

## **AirPro™ Air Graduate WHFO**

### **PROGRAM:**

Orthotic therapy for moderate to severe wrist, hand, finger joint stiffness, or contractures. Ideal to treat adaptive tissue shortening contracture(s) of the MP / IP joints of the fingers using graduated air pressure to reverse a fist hand.

### **TREATMENT RATIONALE:**

To treat joint stiffness, or contractures of the wrist, hand and fingers (including thumb); ideal for treating a fist hand. A detachable cone shaped air bladder is carefully inserted deflated into a fist hand. Using an inflation/deflation bulb, air is inserted into the air bladder to provide a gentle stretch on the affected joints of the fingers and thumb to reverse significant adaptive tissue shortening of the fingers and thumb. The cone shaped finger/thumb component of the device can be attached to a long opponent orthotic base to treat wrist contracture. Orthotic treatment should be continued until function is restored to the affected hand.

### **FUNCTIONAL OBJECTIVES:**

Incrementally open a fist hand, improve hygiene of the hand, and where possible, improve functional ability of the fingers and hand to assist with activities of daily living.

### **ORTHOTIC TREATMENT:**

1. Use PROM or NeuroStretch™ submaximal passive stretching to point of noticeable resistance only (no discomfort) to passively stretch the affected joint capsule(s), connective tissue, tendons, and muscles. Concentrate on the wrist and thumb NeuroStretch™ locations prior to placing any extension force on the fingers or thumb.
2. Gently insert the deflated hand cone into the palm of the hand with the larger diameter end of the cone positioned as needed. Make sure that the cone is centered as well as possible with each end of the cone extending from each side of the hand.
3. The inflation/deflation valve is on the larger end of the cone. Using the inflation/deflation bulb, place the clear end of the bulb into the valve and slowly inflate the palmar cone. As the cone is inflated, it will become more difficult to continue to squeeze the inflation bulb as air fills the air bladder. At this point, air pressure is providing a stretch on the affected fingers. Use caution at this point to NOT over inflate the air bladder causing unwanted pressure or over stretching of the fingers. The patient should experience a gentle stretching of the fingers with no significant discomfort or pain. The black tip of the bulb is the deflation end of the inflation/deflation bulb, and can be used to reduce air pressure as needed.
4. The orthotic wrist base (long opponent) may be hand molded as needed. Provide approximately 5° to 10° of additional wrist stretch to maximize patient outcomes in treating wrist flexion.
5. If the palmar cone is initially used by itself to open the hand, secure the palmar cone strap by bringing the cone strap over the fingers or hand with the pre-cut opening mid strap going over the palmar cone tip. Bring the strap back around the hand or fingers and secure the strap with the hook and loop closure back on itself.



6. If the orthotic wrist base is used, secure the palmar cone on the long opponent (from palmar or dorsal side on the hand), and THEN use the palmar cone strap to more effectively secure the palmar cone onto the wrist support.
7. After initial device application the affected tendon(s) should feel stretched with no indication of pain or discomfort. After 15 minutes of wear, softening or relaxation of the same tendon(s) indicates that the joint is predisposed to long effects therapeutic stretch.
8. Gradually increase wearing time to three hours or more to achieve Total End Range Time (TERT) that will provide long effects stretch. For a severely contracted hand, careful monitoring and gradual increase in wearing time is recommended.
9. Always deflate the palmar cone using the inflation/deflation bulb prior to removing the device.
10. Determine wearing schedule based upon patient tolerance, therapy evaluation and physician's order.
11. Check for skin redness, pressure, and potential patient discomfort every two to three hours. Evaluate any red areas using the Blanch Test. Remove the orthotic device immediately if significant redness, pressure, or pain and discomfort are evident. ***If there is significant redness, pressure or pain associated with device use, remove the device immediately.*** Discontinue use until the skin integrity or comfort issues are resolved. The device may require modification or the wearing schedule may be altered to eliminate potential skin integrity and comfort problems.
12. A significant wearing schedule disruption often requires a re-adaptation period. A gradual re-introduction and increased wearing endurance may be necessary. Note wearing schedule changes in the patient's care plan.
13. Follow manufacturer's instructions for care of the orthotic device. Always inspect the device between applications to ensure the soft goods are properly in place, the device settings have not been altered, and the device has not been soiled or would provide any other risk to the patient prior to application.
14. Whenever the patient is not experiencing a gentle stretch sensation post application (or at least once a month), check the device settings for continued application of the desired amount of progressive extension therapeutic stretch.

#### **Laundry Instructions:**

1. Always remove soft cover from frame before washing. Remove the air bladder from the palmar cone.
2. Close all hook and loop attachments on soft cover and place in enclosed laundry bag.
3. Hand or machine wash, gentle cycle with mild detergent. DO NOT USE COMMERCIAL WASHERS OR HOT WATER.
4. No bleach or fabric softener.
5. Air dry.

**WARNING:** The product requires a physician's order. The product is designed for single patient use only in order to avoid cross contamination. Any substitution or removal of the product's parts voids the manufacturer's warranty. OCSI/NeuroFlex, Inc. will assume no liability if the above instructions are not followed.

**OCSI**

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