

Demystify Singing & Explore YOUR Voice



exploring voice
Developing strong, authentic, joyful voices

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The Main Ideas

Emotions cause predictable movements in our vocal tract
(bottom of lungs to lips)

Which cause predictable changes to the acoustic trace of our
voice

Which our listener can use to interpret our mood.

The link from emotions to the vocal tract is usually below
conscious voluntary control (below the cortex)

But we can gain conscious control and then use this to give
ourselves a variety of vocal colours.

There are a variety of situations in which we are definitely
going to sound bad. This doesn't mean we can't sing at all.

There is a huge amount of singing that can be done with
minimal training that is both gorgeous to listen to and good for
you.

*There is some evidence that lower pitch/large amplitude (louder)
vibrations of the vocal cords that aren't excessively pushed together
can **heal the vocal folds at an intracellular level.***

Why do we think we can't sing?

Western Society has 2 Strong Myths

1. Only some people are "real" singers and everyone else should keep quiet or keep it in the shower
2. It takes months, years of training before you can sound good.

About 18 months ago I sat in a course with 9 Speechies who identified themselves as confident singers and 9 Speechies who said they were dreadful singers. Very quickly we were singing songs together in a variety of styles with a beautiful blend- nobody's voice stood out.

There was **no difference in ability** (singing in the keys we were singing in) between the Speechies who had sung for ages, and those that truly believed they couldn't sing. Mostly it was a difference in opportunities to experience their abilities.



Urbanisation -> Professionalisation of Singing

In "How Music Works" David Byrne points out that music is written for the acoustic space it is to be performed in. African drums don't require amplification and would sound a mess in a cathedral or closed in space where there was reverberation. The slow long notes within a single mode of Western Medieval music suited the cathedrals it was played in.



For the majority of human history, people have lived in small groups, of 200 people or so, with reasonable space around. Cultures still living in such a set-up have an expectation that everyone sings. There's no such thing as a performance, because there is no audience, everyone is a participant.

Only recently have we been moved into close quarters with strangers. In such a situation, it's no wonder that loud voices and singing is discouraged. A similar thing has occurred with dancing, although not to quite the same extent.



In Australia, we also have the tall poppy syndrome. That doesn't help.



BUT!!!!!! We still have the anatomy and the neurological wiring to sing.

AND we use it EVERYDAY to communicate.

The **melody, rhythm and the timbre/tone** of our speech is crucial to determining the meaning of our sentences and is the social glue of our relationships

How do we tell if someone is sad, happy, scared, excited over the phone??? By the timbre/tone, pitch, rate and rhythm of their voice.

Situations in which you will sound bad and their fixes

It's really easy to sound bad and mistakenly assume you can't sing

Situations in which you will sound bad	Fixes
<p>Uncontrolled nerves - (E.g. singing in public for first time) or putting self under pressure</p>	<ul style="list-style-type: none"> - Take the pressure off yourself "give yourself permission to fail" (my very wise bro – Patrick said to me when sat my first exam in 10 years. He was quoting the <i>Inner game of Music</i>). - Play, muck around. - Focus on the intention, moment and the music
<p>Singing in the wrong key for your voice</p>	<p>Starting only 1-2 notes higher or lower can make a huge difference to how your voice will sound. Get to know your starting notes for your favourite songs. If you are singing by yourself and get stuck, start again a little lower or higher.</p>
<p>Singing beyond your current range in which you have good ear-voice control</p>	<p>You already have great ear voice control and you use it to control emotional communication everyday. There are a huge number of songs which don't require any expansion of your range.</p>
<p>Singing across/within register change without practice</p>	<p>I suspect cultures that sing all the time don't need to consciously practice the register change. But for the rest of us, it is something we need to practice to avoid clunky, uncontrolled singing. It involves releasing natural tension.</p> <p>There are a huge range of songs that stay within one register, so you can enjoy singing those without having to work on the change.</p>

Mirror Neurons



When we see another person carry out an action (e.g. picking up a sandwich and opening their mouth) ~1/3 of the neurons that control our hand and mouth performing the same action are activated.

You can only imitate accurately what you can already do. Otherwise you will do the closest you are able. Most of this workshop focuses on gaining **conscious control** of what you already can do.

Singing should feel good:

Singing in the lower part of your range, sometimes called “chest voice”, you can often feel vibrations in your chest. Singing in your head voice, the upper part of the range, you'll often feel vibrations in your head.

You may have noticed there are some songs/ singers that just feel really good when you sing along with them. Sing along with these singers to kickstart your own voice.

Good Vibrations

(“Resonant Voice” Verdolini et al 2012)



Certain sounds set up our vocal tract to be the most efficient in terms of volume and endurance Titze (2006).

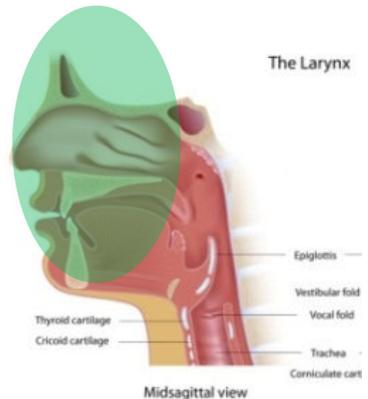
A sign of this efficiency is having vibrations in in the magic triangle – front of our face, across our cheeks, along the roof our mouth.

It’s important to tune into these vibrations, especially in group singing when you may not be able to hear yourself

Try: Wee Woo Yeah You, Yeee
Very, Zoom, Zeee, Meee, Knee
Or using a Straw OR lip or tongue trills

Contrast doing with a tight jaw or
tight lips, with a free jaw or free lips

Move your jaw and tongue around until
you find the best vibrations.



How to use this in singing

Phrases starting with other consonants or vowels can make it harder to get good voice. If the song starts with a vowel, add one of the consonants or trills or do with a straw beforehand to set up your vocal tract. If it starts with a different consonant, replace it with these until you get that feeling in the vocal tract, then swap back.

Songs: Happy Birthday (A3-C4 start)
Don’t Dream it’s over – N.Finn

What not to do!!!!

There's really only **1 thing** that a singer should avoid



Try: Pretend to pick up something heavy or take a huge breath and hold it - try to speak through still holding you breath (only do for one to two words).

Singing should NEVER feel like this.

There are a second set of (False) Vocal folds sitting above the true. Their jobs are to:

- close the airway strongly to build pressure within the stomach to cough, lift heavy items
- close the airway when swallowing (part of several levels of closure)

Constriction/Squeezing/Straining/Pushing:

We don't want this whenever we are singing but it likes to kick in when



1. We are nervous (fight/flight/**freeze**)
2. We aim to go high or loud, muscle tension overflow
3. At the end of our breath
4. When we are struggling to say something (e.g. imagine sitting at a computer – about to write an email that contains bad news)
5. Often when we “try” to do anything new or tricky

The Solution: Wide Throat

Strengthen the muscles that pull the false vocal folds out of the way.
Needed whenever going **high** or **loud** (making an effort)

1. Have a listen to your breathing with your fingers in your ears - Are you louder on the in or out breath?

2. **Hidden giggle** –10/10 smile on face
don't want child to see you laughing (+
hiss laughter)



e.g.
cat

OR



Roll tongue back along the top of the mouth, feel the widening in the throat, move the tongue up and forward but keep the widening in the neck. You should be able to switch on the wide throat without having to move your tongue and being

able to keep your tongue free to do it's own job.

3. Should get to point of silent breathing and then add voice. Silent breathing (with your fingers in your ears) is really the only way to be sure that you have created a wide throat. Feeling cool air is another good sign.

Constricting and widening the False vocal folds from Alberto ter Doest

<http://www.vimeo.com/36130892>

How to use this in singing

If you plan to sing loud or high, voluntarily and deliberately widen your throat.

You may feel **effort in the muscles** of the **neck**, in the **tongue** and in the rest of the body, which is fine. As you sing more, it'll take less effort to sing the same notes and volume. What you should feel **INSIDE** the throat is.....NOTHING

How you start

How you start your voice can influence the sound of the entire sentence/phrase. We use different starts throughout our day to communicate non-verbally.

Type of Start	Emotion	In Song
<p>Glottal pop</p> <p>Closing the vocal folds completely so we hear an initial burst of sound. Sudden and alerting</p>	<p>Oi (indignant)</p> <p>Eh</p> <p>Oh (taken aback)</p>	<p>Single Ladies (Beyonce)</p> <p>Gotcha (from <i>The Sapphires</i>)</p>
<p>Smooth Start</p> <p>Closing the vocal folds as the air stream starts to move</p>	<p>Ohhhhhhhhh (sympathetic)</p> <p>Ohhhhhh (realisation)</p> <p>I've always enjoyed.....</p>	<p>Alleluia</p> <p>Ave Maria (Bieble)</p>
<p>Breath Before Tone (+/- during)</p>	<p>Aren't you going to invite me in?</p>	<p>Four Seasons in one Day (She will have her way)</p>

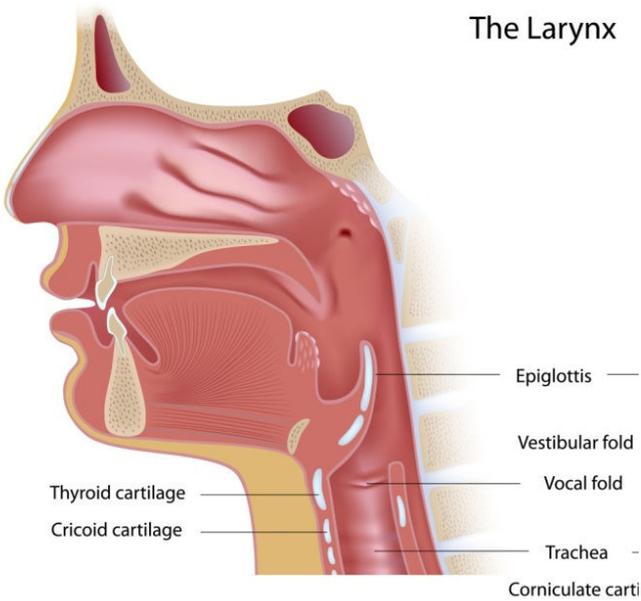
Be aware **Breathy** **Quiet**

You can be: Breathy & quiet vs Clear & quiet
Clear & loud vs Breathy & loud

Breathy can be sexy, intimate, non-threatening, ethereal but **you risk giving yourself windburn** if you use it **too often** OR if you **combine it with loudness**.

You'll also **run out of air faster** – compare the breath stream on your hand of clear voice versus breathy voice.

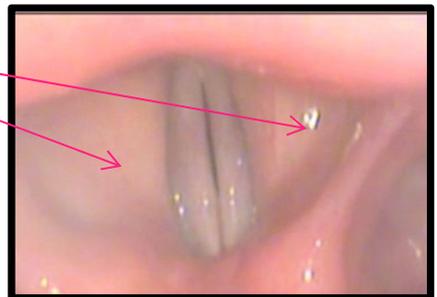
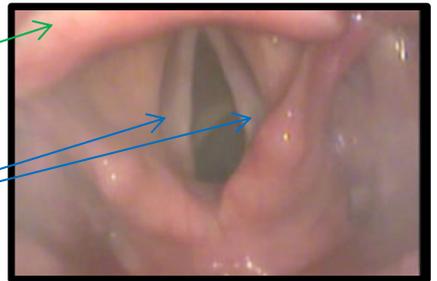
The Vocal Tract – Lips to the bottom of the Lungs



Epiglottis

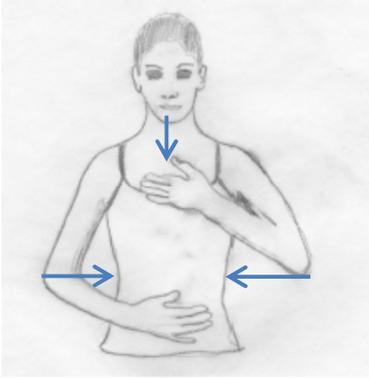
**True Vocal Cords
(pearly white)**

**False vocal folds
(pink)**

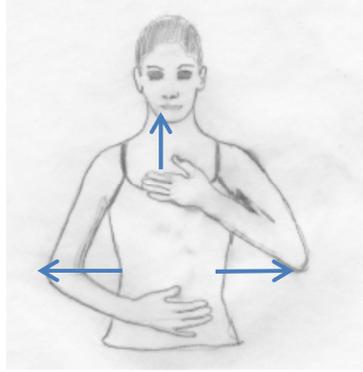


Quick Guide to Breath for Singing

Classic Abdominal Breathing



Belly in, Breathe out



Relax belly, air will get sucked in. .

The lungs, larynx and vocal tract are a dynamic system and affect each other both ways. Different types of singing (set-ups in the larynx) require different types of breathing.

Classical singing typically requires large volumes of air
Some modern types (especially belting) – need only small amounts of air and you can cause damage to yourself if you try to “push” the air through.

Belt demonstration. Huge long sound with 1/3 max air volume.

Try

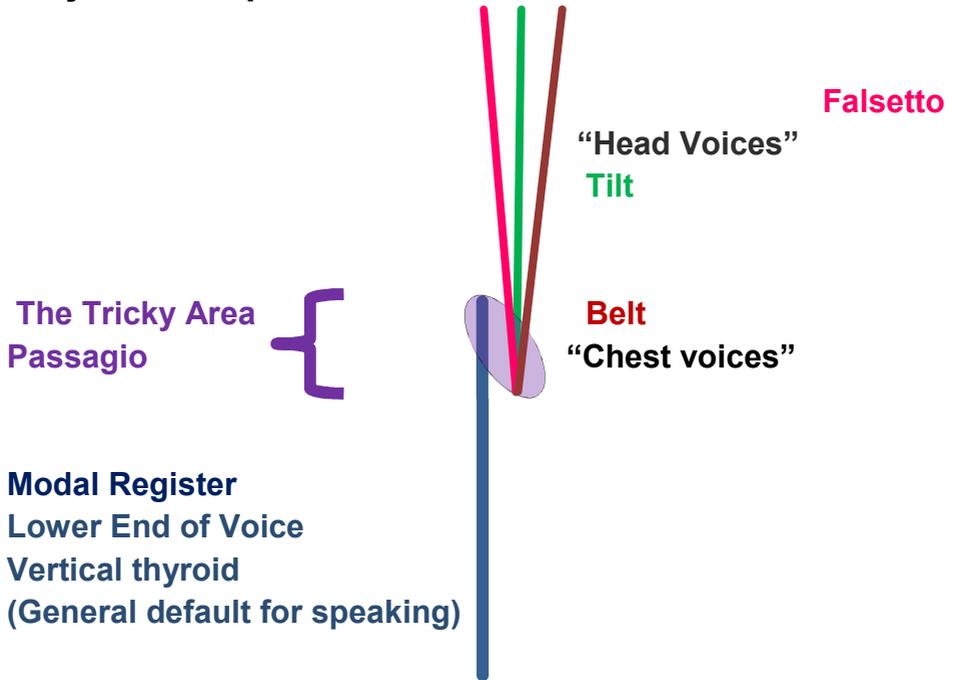
- Hold your breath at a 10/10 effort
- Now take a small breath, hold it, and give it a rating out of 10
- Now take your largest breath, hold it, and give it a rating
- Now take your largest breath, hold it, then pull in your abdominal muscles.

It's good to be able to switch your abdominal muscles on and off, and be able to control the amount of air you take in. You should also avoid raising your shoulders when you breathe in. If you try to push too much air through – the larynx will either squeeze back harder (as in the above) or get the vocal folds out of the way by popping into falsetto.

How to use this in singing

When approaching the passagio deliberately relax the abdominals (if you are prone to tightening them). When you feel tight in the throat, check your abdominals.

Why the Bumps???



The Passagio = passage

Those pitches in which we could do a number of different movements to make the same pitch.

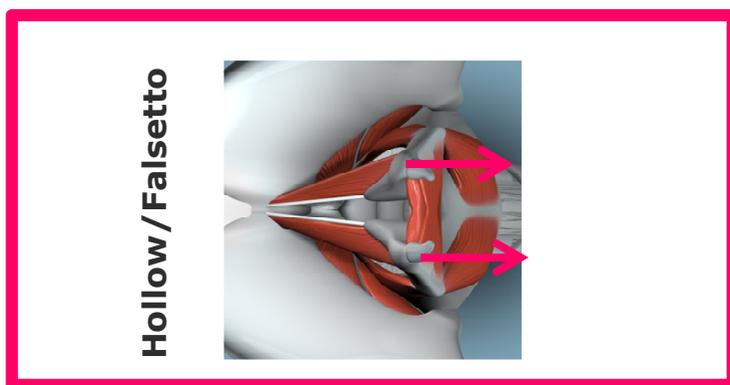
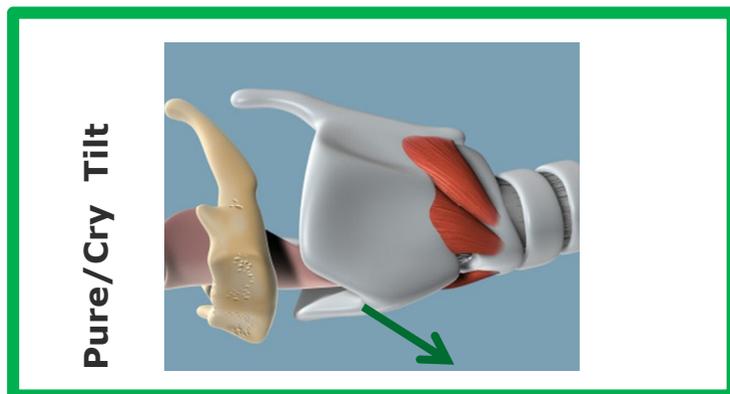
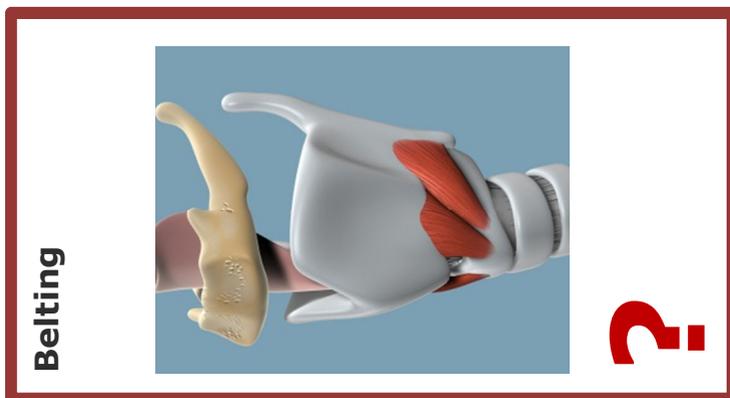
There are 3 major movement (see next page) to get into high pitches.

There is a tendency for movements to be black and white – all or nothing, it takes skills to smooth a movement out, refine and make smaller.

This is what we need to do to “join up” our head and chest voices

We tend to squeeze as we go higher in chest voice, but that makes it harder to transition across

Above the Passagio



Three basic ways to get high



Hollow -Falsetto
Stiffer/Longer
Often breathy
Little effort
Marilyn Monroe
"Happy Birthday
to you

Pure/Cry/Tilt
Thinner/Longer
+/-twang
Generally smooth
start
May have vibrato

Belting
Smooth or glottal
start
Always loud

Hollow/Falsetto
Can be hard to
maintain
Dry out the vocal
chords
Good as the sauce
and not the
sandwich
Princess" Yeah"

Pure/Cry
Sustainable
Without twang is
pretty sweet.
Puppy Dog
Wimpering
Soothing baby
Excited high
pitched woo,yeah.

Belting
Uses **tiny**
amount of air
Risky – if you get
it wrong, can
cause decent
amount of
damage.

Smoothing between the registers

Almost everyone's passagio lies within a C Scale

For men C3-C4

For ladies C4-C5

Do at ¼ speed – Tai Chi

Singing softly (but not breathily)

1. Siren on ng, oo from C – A – C

- As you reach clunking point, try each of the following



- Release the abdomen
- Push the tongue up harder against the palate
- Wide throat, wide throat, wide throat



2. Sing a yoo on each note up the scale – cry a little bit more each note,

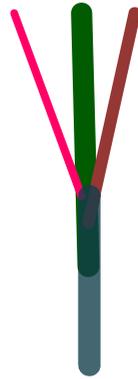
Compare this with glottal popping up the octave

3. Go from glottal pop to smooth quiet start on each note.

4. Gradually increase your twang

While still working on getting seamless sound through the passagio

- In songs, work out for phrases what quality you are going to go in in the passagio and above or below. Use the starting cues to get the notes consistently.
- Do the transitions SLOWLY – “Rushing makes ugly children”. – Gerald Marko



Changing the length of your instrument.

High/short/narrow: Brighter (tend to be smiling)

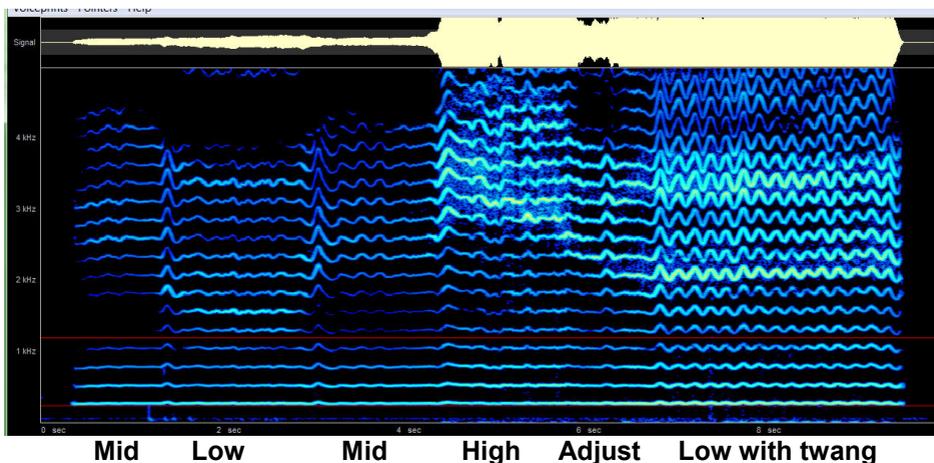
- Common in rural areas (from Papua New Guinea to Northern Italy)
- Happy, excited or nervous
- Alerting, carries very well over long distances very efficiently.
- Burt's Voice – “Hello Ernie”

Mid: “Balanced”

- Average speaking voice (although we all have tendencies for a bit high or low)

Low/long/wide: Rich, Dark (tend to be pursing lips)

- Ooooo diddums: sarcastic sympathy
- Combine with glottal start = authoritative
- Combine with smooth start = sad
- Nella Fantasia – part of the classical and opera
- Ernie's voice – “Hello Burt” – note uses wide lips



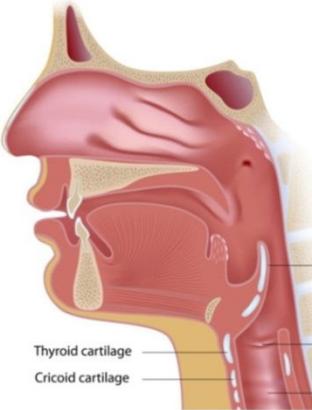
Playing with vowels

How we pronounce our vowels is a key part our accent. There are NO vowels or sets of vowels that are correct for all circumstances.

A certain set of vowels is used in classical singing. But these sound ridiculous and fake if used in gospel, soul. You should sing whatever vowel sounds sound right to you.

Moving your tongue, jaw and lips around may change the sound of the vowel and the timbre of your voice and you may discover some sounds you didn't realise you could make.

Tongue options: up and forward (gives larynx chance to get to higher pitches), up and back, mid, down forward, down and back.



Lip options: forward, mid, back

Jaw options: forward, mid, back and down

Freeing up the Tongue

Often the base of tongue can be tight or the tongue can want to sit low and back – this restricts the movement of the larynx and can restrict pitch/timbre options.

Do: Put tongue into ng position then push further up/forward for 10 seconds x 1-3 reps

Stretch tongue out as far as possible for 10 secs. X 1-3 reps

Notice where your tongue is now resting in your mouth

Warm ups

These can also be used before extended periods of talking. The purpose is to:

- 1) give all the muscles of the voice box, and the vocal folds themselves, a **good stretch**,
- 2) **build muscle strength**.
- 3) get any **extra fluid off the vocal folds**,
- 4) Gradually **increase you range** or **maintain it**
- 5) to minimise any vocal injury during singing or speaking.

Sirening

Lip trills: horse, baby blowing raspberries, toddler playing with a car

Tongue trills: Italian r, gargle

Straw singing

To set up most efficient vocal tract.

Ng sound (at the end of the word *sing*) This is good for getting your tongue up and high which allows your larynx/voicebox to reach higher pitches.

Oo: This sound appears to retract the false vocal folds, get a very clean/pure sound.

Start in the middle of your range and gradually move higher and lower. **As you get to your register change(s), slow down and “back off”**, just notice what it takes to keep it smooth



Intervals and Arpeggios:

While I believe that singing songs themselves is the most useful singing exercise, I think intervals and arpeggios are worth practising to find it easier to:

Harmonise

Improvise

Major arpeggio (Do, Mi, So, Do, So, Mi, Do) (1, 3, 5, 8, 5, 3, 1)

Minor arpeggio (Do Ma So Do So Ma Do) (1 3b, 5, 8, 5 3b, 1)

Major Thirds

Major Pentatonic Scale

Modes are also pretty fun to play with (e.g. dorian, Lydian etc – can be found on itunes, google search)

What if I can't match a note???

That's okay! You need to have an opportunity to feel what it's like to have someone on the same note as you– get a friend to match your note. Then try moving up and down a bit and have your friend follow you.

Note – people can find it more difficult to match a piano or other instruments as opposed to human voices because of the timbre/tone/quality difference.

Tuning into your own voice

Not listening to yourself sing, is like not watching yourself handwrite, you'll get the basic shapes right, but it'll get pretty messy.

In a group

- Focus on your own sound
- Focus on everyone else's sound
- Go back and forth between the two

Eventually go 50-50 (if you are aiming to blend within a group – e.g. choir)

You can also do this with a recordings of your favourite singers.

Learning New Skills

1) Stimulate Neuronal Activation and Growth SNAG
Neurons that fire together-wire together (Diegel, D 2011).
If a 92 year old can make new connections, so can you!

2) If aiming for solo performance, there may be an extra level of control required. However most singing within current range should be easy

3) Attention to results vs attention to movements - bit of an ongoing debate, I've experienced success and drawback with both approaches
- Let the emotion/intention take you there, use the pre-existing routes, but with attention to noticing how it feels you can gain conscious control

4) Imagining or remembering the sound we want and do the movements silently can help us gain control quicker.

5) We learn by figuring out what NOT to do - Cerebellum.
Enjoy the wobbles - to be expected this is the body making the tiny adjustments required, means you are doing something new. When we go slow, we allow the cerebellum to do it's job.

6) Allow yourself 3-4 goes before deciding to try another way. Your body will make corrections - and often these will be over and under corrections.

7) Easier to do extremes first and then refine 0-10, 0-5-10-5-0, 0-3-5-7-9

8) Practise at multiple levels. Individual vowels, phrases, whole songs, vowels, songs, phrases.

9) Muscle fatigue is great - means you will develop strength/endurance. Straining or pushing is never okay.



Controlling Nerves

Russ Harris makes the wonderful point in “The Confidence Gap” that you can’t expect to feel confident unless you’ve actually “practised “something. I use the word practice in the broader use of doing. Many people are nervous about writing, dancing so they never actually do it.

The other important point is where your attention is focussed.

Studies have shown that successful golfers and those who “choke” under stress have the same physiology going on in their bodies – adrenalin, increased heart beat. But the brain scans are vastly different. Successful golfers have a large amount of Right Brain activation; they are lost in the physical experience of the game. The “chokers” on the other hand have a lot of left brain activation – a lot of monkey mind chatter second guessing everything.

Having gained conscious control of singing, you should feel confident that your voice will be there for you. Alternatively you can rely on your mirror neurons to do the job for you group singing situations. This is the phenomenon of “I sound good if I’m next to a good singer, I sound bad if I sound next to a bad singer”.

In the moment of a performance – focus on the intention – is it about you showing off??? OR sharing something beautiful for the “higher good”

Vocal Recovery

An old standard recommendation for voice difficulties was “voice rest”. At times – “total voice rest” was recommended, sometimes for up to 3 months at a time. This meant NO talking. We now know this is not only unnecessary, but also may be detrimental depending on the state of the vocal folds.

The only situations in which total voice rest is recommended is post-surgery on the vocal folds or if there has been moderate –severe damage e.g. vocal fold haemorrhage – bleeding. The current recommended period is 3 days, based on our understanding of tissue healing.

In cases of **mild injury** – moving and vibrating the vocal folds can speed recovery. E.G after a night of talking over background noise.

A study just published showed that controlled movement and vibration of the vocal folds could increase anti-inflammatory factors. The participants were taught “resonant voice” while they had mild damage. They did exercises for ~4 minutes followed by 16 minutes rest, then after four hours, did the resonant voice exercises 4 mins every hour (Verdolini et al., 2012).

How to apply:

If your voice is feeling a bit rough/strained, try doing

- 1) Soft (but never breathy) tilted sirens through your range on an **n** or **ng**.
- 2) In your lower range run through words/songs with lots of w,r,y, m,n focusing on feeling the good vibrations in your mouth, with nothing in your throat.

****If any of these activities cause any irritation (you feel the need to throat clear/cough) discontinue****

****Any voice difficulties that last longer than 2 weeks should be investigated by an ENT (you will need a referral from your GP)****

So When are YOU Going to Sing????

We need times and "safe" places to sing. This may be at first away from family members, but would also be wonderful to do together

<p>Type of Singing</p>	<p>Familiar warm ups (2-5 min max), X 3-7 times/ week.</p>	<p>Singing for fun as long as you want.</p>	<p>Exploring more colours and pitches and developing more skills: Within exercises or songs 10-45mins</p>
<p>% of attention, Good times to do it. Places and times</p>	<p>~50% Shower EASY driving Household tasks Waiting for the kettle (nothing heavy)100%</p>	<p>~50%EASY driving Household tasks (nothing heavy)</p>	<p>100% When other household members are out, watching tv or listening to music. Lounge-room, bedroom, dining room well aired garage/shed Best after have talked for awhile. Note: you can do a lot of very useful work quite quietly (mirening)</p>

Your Week

Saturday			
Friday			
Thursday			
Wednesday			
Tuesday			
Monday			
Sunday			
	Morning	Afternoon	Evening

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Recommended organisations:

- National Centre for Voice and Speech (USA) – brilliant handouts on vocal care and warm-ups. www.ncvs.org
- The Australian Voice Association
- ACT – Acceptance and Commitment Therapy – great resources on mindfulness. www.actmindfully.com.au

Websites for Choirs

www.anca.org.au

<http://www.acappellacentral.com.au>

Your local council website

Be prepared to squawk if you want to sing:



It really shouldn't take too long (i.e. 1 to 3 sessions) to transition from your speaking to a singing voice - they don't need to be that different. A bit of squawking is to be expected, and you'll only slow things down if you try to avoid it.

Once you've found your most natural singing voice, if you want to sound good all the time, stay within the range and qualities you currently have. I was able to sing in public for 10 years without doing any scales or

technical work.

But if you want to give yourself more options, then you are going to have to be prepared to squawk occasionally while your body finds out how to make new sounds.

Images, other than of my own laryngoscopy were purchased from:

<http://www.dreamstime.com/>

I acknowledge the traditional owners of the lands on which I work and live. I pay my respects to elders both indigenous, and those of the more recent arrivals, who have dedicated their energy to keeping their communities strong

CD Tracks

1. Intro to Good Vibrations
2. Good Vibrations words
3. Cat hiss/hidden giggle to open up the throat
4. Rolling tongue back to open up the throat
5. How you start
6. Breathy vs Quiet, Sensation and laryngeal recovery
7. Laryngeal height
8. Micky with different laryngeal heights and starts
9. 2 ways to get High
10. Lip Trills, Ng and ooo sirens
11. Playing with vowels
12. Major Arpeggios
13. Minor Arpeggios
14. Major Pentatonic Scale



exploring voice
Developing strong, authentic, joyful voices

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