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## **A Manual for BTV (VTO – Voluntary Tubal Opening)**

**A Step-by-Step Guide to hands-free Equalizing for  
Freedivers and Scuba Divers**

(Translated from French by Anonymous, Edited by Dan  
Zalgaler, 2006)

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calm, peaceful and relatively  
safe activity however it is also  
a potentially dangerous one  
depending on individual  
physiology and state of mind.  
The following document exists  
in order to give deeper  
intellectual insight of  
freediving and hands-free  
equalization techniques and  
does not constitute any form  
of instruction. Individuals  
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## **BTV (VTO)**

The Initials BTV stand for 'Beance Tubaire Volontaire'. In the 1950's the French navy developed a technique for middle ear equalization called 'Voluntary Tubal Opening'. This technique is difficult to teach and only approximately 30% of taught can perform it reliably. This technique is similar to the events that happen in the back of your throat at the end of a yawn. It is also similar to wiggling your ears and some people seem to be born with the talent.

Before you is an instruction manual of how to perform the BTV. The exercise is 1 month in length and divided into 4 one-week periods. The exercises in this manual should be performed in the morning, on an empty stomach. 5 second rest periods are to be taken between the execution of the different exercises.

Loosen all muscles and any tight objects (necklaces, shirt collar etc.) in the area of your neck. Keep your head upright, hold your hyoid bone (the bone that holds up the 'Adam's apple') in one hand, don't squeeze too hard, look into a mirror to see the Adam's apple.

**Week one:** Perform the following exercises every morning during the first week, repeat each exercise three times, slowly; Remember to take 5 second breaks between the execution of the exercises.

### **A) Tongue Exercises**

1. With your mouth wide open, try to touch your nose with your tongue then bring your tongue back into your mouth as far back as possible while pressing the tip of your tongue down and back. While doing this control the lowering of the Adam's apple (which will go from its highest point to its lowest).
2. With your mouth wide open, place the tip of your tongue behind your two front (top) teeth and slowly draw it back, dragging it on the roof of your mouth, trying to touch the uvula (the thing that hangs in the back of your throat).
3. With your mouth wide open, place the tip of your tongue on your two front (bottom) teeth and try sticking as much of your

tongue out of your mouth as possible (while keeping the tip on the two front (bottom) teeth).

### **B) Exercises for the rear of the roof of the mouth ('Voile du Palais')**

1. With your mouth wide open and your tongue at rest, practice partial swallowing (to the point that the rear part of the roof of your mouth contracts) while trying to control the lowering movement of your Adam's apple. This exercise, the most important of them all, is successfully completed when you start getting an upset stomach.

### **C) Exercises combining the tongue and Voile du Palais**

1. With your mouth wide open, press the tip of the tongue on the two front (bottom) teeth and keep the back of the tongue pressed down and back in the back of the mouth, perform the partial swallow (up to the point of the contracting at the rear of the roof of your mouth). The Adam's apple should move even further down than before with the partial swallowing maneuver pushing it lower.

**Week two:** Perform the following exercises every morning during the second week, repeat each exercise three times, slowly; Remember to take 5 second breaks between the execution of the exercises.

### **D) Exercises mandibulo – linguo – véliques**

1. With your mouth half closed, stick your lower jaw out as much as possible, place the tip of your tongue behind your two front (bottom) teeth and try sticking your tongue out of your mouth as much as possible. Now perform the partial swallowing maneuver.

### **E) Exercises with closed mouth**

1. With your mouth closed, perform exercises B, C and D with an emphasis on exercise B.

**Week three:** Perform all exercises every morning during the third week, repeat each exercise three times, at faster rate than before with the emphasis placed on exercise B with closed mouth.

**Week four:** Perform all exercise with the mouth closed and with increased intensity as follows:

5x Exercises C, D, E  
10x Exercise B

**Perform a Valsalva maneuver twice a week, then perform exercise B and keep track of the number of contractions necessary to clear your ears.**