

## Treatment of Injured Singers and Professional Speakers: The Singer/Actor, Singer/Dancer, and The Singer/Musician

By Jeannette LoVetri

Actors, dancers and musicians are often called upon to sing. Each of these groups of professional voice users will encounter unique challenges in singing and will have specific issues to address in order to remain vocally healthy, or to recover from vocal injury. In order to assist a performer to return to healthy vocal use for singing and speaking, it is necessary to understand that many factors contribute to vocal injury and it will take more than one factor to bring about recovery.

### The Singer/Actor – The Larger Context

In New York City and other major cities where performing arts are at an extremely high level, there is a difference between someone who sings and can act (singer/actor) and someone who acts and can sing (actor/singer). This may sound odd, but it comes from the fact that actors and singers are trained very differently and think of themselves in ways that are distinct from each other. This is also true of those who are primarily dancers (dancers who sing) and musicians (someone who can play and sing). These are not inconsequential differences, as they are significant factors in how each of these performers uses their voice when singing.

The following are quotes from notices for auditions that appear in the weekly New York theatrical trade publication, "Back Stage":

"Thoroughly Modern Millie" -- Seeking male dancers who sing.....

Note: In New York professional circles, "actor" is a term that can be used to refer to both men and women.

"Evita" -- Seeking singers who move, dancers who sing, male and female..

"Disney Cruise Line" -- Seeking musical theater performers, trained vocalists and actors who move well, or trained dancers who can sing on key.

"Floyd & Clea Under The Western Sky" – Seeking Singers: male or female, who are also instrumentalists, must be proficient on the dobro/acoustic

guitar/pedal steel guitar, etc. Singers who are not proficient musicians cannot be considered.

These and similar ads are repeated in many of the professional trade publications, notices and newspapers in cities such as New York, Sydney, London, Rio de Janeiro, and Tokyo.

### The Speaking/Singing Interface

All singers discover through life experience that the speaking voice has a direct impact upon the singing voice. (Perhaps this is why we split them into two categories even though the source is the same two vocal folds). It is also true in reverse in that singing can have an impact on how an actor speaks. A voice care professional must learn to look at the relationship between singing and speaking in any performer, as the relationship between them is quite personal and variable. Habits in either speech or singing which are not optimum can be an obstacle to vocal health and function in both. Retraining an injured voice implies bringing it back to a state of normalcy, and deviation from the functional norm can have deep and old roots that must be unearthed in order to be removed.

### Training History – A Necessity

Regardless of whether the training is for singing or speaking, as has been stated, singers and actors are trained very differently. Because the level of training available runs the gamut from poor to excellent, and because not all singers and actors have formal training, performers bring a wide range of patterns with them when they begin professional work. Training *should* be helpful, but this is, unfortunately, not always the case. Some types of training can be useless, some can be confusing, and some will set up conflicts between how the voice is used for singing and how it is used in speech for acting. Some training techniques may actually be harmful to the voice. Remember, too, that some singers, dancers and musicians have no training at all for speech or singing yet work professionally as actors or singers.

A singer/actor is someone who is trained first to sing and then learns to act. This performer would answer the question "What do you do?" with the answer, "I am a singer."

Singing training involves learning very different skills than those used in acting. Singers focus upon learning to read music, and upon singing with enough carrying power to be heard over an orchestra without electronic amplification. A singer needs to make a clear tone, using a wide range of pitches, with deliberate control over the use of the breath and with a constant vibrato.

A good vibrato is a pulsation of pitch, usually accompanied with synchronous pulsations of loudness and timbre, of such extent and rate as to give a pleasing flexibility, tenderness, and richness to the tone.  
  
(Seashore 1938)

Singing training will also involve learning to sing in several foreign languages, and learning to use complex musical decorations called ornaments. It may or may not include formal acting training (which is separate from being in a musical production), or movement/dance training. The primary goals of training someone to sing are still almost entirely classical; that is, training is aimed toward opera, oratorio, art song, chamber, or other classical music.

Singers who are called upon to act in plays without music can be quite lost when they have to use the speaking voice. Frequently, the speaking voice is largely ignored during singing training. In theatrical productions, women especially are often asked or expected to use a speaking voice that sounds deep, low and robust but they may have no such ability since they have only been trained as singers to sound high, sweet and warm. Singers who find themselves having to be in a straight play may find speaking for long periods of time fatiguing. Lighter voices, especially, can be worn out by long rehearsals with continuous repetition of scenes.

An *actor/singer* is trained first in "straight" drama (no music is involved) and is asked to investigate his or her own memories, history, and points of view in order to learn to develop and express a character in a dramatic work. Movement training is frequently involved and sometimes training for the speaking voice. Actors also analyze historic and contemporary plays and playwrights and types of productions and directing. Generally, no musical training is given. The actor may or may not at some point have some lessons in singing and/or learn songs that may or may not be classical.

Actors can be quite confused when asked to sing something that requires very precise pitch control in a range that is far above that of conversational speech, as musical ability can be divorced entirely from speaking well. If the performer is able to use a vocal quality in singing that is very similar to the same vocal quality used in speech, there's more chance that things will work out well and no vocal damage will occur.

#### A Quick Look At The Basics

All healthy voice use, including singing, is based upon a few principles. A *professional singer* is someone who gets paid for singing and must deliver musical sound on demand. Table 1 offers a list of ingredients for good voice use. It applies to both singing and speaking and should be considered requisite behaviors in any vocal professional.

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Table 1. A list of necessary factors for good use of the speaking and singing voice

- 1) Excellent posture
  - 2) A strong open chest and rib cage
  - 3) Strong but flexible abdominal muscles
  - 4) Relaxed strap muscles in the neck
  - 5) The ability to take a free, full inhalation, well down into the bottom of the lungs
  - 6) Coordination between the ribs and abdominal muscles during exhalation (This is usually called "breath support").
  - 7) The ability to open the mouth by dropping the jaw freely and easily and with more than the usual amount of space between the teeth
  - 8) The ability to articulate clearly -- using the lips and tongue easily and freely
  - 9) Comfortable vocal expression in song and speech -- no strain, no forcing and no discomfort
  - 10) A pitch range of an octave and a half to two octaves, and enough power to be heard without electronic amplification in a moderately sized room with good acoustics
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Interference with the normal function of any of the above can exacerbate vocal problems for anyone, but lack of these skills can be a serious issue for those singer/actors, dancer/singers and musicians who wish to sing well.

## The Body/Voice Connection

Anyone who is in good health and physically fit has an advantage in keeping the voice functionally strong as these things go together well. (Emmons and Thomas 1998) Beyond this, however, the vocal performer draws upon the body and its ability to move when expressing emotion and becomes acquainted with his or her body's sensations and feelings in order to create a character in a play or musical. (Bunch 1997) Skilled performers learn to be intimately aware of the body and what it can do or handle. (Perkins and Dent 1986) The enhanced awareness that a performer has of his or her body is also very valuable to vocal health, as performers can often sense when something is wrong, even if they do not have the specific medical terms to describe it.

## Ranking the Singer's Tasks

In music theater, the amount and type of singing varies from show to show, so it is difficult to generalize about vocal function in singer/actors and actor/singers or dancer/singers. A performer who is in the chorus of an older musical show (something written before 1968) is less likely to encounter vocal problems. The earlier music was written so differently for singers than is the music of today's composers that it is easier to sing the music from older shows. Singer/actors who must add movement or dancing into their work are also more likely to incur vocal problems because the added activity can interfere with correct use of the voice or be fatiguing to the body, or both. Singers who are in leading roles of rock musicals such as "Tommy", "Jesus Christ Superstar", or "Rent" are performing music that is extremely demanding emotionally, physically, musically and vocally. They must not only be very skilled in their vocal technique but also monitor how the voice is used outside of the performance in order to be able to maintain a full 8-show-a-week schedule. When there are so many factors affecting the way the voice is used, even the best actor/singer or singer/actor can encounter vocal trouble, particularly if other things such as illness or emotional stress are also present.

The specialists who work with a singer in this last category must understand that this performer is the vocal equivalent of an Olympic athlete who needs to be treated accordingly.

## Facing The Unknown: When The Actor Is Thrown Into Singing

Actors who are inexperienced singers can face a wide range of difficulties that have a negative impact upon the voice when asked to sing in a musical. This situation isn't particularly unusual, and when such a performer is expected to sing, she will have little prior experience from which to evaluate her ability or the materials she is being asked to execute. This insecurity can undermine even a very confident actor. If the music is difficult or badly written, she can unwittingly push the voice or alter her breathing pattern while struggling to sing the song and this may cause vocal fold irritation. Music directors, too, can ask the performer to do things that are musically viable but beyond the capability of the novice singer. The music director is usually a pianist and conductor who has dealings with singers but may have no training in singing or be unable to sing him or herself. Some music directors are intimidating to young performers, and have the effect of making the performer afraid to speak up lest he or she seem unqualified to be in the show.

## Other Factors That Matter

Finally, since all professional shows except opera and other forms of classical music are now electronically amplified, the sound system and the sound engineer of any show will have an effect on the singer. The "sound man" can make or break the performer if he is unfamiliar with singers. The sound system plays a big role in what the performer hears. Without a good monitor (stage amplifier facing the singer) or good acoustic feedback within the theater or performance space, the performer will hear his voice in a distorted or muffled way. This, too, will cause him or her to push the voice and that can lead to vocal problems.

Typically, actors will attempt to sing using the same sound for music as for speech. This is an excellent way to begin and for most music it is the correct approach. However, some of the most popular shows that have appeared on Broadway and other major venues over the last 40 years are quite demanding, particularly rock and roll based shows. Singing this music demands a strong vocal instrument, significant power in the breathing mechanism, and a good deal of physical movement. The vocal range of the songs is typically high and can involve powerful emotional expression as well. Those who do not

have strong vocal technique may quickly run out of options in terms of vocal resources.

Certain roles demand very loud singing or speaking, sometimes in unusual or difficult positions (lying down, bent over, twisted alignment, etc.) In productions that use heavy or restrictive costumes the performer may have a great deal of weight in the costume itself. It may be made out of restrictive materials that can effect head/neck alignment, or place stress on the neck and throat muscles or the rib cage position and interfere with the ability to freely inhale and strongly exhale. For instance, the Broadway musical "The Lion King", has a number of roles in which the actors play animals, and must both sing and speak with "animal" voices and wear heavy costumes. Singing or speaking in a very high pitch range or a very rough vocal quality can cause fatigue if done repeatedly over an extended period of time.

### The Dancer's Dilemma

Many dancers are professionally mute for their entire careers. Those who belong to a dance company can well survive without ever uttering a sound while flying across the stage on their winged feet. Dancers who are lucky enough to belong to a professional dance company where no vocal utterances are ever required, however, are the rare exceptions. It is more often the case that a dancer will at some point in his or her career be called upon to speak or sing as a part of the performance. The dilemma faced by these dancers is that they may not be prepared, psychologically or vocally. Dancers who have not had speech or singing training or who have had little experience using the voice professionally are often quite frightened by the prospect of doing so. This fear only makes it more difficult to produce a free healthy sound, as it inhibits both the breath and the voice itself. Additionally, dancers who have had no vocal training may suffer from habitually restricted movement of the muscles that affect vocal production, making it difficult for the dancer to learn new vocal skills quickly even if the dancer is willing and unafraid.

Professional dancers usually begin training at an early age. No matter what style of dance is studied, little anatomy or physiology is included in dance training except at the most elite schools, so the dancer may not have a good grasp of any of the muscle systems. They likely know very little about the vocal system and how it works, or how it relates to the body as a whole.

All of this means that dancers are ripe for vocal problems if they are also in a situation where their voice must be used similarly to the situations just described for singer/actors. Even though they are coordinated and strong, dancers are conditioned to use the body for dancing *and only for dancing*, and may be unable to also include awareness of how the voice is being used while moving through choreography. If the dancing itself is in a style that is new or unusual for the dancer, vocal control could be even more difficult, as the additional attention necessary to the primary task of executing the movement patterns will interfere with singing and speaking.

Dancers frequently have tension in the genioglossus, hyoglossus, mylohyoid, diaphragm muscles and the muscles of the root of the tongue connecting to the hyoid bone. They can have tight, stiff jaw (masseter and medial pterygoid muscles), making it difficult to get the mouth open enough to be useful in terms of volume and acoustic efficiency or resonance amplification. Since a long "swan-like" neck is considered a mark of beauty in a ballet dancer, dancers can often have very stretched sternocleidomastoid (strap) (Perkins and Dent 1986) muscles in the neck that makes it difficult for the larynx to float loosely in the throat. The overall tensions, if not released gradually over a period of time, can cause the dancer to push the voice to make it seem louder or more professional, and this in turn actually makes things worse.

Effective treatment of a vocal disorder warrants looking at the ability of the dancer to easily move and be aware of all the external muscles affecting the sound. These areas should be approached individually so that each can be more relaxed, moveable, flexible, and eventually looser. This includes work on stretching the jaw, developing greater flexibility in the tongue, activating the face and mouth muscles, and loosening the neck/shoulder muscles. The stomach muscles (rectus and transverses abdominus, and the obliques) (Perkins and Dent 1986) particularly, must be flexible enough to allow for some forward movement during inhalation. Dancers' stomach muscles are usually strong but sometimes they are so taut that little movement is possible. This inhibits the ability of the diaphragm to descend during inhalation and consequently restricts the amount of air intake. Ballet dancers are taught to breathe laterally, meaning that the ribs move out to the sides during inhalation so that the rib cage does not rise and fall during dancing. This type of inhalation is less efficient for singing but is better than a locked rib cage which cannot move at all, making inhalation very shallow.

## Musicians

A musician has to fall into one of two categories: either she is capable of singing while playing the instrument or she has to stop playing it to sing. The people who play brass or woodwinds are in the second group. The rest of the musicians can sing while they play. The odd group would be the violinists and violists, who could conceivably make vocal sound but would find it difficult to move the mouth to pronounce words, since the jaw has to anchor the instrument to the shoulder in order for it to be stable.

Playing an instrument definitely may make the performer more musically confident when he or she has to sing, which is a plus. The postures used in each of the various instruments absolutely have an effect upon the way the voice works, however, and this can be either helpful or not, depending upon what the postural patterns are. The technique used to play some instruments would be less likely to cause vocal problems than others, and, in all cases, a great deal rests on the way each individual actually plays.

The Alexander Technique® is beneficial to instrumentalists both for their own technique in whatever instrument they play and for helping them find a good use of the body for singing as well. If the posture of the musician is relatively good while playing the instrument, learning to breathe correctly and keep good alignment while singing should be an accomplishable task. If, however, the performer is wrapped around his guitar, sax, or falling into the piano or cello, things can be more challenging. Also, if the performer is singing early music while gently strumming a lute, that would be much less worrisome than if he was banging a set of drums in a heavy metal band while pumping out background vocals. The second performer would have a more difficult job producing good vocal production habits unless he or she was quite able to adapt in several areas easily and simultaneously. Also, in the case of someone who has to play with an embouchure [The way in which a player applies the mouth to the mouthpiece of a brass or wind instrument. (Oxford 2001)], the function of the lips, jaw, mouth and the structures inside the mouth itself, including the soft palate, the back of the tongue as well as the larynx and the vocal folds, all have an impact on the production of the instrument's sound. These muscles, in a professional musician, are quite strong and do a different job than they would do for someone who is a singer, and only a singer. Horn players who must develop strong air pressure in the mouth and strength in the muscles surrounding the lips will also keep the jaw in a relatively raised position. All of these muscle patterns are

antithetical to good singing and can cause the musician to sound unpleasant or to experience pitch fluctuations or diminishment of vocal range.

As with dancers, musicians have to be cross-trained, then, in order to function optimally in both playing and singing. The muscle groups involved in playing need to be massaged (externally, where possible), relaxed, stretched, and moved, so that they can allow for greater flexibility and ease of movement. Postural imbalances must be addressed through stretching and strengthening and perhaps also through physical therapy and medical massage. On the positive side, though, brass and wind instrumentalists have good breath control and this facilitates breathing for singing, as it is possible to easily adapt the breathing techniques used for playing to singing.

### Pitch-Related Issues

Actors and dancers and even musicians may also have pitch-matching issues that professional singers do not have. This means that these individuals may not easily "sing on key" or "on the note" or have major issues with pitch control (sharping – singing too high or flatting – singing too low, to be accurate). Until these issues are addressed through training (and good singing training can absolutely train anyone to sing on pitch accurately) (Sataloff 1991) the added insecurity about "being able to stay on pitch" would be yet another stress factor that could inhibit correct and healthy singing.

### Approaches to Re-Training A Disordered or Injured Voice

Many of the same principles that apply to working with a disordered or injured speaking voice also apply to working with the voices of those who sing. The primary difference is that the exercises are applied to pitches that are specific (musical scales and arpeggios) and often sustained for longer durations and at louder volumes than would be necessary for conversational speech. Also, because the work is directed toward vocal fold function rather than articulatory issues, there is an aspect of acoustic acuity necessary, on both the part of the singer and of the teacher, that is not typically called for in speech.

A Singing Voice Specialist (SVS) is a singing teacher who is familiar with healthy vocal function and is able to discuss any vocal health issues with a Speech Language Pathologist and Otolaryngologist. The SVS understands

the diagnosis made by the medical and clinical professionals and is able to work as part of a team in helping the singer return to good healthy singing. Working in this way, the SVS can be assured that others are also able to support and evaluate the progress of the singer and validate the health of the vocal mechanism through objective measures and tools.

### Begin With What Can Be Seen and Touched

All singing training begins on the outside of the body with posture and alignment and with specific exercises for the various parts of the body that affect the way the sound is produced. Training also begins by teaching the singer to have a more deliberate and specific approach to breathing that must be consciously coupled with sound-making in order for the vocal output to be freely and correctly controlled. It should also teach the singing actor, dancer or musician how to listen objectively for correct vocal and musical function. Returning to normal singing function means returning to normal function in the following areas:

#### Posture

The importance of posture cannot be overstated. (Sataloff 1991) The larynx works best when situated in the throat without any undue muscle tension from muscles that are not necessary for phonation. The relationship of the head, neck, shoulders and rib cage to each other is a crucial ingredient in allowing the muscles of the upper torso to function properly. If a singing professional has vocal problems, and if those problems are chronic, it's important to evaluate the relationship between the head and neck, the neck and shoulders, and the upper chest with the lower back. Misalignment or tension in any of these muscles will affect the ability of the larynx to function optimally. It is helpful for the performer to work with a postural alignment system such as the aforementioned Alexander Technique®, one of the various approaches to yoga, or other bodywork disciplines that facilitate correct alignment. If the head juts forward, protruding out in front of the body, allowing the ribs to sag, the larynx will not be able to move freely. The vocal folds will be affected by this restriction. If the head is dropped back so that the cranium is collapsed into the cervical spine, the neck muscles shorten and the contraction restricts the muscles of the neck and throat. These are just two of the possible problems that can aggravate vocal fold motion and make it more difficult for the singer to function optimally.

## Breathing

Singing can demand more than twice the air pressure and as much as five times more range than speech. In order for the singer to be able to generate sufficient air pressure for loud sounds and higher pitches, it is necessary to work on increasing the ability of the singer to deeply inhale and to control the air as it goes out during singing. This involves using the intercostal muscles in the ribs and the abdominal muscles in a coordinated and deliberate manner while exhaling during a sung phrase. In order for this to work properly, the body must stand erect, but without rigidity. The torso must be balanced so that it is possible to walk and move with grace and ease at all times. The ribs must remain open and stable during both inhalation and exhalation and the singer must inhale by drawing the air down into the bottom of the lungs, simultaneously allowing the abdominal wall to move forward, down and/or out. When sound is being made, the singer must learn to deliberately contract and tighten the abdominal muscles to keep the air pressure constant while the lungs are emptying. In everyone, this is a learned behavior and takes time to master. There is some variability from person to person in how this is accomplished, but breathing patterns that do not generally conform to these principles may not be sufficient to keep vocal production healthy.

## The Face and Head

The muscles of the singer's face and head greatly affect the sound that is being sung. The mandible (jaw bone) must be able to drop significantly more in singing than it does in speech and remain in a dropped position for long periods of time. The jaw can also be dropped too far down and interfere with the muscles of the throat or with the tongue, so the amount of the opening must be evaluated in relationship to other structures. The tongue must be relaxed even though the mouth may be wide open, and this is a learned behavior for most people. The muscles of the face and the lips change the shape of the mouth which has an affect upon the quality of the sound. The tongue, both in front and in back, plays a crucial role in shaping the vowel sound both for accuracy and for purposes of expressiveness. While most novice singers can make simple movements of the face and lip muscles and the jaw, the exaggerated movements necessary for singing are sometimes beyond the

ability of an inexperienced singer to control initially and can require time and patience in order to be developed to optimum responsiveness and efficiency. Singing high notes and loud sounds requires that the jaw be dropped quite a bit. At the same time, the face and lips must also be shaped and the tongue positioned so that there is no interference with the muscles inside the mouth and throat, and there must be good solid help from the breathing mechanism at the same time. This, too, requires a high degree of coordination and also takes time to learn.

### Internal Structures

The musculature in the velopharyngeal port (the back of the mouth and throat) has a profound affect upon the singer's voice. The shapes made inside the mouth and throat, and the modifications of those shapes by the tongue, determine not only what vowel we hear but how that vowel sound comes across as acoustic output. Singer's call this "resonance" and it is the crucial ingredient in most singing, as it is a part of what makes the singer's voice unique. Since none of these structures is deliberately moveable, except perhaps in a very skilled and experienced singer, creating change in them is often an elusive and confusing process unless the SVS understands how to stimulate vocal function through specific exercises. If internal change does not occur, the sound remains the same and the faulty habits that produced that sound also continue.

A vocal register is essentially a group of homogeneous tones that have the same texture or quality.

This definition of register, which is an aural one, assumes that there are at least two types of vocal textures or qualities possible, or such an explanation would not be necessary. Typically, vocal sounds are divided into two basic qualities: chest register and head register, named by the sensations felt in the body while the sounds are being made. *Modal* is the term used in voice science for what singers would call *chest register*. *Loft* is the voice science terms for what singers would call *head register* or, in certain cases, "*falsetto*". The easiest way to understand this difference is to think of a man speaking in his normal voice and then in a falsetto or

child-like quality. The simultaneous combination of these two qualities would give a balance of both.

The larynx has a very important role to play, as the vocal folds determine both the pitch and the basic tonal quality of the sound. (Sundberg 1987) They also regulate the airflow, depending upon the quality of the sound the singer is producing. Much has been written and discussed regarding vocal production but it is generally conceded by the scientific and academic voice communities that the main body of the folds, the thyroarytenoid muscle, is responsible for producing the vocal quality that is called *modal* or speaking voice quality. The muscle that helps stretch and thin the folds, the cricothyroid, produces the quality that is called *loft*. (Sundberg 1987)

The use of registers is a key ingredient in style and a primary element in singing voice training. Classical singers are taught to "blend" the registers so that there is a smooth sound from the lowest to highest pitches. Theater singers, and others who sing the various styles of commercial and pop music, do not necessarily blend the vocal registers. In fact, some styles specifically require that the singer stay in the chest or modal quality throughout the entire sung range. (see "belting" below) If the performer does not understand how to sing in the correct register quality, he or she might be unable to produce the appropriate sounds for the music being performed.

Proper use and development of registers plays a major part in helping a singer/actor, dancer or musician understand healthy vocal production. Development and strengthening of both chest and head registers assists the entire vocal mechanism to work freely and efficiently. Lower voiced males typically need to develop the head or falsetto register to strengthen it and help expand their range upward and lighten the amount of pressure on the larynx and vocal folds in higher pitches. They can then also integrate the head register quality into their lower pitch range, making it warmer and more appealing. Women sometimes need to do the same, as not all women's voices are head register dominant, as was the case a generation ago. Lighter higher voices, including classically trained tenors and sopranos, lyric mezzos and baritones, particularly those that have been trained in an older more conservative approach, usually benefit from developing the chest register on the lower pitches to give the voice more strength and richness.

Contemporary Commercial Music, the new term for all non-classical styles, places a strong emphasis on the use of chest register, and learning to sing in this vocal quality in a free and healthy way is of paramount importance to all CCM performers. (LoVetri 2002) It is quite possible to produce high tones in a speech based chest register quality, but it is more

likely to cause vocal injuries as it requires greater and more efficient output of all the systems that are involved in producing vocal sound in order to be done safely. Singers of any kind of commercial music who have been injured must be guided toward correct register function in order to sing well and remain healthy.

## Emotional Issues

All artists are emotional. It comes with the territory. Performing often magnifies emotional response and asks for its powerful expression, repeated on demand, over and over. No one's throat was meant to do this, day in and day out. Particularly in material that is musically demanding, expressing strong emotion while singing is often enough to overload the vocal system and cause the vocal folds to become fatigued or injured. Singers must learn to deal with these demands, as it is part of what they are expected to deliver as professionals, but it can require enormous stamina, skill and care in order to do that successfully. Tension brought on by chronic or acute stress tightens the muscles, inhibits breathing and takes a toll on the voice and body, so adding *personal* emotion to *professional* emotion can complicate things still further. Any singer who has had vocal problems is stressed, and this must be addressed as the voice is guided back to healthy function, so that the worry does not also cause vocal function issues.

## Constriction – The Biggest Issue

The biggest vocal difficulty of singers who perform in shows that have vigorous, demanding music such as is found in many of today's musicals, is

The nature of the belt: it is an attempt to extend the normally 'short' female chest register upward. [Author's note: Men belt, too.] Carrying the chest register quality above approximately E/F/G [Author's note: above middle C], without modifying or darkening the vowels, at a loud volume, would constitute belting. When secure, the belt produces an edgy, driving sound. Because of the tension involved in holding the position, vocal qualities associated with relaxation as well as all those associated with the integrated head register, it sends packing. Sweetness of tone, ductility in phrasing, flexibility of movement are closed out. There is no such thing as a quiet belt, or a beautiful one. (Osborne, as cited in Potter 1979)

constriction. The three groups of constrictor muscles (superior, middle and inferior) often become engaged when the singer has to hit high pitches in a loud chest register or belt quality and does not have sufficient strength in the muscles of the body and throat to manage this task.

The constriction narrows the sidewalls of the pharynx, raises the base of the tongue, pulls the larynx up, and tightly compresses the vocal folds. Sometimes the external throat and neck muscles bulge or protrude, but not always. In all but the most unusual singers, this constriction is not deliberate, nor desired, and often becomes a chronic pattern affecting all vocal production. The performer may be unaware that anything is wrong until and unless the vocal folds themselves develop problems or until professional musical standards can no longer be met.

The side effects of these types of constriction are numerous and varied. Aside from pathology, they can include loss of high range or certain pitches, loss of pitch control, difficulty with sustained notes, breathiness in middle pitches, easy fatigue of the voice, extreme nasality, and difficulty with articulation, as words can become swallowed or garbled.

The problem of constriction is the most difficult one to address, as it cannot be handled directly. In general, the tension must be taken off layer by layer, starting on the outside of the body, with the head position and with the jaw. The head must remain level and positioned directly over the shoulders and torso, and the upper chest must be lifted but only from below by the abdominal and back muscles and not by the pectorals or shoulders. The tongue must be loosened, but in the back, and this is only possible indirectly through exaggerated movements initiated in the front. Further, the pressure must be taken off the larynx so that the folds can release, and this must be done through a combination of lowered volume and pitch range. All of this will hopefully have an effect upon the inner musculature where the constrictive patterns reside, and secondarily, upon breathing patterns as well. Constriction in the throat will inhibit a free and easy inhalation/exhalation cycle, and release of constriction will allow the larynx to rest in a lower, more comfortable position in the throat, facilitating easier and fuller breathing.

If the problem of constriction is long-standing, the patterns can be resistant to change and the re-training can take too long to be of practical value, in which case the SVS and the performer may have to accept less constriction overall, rather than the elimination of constriction, as the

final outcome of their work together. If the vocal folds are diagnosed as being healthy, this is sufficient.

## Conclusion

Many factors which have an impact upon the vocal health of singing actors, dancers and musicians have been reviewed but in the final analysis each individual performer must be evaluated uniquely. Each singer has a current vocal health status or diagnosis; a history of training; habits of speech, singing, breathing and movement; and specific performance needs and demands. All of these factors must be incorporated into any retraining or treatment program. The SVS must work as a member of the voice care team in order to serve the performer's need to return to healthy singing in a timely and efficient manner.

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