The Importance of Breathing
by Michael Burns

The title of this article seems obvious. Everybody knows that breathing is important; we stop breathing and we die! What I wish to discuss is the fundamental necessity of good breathing and support for playing a wind instrument.

Whenever I see a new student for the first time I like to ask them some questions about support: what is it, how does one do it and why, what is this diaphragm thing, etc. Pretty often I find that the students only have the vaguest notions of what it is all about. Granted, it can be pretty darn difficult to explain, but a lot of these kids really have no idea.

In my opinion this needs immediate addressing. I believe that support is the foundation of all wind playing and therefore one of the most important things to teach. We tend to concentrate more on the other physical attributes: fingerings, embouchure, hand position, etc., and not necessarily spend time teaching students how to breath properly. Don't get me wrong, these other attributes are all very important and must be taught well and closely monitored, but lets make sure that breathing is not neglected in the process.

I tend to relate the following personal story to a lot of these students: When I was in high school, my band and orchestra conductors, and my bassoon teacher would ask me if I was using my diaphragm and supporting. I would nod my head and say "yes sir/ma'am" when in fact I really didn't know what it was or how to use it. I knew that there was this thing called a diaphragm somewhere in my torso, and that I was supposed to do something with it, but I didn't really know what or how. Telling this true story often gets a student to admit that they feel the same way; that really they don't know what support is. This then leads to an explanation of the breathing process, the muscles involved, etc., often with some dramatic results in the student's tone.

So, what IS this diaphragm? It is a muscle attached to the bottom of our rib cage which is used in the breathing process. Everyone has one and uses it day-in and day-out while they breathe. Essentially the muscle contracts and pulls downwards when we breath in, and returns to its original position when we breath out. The diaphragm is therefore used on the inhale and the abdominal muscle group is used to ‘support’ the air on the exhale. The way that we use these muscles for wind playing compared to normal breathing is akin to the way a marathon runner uses their leg muscles as opposed to some non-athlete just walking. We all have the same type of equipment, but we have to use the breathing muscles in a highly specialized and intensive way. We become "athletes of breathing," if you will. I like to have students locate one part of their abdominals by placing a hand on the 'spongy' felling area just below the V of the rib-cage. This is essentially the top edge of the abdominals. I then have them simulate a short, loud cough, or laugh. I will demonstrate it first and then they must imitate me. They should see and feel the muscle jump outwards along with the sound. I then like to have them play a note on their instrument that only requires one hand if possible (G on the sax, low C on the clarinet, middle C on the bassoon, etc.) I have them place their free right hand back on the abdominals, pushing in slightly, and feel what it does when they play the note. They should feel the muscle pushing steadily out against the hand. If they don't then I work with them until they can. After doing this a little the student can feel when the diaphragm is in use even without having a hand pushing against it, so they are free to play notes that require both hands.

A hidden danger lurks at this point, one of the other most common breathing problems that I have encountered. When the student is PUSHING with their abdominal muscles their entire body tenses up to become like a caricature of Arnold Schwarzenegger when he was Mr. Universe. This tension particularly affects the throat and jaw, closing them off so that the air does not get through properly. The student is working so hard to <u>support</u> and <u>push</u> and <u>tense</u> their abdominal muscles that they inadvertently strangle the sound with the tension they produce in the rest of their body.

As I said, this seems to be particularly common, and a solution is rather hard to teach. In essence the player needs to simultaneously be as relaxed as possible from the upper torso, shoulders, and neck up, while correctly using the abdominals in the athletic manner already described. I have been working to find a good way to teach this phenomenon for a long time with various degrees of success. I used to tell students to imagine their body is schizophrenic; like Arnold Schwarzenegger on the bottom half and super-relaxed on the top. Or, I would have them imagine that they were cloned and that one clone was tensed and the other relaxed, then a magician comes along and saws them both in half and puts the relaxed top on the tensed bottom.

Both of these had some successes, but not enough. What I am doing now which seems to work more consistently is to concentrate mostly on the relaxation aspect. I have even worked to change the language that I use while describing the process. I never use the word "tension" anymore, that is something that I am trying to avoid inducing in the student, instead I have the student think of "expansion." I make sure first of all that the student is breathing deeply. I point out that when filling a bucket of sand it the sand goes to the bottom and fills up towards the top. Likewise, a glass of water fills from the bottom to the top. But what if you are blowing up a balloon? Even if you stand with the balloon dangling towards the floor the air does not fall to the bottom and fill from there up, it fills from the closest point and expands outwards. Our lungs are like the balloon. We can just have a little air in them and it will only be in the top of the lungs. I get the student then to imagine that they are filling their lungs like they are pouring a glass of water. Draw the air all the way to the bottom and fill upwards to the top. This usually gives them a larger quantity of air to work with. Next, I have them take a deep breath and hold it for a while to feel how fully expanded their lungs and rib-cage are. It is this same feeling of expansion that I want them to emulate the entire time that they are blowing into the instrument. If they do this correctly they will start to produce a more open, supported sound with less tension.

I then 'coach' them somewhat while they play. Encouraging them to "support, support, stay open, support, stay open," etc. They will tend to fall back into their old habits of either not supporting (everything is relaxed) or supporting with tension in the rest of the body (everything is tense) and will need your encouragement to keep the balance of support and relaxation. Eventually it will become the new habit and they will be able to monitor themselves.

It takes some effort to go through this process with students but the results are well worth it. Remember that these techniques can be taught in group situations as well as the one on one private lesson with some success. Once a student starts to play with the combination of support and relaxation it makes the other elements of playing tend to fall into place more easily. The student is encouraged because they sound better, and, after the initial learning period is over, it is actually easier for them to play. These are WIND instruments after all.

To conclude, here are some further breathing concepts and exercises:

1. Learn the difference between **"warm" and "cold" air**. Have the students blow onto their hands while changing the speed with which they blow. They should be able to feel that they can control the temperature of the air they feel on their hands. Many advocate blowing either warm or cold air into the instruments for different effects of dynamics, color, support, etc.
2. Try blowing an airstream that would make a **candle's flame bend over** away from the player while not going out altogether. This encourages both a focused airstream and control of the intensity.
3. Learn about **resistance** and practice the **"Leaky Tire"** exercise to practice 'internal resistance.' I have another favorite story that I like to relate when a student is struggling with the concept of resistance: A high school student of mine was doing well on her school owned plastic bassoon, so as a reward, her parents decided to buy her a nicer wooden instrument from the same manufacturer. It was definitely a nicer instrument but almost immediately upon getting it the student's sound and intonation seemed to steadily get worse and worse. After much consternation and experimentation on both of our parts I determined that the problem was that the new bassoon was more resistant and that she was not blowing into it properly. At this same time I was installing a cat door at my home going from the main part of the house to the laundry room where we wanted to keep the litter box. Once the door was installed I tried to encourage the cats to use it. I would put them in the laundry room and call to them from the other side of the cat door. It had a clear trapdoor so I was able to see exactly what happened. They would push their heads against the trap door, feel that there was something there in the way—causing RESISTANCE and back away. Eventually I was able to encourage them to push a little further, overcome the resistance and open the trap door so that they could emerge into the house. I realized that this was exactly what my bassoon student was doing with her airstream on the new instrument. It was more resistant than her previous bassoon and she felt it 'push back' against her so her reaction was to back off on the air. Once she blew more focused and directed air into the new horn she overcame the slightly higher resistance and really started to sound much better than she had on the old less resistant bassoon. The Leaky Tire exercise consists of simply taking a big, deep breath and then letting the air escape very softly through closed teeth in a hiss reminiscent of a leaking tire (hence the name.) There are a couple of conditions associated with it: a. there must be no change of pitch, volume, or timbre of the hiss; b. hiss as long as possible until the air is expelled. At first it is often surprising how difficult this exercise can be—most people find that they have variation in volume, pitch and timbre and often all three. For me, the secret to a controlled hiss is to support this very soft airstream. I then encourage students to time their hisses, aiming to gradually increase the time that it can be sustained. Most wind players should be able to sustain into the 20-30 second range with a little practice and perhaps well beyond.