



If you want to warm up well, don't listen

What exactly are we supposed to be warming up?

Students often ask for 'warm-up tips' or what I would call a 'recipe' for warming up. Nobody ever asks what a warm-up is supposed to achieve. Clearly, we want to make a good sound, over a wide pitch range, singing fast or slow, over vowel changes and when introducing consonants and words, over short and wide intervals, singing loudly or softly; we want our voice to be a versatile expressive resource, and to have stamina; and we want everything to be healthy, and feel as easy as possible. The problem is, a singer can't hear their own voice properly, which means that they cannot use the sound of their voices as a guide to how well they have warmed up. So how should they monitor themselves? And how do they know when they are properly warmed up?

What teachers can do

When teachers, coaches or choral directors help a student vocalist warm up (and work their voice e.g. on repertoire) they use their eyes and ears to monitor them: eyes, because they are used to watching for postural behaviour and subtle muscular activity that may help or hinder the singer; and ears, because, with experience and practice, it is possible to work out from details in the sound itself a lot about how that particular sound is being made. It is interesting how often a teacher can identify correctly when a singer has lost mental focus for a moment, or even what the singer thought – sound and muscle/body language are very revealing! Teachers have to use their eyes and ears with a student because they do not have direct access to the thoughts and emotions that are influencing the singer's body and voice, nor can they experience the proprioceptive feedback the singer receives from internal organs and nerve endings when stretching, moving, aligning, balancing, breathing, and vocalising.

What should a singer do when the teacher isn't there to warm them up?

A singer cannot rely on either their eyes or their ears. While a singer can watch themselves in a mirror when practising, often they can still miss crucial visual feedback. For example, singers often don't notice a twitch in their neck, shoulder movement, jaw tension, and so on. And in performance, there is no mirror anyway. If a singer becomes used to monitoring by using a mirror, this does not help in performance; singers need to be properly prepared for the performance experience by replicating the conditions in practice time (ie singing without a mirror).

Listening to our own voice as a singer is bound to distort healthy voice production. Adrian Fourcin has explained why in an excellent chapter called 'Hearing and Singing' in Janice Chapman's 2006 book, 'Singing and teaching singing'.

First, sound is directional, which means that the sound is less intense around the singer's ears than it is for a listener (or recording equipment) in front of the singer's mouth. Also, the pattern of vibrations is complicated by interactions of sound waves around the head. Typically, the singer hears less, but wants to hear their own voice as loudly as they hear the singers around them (eg in a choir), or as loudly as they hear their voice on a recording, or they want to replicate the same intensity as the teacher's vocal demonstration. Singers who want to *hear* their voice as 'powerful', or to match the volume of other voices or recordings, 'force' their voice, rather than 'releasing' it.

Second, a singer hears the vibrations of their own voice conducted through bone, tissue and fluid in the head. This affects the perception of volume; half is heard through body conduction, rather than through the air conduction in the room. This also effects perception of timbre (tonal quality). The lower harmonics sound stronger than the higher ones, as though the 'bass' is turned up or the 'treble' turned down on a hi-fi; so our voice will always sound less ringing or clear to us than to a listener. A singer producing a 'thin' tone voice, or who favours a 'twangy' tone may be *listening* to themselves, and trying to make their own voice sound 'ringing' or clearer to themselves; this will inevitably mean a tighter tongue and higher larynx position, which compromise vocal efficiency.

Third, the acoustic environment affects how the singer hears their own voice. Reflector surfaces vary from one space to the next, so there is no consistency in how the singer will hear the sound coming back, and different harmonic bandwidths (e.g. 'treble' or 'bass') can be enhanced or dampened. For example, it can be very disconcerting after practising in an empty hall before a concert to feel the sound being sucked away when the curtains are drawn and there are lots of audience bodies absorbing the sound waves rather than bouncing them back to the singer in the concert itself. An audience may hear a really good sound while the singer thinks their voice lacks power or colour. Typically, singers who try to make their voice *sound* 'right or 'good' have weak body awareness, and do not trust their bodies; learning physical technique can be slow because the singer keeps listening and evaluating their sound rather than focussing on the physical skills that would actually improve the sound.

So, because a) much of the initial sound signal of the voice moves away from the singer or is distorted near the ears, b) half of what the singer hears is distorted by conduction of vibrations through the singer's body, and c) acoustic environment influences the sound waves unpredictably, *a singer can never know what they truly sound like to the listener, and should never listen to themselves when warming up, practising or performing.*

Furthermore, a singing teacher or choral conductor is doing more harm than good if they draw the singer's attention to the sound quality; guidance on physical technique is far more useful than making points about tonal quality or volume. Only well trained singers know how to translate information about sound back into what they need to do physically to modify the sound or make the process of singing easier.

How do you warm up your voice without listening?

So, while singers often want to use their ears to decide how well they are doing, this is a very inaccurate and misleading method of self-evaluation. A singer needs to learn to trust other types of sensory feedback instead. In my current work, I focus on 4 AIMS for a warm-up (two physical, two mental):

1. Free up and activate individual muscle groups - Even without vocalising, we can do a lot of stretching, bending, breathing, releasing of different muscle groups to prepare them for the act of making sound. The voice will always deliver better when the body is happy, and focusing on body first helps us get away from the temptation to listen to ourselves.
2. Coordinate muscle groups – Again, a lot can be prepared without making sounds. For example, we can 'ease the knees', improve postural behaviour, lengthen the neck, and activate abdominals with an exhaled breath through pursed lips, without activating vocal cords. This prepares us for the correct 'feel' of the body and coordinated muscle groups, without being distracted by hearing our own voice. The vocal cords can only be exercised fully by actual sound-making, so this needs to be introduced later in the warm-up process.
3. Develop awareness of and mental focus on 1 and 2 – Singers need to know their body, because it's the body that makes the vocal sound. A warm-up should aim to heighten the singer's awareness of what the different muscle groups are doing, and how they are interacting in the act of making vocal sounds. Awareness brings mastery, bearing in mind that there can be a point 'beyond awareness' where everything is in 'flow' and we are just 'in the zone'. But the independent singer (one who does not need to rely on a listener's or teacher's feedback or coaching) must enhance ever greater levels of self- and body-awareness.

4. Declutter the mind – As well as making sure we have detached from wanting to monitor our own sound quality, we also need to let go of attending to extraneous thoughts, whether it is audience responses or needs, the washing up, whether we will make a mistake and lose face or not, or a stray noise or movement in our environment. Unless we can do this, we have little chance of doing 1, 2 and 3 well.

Singers can judge for themselves how well they are meeting these four aims, and none of them depends on listening to oneself. In addition, singers can measure themselves against the following, observable 10 OBJECTIVES:

Before sound ...

1. Are the knees loose ('ease in the knees')? Is the lower back relatively flat? Do the middle and upper back and shoulder blades feel open? Are the shoulders sitting above the hip and feeling loose? Is the back of the neck long? Does the body feel 'fluid'?
2. Do pelvis, belly and abdominal muscles (rather than middle, upper chest and ribs) feel like they are doing most of the work in 'breathing for singing', while the ribs and back feel wide? (I call the abdominal-pelvic muscle system the downward-pointing 'lower triangle'.)
3. Do the shoulders, neck, tongue, jaw and lips feel free and loose?

Adding sound ...

4. Does the onset (beginning) of a note on a vowel feel 'clean', started by a neat coordination of breath and vocal fold vibration, rather than a sharp glottal click or 'attack' in the throat (are we 'singing *through* the throat, rather than *with* the throat')?
5. When vocalising on a neutral vowel, do the shoulders, neck, throat, tongue, jaw, and lips (ie everything from shoulders upwards, what I call the 'upper triangle') feel like they are 'doing nothing'?
6. Do the muscles around the back of the jaw and underneath it feel free? And does the larynx feel low? Even when exhaling? Even when vocalising? Over a wide pitch range, scales and arpeggios? Over slow and fast passages?

Adding articulation ...

7. When adding vowel changes, and, later, consonants and full words, does the 'upper triangle' still feel like it is 'doing nothing', so that it feels like the 'lower triangle' is basically running the voice?
8. Is this still the case when doing slow note practice on *crescendo* and *diminuendo* (getting louder and softer on single notes or phrases)?

Connecting with the 'inner life' of singing ...

9. Does the body (breath mechanism, throat, mouth resonators and articulators) feel responsive to be able to express subtle changes of emotion?
10. Does everything feel alert, but easy, and does the mind feel calm and aware, rather than 'revved up', narrowly focussed on sound, one muscle group, or something extraneous? This question may seem too 'touchy-feely', but we need to ask 'is what we are doing everything it can be?' (given our circumstances on the day). And we must answer with intuition, with whole self and 'felt sense'. 'Thinking' too hard narrows our awareness and takes it away from whole-self/body-consciousness.

Good teachers and conductors 'hand singers back to themselves'

A good teacher or reliable singing colleague can help us achieve all of these things. But if they are doing the monitoring and advising *for* us, then we do not learn to trust ourselves, and our own proprioceptive feedback as singers. So from the very earliest stages of learning, teachers/choral directors need to help students develop these self-monitoring skills – otherwise students and teachers unconsciously collude in the student developing a

dependency on the teacher, and diminished self-trust in practice and performance. I think a teacher is failing if their student says they always sing better in a lesson than anywhere else.

“All models are wrong, but some are useful.”

(George Box, statistician, b. 1919)

No article or system can be exhaustive. Readers may well decide that there are important aspects of a warm-up or vocal technique that have been neglected here, or not described well. It is not necessary to agree with everything in this model; it is sufficient to take what is useful and leave the rest. Warming up is a dynamic, in-the-moment process. It should not be formulaic, but responsive to the needs of the singer on the day, and we never start in the same place twice in terms of how our body is, or where we are psychologically or emotionally. The framework presented here for creating a measurable vocal warm-up process is a still-evolving model. But one idea that seems to stand the test of time is that singers should be wary of listening to themselves.

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