Vocal Health – care of the voice

What is vocal health?
A healthy voice will be able to function at its optimum. An unhealthy voice may have audible huskiness, breathiness or a creaky quality; it may have a limited pitch range, limited vocal loudness or limited stamina. It may be uncomfortable to use, sometimes becoming less comfortable over time. We all at some time suffer from ill-health which affects our voice. The cause of voice loss may just be as a result of the common cold, or it may be the way we use our voice, our lifestyle or as an indirect result of anxiety levels.

Why healthy voice use is important
The voice is our primary communication tool; however, we tend to take it for granted unless it goes wrong. Voice problems affect both singing and spoken voice and so reduce our ability to communicate in any aspect of our lives.

Causes of voice problems
Stress on the voice is measured as Vocal Loading, it is increased by three main factors:

- Amount of use; the number of hours you are speaking or singing relates directly to the number of vocal fold collisions in a day.
- Level of use; louder voicing requires the vocal folds to collide harder (think of the difference between clapping your hands quietly or loudly, then clap them loudly for a minute and see if they feel sore or hot).
• Emotional stress, which is often less easy to identify or deal with. Anxiety creates tension in the voice and is therefore less efficient and prone to greater loading.

As well as these internal aspects there are external factors such as room acoustics or pollution levels.

If someone develops a voice problem, it is useful to know that the cause is rarely one single factor; it will be a combination of several factors all contributing to the voice use, often with anxiety or stress as the final straw. Becoming aware of how you and your students use your voices as well as identifying good and bad environments for teaching can help you to have long and healthy years of speaking and singing!

**Voice problems in children**

Voice disorders are surprisingly common among school-age children. Up to 20% of children have what would be clinically defined as voice disorders, although most of these cases are never referred for clinical treatment. Most get better as the child grows, and use and function develop. However, if a child has a problem with their voice, it will affect many aspects of their life. They will be less able to project their voice socially, in sports or singing/acting. This can have a negative impact on their self-esteem and could have an effect on their overall development.

If children have voice problems, poor singing technique is rarely the cause; it is nearly always as a result of either overuse or misuse elsewhere, or triggered by high levels of anxiety in the child. Whatever the cause, the first casualty will be the child’s singing; this is probably the most demanding area of voice use, and so will need to be rested. It is crucial to help children to establish good habits of voice use when speaking, singing or shouting; it is of limited use to give a child good singing technique if this is
not applied on the football field! Good habits include voice use, voice awareness, related vocal health and general wellbeing.

**Voice problems in teachers**

Research overwhelmingly reports that teachers are far more susceptible to voice problems than those in other occupations. In one study, teachers were almost 30 times more likely to develop voice problems and five times more likely to miss work as a result. Teachers are nine times more likely to end up in an NHS voice clinic than non-teachers. The reasons for this are many and they tend to build up over the school term. Teachers have to project their voices for long periods of time either in difficult room acoustics or over background noise. They are also often working under higher levels of emotional stress.

Women are more vulnerable to voice disorders than men (there are more female teachers, especially in junior schools). The reason for this is nothing to do with feminine weakness! It is purely structural. The female voice is pitched higher, meaning that the vocal folds vibrate more frequently than in men, increasing the vocal loading over time. The female vocal folds are also thinner and often have a slight gap between them, this means that the voices are not as loud in the normal speaking range.

The outcomes are costly to schools as teachers may have to take time off. Even if the teacher is still able to work, albeit with a husky voice, research has shown that children do not learn as effectively from a teacher with an impaired voice quality.
Some common problems and suggested solutions

Problem – Prolonged voice use
It is simple mathematics, if the vocal folds collide more times in a day, the risk of injury is greater. In a normal working day, the distance travelled by the female teacher’s vocal folds when colliding together and moving apart is over 7km! (the vocal folds themselves are tiny, they only about 13mm long)

Solution
Research shows that taking more frequent breaks will allow your voice to recover more effectively. For teachers, try to plan your lesson with shorter periods of speaking, the overall speaking time can remain the same but it can be chopped up into smaller chunks. The same is true for rehearsals and even individual singing lessons. Build in frequent voice rests with other activities filling the gaps.

Problem - The need to raise vocal volume
When speaking in large rooms; even in the most disciplined classroom environment, there will always be a low level of background noise. In social situations, there may be a high level of background noise from television, music or other people speaking. School dining halls are often one of the noisiest places in which to try and have a conversation.

Solution
Limit the amount of talking you do if it is just chatting, be aware of the fact that you may be raising your voice. Use cupped hands as a megaphone.
**Problem – Not enough variety in voice use**

People in a school environment can fall into the habit of using a higher-impact voice quality than is necessary. Prolonged use of a hard tone not only reduces the effectiveness of communication, but it also tires the voice.

**Solution**

Explore different voice styles for different situations. Firstly, try to establish the easy, neutral voice quality; then experiment with voices suitable for different situations: private chat, speaking on the phone or calling out during sport. When singing, try and aim for the singer to never sing at maximum power; even for very loud passages, 90% is enough.

**Problem - Voice use while under emotional stress**

If the speaker is under emotional stress, the muscles of the larynx are not working as efficiently, and the voice user is more prone to fatigue or injury. This single factor is the most common link between people who suffer from voice disorders.

**Solution**

There are many ways to reduce stress levels; an easy one is to focus on low belly breathing. Breathing out tends to favour the parasympathetic (everyday bodily function) nervous system and breathing in is linked with the sympathetic (fight/flight) nervous system. Try breathing out for a count of eight and in for two or three; keep moving the breath throughout, don’t hold your breath at all. If you consciously breathe out for twice to three times as long as you breathe in for, you will help to redress the balance between these two systems. Controlled breathing can reduce the heart rate and calm you down – no wonder people find that singing makes them feel good!
**Problem – Speaking or vocalising during physical exercise**

Physical exertion tends to rely on constricting the throat; this is not the time to use the voice.

**Solution**

Save the vocal noises until after you have done the lifting or reaching for something. This is important during sport, try to stand still for the shouting and then to keep silent during the actual running / jumping / kicking / catching.

**Problem - Exposure to irritants**

No – this doesn’t refer to other children! It is to do with levels of dust or certain art materials. Some people are more sensitive than others to particles or pollutants in the atmosphere.

**Solution**

If the singer is sensitive to dust or pollen levels, they may use an asthma inhaler. If dust levels are bothering you, they are likely to be bothering others also and probably need to be dealt with.

**Problem - Poor acoustical conditions**

Classrooms, school halls and even music practice rooms have seldom been designed with the acoustic properties of the room in mind. If a room or hall has large, hard surfaces (walls, ceiling, floor), these will reflect sound around the space and increase the overall noise levels. On the other hand, some sound reflection is useful; for example, voices will be very hard to project in open-air spaces such as the playground or sports field.
Solution

If you are in a boomy room, curtains, rugs, pictures, books, cork boards, soft furnishings or screens will help to absorb or dissipate sound. The voice can easily be amplified by using cupped hands as a megaphone.

Lifestyle issues affecting vocal health for all singers: teachers and pupils

Eating and drinking

- Firstly, remember that you can’t ‘soothe’ your voice by drinking or sucking anything at all. Anything you swallow will pass over the top of the epiglottis and into the oesophagus (tube to the stomach). If it touches your vocal folds you will cough; if liquid was able to go into your larynx, you would drown!
- It is important to keep the body hydrated. If the throat is dry, or the cells of the vocal folds themselves are under-hydrated, then they will be more susceptible to injury. It is also important to keep swallowing as the lift-and-squeeze action redistributes the laryngeal mucous and lubricates the vocal folds. The little-and-often rule is a good one; try to keep a bottle of water on the go, sipping instead of gulping. Children’s lack of access to water in schools can be an issue to be aware of.
- Sweetened fizzy drinks, milky drinks, chocolate, yoghurt etc may encourage temporary mucus production in the throat for some people; if this is the case, avoid them immediately before and during singing. However, their effect will wear off after about half an hour; any build-up of mucous for longer than this is likely to have another cause.
- Throat pastilles and lozenges have a very limited use. Ones which have a dehydrating (Menthol) or numbing effect (Strepsil) are best to avoid before or during singing. Others work merely as a placebo, or at best they encourage
frequent swallowing. Don’t over-value them: sipping water is cheaper and just as effective.

- Try not to eat just before going to bed; eating a large meal late at night can encourage gastric reflux which can 'burn' the lining of the throat. Try to allow at least two hours after a meal before going to sleep.

**Medications**

- Antihistamines can have a drying effect, check with the pharmacist
- Asthma inhaler – it is important to use a spacer. This ensures that the larger (and ineffective) particles don’t get into the respiratory tract.
- Decongestants used for longer than five days can cause problems as the membranes adjust to the medication. Topical decongestants (nasal sprays) tend to be better for singers than those in tablet form.
- Cough medicines: avoid ones that contain codeine (drying effect) or antihistamines. Look at the reasons for the cough - it may be a dry atmosphere, asthma or gastric reflux.
- Some anti-inflammatory nasal sprays can be a topical irritant for the vocal folds.
- Pain-killers with aspirin or ibuprofen will thin the blood and may possibly increase the chance of vocal fold haemorrhage (NB this is very uncommon). It may be better to stick to paracetamol if it is needed.
- Anti-depressants and beta-blockers will cause dryness in the mouth and throat.

Excessive coughing or throat clearing may be habitual or it may be symptomatic of other issues such as rhinitis or reflux. Coughing or throat clearing is a forceful action of the vocal folds; when you feel the need to cough, try sipping a little water.
What to do when the voice goes wrong

Voice first aid

• **Rest your voice!** If you feel you’re losing your voice, or sounding husky, the first thing to do is try to keep quiet! Avoid noisy environments and cancel social engagements (unless it’s going to the theatre/cinema).

• **Steam!** Fill a bowl with boiling water, put your head over it with a towel over your head and breathe slowly until the water isn’t steamy any more.

• **Sleep!** Losing your voice is not only inconvenient it can also be very stressful. A few early nights may be all you need to get back on track.

If the voice doesn’t get better in two to three weeks, you may need a referral to a voice clinic; this is normally done through a GP.

Golden rules for all voice use

• Water is the best drink for singers (tap or bottled). Have a drink of water as soon as you wake up in the morning and keep a bottle on the go during the day.

• Warm up before you use your voice each day.

• If you are ill or tired, you will not be using your voice as efficiently; stop if you feel strained.

• Be aware of how you use your voice at all times, not just when you are singing.

• You are more likely to get ill, or use your voice less effectively if you are stressed or worried; so try to chill out!

• Sleep is the best cure for many problems.