**

The incidence of hoarseness in general practice is seven per 1000 patients per year; women attend with this complaint twice as often as men. There are about 3670 cases of laryngeal cancer each year in the UK. This means the average GP will see one new case every 8 years. It almost always affects those aged 50–70 years.

**HISTORY**

The GP asks:

- how long the symptom has been present and whether it developed acutely or gradually
- about any connection with an upper respiratory infection
- about smoking habits
whether the patient uses inhaled medications
about emotional stress and other psychological factors
about any straining/overtaxing of the voice
about symptoms of hormonal problems
whether the patient has recently undergone anaesthesia with intubation
whether the patient has had problems with hoarseness his entire life.

EXAMINATION
For acute hoarseness, examination of the vocal cords is not usually necessary, at least initially, as the diagnosis can be made based on the history and by listening to the voice. The GP can check for signs of an upper respiratory infection.

Additional investigations must be carried out if the hoarseness persists for longer than 3 weeks in patients aged 50 years or more, because of the risk of laryngeal carcinoma. Thorough visualization of the larynx will usually require referral to an ear, nose and throat (ENT) specialist.

TREATMENT
Acute laryngitis is generally viral and can be treated by resting the voice, using steam inhalations and not smoking. Antibiotics (e.g. amoxicillin) may be prescribed if there is secondary bacterial infection. In young people with gradually developing hoarseness, the cause is almost always chronic laryngitis. The patient should stop smoking and not overuse or force the voice.

Long-term hoarseness in children can be successfully treated by a speech therapist. The vocal nodules that sometimes accompany this are reversible, so referral to an ENT specialist is not essential. Nowadays, primary school children with voice or speech problems are often directly referred for speech therapy.

Hoarseness that is clearly functional in adults can be treated by the GP providing advice about relaxation and stress reduction.

In other cases, the treatment will depend on the underlying cause.
PREVENTION AND ADDITIONAL INFORMATION

As can be seen from the above, much of the treatment is also preventive: providing information about proper speech technique, use of medications, smoking and stress management.

Key points

- Laryngeal carcinoma is a rare but very important cause of hoarseness. Additional investigations must be carried out if the hoarseness persists for longer than 3 weeks in patients aged 50 years or more.
- Acute laryngitis is generally viral and can be treated by resting the voice, using steam inhalations and not smoking.
- Long-term hoarseness in children can be successfully treated by a speech therapist – it does not require the attention of an ENT specialist.

Literature


DEFINITION
Snoring is the production of upper airway noise via breathing during sleep.

AETIOLOGY/PATHOGENESIS
Snoring originates in those parts of the upper airway where there is no rigid support to counteract compression from outside or collapse from inside. This narrowing leads to local acceleration and turbulence of the air breathed. This, in turn, causes vibration of the floppy pharyngeal wall. The structures implicated are the soft palate, uvula, tonsils, base of the tongue, pharyngeal muscles and pharyngeal mucosa.

Many factors contribute to snoring. The palate, tongue and pharyngeal muscles play a part in keeping the airway open during the inspiratory phase of the breathing cycle. If, during the deep sleep phase, and especially during REM sleep, the muscle tone is insufficient, the tongue can fall backward due to gravity, and vibrate against the soft palate, the uvula and the pharynx. This occurs particularly in the supine position. Anatomical abnormalities can limit the passage of air in the oropharynx and the hypopharynx – such abnormalities include enlarged tonsils and adenoids, fatty tissue in the pharynx (due to obesity), and a relatively large tongue (in the case of retrognathia, micrognathia and acromegaly). A particularly long palate and uvula also narrow the nasopharyngeal opening during inspiration. An overly narrow nasal passage causes an increase in negative pressure during inspiration, which increases the effect on the floppy pharyngeal tissue. This explains why people who normally do not snore may do so when they have a cold or allergic rhinitis. Septal abnormalities, nasal polyps and tumours can also contribute to constriction.
Alcohol and hypnotics can intensify the overall effect, as can hypothyroidism and neurological disorders.

**PRESENTATION**

Snoring patients usually attend because their bed partner complains about the problem. They may also experience unexplained tiredness or sleepiness during the day. The snoring noise can sometimes be as loud as 50–70 dB, which is similar to the noise of a low-flying jet plane. The result may be disrupted social activities and relationship problems (and even divorce).

Sometimes, the person snoring also will stop breathing temporarily (sleep apnoea), which can be very alarming for the partner – this may be the reason for seeking help.

**EPIDEMIOLOGY**

Snoring is common. Research has shown that 23% of men over 35 years old snore (almost) daily. The percentage is lower for women. Of a group of women aged 50 and above, 13% snored (almost) daily. Different researchers have found evidence that hypertension, angina pectoris, myocardial infarction and cerebrovascular accidents (CVAs) may occur more often in people who snore than in those who do not – it seems that people who snore are more than three times as likely to have a CVA than people who do not.

**HISTORY**

The GP asks (the patient or a witness to the snoring):

- how long the snoring has been going on
- whether the snoring has recently become worse
- whether the patient’s breathing stops temporarily, and is then accompanied by loud sounds when the breathing starts again
- about symptoms during the day, such as tiredness and sleepiness, or unexplained car accidents
- about the patient’s occupation (especially if a public service vehicle driver)
whether the snoring depends on the sleeping position
about a dry throat or other symptoms on waking
about allergies
about weight gain
about cardiovascular problems
about alcohol and/or hypnotic use
about smoking habits.

EXAMINATION

Attention is paid to the ear, nose and throat (ENT) area, particularly the tonsils, palate, uvula and tongue. Check also for nasal polyps, swollen turbinates, septal deviation, hyperreactive nasal mucosa, and abnormal anatomy of the lower jaw (relatively too small or recessed). Further examination might include weighing the patient and measuring the blood pressure. If hypothyroidism is suspected, the thyroid stimulating hormone level should be checked.

TREATMENT

If, based on the history or examination, no abnormalities that require treatment or further investigation are found, general measures can be suggested. These include: losing weight if necessary; avoiding lying on the back if the snoring is position-dependent (e.g. by attaching a tennis ball to the back of the pyjama top); and, as appropriate, discouraging smoking, alcohol consumption and the use of hypnotics. If significant ENT abnormalities are present, referral to an ENT specialist is indicated.

Any underlying causes or contributory factors, such as hypothyroidism or allergies, should be dealt with.

Mechanical devices placed in the nose and mouth only reduce snoring to a limited extent. If, in the case of habitual snoring, the patient’s partner indicates that the patient temporarily stops breathing and/or the patient reports that he is sleepy and tired during the day, sleep apnoea syndrome must be considered. Referral is necessary for further assessment and treatment, particularly if simple measures result in no improvement.
PREVENTION AND ADDITIONAL INFORMATION

Attention to weight, smoking, alcohol and hypnotics, and avoiding sleeping on the back are effective preventive measures. Reassurance is sometimes appropriate, particularly if there are groundless fears about sleep apnoea.

Key points

- Snoring may disrupt social activities and cause relationship problems, so its impact should not be underestimated.
- The possibility of sleep apnoea should be considered.
- If significant ENT problems are discovered, referral is indicated.
- General measures to improve the situation include: losing weight, if necessary; avoiding lying on the back if the snoring is position-dependent; stopping smoking; reducing alcohol consumption; and stopping hypnotics.

Literature


Littlefield PD, Mair EA. Snoring surgery: which one is the best for you? Ear Nose Throat J 1999;78:861–5, 868–70.


DEFINITION
Salmon patches, also known as stork marks, are flat capillary haemangiomas seen on the newborn, primarily on the bridge of the nose and the eyelids, and on the neck (occasionally also on the sacrum).

AETIOLOGY/PATHOGENESIS
The aetiology is unknown. The lesion must be distinguished from the much darker naevus flammeus (port-wine stain): this is a capillary haemangioma, which can be found anywhere on the body (although especially on the head and neck) and which does not disappear spontaneously. A salmon patch does not enlarge and tends to regress spontaneously during the first year of life. The patches on the face usually disappear more quickly than those on the neck or sacrum. The naevus does not disappear completely in approximately 50% of cases. There are no known predisposing factors.

PRESENTATION
The parents of the newborn are usually worried about the nature and prognosis of the naevus. The baby is not bothered by it at all.

EPIDEMIOLOGY
Little epidemiological information is available. However, it is estimated that 30–40% of all newborns have one or more salmon patches.

HISTORY
The GP asks:

- whether the haemangioma was present at birth and, if so, whether it has increased in size.
EXAMINATION

On examination, the GP will find a flat pink patch, caused by dilated capillaries, on the eyelids and sometimes in a V-form on the forehead. A similar lesion may be found on the neck or sacrum. In contrast, a naevus flammeus is a deeper, more purplish red. The latter usually covers a larger area, is permanent and may be cosmetically disfiguring. A one-sided naevus flammeus may, especially if located on the forehead, accompany an intercranial haemangioma on the homolateral side (Sturge–Weber syndrome, which is very rare). This combination has never been reported for salmon patches.

TREATMENT

The lesions often disappear spontaneously. Even if they do not, they are almost never considered cosmetically disfiguring. A wait and see policy accompanied by reassurance for the parents is appropriate.

PREVENTION AND ADDITIONAL INFORMATION

The most important point is to inform the parents that in most cases the patch will disappear spontaneously.

Key points

- Salmon patches are flat capillary haemangiomas on the bridge of the nose and the eyelids, and on the neck (occasionally also on the sacrum) of the newborn.
- It is estimated that 30–40% of all newborns have one or more salmon patches.
- The naevus does not disappear completely in about 50% of cases.
- A salmon patch should be distinguished from a naevus flammeus – the latter is a deeper, more purplish red, covers a larger area, is permanent and may be cosmetically disfiguring.
Literature


DEFINITION

Chloasma is a type of hyperpigmentation of the face. Synonyms are melasma, melanoderma and ‘mask of pregnancy’ (as the hyperpigmentation may be present during pregnancy). Chloasma is derived from the Greek word cloazein, which means ‘to be green’. The Greek melas means ‘black’, so melasma is the more correct name for this problem.

AETIOLOGY/PATHOGENESIS

The main aetiological factors are pregnancy, oestrogens and progestogens (e.g. in oral contraceptives), sunlight, cosmetics and medications. There is also a genetic predisposition. In addition, food ingredients, systemic illness, parasitic infection and nutritional deficiencies have been cited as causes. These last two factors are particularly important in countries outside Europe, but are becoming more relevant due to continuous migration.

The mechanism that causes melasma is not completely understood. It is clear, however, that sunlight plays an important role, together with hormonal factors and a familial predisposition. The end result is an increased activity of melanocytes, leading to a higher melanin production. Melasma occurs on the face because this area of skin has a high density of melanocytes and is also exposed the most to sunlight.

PRESENTATION

Patients attend with the symptom of persisting dark skin discoloration on the face, which may have been present for several years. The lesions are usually first noticed during the summer, or after a period of increased exposure to sunshine. They may have
been commented on by a friend or relative, leading to a consultation.

**EPIDEMIOLOGY**

The exact incidence and prevalence of melasma is not known, but the condition is certainly common. It is present in varying degrees in approximately 50–75% of all pregnant women, and so can be considered part of the normal physiological changes that occur during pregnancy. Melasma is primarily seen in people with a darker skin type, especially in (dark-haired) women. The disorder occurs almost exclusively during the fertile period, and rarely in the postmenopause. Research has shown that men with melasma have the same clinical–histological characteristics as women.

**HISTORY**

The GP asks:

- about the duration, development and location of the lesions
- about sun exposure
- about pregnancy or gynaecological abnormalities
- about medications (oral hormone preparations, other systemic or local medications)
- about cosmetic use (face lotions, perfumes, sprays and sunscreens)
- whether family members have similar symptoms
- about any special diet
- about any symptoms of systemic illnesses.

**EXAMINATION**

The characteristic site and symmetry, colour and pattern of the disorder will generally lead to the diagnosis. The patchy macular hyperpigmented areas are clearly defined, initially light brown (sometimes greyish-brown) and gradually become darker. They may have a predominantly linear or a more confetti-like pattern. Additional symptoms are sometimes present, such as a burning sensation, itching or discomfort.

If the history does not suggest any systemic or gynaecological disorder, additional tests are not necessary.
TREATMENT

Because a cure is rarely possible in practice, the GP should focus on an explanation and preventive measures. The patient should be informed about the benign nature of the disorder, the treatment options and limitations, and the prognosis. If provoked by pregnancy, it is likely to resolve after delivery. If provoked by the pill, then the prognosis is more guarded.

To obtain a result that is cosmetically acceptable to the patient, a topical combination containing hydroquinone 2%, tretinoin 0.05% and hydrocortisone 1% (the latter to counteract the burning, erythema and flaking which the tretinoin can cause) can be tried. This should be applied initially every 2–3 days to limit the side-effects; the frequency can be increased later if necessary. After 4–5 weeks, the patient can expect an initially patchy, and later a more diffuse, and finally an even depigmentation. This treatment is contraindicated during pregnancy and lactation.

Particular care should be taken in darker skinned patients because of the risk of patchy depigmentation. It is recommended that the cream or lotion is first applied to a less visible area of the skin to assess the effect.

In general, treatment will have to be continued for months; the result can be pleasing and permanent if the patient uses optimum sun protection. The patient should be warned, however, of overly optimistic expectations. On pigmented skin in particular, these bleaching creams have varying results. To prevent patchy depigmentation, it may even be better not to treat the disorder. An entirely different, ‘palliative’, treatment is camouflage. The effect can be flawless if the cosmetics are applied carefully.

PREVENTION AND ADDITIONAL INFORMATION

When prescribing oral contraceptives, the GP can ask if there is a familial predisposition to melasma, especially in patients with dark hair. Providing information to such patients about sun habits and the use of sunscreens is advisable. Even if melasma is already present, it is a good idea to avoid direct sunlight as far as possible. The use of sunscreens with a high sun protection factor is recommended.
Pregnant women with a predisposition to melasma can be given similar recommendations. Even if a woman did not suffer from melasma during pregnancy, there is no guarantee that she will not develop it when using oral contraceptives. Women who have had melasma during pregnancy have an increased risk of this disorder if they use oral contraceptives.

**Key points**

- The mechanism that causes melasma is not completely understood. It is clear, however, that sunlight plays an important role, together with hormonal factors and a familial predisposition.
- The characteristic site and symmetry, colour and pattern of the disorder will generally lead to the diagnosis.
- Because a cure is rarely possible in practice, the GP should focus on an explanation and preventive measures.
- Patients with, or with a history of, this problem are well advised to avoid direct sunlight as far as possible.

**Literature**

Fleischer AB, Schwartzel EH, Colby SI, Altman DJ. The combination of 2% 4-hydroxyanisole (Mequinol) and 0.01% tretinoin is effective in improving the appearance of solar lentigenes and related hyperpigmented lesions in two double-blind multicenter clinical studies. *J Am Acad Dermatol* 2000;42:459–67.


DEFINITION

Rosacea is a chronic inflammatory dermatosis that occurs on the face. It is characterized by the symmetrical presence of erythema, oedema, telangiectasia, papules and pustules on the cheeks, chin, nose and ears. The eyes can also be affected, usually with conjunctivitis and blepharitis. In men, a follicular thickening of the nose can also occur (rhinophyma).

AETIOLOGY/PATHOGENESIS

The cause of rosacea is unknown. Climatological, immunological and pharmacological factors may play a role. It can be aggravated by factors that cause vasodilatation, such as alcohol, highly spiced food or hot foods and drinks. Psychological factors (increase in flushing), vasodilatory medication, cosmetics and local corticosteroids (stronger than class 1) also aggravate the problem. Rosacea can get worse in the winter or the summer, especially during the transition from cold to warm weather, and vice versa. Bacteria probably do not play a role in the aetiology, despite the fact that antibiotics are an appropriate and effective treatment.

PRESENTATION

Only a small percentage of people with rosacea consult their GP, usually for help with the cosmetic problems caused by telangiectasia and papulopustules.

Patients with rhinophyma may receive unwelcome comments about their nose. These nasal abnormalities have traditionally been associated with alcohol use, but no such relationship exists.
Epidemiology

Rosacea occurs primarily in people aged 30–60 years and is more frequent in women than men; one study showed a prevalence of 14% in women and 5% in men. It occurs primarily in people with white skin. There are no good epidemiological data available from general practice.

History

An important part of the history is oriented towards establishing how much the patient is affected by the skin disorder. The GP asks:

- how long the patient has had the problem
- about any particular triggers
- whether the patient uses any topical treatment
- if the patient has sought medical help in the past, and what treatment was used at that time
- whether the patient has tried special diets for the disorder
- how other people react to it
- what medications are being used
- whether the patient has ever had significant eye symptoms.

Examination

The GP will note the symmetry of the erythema, papules, pustules and telangiectasia on the cheeks, chin, nose and ears. Differential diagnoses include acne vulgaris (comedones are present) and seborrhoeic eczema (flakiness on the scalp, in the eyebrows and in the nasolabial folds). In view of the distribution of the rash, lupus erythematosus should be considered.

Treatment

Rosacea is a chronic skin disorder that can be alleviated but not cured by treatment; this should be explained to the patient. It should also be pointed out that the problem may flare up again after stopping medication. Before choosing a treatment, it is important to find out which skin lesions predominate: erythema, telangiectasia and rhinophyma do not respond to local or systemic antibiotic treatment.
In a mild case with papules and pustules, the preferred remedy is metronidazole cream or gel, applied thinly twice daily for 4–6 weeks.

In more severe cases, or if local treatment is not sufficient, oral therapy with tetracycline is indicated. The initial dose is 250 mg three to four times daily for 2 weeks; this dose can gradually be reduced after 6–8 weeks, depending on the response. An alternative to oral tetracycline is oral metronidazole.

Isotretinoin is sometimes prescribed if the rosacea is very resistant to therapy – this should be initiated by a dermatologist. Rhinophyma also responds to isotretinoin, which means that plastic surgery can sometimes be avoided. Isotretinoin has potentially serious side-effects (hepatotoxicity and teratogenesis), and therefore proper information and follow-up are essential. Further detail about this treatment is beyond the scope of this book.

The patient can be referred to a dermatologist or plastic surgeon for treatment of permanent disfiguring skin abnormalities complicating rosacea. Telangiectasia can be treated with laser therapy; rhinophyma can be corrected by a plastic surgeon. The possibility of cosmetic camouflage should also be pointed out to the patient.

**PREVENTION AND ADDITIONAL INFORMATION**

For most patients, the frequency and intensity of the exacerbations decrease over the years. Advice should be provided about avoiding triggers that could lead to vasodilatation, and which could therefore aggravate the problem. A strict dietary regimen does not contribute significantly to the prognosis. The use of corticosteroids stronger than class 1 can make the symptoms deteriorate and should be avoided.
Key points

- Bacteria probably do not play a role in the aetiology, despite the fact that antibiotics are an appropriate and effective treatment.
- The nasal abnormalities associated with rosacea have traditionally been linked to alcohol use, but no such relationship exists.
- Differential diagnoses include acne vulgaris and seborrhoeic eczema.
- Rosacea is a chronic skin disorder that can be alleviated but not cured by treatment; this should be explained to the patient.
- Erythema, telangiectasia and rhinophyma do not respond to local or systemic antibiotic treatment.
- The use of corticosteroids stronger than class 1 can make the symptoms deteriorate and so should be avoided.

Literature


DEFINITION
A tremor is a rhythmic contraction of voluntary muscles, usually resulting in movement. The classic head tremor in the elderly (titubation) occurs when the patient sits erect or stands. Other names are ‘senile’, ‘benign’ and ‘familial’ tremor.

AETIOLOGY/PATHOGENESIS
Head tremor represents an amplified physiological tremor (frequency 1–5 Hz). The cause is unclear, but it may be due to a reduction in the availability of certain neurotransmitters. Emotion, stress and fatigue aggravate the problem. It is an autosomal-dominant disorder with variable penetration, and is classified as an essential (primary) tremor: a postural or movement tremor that occurs often (at least several times a week) or is present at all times, and is not caused by any systemic or neurological disorder, or by a drug side-effect. Being a postural tremor, it is not present when the head is supported or lying down, but does occur when the person sits erect, stands or walks.

The head tremor consists primarily of a ‘yes–yes’ movement, but may also occur as a ‘no–no’, or a combination of the two; over time, the tremor can also switch between the two.

PRESENTATION
Usually, patients consult the GP to ask if the tremor is due to Parkinson’s disease, particularly as the head tremor may well be accompanied by a similar tremor of the hands/arms. The head tremor rarely leads to any functional problem.
EPIDEMIOLOGY

There is little epidemiological information available. A GP with an average list could expect to have a couple of patients with this disorder. In these cases, there may well be a family history.

HISTORY

The GP asks:

- when the tremor started and how it has developed
- whether the tremor runs in the family
- whether symptoms improve with alcohol use (alcohol characteristically relieves this type of tremor)
- when the tremor occurs – mainly when sitting or standing, or when the patient is at rest (a tremor when the patient is at rest does not support the diagnosis; consider Parkinson’s disease).

EXAMINATION

Observation is usually sufficient as a diagnostic tool, particularly given the clues already gleaned by the history. Supplementary tests are rarely necessary.

To rule out other neurological disorders, watch out for signs of bradykinesia and muscle rigidity; also look for abnormal posture, and cerebellar signs, such as disturbed coordination and an abnormal gait. Have the patient stand without support. Is the head position normal? A head tremor (if the position is abnormal) can occasionally be the first symptom of spasmodic torticollis.

TREATMENT

Explanation is the cornerstone of treatment. Patients will need reassurance that this is not Parkinson’s disease. They should also be informed that the clinical picture usually remains fairly stable, although it can worsen to a degree in some.

Medication is only advised if the tremor limits the ability to carry out certain activities. The first choice is propranolol. This can be used continuously or intermittently. The successful use of continuous
electric thalamus stimulation has been described, although this is obviously a highly specialized treatment.

Referral to a neurologist is required only if the patient requires further reassurance, there is uncertainty about the diagnosis or there is a suspicion of an underlying dystonia.

**PREVENTION AND ADDITIONAL INFORMATION**

It is important to provide information and reassurance, as appropriate.

**Key points**

- Head tremor represents an amplified physiological tremor.
- It is not present when the head is supported or lying down, but does occur when the person sits erect, stands or walks.
- The head tremor consists primarily of a ‘yes–yes’ movement.
- Patients will need reassurance that this is not Parkinson’s disease.

**Literature**


DEFINITION
Belching, or eructation, is a physiological phenomenon in which excess air or gas from the stomach is expelled via the oesophagus through the mouth. It is clearly a normal everyday experience, but it may be viewed as a problem if it happens, or appears to happen, to excess.

AETIOLOGY/PATHEGENESIS
Chapter 91 explains the normal physiology of gas metabolism in the digestive tract. The digestive tract normally contains 100–200 ml of air/gas. Every time a person swallows, some air is swallowed as well. Without physiological belching of this swallowed gas, stomach dilatation and excess flatulence would result. Because swallowed air, as well as excess intestinal gas (which consists almost exclusively of varying proportions of nitrogen, oxygen, carbon dioxide, hydrogen and methane) has no odour, belched air is usually odourless.

The causes of abnormal belching can be divided into two main groups: gastrointestinal and psychological. Both can be subdivided into serious and harmless.
If the patient has serious gastrointestinal disorders, such as a gastric or duodenal ulcer or a malignancy, belching is seldom the only symptom. Further discussion of these pathologies is beyond the scope of this book. The significance of belching with vomiting will depend on the underlying problem – again, belching is unlikely to be the presenting complaint.

Non-sinister gastrointestinal causes include excess gas in the bowel. The digestion of carbohydrates, other complex polysaccharides (cellulose, pectin), and disaccharides (lactose, fructose) varies between individuals. The result can sometimes be significant amounts of gas in the large or small intestine. These can push on the stomach and so indirectly cause eructation. Excess gas can also be iatrogenic: lactulose, bulk-forming laxatives, and medications that affect intestinal mobility often disrupt the ‘gas balance’.

Psychological, non-serious, subjective belching is often caused by eating and drinking habits: rushing, agitation, anxiety and gluttony result in air being swallowed in amounts larger than the stomach can deal with. True aerophagy – swallowing only air, without food or drink – can be a harmless cause of eructation. However, the situation is different in the rare situation where the swallowing of air is compulsive; this may be associated with a globus sensation, a food fixation, or a fear of starving in obsessive/compulsive or phobic states.

**PRESENTATION**

In most cases, it is the symptom itself that bothers patients (or those around them). Occasionally, the patient may fear significant underlying pathology and so require explanation and reassurance. In some cases, belching may be just one of several other somatic symptoms.

**EPIDEMIOLOGY**

There are no reliable data about the frequency of this symptom – epidemiological studies usually combine it with other gastrointestinal symptoms.
HISTORY

The history is focused on establishing the aetiology. The GP asks:

- about serious gastrointestinal symptoms
- about the relationship with eating and drinking
- whether the abdomen feels bloated
- about eating habits that could be the reason for excess gas
- whether the patient drinks a lot of fizzy drinks (carbon dioxide, fructose, sorbitol)
- about the use of medications, such as laxatives (lactulose).

EXAMINATION

If the GP suspects a serious somatic disorder, a focused physical examination and additional investigations should be arranged as appropriate. In such a case, eructation will usually be accompanied by other symptoms. The same is true for a psychological cause.

In most other cases, no abnormalities are found. Because the patient’s main agenda may be reassurance, a careful abdominal examination is a good idea.

TREATMENT

Provide an explanation and reassurance: give instructions if the patient has incorrect eating and drinking habits; dietary advice can help control the complaint if the patient’s ‘food history’ indicates that dietary habits may be to blame (see also Chapter 91).

In the case of minor psychological causes, an explanation giving the patient insight into the problem can be helpful.

If serious somatic or psychological causes (for which belching is very rarely a significant or sole complaint) are suspected, referral to a specialist is advised.

PREVENTION AND ADDITIONAL INFORMATION

The treatment described above, which consists primarily of the provision of information, will have a preventive effect.
Key points

- The causes of abnormal belching can be divided into two main groups: gastrointestinal and psychological.
- If the patient has significant pathology, belching will seldom be the sole symptom.
- Many patients with belching will require little more than explanation and reassurance.

Literature


DEFINITION
The concept of a ‘swallowed coin’ speaks for itself. The vast majority of cases involve young children.

AETIOLOGY/PATHOGENESIS
As is commonly known, small children go through a developmental stage where they tend to put everything within reach directly in their mouths. These objects are sometimes swallowed. Once a coin has passed the cardia, it will always be expelled from the body without further problems. There is a small risk that the coin could get stuck in the oesophagus: complications include fistula development, stricture and even perforation of the oesophagus. However, these serious complications occur very rarely. Problems usually only occur if the coin swallowed is larger than 20 mm in diameter.

PRESENTATION
Most swallowed coins do not cause any symptoms. The parents will be worried about whether the coin will pass through or cause any damage. If the coin has become stuck in the oesophagus, the child may complain of pain, vomiting, excessive salivation and pain when swallowing.

EPIDEMIOLOGY
It is unknown how often GPs are confronted with patients who have swallowed coins. Various studies have shown that coins are the most frequently swallowed foreign objects. This usually occurs in children younger than 7 years old. The proportion of coins that become stuck in the oesophagus varies in the literature from less than 1% to 20%.
**HISTORY**

The GP asks:

- when the coin was swallowed (it is important to ensure that the coin was indeed swallowed rather than inhaled)
- about the size of the coin
- whether the patient is experiencing pain, excessive salivation, shortness of breath or vomiting (bearing in mind possible oesophageal complications).

**EXAMINATION**

If there are no symptoms, additional tests are not indicated, except if it is certain that the coin swallowed is larger than 20 mm in diameter, in which case an X-ray should be taken of the oesophagus (two views) to see if the coin has stuck.

**TREATMENT**

If, in the case of a coin less than 20 mm in diameter, no symptoms are present, a wait and see approach is advised. Most coins will pass without complications. Checking the faeces is unpleasant and inaccurate, and therefore not useful. The parents must look out for any relevant symptoms, which can sometimes develop a few days after the event. If, within 3 days, there are complaints of pain, vomiting, excessive salivation, unexplained poor appetite or shortness of breath, an X-ray of the oesophagus is indicated. There are then three possibilities. If a coin is visible in the upper part of the oesophagus, it must be removed. If it is in the distal oesophagus, it is reasonable to observe for a further 24 hours, as the coin may still progress. Finally, if no coin is visible, it is possible to continue to observe if the symptoms settle rapidly; if the symptoms persist or are severe, the child must be referred to the surgical team.

**PREVENTION AND ADDITIONAL INFORMATION**

It is better to prevent than cure this situation: make sure no coins are lying around if small children are in the area. If a coin is swallowed, the GP can explain to the parents and the child that the coin will...
almost always pass through the entire digestive tract and be expelled from the body without problems.

**Key points**

- Problems usually only occur if the coin swallowed is larger than 20 mm in diameter.
- Once a coin has passed the cardia, it will always be expelled from the body without further problems.
- Most swallowed coins do not cause any symptoms.
- It is important to ensure that the coin was indeed swallowed rather than inhaled.
- Relevant symptoms can sometimes take days to develop.

**Literature**

