

TECHNIQUE

REGISTERS

The term 'register' refers to a general grouping of pitches produced by similar laryngeal movements, glottal and pharyngeal shape, and related air pressure, with resulting similar tone quality. Strictly speaking.

But every singer and teacher seems to have his or her own personal definition and theory of vocal registration. Some teachers say there are two registers: head and chest. Some say no, it's head, middle and chest; some call it heavy and light mechanism, or falsetto, and some teachers insist there are no registers at all, it's just one big voice.



"I can't sing that -
It's in my break!"

But if the teacher's description doesn't match the singer's experience, you may as well be telling me I have three arms. What? No, I don't! I'm sure of it!

So before going on, take a moment and describe your own voice; do you have a break? Do you have two registers, three, or more? Is it easier to sing in one register than another? Do you prefer one over another? These descriptions will change over time, but how does it feel right now?

Four Basic Registers

While singing teachers vary profoundly in their register models, *laryngologists* generally agree on these four registers:

Vocal Fry: the lowest register of phonation, it often sounds like clicking, popping, or scraping; also called glottal fry. [Example](#).

Modal: the next lowest register; most common speaking range, also called chest voice. Men sing mostly in this range, as do most women in pop styles. [Example](#).

Falsetto: the next register upward, also called head voice in women. Primary register in female classical styles. [Example](#).

Whistle: the highest register, squeal-like; also called flageolet. [Example](#).

Register is *associated* with pitch, but it is not tied to it. Specific pitch ranges vary dramatically from one singer to another, and practice can greatly expand each range. There are no fixed "break" points. A break can be moved radically up or down, and a skilled vocalist may be able to sing the same pitch note in three different registers - [example](#). (see "experiments and exercises" below)

Making Friends with Your Break

Start by calling it a *passaggio*, because flattery never hurt anyone. Now think of it as a natural and necessary function. If you were leaning on one leg and someone pushed you in the opposite direction, your other leg would naturally engage to prevent you from falling. Your *passaggio* is doing the same thing, like changing hands for a better reach. What a good friend.

Now play with your new friend – this is especially important if you have a history of hostile relations, or you’re temperamental about it. Get over that; conductors don’t like that (“Your break? What? You’re not on break, sing the dang note!”).

Here’s some more terminology that’s handy to know, if only to keep you from feeling intimidated by people who use these words.

Adjustimento	Shift in the vowel shape and tone production technique in order to move smoothly through the range
Belting	Chest voice, or modal register singing; term used often in theatre.
Break	The transition from one register to another, also called <i>passaggio</i>
Fach	Operatic system of vocal ranges, subdivides Soprano-Alto-Tenor-Bass types into many more. e.g. Lyric Soprano, Lyric Tenor, Basso Profundo
Heavy mechanism	Mode of vocal cord vibration in which the vocalis (thyroarytenoid) muscles are predominant and the vocal folds or cords are thick; also called modal register, chest voice or speaking voice
Light mechanism	Mode of vocal cord vibration in which the vocalis muscles are less active, the cricoarytenoid action of the vocal ligament predominates, and the vocal cords are more elongated and thin; also called head voice or falsetto.
Mixing	Using a balance of the light and heavy mechanisms to smooth over the break.
Passaggio	Fancy Italian term for transition or break
Range	Span of pitches; also the most common system of voice typing: Bass, Baritone, Tenor, Alto, Mezzo-soprano, Soprano.
Tessitura	The fat part of the voice, the best part of the range; also, the basic home range of a given melody line
Yodel	An emphasized movement over the break, usually, but not always, involving a wide pitch interval

It’s Different for Boys...

Male and female voices differ in overall size of instrument, range, and structure of their registers. While there are many similarities in registration issues, the language, feeling and management is different enough to require separate discussions a good deal of the time.

The exercises just below will work for either gender, but should refer to the most obvious of the breaks in your voice: for women, the break between the head and chest voices; for men, the break into falsetto.

Experiments and Exercises

The passaggio is very mobile and can be moved, accidentally or purposefully, by a variety of forces. Vowel shape, breath pressure, direction of the melody, muscle tension, warm up, vocal health or condition, and emotional attitude can change the break point entirely, for good or ill.

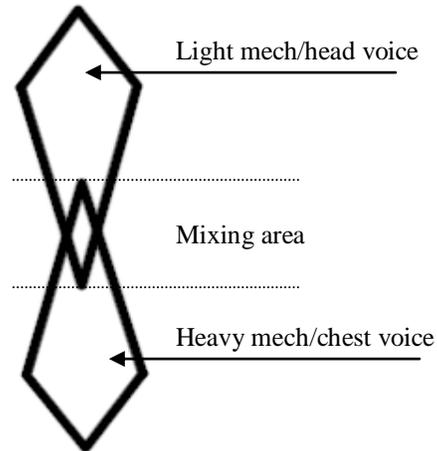
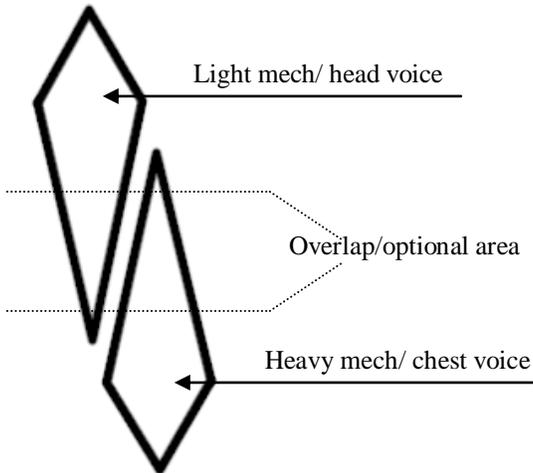
Experiments:

- 1) Direction matters. Try singing a smooth siren sound, starting at your very lowest note and rising through your range quickly until you cannot go any higher. Notice where your voice breaks. Then take a large breath and try a siren that starts high and descends down. Notice how the break moves in the direction of the melody line. Upward motion drags the break upward; downward motion drags it downward. [Example](#).
- 2) Vowels matter. Sing up the scale, 1-2-3-4-5 on the vowel Ah, in a place that almost hits your break, but not quite. Now change the vowel to Oooh and do the same scale. Now try Eee; now try Ohh; now try Nnng. The shape of your resonant cavity (mouth and throat) can push or delay the flip into the new register. [Example](#).
- 3) Breath energy matters. Using the same 1-2-3-4-5 scale upward, use the open vowel Ah at a place in your range where the break feels like it is in the middle of the scale. Experiment with this same scale at *pp* (very soft) and *ff*(very loud) dynamic levels. [Example](#).

Exercises:

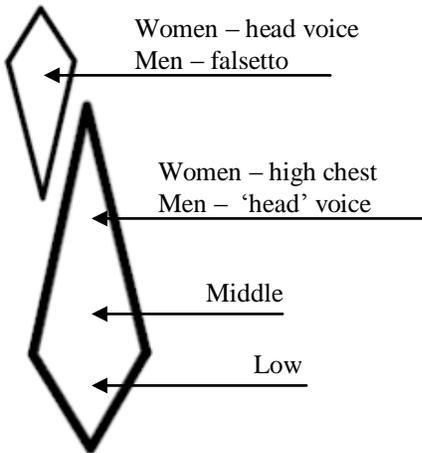
- 1) Yodeling: find two notes sufficiently far apart, on either side of your break so that you can easily feel the change as you move between them. Make no effort to minimize this flip; instead try to emphasize it. Alternate your vowels: Oh – Eee- Oh or Eee-Oh—Eee, which is easier? [Example](#).
- 2) Masking: using the same two notes as above, now try minimizing the difference in sound quality. Use your phone or voice recorder to truly hear yourself; repeat the exercise and notice the changes you have to make in order to really affect the sound. [Example](#).
- 3) Advanced: shrink the gap between the two notes, until you can switch back and forth from head to chest on the same note. Then try this on a single breath, without changing the vowel or dynamics. Experiment on different vowels, pitches, and dynamics. [Example](#).

Various visual models of range/registration structure



Overlapping ranges. Training allows a singer to sing high in the head voice and also low in the chest voice. Any given note in the mid region can be sung either in head or chest. Coloring the tone allows for smooth movement up and down without unpleasant or distracting shifts in sound from one mechanism to the other.

Mixing techniques. Lightening the breath pressure allows some singers an area where they feel they are using a little of both mechanisms. This is usually a smaller singable range than the overlapping area at left, and more difficult to learn.



Unequal overlap – while there is an area of overlap, one region is more developed, here it is the lower region. This model describes many female pop voices and most male voices. Note that the upper part of the male register may be called 'head voice' in men; though it may feel light, it does not use the light mechanism of falsetto.



Gaps in range - some singers feel they literally cannot sing certain notes that lie between their lower and upper ranges.



And sometimes it's just scary.

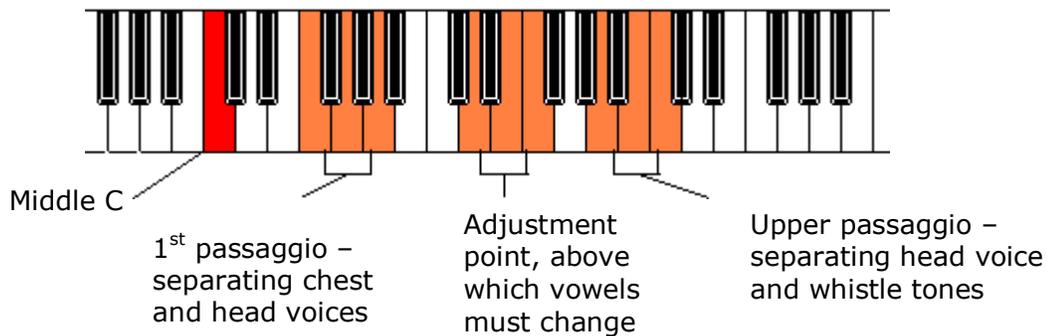
Ew! Wanna see what the vocal cords really look like while they work in different registers? Check out "[Beth's First Laryngoscopy](#)".

Common passaggio

Each voice is different, and changes with time and training, but here are descriptions of some common singing voice structures.

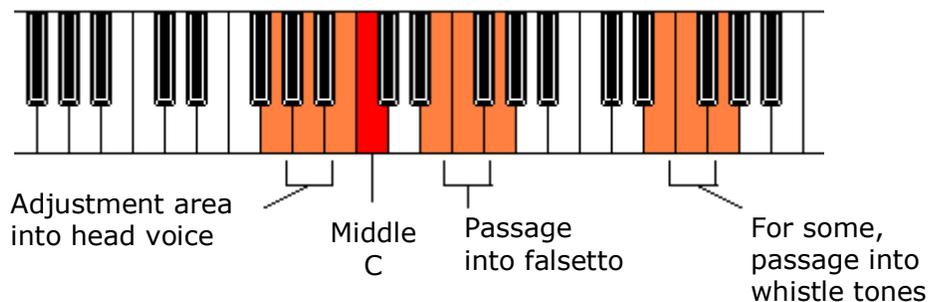
Women – chest register which has in itself a low, middle and high region; a head voice which may have low, middle and high areas, with an area of adjustment toward the middle of the head range where the vowel shapes must shift in order to ascend in pitch; above head, a very high register of whistle-like tones.

Female Common Passaggio



Men – chest register, wider than a female's, and with more distinct low, middle and high areas, the high area often being called the head voice, although it is not produced with the same mechanism as the female head voice; falsetto, which is produced similarly to the female head voice and has a similar adjustment point; a very high register of whistle tones, available to some higher male voices.

Male Common Passaggio



Masking, overlapping, and mixing

There are three basic techniques of negotiating a register transition:

- 1) Masking – Changing the color and tone of the final notes of one register to more closely resemble those of the next register
- 2) Overlapping – stretching and strengthening the edge notes of the register, widening each register so that either mechanism may be used for a given note, depending on convenience (direction, dynamic, musical style)
- 3) Mixing – lightening the breath pressure so that both mechanisms are gently engaged over a note, making the transition less noticeable. This works best at lower volume levels.

Each technique has its merits, but I find a combination of the first two to be most useful for a variety of repertoire.

Women (mostly)

For women, classical music is sung mostly (some teachers say entirely) using the head voice. Some singers resist this, saying the lower notes of their head voice are too soft or lacking in resonance to be used in performance.

Conversely, female pop music employs mostly chest voice, even fairly high into the range. This is very strenuous, and can be dangerous for singers without a reliable safe technique.

Singers with a wide region of overlap and a good command of tonal shifting can move easily from register to register, choosing a low passaggio for classical and legit styles, but choosing a high passaggio for more pop styles.

To stretch the lower edge of the head voice, experiment with descending melody exercises as above, changing mouth shape as you come downward. [Example](#). Which shapes make the descent easier and give an 'edge' or good resonant bite to the lower head notes, so that they are not fuzzy and weak? Be careful that head/neck posture stays gentle through the inhale, with no chin-tucking.

Because the head voice feels like it resonates in such a different place than the chest, it's important for students to work with a good teacher and a voice recorder during register training. Listening to yourself from the inside only gives a distorted understanding of the sound your audience hears.

For women, stretching the chest voice upward is similar to what men do to exercise their top notes (see below). A similar choice is necessary: to go large and dramatic, as for the climax of a Streisand song, or focused and flexible, as for a high gospel improvisation. High chest, also called belting, does require additional breath energy, and can tire out the voice quickly.

Men (mostly)

Few men are asked to sing in the falsetto range on a regular basis. Some higher tenors and countertenors may need to develop the kind of ease with the falsetto break that the female voice must learn for their much more common chest/head transition. For these singers, similar exercises work to strengthen the lower falsetto as the lower female head range (see above).

But for most men, and many women, registration issues involve stretching the range of the modal singing voice higher without losing stability and flexibility.

Singers of both genders tend to develop preferences for a particular area of their own range, exercising it more, often connecting their artistic identity to that range. The key to stretching into those less familiar areas of the range is to allow the resonance to feel (and sound) wrong at first. New areas of the body may resonate that didn't before: teeth and hard palate may buzz where chest and lips were expected to buzz. The sound may be ugly at first.

Baritones with a fondness for the rich openness of the lower-mid range may try to drag their open technique upward, which is exciting and powerful, but in the highest pitches, it begins to feel like a weight, and actually hurts. Similarly, tenors using the focusing strategy of the high range may find the sound simply fades into nothing in the bottom range.

Using a wide interval jump, try two different ways of practicing upward extension. In the first, try scooping up dramatically, full volume, a very open calling sound, Oh, Ah or Aww. With flowing breath, this can be a wonderfully effective sound, full and rich.



Open, round vs. Fine focus

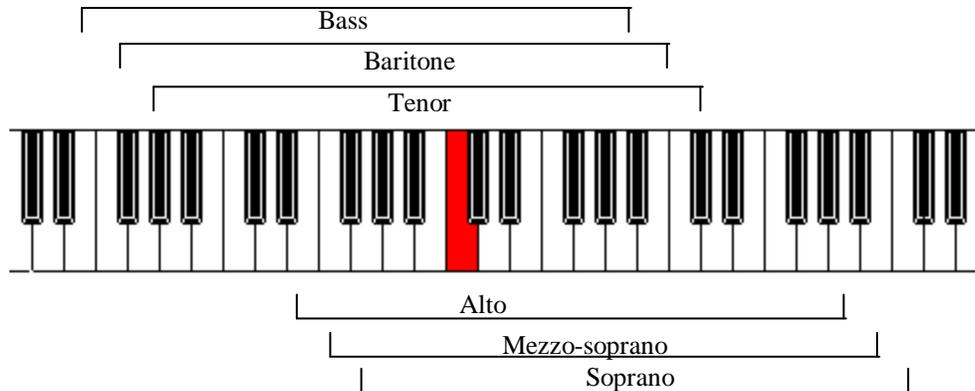
Now try the same interval, but with more closed vowel shapes of Ee and Ooh. Notice the change in feeling of "focus". Try using lyrics as well, not just warm-up vowels. [Example1](#). [Example2](#). Some shapes may feel bright, or nasal or pinched; others may feel full, or woolly, or uncontrolled. Experiment with a turn or trill to feel the varying flexibility.

Many singers find that a fine focus method goes higher, with more flexibility than full roundness. In both methods, neck stability and breath support are extremely important, and tongue or jaw tension, either too open or too closed, can block the upward movement and damage the instrument. Frequent, short practice is best, with warm water after. Falsetto or head voice descending scales afterward also help as a cool-down.

Range

Just as singers tend to overemphasize the location of the break, they also tend to overemphasize the importance of their own range. Sometimes this comes from a need to provide excuses “Well, I’m really an alto, and that’s just too high for me”. Sometimes it reflects a preferred resonance quality or stereotype: “I want to sound like one of those big-voiced African American sopranos”.

Here are approximate ranges for six common voice ranges in choral repertoire.



You’ll notice that the difference from one range to another is only about a note or two, not the full octave some people would like to believe. However, choral repertoire typically divides into much stricter and smaller ranges of SATB that exaggerate those range differences. Soprano melodies typically sit higher in the soprano’s range than alto lines sit relative to the natural alto range. Thus after a certain amount of choral singing, we may pick up a false (and limiting) sense of our range.

The operatic system of voice classification, or Fach system, provides many more subtle categories that refer to not only range, but also color, weight, and character. Lyric, coloratura, soubrette, and dramatic sopranos, heldentenors, tenore di forza, tenore buffo, basso profondo, tiefer alt – all of these terms are used to describe specific voices and help to determine the correct repertoire of roles a singer would learn in order to succeed in the opera market.

Experiment with your own stereotypes of sound. If you try the same exercises pretending to be a very arrogant opera star, how does that change your break point, or tone, or range? If you try them as a country western star, or a gospel diva, what changes are apparent? Often these ‘acting’ exercises effect a quicker and more dramatic change than technical exercises, and alert the singer to limiting stereotypes. Is there a technique or a range that is unavailable to you because of your prejudices about sound?