

THE VOICE

AN INSTRUMENT OF DIRECTION AND ENTERTAINMENT –

By Ron Markus

What is that thing in your throat that allows us all to communicate? The technical name is Larynx. The Larynx or vocal cords are made of muscles and ligaments, one on each side of the Trachea (windpipe). They are like two heavy rubber bands attached to the sides of the Trachea (windpipe).

When we desire to communicate we cause these muscles to tighten and then, by exhaling in a controlled manner we cause the muscles to vibrate, which results in a vibrating column of air coming out of the mouth and nose.

We use our tongue, mouth and nasal passages to shape this column of air into words or pleasing musical sounds. Like a violin, the tighter we stretch the vocal cords the higher the sounds become - in other words we change the pitch. The sound is made **louder** by causing the vocal cords to vibrate with **greater amplitude** by passing a **greater volume of air** over them in a given time.

What causes people to sound different?

Women sound different than men because they are usually of a slighter build, that is, muscles and bone structure are not as heavy as a man's, therefore the vocal cords are lighter in structure.

If we examine a violin we note that the high notes are derived from the thin wires, while the low notes are obtained by a heavy double or even triple wound wire. Every cord or wire has a resonant frequency which is determined by its tension, length and diameter, and it is the **length, diameter and natural tension of the vocal cords** that determine the sound our voice will have. The **resonant cavities found in our head and chest** produce other sound differences.

This combined sound is recognized as a specific individual's voice. The voice pattern is so characteristic of each person that law enforcement agencies can use it as reliably as fingerprints for identification purposes.

CALLING

We have talked about voices in general. Now we should talk about the things in calling that you need, to make use of these voices.

Calling requires clarity, good diction, and projection of your voice. Singing does not always require that the words be precise and fully clear. The singer will often "milk" the good notes that occur at the end of a musical or verbal phrase, these are often vowels and this results in long eeeeeeee's, ooooooooo's, aaaaaaaaa's and sometimes uuuuuuu's. This may cause loss of the musical phrasing and breath control.

The dictionary defines **clarity** as the quality or state of being clear, and **diction** as the art of enunciating correctly and effectively. The caller must sound both the consonants and vowels clearly and precisely. Consonants usually are used as starters, ends or middle dividers in the words of the English language. The vowels are used to give the English language its roundness of sound.

The sounds bee, bay, bah, boe, boo, tee, tay, tah, toe, too, gee, gah, gay, goe and

goo should be practiced until, when taped, they can be distinguished easily. Try saying them backwards as well. You should also practice square dance terms such as thar/star/square, square thru/star thru, left/let's, circle right/circulate/circle eight, end/in, do paso/do sa do.

Practice reading into a microphone, tape it and play it back. Does it sound clear? Does it display feeling? Does it sound as if you are talking directly to one person? Try the same reading with a piece of patter music. Can you be understood, even with the musical background? Try reading a call, but use the music as a timing device. Try to pitch your voice with the music.

Vocal projection means to put your voice out to your audience clearly and distinctly with sufficient volume to be understood. The volume comes from your microphone and amplifier. Your voice must exit from your mouth or chest or no one will hear it.

Men as a rule like to feel that deep rumbling voice way down in the chest, while women put more of their voice up into the nasal passages. Both the chest and the nasal passages are essential to a full-bodied voice. To be heard and understood the voice must come out of the mouth and nose. The so-called nasal sound is actually a lack of sound issuing from your nose.

The practice of humming is a good way to get your voice to rise out of your chest. When you hum you should feel the resonance in your head and not your chest. The best way to project your voice when calling is to think about talking or singing to someone about six feet away and having them fully understand what you are saying. Let your microphone and amplifier do the rest.

LOUDNESS AND PROJECTION ARE NOT THE SAME

Loudness depends on the amount of vibration that the vocal cords go through just as how big a swing the guitar string has determines the amount of sound. If we pluck it hard, we get a louder sound than if we just gently twinge it even though it is the same pitch. It makes sound either way but the sound is louder if it's a bigger vibration. You make the vocal cords vibrate more by moving more air across them. However, if you put all that air through and produce a great sound but close up your mouth and don't let any of it out you may have a tremendous sound but the only person that can hear it is you. In addition to producing a loud sound you must get it out to the microphone and this process is called projection. Loudness is a louder sound but projection is getting that sound out. To do that you must open your mouth. Sound comes out not only through the mouth but also through the nose. The vibrating column of air should come out both through the mouth and through the nose.

BREATHING

Correct breathing is essential to calling. If you breathe too shallow, you may find yourself gasping for breath at the end of each musical phrase. The proper method of breathing is best observed in a small baby. They do what is called tummy or belly breathing. We normally try to breathe the way we were taught in school, stand straight, tummy in and chest out. When we use just our chest to breathe, we only use the upper portion of our lungs. When we allow our tummy to expand when we take in a breath, we can increase our lung capacity about 2 1/2 times.

If you are breathing properly, taking the air in and letting it out when you call, then the chances of voice troubles are practically zero because air moving across the vocal cords

will keep them separated, will prevent them from rubbing together and you won't do harm to your voice. How good a quality you get will depend on some other things but at least you won't hurt the vocal cords and that's important. Many, many callers start out calling once a week with no problems. By the time they are calling three nights a week, they suddenly have vocal problems. The reason - they stop breathing somewhere along the line, particularly as they got involved in choreography. It is very easy to substitute choreography for breathing and this is bad for your voice. When the vocal cords rub together they eventually develop sore spots. Sometimes they are surgically treated causing many weeks of inactivity for callers. It turns out that surgery is often not required. Learning how to use your voice correctly and how to get enough air through your vocal cords to keep from rubbing together may sometimes cure them.

You must expand your chest fully, then never let it collapse again. All the time you are breathing you should keep the chest fully expanded. It should not collapse as you push the air out of the diaphragm. If you place one hand on your chest and the other on your stomach, the hand that should move when breathing properly is the one on the stomach. Breathe in and it should go out. Exhale and it should go in. Proper breathing action is below the chest. The chest should stay expanded the whole time. Diaphragm breathing is fast because all you have to do is expand the diaphragm, not pick up the chest, the shoulders, and the whole rib cage. If all that is already expanded, then you can get a full lung of air very, very rapidly. If, on the other hand, you have the whole works collapsed and you run out of air, in order to get air into the space you must pick up the shoulders and expand the chest and then get the diaphragm going too. There are 3 steps instead of one. What you really want is to have space available for the air all of the time. Once you have started breathing, don't ever let the chest collapse, particularly while you are calling. If you can really do that, you don't have to think anything else about breathing. If you will keep that chest expanded, then when you need air the whole process takes care of itself. If you expand the stomach/diaphragm space, the lungs can expand and fill with air.

For proper breathing we must first fill the lungs with air. The lungs are in the chest and the diaphragm activates them, which is a muscle that goes horizontally across underneath the lungs. To give the lungs room to expand, the diaphragm drops and the lung can then fill with air. You don't need to suck air in. The atmospheric pressure pushes it in. All you do is create a place and the air pushes itself in, but you must create a space by expanding the diaphragm downward. When you want to get rid of the air, you blow it out by diaphragm action. The diaphragm is what makes it happen. Most people, when breathing, do it by raising and lowering their chest. This method will work adequately for most purposes but it doesn't fill your lungs as full as they can be. What you really want to do is get as much space available for your lungs to expand as possible.

BREATH CONTROL

To be an effective singer, one must learn "Breath Control," and learn how to project from the diaphragm instead of from the throat. Professional singers sing from the diaphragm, through the voice box, into the facial masque, (which is comprised of six major sinus cavities located along side the tender portion of the nose), above the inner eyebrows, and in the temporal region. It is important that the voice vibrates through these areas (to create tone and quality), rather than the voice box.

The untrained person more often than not does not use the diaphragm. Instead, they produce the sounds in their voice box. This causes the vocal cords to vibrate continuously.

The results can produce irritation and could result in the swelling of the vocal cords. This is what often causes polyps to form, which must then be removed surgically. To develop breath control, it is recommended that the following exercises be done daily:

1. STRENGTHEN THE DIAPHRAGM

The abdomen supports the diaphragm. Emptying the lungs of oxygen will strengthen the diaphragm. To do this:

- A. Inhale through the nose (deeply and fully).
- B. Exhale (by blowing all the breath out through the mouth).
- C. Try to remain empty of breath. Set a goal of 30 seconds or longer. Proper breathing is done by breathing in and pushing the diaphragm out (rather than sucking the diaphragm in).

2. SUSTAINING BREATH

- A. Inhale through the nose (deeply and fully).
- B. HOLD IT!
Try to hold your breath as long as you can. For breath retention (without wastage), count out loud up to 70 seconds while doing this exercise.

3. EXERCISE FOR RESONANCE

- A. Breathe in through your nose.
- B. Next you will do the 'Humming exercise'.
- C. The sounds to Hum will be M; 'N'; and 'NG'.

Hum the above sounds for 5 minutes several times a day. You should do this exercise in your comfortable voice range. Here are some hints on doing these drills.

Humming 'M'.

This should cause your lips to vibrate, tingle, and have a ringing sound. This should be felt in the tear ducts as well as in the crown of the head. It should sound like the buzzing of bees. Or the humming sound created when blowing on a piece of wax paper over a comb. Regarding vibration, a tinny sound and itchy feeling are good, while a hollow sound is bad.

Humming 'N'

Place your tongue on the back of your front teeth (when humming this sound). Think of the 'N' sounded created in the word "Wonderful."

Humming 'NG'

Place the tongue further back in the mouth when doing this exercise. Try to create the sound of the word "Hung."

THE TAPE RECORDER SPEAKS TRUTH

Consider for a moment what you hear of yourself. You don't hear yourself through your ears. The sound doesn't come out of your mouth and around and in your ear. You hear yourself through your head. The vibration inside your head vibrates the same eardrum that activates your brain so the voice that you hear of yourself comes from inside the head. It doesn't tell you anything about what's outside for other people to hear. This fact explains one of those things, which I am sure that you noticed. If you listen to a tape recording of yourself, it doesn't sound like you. In fact, it will never sound like you *to you* because the sound that you hear is inside your head and the one the tape recorder hears is what comes out. One of the problems with producing good vocal quality is that as soon as you have gotten the vibrating column air out of your mouth, it isn't there anymore and you don't hear it. So your voice, when you are doing things right sounds thin and weak to you. It sounds full and rich to the people who are hearing it outside but to you it sounds less good than the old, wrong way. Your tape recorder doesn't lie. It tells you the way it is. If you really want to know what you sound like, turn on a tape recorder and believe it. Don't say, "Ah, it's a tape recorder and never sounds like you". It does. Ask your friends and they'll tell you it sounds like you.

USE YOUR MICROPHONE WELL

As square dance callers these days, we don't use the megaphones any more. We have microphones with volume control and you no longer have any need to produce loudness. For square dance callers, loudness is a sort of unnecessary commodity but we do need projection. The sound you produce must make it out of your mouth. It doesn't have to go very far because no one is going to hear sound coming directly from you. They are going to hear what goes into your microphone and we do want to get all of the sound into the microphone. Some of that sound is coming out of the nose and if you plant your microphone firmly on your chin, it's going to miss most of that sound coming out of your nose. There is one other problem with chinning your microphone. Most microphones are designed to pick up sounds across the full range of frequencies best when the sound comes straight in the end. That doesn't mean talking across the top. With very highly directional microphones it makes quite a lot of difference when you turn the microphone so that you talk into the end of it rather than talking across the top of it. You can easily hear the difference in the quality of the sound it picks up. To get full voice quality out to the dancers, keep the microphone close to your mouth, halfway between your mouth and your nose. This is a violation of a message that has been sent to callers since the beginning of time. You are told, "Plant the microphone on your chin because then you won't lose it and when you turn your head, it will go with you." If you forget to turn the microphone, that can be a big problem, but most callers are smart enough to remember that when you turn your head you must take the microphone with you. The advantage of improved voice sound from proper mike placement is tremendous. It really is a substantial improvement.

MAKE YOUR WORDS CAREFULLY

One other word that you will hear a lot in talking about voice use is enunciation or diction. They mean the same thing. If you'll go back over your tapes or records of callers that you have recorded, you will very seldom find that you hear the "d" on the end of allemande. You seldom hear the "t" on either right or left. It is a rare day indeed that you hear both "t's" and the "d's" in "right and left thru". What you hear usually hear is "righ" an' lef thu". Vowels are the open sounds, the ones that carry the singing sound - the "a, e, i, o, u". When you hold a note, it's one of those sounds. When you end it, you often end with a consonant - a "t", a "d", a "k" as in walk, an "s" as in "pass thru". How accurately and completely you make those consonant sounds has a tremendous effect on how easily you are understood. Very few callers are careful enough of their diction. Some callers are sloppy enough so that you don't hear any of the consonants. Consonants give intelligence and understandability to a voice. The "t's, d's, k's and c's" must be heard if they are to give information. Diction lets people know what you mean as you speak to them and gives meaning to the sound. Diction forms sound into words. To do that, use both the tongue and the lips. A "p" is formed by the lips coming together; "l" is formed by motion of the tongue inside the mouth. These two together, the lips and the tongue, form the sounds. Many people talk and hardly move their lips at all. They manage to say whole sentences and talk lots of words while never moving the lips. To get maximum clarity you must move both upper and lower lip and also use the tongue.

COMMAND WITH CONFIDENCE

One aspect of vocal technique that doesn't really have very much to do with how you use your voice is the confidence with which you deliver whatever you are saying. We call this the sound of command. As a caller directing dancers, you should say whatever you say with a great deal of assurance. That assurance results from a state of mind more than how you use your voice. It results from being sure of what you are going to say. You must know what you are going to say well enough to say it loudly, clearly and with confidence. Even if you don't know what you are going to say, you had better say it clearly and with confidence because if you don't, it won't do you any good anyway. Whether or not you know what's coming next, whatever you say, say it with confidence. It isn't going to do you any good at all to do it any other way. Command or confidence has to do with a state of mind. The underlying principle is know your material and it will be easier to deliver it with assurance

BE GOOD TO YOUR VOICE

Now that we have described the characteristics of the voice and you know how sound is produced and how the voice operates, let's talk about the care and feeding of that voice. The vocal cords are muscles which do their thing by being tightened and loosened while they vibrate. They are muscles and like all other muscles, with proper exercise they will strengthen and improve. Using your voice doesn't, by itself, cause your troubles. Using your voice improperly however can cause troubles. If you are using it correctly, it will improve and strengthen with use. To start off the first tip of the evening with your most powerful singing call is a mistake. On the way to the dance, you should warm up a little. You should do some warm up exercises; some use of your voice to get it functioning properly. One important purpose of such exercises is to remind you to get sound through the nose.

VOCAL CORD ANATOMY

The laryngeal prominence—commonly known as the Adam's apple—is a feature of the human neck. This lump, or protrusion, is formed by the angle of the thyroid cartilage surrounding the larynx. Laryngeal prominence is usually more prominent in adult men than in women or prepubescent children.

The vocal folds, also known commonly as vocal cords, are composed of twin infoldings of mucous membrane stretched horizontally across the larynx. They vibrate, modulating the flow of air being expelled from the lungs during phonation (production of sounds, especially speech sounds with the voice). Vocal folds are located within the larynx at the top of the trachea (windpipe).

Men and women have different vocal fold sizes. Adult male voices are usually lower pitched and have larger folds. The male vocal folds are between 17.5 mm and 25 mm (approx 0.75" to 1.0") in length. The female vocal folds are between 12.5 mm and 17.5 mm (approx 0.5" to 0.75") in length. Folds are pearly white in color - more white in women than in men.

The difference in vocal fold size between men and women causes a difference in vocal pitch. Additionally, genetic factors cause variations between members of the same sex, with men's and women's voices being categorized into types.