

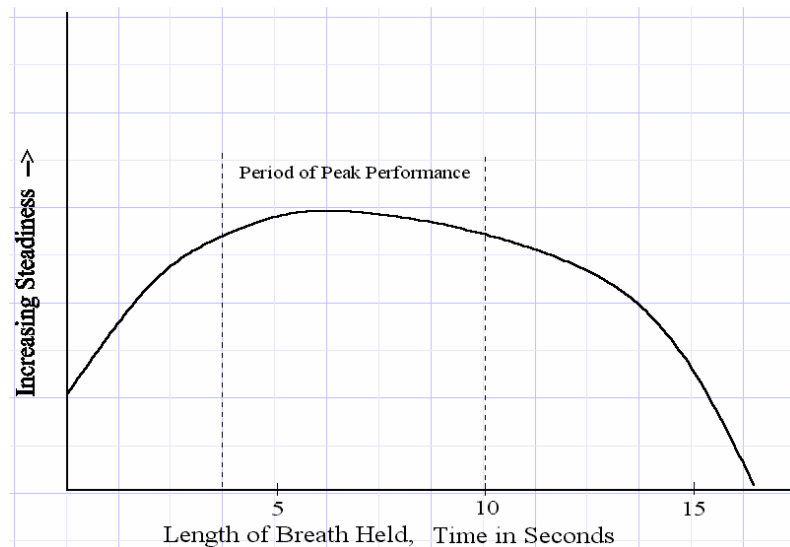
Breathing Technique for the Horologist
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In my years of restoring time pieces I have come to the realization that I breath differently than normal when I'm performing a delicate operation. Athletes utilize different breathing techniques to aid them in their performance and many people relieve stress and other health threatening problems by altering their normal breathing patterns. Generally, a controlled breathing technique will allow your body to utilize as much oxygen as possible. This has the effect of a slower heart rate, higher alertness, better dexterity, and less anxiety. I know I need all of those qualities when I'm working on a delicate French movement.

Most breathing techniques have several things in common. Breathing is done through the nose, uses the diaphragm, is slow and regular, and often involves holding one's breath. Breathing with the diaphragm is how the human body was designed, but we have been miss-training ourselves most of our lives. You can tell if you are using your diaphragm by lying flat on your back and watching your chest and stomach as you breath. If your stomach moves up and down more than your chest does, congratulations! You are breathing correctly.

The technique that I use is derived from a method I learned while shooting in competition. I was taught that if I wanted to be really good I had to control my breathing before, during, and after a shot. Two long slow breaths through the nose, using the diaphragm, followed by one more that was held for a count or two and then let out half way and I was ready to take my shot. This slowed my pulse, steadied my aim, and calmed me so I could squeeze the trigger. I think it even improved my vision so I could see the target better. Following the shot, I would let out my half-breath and prepare for the next shot by repeating the technique. Marksmen have found that this creates a window of opportunity in which your aim is as steady as it is going to get and that a shot taken during that window will be your most accurate.

Now, how to apply this to the restoration of time pieces...The next time you are presented with a difficult and delicate task, like shellacking a roller jewel or straightening a French pivot, try changing your breathing. You may already hold your breath in situations like that but you may not be taking those important first two calming breaths followed by the third that is let out half way. Don't hold that third breath for too long though. The window in which you will be the steadiest doesn't last long (see graph) so if you feel yourself getting unsteady (hopefully you're not to the point of passing out) stop what you are doing, let out that breath and start the technique over. Pretty soon it will come naturally.



I won't guarantee that this technique will prevent broken pivots or crooked roller jewels, but it will make you more steady during those testy delicate chores that always seem to take forever.

For Further Reading...

1. Blair, Wesley, 1984: *The Complete Book of Target Shooting*, Harrison, PA, Stackpole Books, pp. 140-141, 261-264.
2. Smith, Philip, 1980: *Total Breathing*, New York, McGraw-Hill Book Company.

Web sites for further information on breathing techniques...

<http://www.viewzone.com/breathing.html>

<http://www.mindbodyconsult.com/protocols/breathing.html>

<http://www.biggerhammer.net/manuals/23-10/ch3.htm>