The Horn Embouchure, Part 1 "Embouchure 101"

by Dr. John Q. Ericson, Arizona State University

1. Mouthpiece Placement: For as long as horn method books have been written—almost 300 years!—horn teachers have advocated using a mouthpiece placement of 2/3 upper lip and 1/3 lower lip. Examination of the embouchures of professional hornists today will quickly confirm that this is the standard, with only slight variation.

The horn embouchure is probably the most relaxed and puckered of all the brass embouchures. This fact tends to emphasize the fleshy mound in the center of the upper lip, and this in turn favors a high mouthpiece placement. A higher proportion of upper lip is also beneficial in playing the entire range of the horn, which is almost four octaves—too little upper lip will not allow for production of the lowest notes of the horn.

Often students don't place the mouthpiece as high as they think they are actually placing it, something closer to 50/50 than really 2/3 upper lip. You ideally want it to rest over the top of the fleshy mound in the center of the upper lip. Not everyone with a low placement will need to make major changes.

It is easy to find the most ideal placement—wet the lips and let the mouthpiece slide into it! Some teachers would say to "hang the mouthpiece on the hook" of the upper lip, which accomplishes the same thing and will almost automatically give a student a good, natural mouthpiece placement for the horn, 2/3 upper lip 1/3 lower lip. This one technique, if applied to every beginner, would save so much trouble.

2. Wet (Moist) or Dry Lips: Closely related to the topic of mouthpiece placement (above) is that of playing with wet or dry lips. The eminent horn teacher Philip Farkas estimated that approximately 75% of professional brass players play with wet (or moist) lips.

The primary advantage of wet lips is that the mouthpiece is free to move around somewhat and find its best, natural placement on the lips when first placed on the lips. This freedom of movement is also helpful in making large register changes as the mouthpiece is not "stuck" in one position. I can see no disadvantages to playing with wet or moist lips for the horn player.

As noted above, playing with wet lips is especially important for the begining horn student as the mouthpiece will be free to settle into its most natural position over the fleshy mound on the upper lip. Even for advanced students lip moisture is very worth thinking about. I have worked with students who were used to setting their mouthpiece on dry lips but when they gave wet lips a chance immediately had a much better tone as the lips were free to vibrate in a more natural manner.

3. The Function of the Lip Muscles: To form an embouchure basically two groups of muscles are at work. The first are those muscles which bring our lips to an extreme pucker, such as would be used to whistle—the muscles around our lips. The second group are those which bring our lips to a smile—the cheek muscles. Either group can form a brass embouchure of sorts.

Muscles can only contract or relax. When you pucker the cheek muscles relax while the lips contract. When you smile the cheek muscles contract while the lips relax. To form a correct brass embouchure the actions of smiling and puckering must be combined and balanced in sort of a "tug-of-war."

The problem for brass players in general is often too much of a smiling embouchure. This is a problem because this type of embouchure requires the lips to be pulled thin by the cheek muscles. This this leaves the lips prone to injury, will also add a distinct "edge" to the tone and cuts down endurance. A more puckered embouchure is naturally "thicker" in the area where the mouthpiece makes contact and provides better endurance and tone.

The best brass embouchure could then be described as what Farkas called a "puckered smile," which finds a balance between the two extremes. A bright basic tonal color is often related to too much "smile" in the embouchure. It is very rare to find a player who has too much "pucker" in their embouchure.

A related point has to do with movement around the lips—the type of movement you can see when playing passages of music looking at your embouchure in the mirror. An embouchure with less overall movement between notes is better as it is a more efficient embouchure.

4. The Lip Aperture and the Chin: The formation of the lip aperture is very closely related to the way we use the cheeks and lips. Inside the mouthpiece the lips form an opening roughly the shape of the opening of a bassoon or oboe reed. If the embouchure is too puckered or too much of a smile this ideal lip aperture shape will be distorted.

Most often the aperture, if a problem, will be too flat due to too much smile in the embouchure or to the chin being bunched up. The chin should be flat—if it is bunched up this is a sign of a serious embouchure problem which must be addressed.

Another possible way to look at this same problem is that there may be too much lip in the mouthpiece. Not only does this make the aperture "flat" in shape but there is a characteristic bad tonal color to this embouchure and lack of dynamic range. Only a little extra lip in the mouthpiece can drastically alter the resulting tonal color. I loosely refer to this condition as "clamping." Playing with wet lips and a more open embouchure can make a great deal of difference on the instrument.

5. Aperture Control and the Corners: An additional issue of playing in general and especially in the high register is aperture control. The aperture will have to be smaller in the high register than in the low register, and you want to practice in a way that helps you to feel the aperture contraction.

Try to practice controlling the aperture *inside* the mouthpiece, making it smaller from the corners and keeping the same basic shape playing low and high (think of the relative size of the opening of bassoon and oboe reeds, keeping the same shape at the opening).

Another method of thinking of this, suggested by Fred Fox in his book *Essentials of Brass Playing*, is to think of the embouchure being controlled by two sets of muscles. One set is in the corners and is used to produce the sound "eeeeeeee" and the other set is in the middle of the lips and is used to produce the sound "mmmmmmmmm." Aperture control involves the use of these muscles, especially the muscles used to say "mmmmmmmm." Proper aperture control will help not only the high range but will also help accuracy in general.

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The corners are firm and retain the same basic position playing high or low. A correct position is similar to the "mmmmmmmmm" position. You should be able to buzz to the top notes of your range; if not, you probably have too much smile ("eeeeeeeeeeee") in your embouchure.

6. Mouthpiece Pressure and Playing High Notes: Some moderate mouthpiece pressure is obviously required to play brass instruments. However, especially during the warm-up, it is critical to not use excessive mouthpiece pressure in the high range. Only by practicing in this manner can real strength be developed.

It seems very natural to use more mouthpiece pressure to reach the highest notes on brass instruments. This is, however, NOT the way to reach them. We should instead focus our attention on the muscles of the lips which are inside the mouthpiece, focusing the air stream very finely with the aperture, and using plenty of support.

An interesting question to consider at this point is "why does mouthpiece pressure help in reaching the high notes?" The reason is that the extra pressure makes the lip aperture smaller. Farkas gave the example of a doughnut, placed under a piece of glass. If the piece of glass is smashed down on top of the doughnut, the hole in the middle of the squashed doughnut *does* get smaller.

Our lips are the same as the doughnut in this sense. As we press harder, the aperture gets smaller. The result is higher notes come out but at the cost of tone and endurance. It is critical instead to focus our attention on focusing the aperture by using the muscles of the lips without using excessive pressure.

In other words, if the top notes don't come out well, you may just need to be patient, practice consistently, and build up the strength to play high without excessive pressure. Thinking "mmmmmmmmmmmmmmm" really does get at what we want, especially when playing passages like slurred arpeggios.

7. The Jaw and the Lips: The jaw is too often ignored as an element in forming a brass embouchure. The placement of the jaw is very important. The reason this is critical is that the placement of the jaw relates to the way the lips are used.

The jaw, especially for the horn [and trumpet], MUST be pushed forward somewhat from its normal position at rest, so that the teeth are in line with each other (up and down), as though you were biting a sandwich (but not, however, pushed out beyond being even with the upper teeth). Another easy way to visualize this concept is to imagine spitting a watermelon seed out. You will not roll the lips over one another—the jaw will come forward a bit in a very natural way.

A common fault seen in less accomplished horn players is that the lower lip is rolled over the bottom teeth, and the jaw is not pushed forward. This type of embouchure is considered by most teachers to be faulty.

An easy exercise to check the jaw placement is the following: form an embouchure without the mouthpiece and blow. The air stream should go out at the angle of the instrument—nearly straight forward—not at a steep angle down the chin. Most sources on brass pedagogy agree that an embouchure where the lower lip is rolled over the lower teeth and the air stream flows down the chin is not a well formed embouchure. Blow forward and down the center of the mouthpiece.

General note: Portions of the above notes related to the embouchure owe a debt to Philip Farkas, *The Art of Brass Playing* (Rochester, NY: Wind Music, 1962), which I recommend *very* highly as the best single source of information on the topic of brass instrument embouchures and technical basics. *The Art of Brass Playing* goes well beyond the embouchure information found in *The Art of French Horn Playing,* a classic also by Farkas.

Dr. Ericson is Assistant Pro-fessor of Horn at Arizona State University and is Artist-Faculty in the summers at the Brevard Music Festival. Prior to joining the faculty at ASU, he performed for five seasons in the Nashville Symphony and taught for three years at the Crane School of Music, State University of New York (SUNY) College at Potsdam. He holds degrees from Indiana University, Eastman School of Music and the Emporia State University. He has published a number of articles on the history and performance of the horn, many of which are included in his "Horn Articles Online".This article was extracted from his Horn Articles Online website.