

A New Oboe Thumb Support

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Introduction

The first wind instrument I learned to play was the B-flat clarinet (when I was in grade school). During the next six years, I also became reasonably proficient on the bassoon and alto saxophone. Perhaps I let my pre-collegiate and pre-medical studies limit my musical practice and performance times during high school and college years, but I never became aware of any hand problems that might have been caused by making music. The finger positions on those instruments always seemed to be reasonably comfortable.

However, as my interest and medical experience in treating instrumental musicians grew, I became aware that my experience was not universally shared and that not all wind instruments can be played with comfortable hand positions. In the more than twenty years that I have cared for the medical problems of musicians, those patients who developed hand problems from playing their instruments in cramped and uncomfortable positions became more numerous.

I found that the oboe was one of the primary instrumental sources of such problems, and most of the medical difficulties were related to the position of the player's right hand. The small diameter of the oboe's barrel, coupled with the number, type, placement and shape of the keys, requires the right hand to work in a rather cramped and tight position. The fingers do not lie at a right angle to the long axis of the instrument's barrel (unlike the left hand); this position necessitates the rather inefficient use of multiple muscle groups to operate the keys. The left hand, in contrast, is held in a mechanically more advantageous position, and less muscle activity is needed to move its keys effectively. Prolonged use of the right hand in its relatively cramped position can in some cases produce symptoms of muscle strain, both in the small (intrinsic) muscles within the hand itself and the long *extrinsic* muscles which begin in the forearm and move the fingers into flexion (clenching) and extension (straightening). Muscle strain usually is painful and can affect one's ability to play smoothly and rapidly, especially for extended periods.

Solutions

There are a number of ways to deal with this problem. Supportive devices such as neck straps, stabilizing posts (FHRED® and MUTS® are good examples) and combinations of the above have been devised, exhibited and merchandised. Modifications of the standard oboe thumb rest, such as the "Dutch" version, are popular with many performers. However, all these solutions have certain disadvantages, including their cost, the relative immobility of the oboist while playing and/or having to deal with a lot of "gadgetry." In addition, none of them correct the abnormal or cramped placement of the right hand on the oboe, although they do decrease the force with which the instrument must be held.

A number of years ago I suggested that using a thicker thumb rest, which acts to enlarge the diameter of the oboe's barrel, would afford more comfortable right hand finger positions and thus attempt to prevent hand muscle strain. A prototype was constructed, to be attached to the instrument barrel through the screw holes used by the standard rest; it added 1 centimeter (cm) to the functional diameter of the oboe and allowed the performer's right hand fingers to contact the keys at a less acute angle. Trials of this new rest were made with both symphony and student oboists, and it seemed to solve many of the problems for which it was designed. However, when it was attached to the oboe, the instrument did not fit easily into all types of cases. Also, the thumb position could not be changed in a front-to-back direction along the barrel, and this deficit created problems for some oboists who needed this additional degree of adaptability. Manufacturing costs were prohibitive as well, requiring special dies and materials whose costs must eventually be passed on to the buyer. Obviously, a more effective solution was required.

This solution appeared while I was trying to carve a piece of hard rubber into the desired shape of a thumb rest, which then could be slipped over the existing standard rest and produce the desired increase in barrel diameter. Working with this material was a chore, and I looked for a substance which could be "machined" more easily. The solution was found

with a cork stopper, the kind used to close scientific test tubes or bottles. After carving out a few prototypes in this material, I felt it was a reasonable alternative to the expensive and less adaptable methods described above.

This type of thumb rest has several advantages. It is inexpensive and readily obtainable, not only from food stores and bottle shops, but also from many stores which sell home decorations, arts and crafts materials, or from some hobby shops. I found that corks do not have to be new, although some care must be taken when removing a used one from a bottle so that it doesn't crumble or break apart. The cork rest is easy to make, especially for anyone used to working with reedmaking tools. Fabrication time is usually less than 30 minutes, although, like a reed the rest must be tested on the instrument to assure a good result. In addition, the cork thumb rest can be made to accommodate individual preferences; some oboists may wish to have a higher side rest for the thumb while others prefer a shorter pad which rests on the instrument barrel. Finally, because it is made locally, there are no shipping delays or back-order problems.

There are very few disadvantages to this rest. The primary one I've noticed has been some lack of durability, not only because of the force of the performer's grip used to hold the oboe, but also from repetitively placing and removing it over the existing metal thumb rest; however, this disadvantage is relatively minor, and a new cork rest can be made rather easily and quickly. Secondly, the cork rest will not fit over an existing Dutch rest, nor over those manufactured with rings for neck straps.

Raw materials

The ideal cork for making this support is cylindrical or nearly so, thus avoiding the need to shave down the larger diameter of a tapered cork to achieve this shape. Corks used primarily for scientific purposes are therefore less desirable than those obtained from (or for) bottles. The cork should be at least 20-21 millimeters (mm) in diameter, and at least 28-30 mm long; people with larger thumbs may wish to use one which is at least one inch (25.4 mm) in diameter. It should be quite dense, with few large voids within its substance.

Tools needed

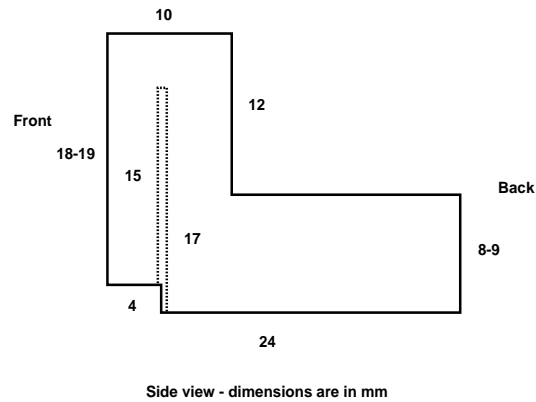
- 1 - A large, sharp knife for major cutting of the cork. It should be as sharp as a reed knife (which I do *not* recommend for this purpose!).

- 2 - A small jeweler's file with a very thin stem (about 1/16 inch or 1 mm on a side.) The stem will be used to gouge the trough for the metal thumb rest to fit inside.
- 3 - Round or oval files at least 1/2 inch in diameter.
- 4 - A small ruler with metric measurements.
- 5 - Smaller knives (like X-acto® or other modelmakers' knives) may be helpful for finishing details.

Construction of the thumb support

The clean, dry cork should be measured to ensure it has the right dimensions. The end which has been pierced by the corkscrew should be removed with the large knife, leaving a cylinder 28 mm in length (see Figure 1). The end which has been deep inside the bottle will become the larger (front) end when the rest is finished.

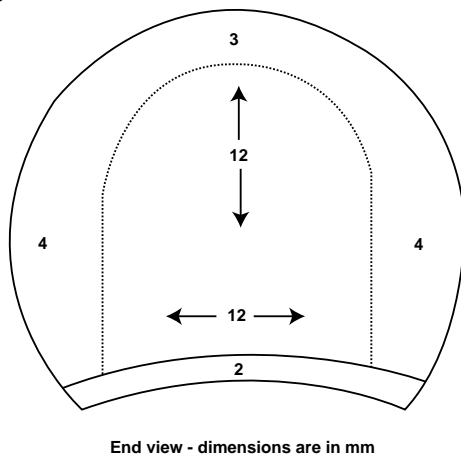
Figure 1.



The large knife should then be used to remove cork from the back end to the dimensions as shown in Figure 1. The resulting new surfaces should be flat, and lie at right angles to each other. A 2 mm x 4 mm segment should be carved out on the opposite side of the front end, accommodating the thickness of the existing metal rest's base plate.

The trough for the metal rest should then be carefully gouged out with the small end of the jeweler's file. Dimensions and shape of the trough are shown in Figures 1 and 2. This process is the most time-consuming and tedious one, since adequate cork must be left to minimize breaking but enough removed to permit a snug fit of the metal thumb piece inside the trough. Frequent trials for proper fit are essential.

Figure 2.



Finally, the undersurface of the rest must be contoured to fit the curve of the instrument and the metal base plate of the existing rest. This is done by creating a concave longitudinal trough along the length of the support with the curved or round files. Filing must be accompanied by frequent checking to see that the arcs match one another precisely. The completed thumbrest must fit firmly against the oboe barrel without any tendency to rock from side to side or front to back. The thumb should feel comfortable against the rest while holding the instrument, and any rough or irregular areas can be smoothed out at this time with either the small knife or a file.

The oboist may find that less right hand grasping or holding force is needed while using this support. Since the right fingers are now lined up more closely to a right angle with the instrument barrel, less muscle work is needed for rapid finger action. The change in finger position does not affect the reach to side or trill keys; they still lie comfortably beneath or adjacent to the fingers without the need for excessive stretch.

Not every oboist will benefit from using this accessory or will find it comfortable to use at all times. However, the positive mechanical and ergonomic principles it embodies should be considered by all those who wish to avoid right hand strain problems from their music, or who are currently being treated for such problems, or who wish to prevent the recurrence of such problems. ❖

About the Author ...

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