

User Manual

myopro 2X motion g



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CAUTION: United States Federal Law restricts this device to sale by or on the order of a physician or physical therapist.

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The information contained in this document represents the current view of Myomo as of the date of publication and is subject to change without notice. Because Myomo must respond to changing market conditions, it should not be interpreted to be a commitment on the part of Myomo and cannot guarantee the accuracy of any information presented after the date of publication.

The MyoPro mechanical assembly has an expected life of five years. This statement is not a service warranty or a guarantee of access to a service warranty. This information is provided to assist in planning.

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INTRODUCTION

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CUSTOMER SUPPORT



For any support issues, please contact your treating clinical Provider

A Provider may be a physical or occupational therapist, a physician, a prosthetist, an orthotist, or other in the medical field who has been trained in providing clinical care with the MyoPro 2x. Your Provider is the first resource for all fit and operational issues.



If your Provider is unable to address an issue, he or she may contact Myomo customer support for assistance. See Page ii for contact information.

INFORMATION SYMBOLS



WARNING

Warns about situations involving the use of electricity and other situations that could result in bodily harm.



CAUTION

Cautions about actions that may create unsafe conditions that could result in damage to the equipment or loss of data.



NOTE

Note about something to be aware of at this stage of MyoPro 2x use that will help optimize performance or help avoid a common issue that new Users may face.

INTENDED USE

The MyoPro 2x, an upper limb orthosis, is a compensatory device to increase ability to perform functional tasks with the affected limb. The user voluntarily activates movement of the orthotic device with their remaining electromyography (EMG) muscle signal.

INDICATIONS FOR USE

The MyoPro 2x is indicated for use by adolescents and adults diagnosed with long-term muscle weakness OR partial paralysis. Users must meet physical size specifications and demonstrate capacity to use the device, including sufficient cognitive abilities, per user assessment and clinician evaluation.

CONTRAINDICATIONS

The MyoPro 2x is contraindicated for use as follows:

1. Insufficient myoelectric signal output from at least one muscle group needed to activate the desired powered joint (for example, biceps or triceps signal to extend the affected elbow).
2. Severe shoulder subluxation.
3. Excessive pain in shoulder, arm or hand during facilitated range of motion.
4. Contraindicated during recovery from acute injury such as trauma, infection, or skin condition.
5. Upper extremity contracture(s) that prevent functional movement to benefit from the orthosis.
6. Rigid spasticity in the affected muscle groups.
7. Arm circumferences and lengths that are outside build specifications required to be fit with the orthosis.
8. Cognitive or behavioral impairment that would inhibit safe use of the orthosis.
9. Other medical issue which interferes with safe use of the device for functional improvement.

MYOPRO 2x DESCRIPTION

The MyoPro 2x consists of a combination of the following components: a custom-made upper limb orthosis (brace), a powered elbow orthosis with surface electromyography (EMG) sensors, a static or manually set multi-articulating wrist (MAW), a static hand orthosis or powered hand orthosis with EMG sensors, and optional shoulder harness configurations (Figure 8 (Part Number 27679) and Cross-body (in two sizes) (Part Number 28027 and 28028)) for added comfort and secure fit of the MyoPro 2x. The MyoPro 2x also comes with an interchangeable, lithium-ion battery pack (Part Number 25630) with a separate battery charging dock (Part Number 25687), as well as a laptop (Part Number 25780). The laptop comes with software pre-downloaded which a User or the User's provider can use in order to view a graphical representation of the User's EMG signal while operating the MyoPro 2x. A carrying bag is provided for transporting and storage of the MyoPro 2x.

The MyoPro 2x's EMG-control circuit continuously monitors and senses, *but does not stimulate*, the User's muscles. The MyoPro 2x filters and processes the EMG signal, and translates this information into motor movement. Based on the User's needs and abilities, the control parameters are adjusted by the User's Provider. The power assist moves the motor with speed proportional to User's exertion. This system enables the MyoPro 2x to assist the User to initiate and complete desired motions.

The MyoPro 2x is designed for use in a home or clinical environments away from areas with high flammability risk. Please reference Warnings and Technical Specifications for additional information. It should not be worn while undergoing medical imaging (x-ray, MRI, CT scan, etc.)

WARNINGS

The following statements warn against injury risk when using the MyoPro 2x:

 The MyoPro 2x is a prescription device and should only be used as indicated under clinical supervision of a Provider, or after receiving instruction from a clinical Provider for at-home use.



 The MyoPro 2x is only to be used by the person for whom it is prescribed.



 ONLY use the MyoPro 2x upper limb orthosis on the prescribed elbow, wrist, and hand joints. Each MyoPro 2x is built specifically for a left arm or a right arm; never wear the MyoPro 2x on the other arm.



 Do not use the MyoPro 2x to drive an automobile or operate machinery.



 Do not sleep while wearing the device



 DO NOT expose the MyoPro 2x to flame or excessive heat; personal injury may occur.



 The MyoPro 2x is NOT waterproof. Do not shower, swim, or expose the device to rain or other sources of water. Do not wear the device for assistance to wash dishes by hand as risk for water exposure to the grasp motor is high.



 Use caution when using the device in shoulder positions where it is possible for the User to hit him or herself.

 Do not attempt to lift heavy objects with the MyoPro 2x; the elbow motor provides at most 5 lbs of lifting assistance.



 Tight straps may restrict the User's circulation. Therefore, always check that the straps are not too tight throughout the User's range of motion.

WARNINGS, CONTINUED

-  Each component of the device is supplied for safety and best performance. Use all provided components for optimal operation.
-  No modification or disassembly of the mechanical or electrical components of the MyoPro 2x is allowed as it may expose other dangers.
-  If storing the MyoPro 2x for more than one month, remove the battery from the battery compartment.
-  If at any time during the use of this device, you notice any of the following, discontinue use and contact your Provider:
 - Movement does not match the User's desired motion.
 - Persistent redness, swelling, or skin breakdown (bleeding, chafing, etc.)
 - Rash on the arm, hand, or fingers.
 - Pain associated with wearing the MyoPro 2x orthosis.
 - Unusual noises from the orthosis (popping, clicking, etc.)
 - Smells from the orthosis (smoking, burning plastic, etc.)
 - Odor from the orthosis (sour smells or other indications of bio-contamination.)



Icon Credits

Medical Shield by Josy Dom Alexis, Weight: Deadlift by Scott Lewis, Single Person: Person by Alexander Smith, Group of People: Group Men by Peter van Driel, Arm: Muscle by Jurjen Versteeg; the Noun Project

CAUTIONS

The following cautions apply to the MyoPro 2x device and accompanying components:

⚠ Do not expose to flame or excessive heat.



⚠ Do not incinerate the Lithium Ion battery pack.

⚠ Do not use a hairdryer to dry components of the MyoPro 2x.



⚠ Use only the battery and battery charger provided with the MyoPro 2x.



⚠ Insert only the battery pack that came with the MyoPro 2x into the MyoPro 2x battery compartment.



⚠ Charge the battery indoors only. The battery and battery charger should only be operated in temperatures ranging from 0-40 °C (32-104 °F).



⚠ The MyoPro 2x and accessories are not waterproof. Take care to protect the device from coming in contact with liquids. Never immerse, pour, or spray water or other liquids directly onto the MyoPro 2x. For proper cleaning instructions, see Page 32.



⚠ Excess force applied to rotate the motors in either direction will permanently damage the motors.

⚠ The MyoPro 2x is not suitable for use in the presence of flammable anesthetic mixtures with air, or flammable anesthetic mixtures containing oxygen or nitrous oxide.

⚠ If you detect fumes, flames, melting of components around the battery or battery charger, or the device is hot to touch, **TURN THE DEVICE OFF IMMEDIATELY** and contact your Provider.



⚠ Protect the MyoPro 2x from damage, always use the carrying bag provided with the unit to store or ship the MyoPro 2x.

Icon Credits

Trees: Forest by Simone Fernandes, House: House by Numero Uno; the Noun Project

FUNCTIONAL AUDIBLE ALERTS

The following Audible Alerts may be heard when operating the device.

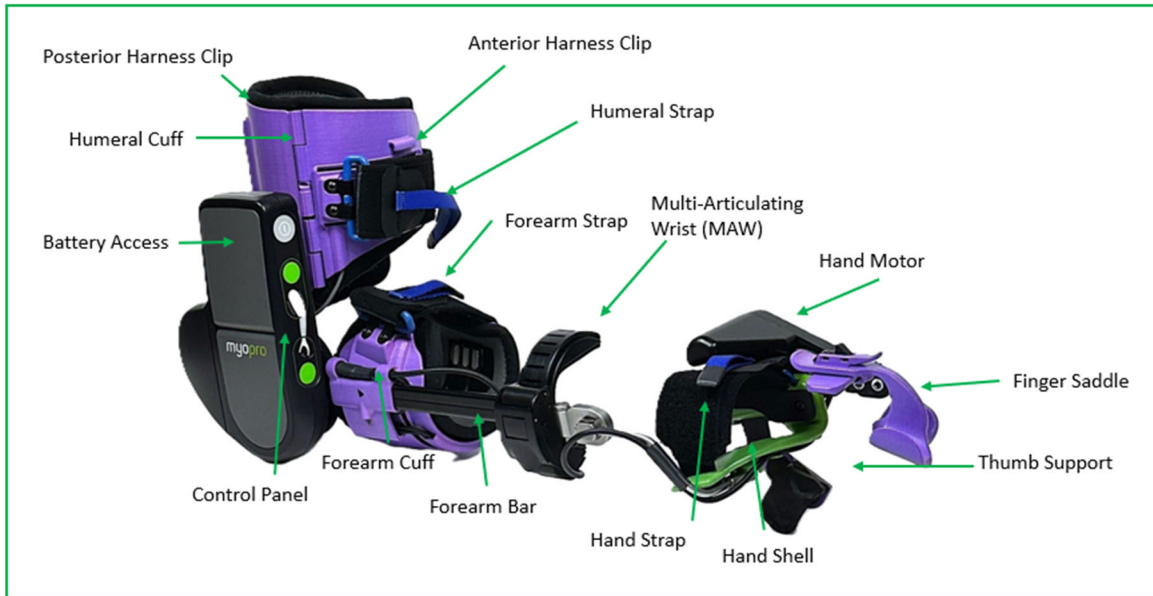
Sound	Trigger	Meaning	Prompted Action
Long Beep	Motor temperature is too hot.	Motor is disabled until it cools down.	Please wait for your motor to cool down. It will resume its function once the motor temperature has cooled enough to resume operation.
Swirl Melody	After overheating, motor temperature has cooled enough to resume operation.	Motor is re-enabled and will begin moving again.	Resume normal use.
Donning Mode Ascending 1	Donning Mode enabled in Myconfig, User holds elbow button for 3 seconds.	Donning mode is entered, hand is about to move.	Place hand into the hand restraints.
Donning Mode Ascending 2	User presses hand button after above.	Handset and elbow are about to move.	Place elbow into elbow restraints.
Donning Mode Ascending 3	User presses elbow button after above.	Donning mode is complete.	Donning mode is complete, device going into standby (or configured start mode). You may begin using your device.
Short beeps at 1second intervals.	Overheat Prevention Alarm has been enabled in MyConfig, Device is in Dual Mode, Elbow has been overused in a short period of time.	After 5 seconds of alerting, Motor is disabled for 10 (configurable) seconds to allow it to cool down.	Please wait for your device to cool down. It will resume its function once the motor temperature is back to normal.

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MYOPRO 2x MOTION G COMPONENTS

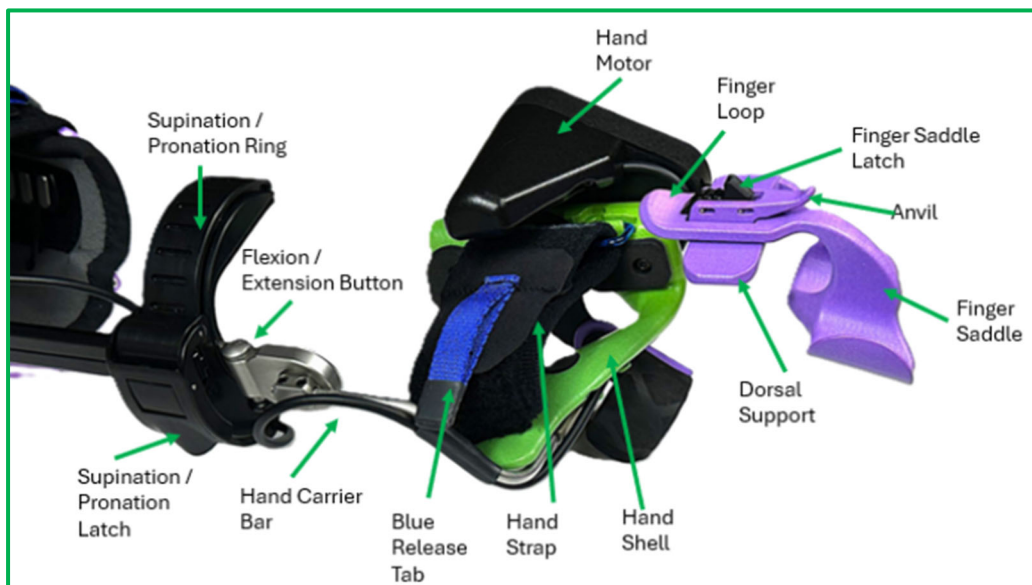
MYOPRO 2x MOTION G COMPONENTS

Reference the diagram below to understand the various components of your MyoPro 2x Motion G Orthosis.



MYOPRO 2x HAND AND WRIST COMPONENTS

Reference the diagram below to understand the various hand and wrist components of your MyoPro 2x Motion G Orthosis.



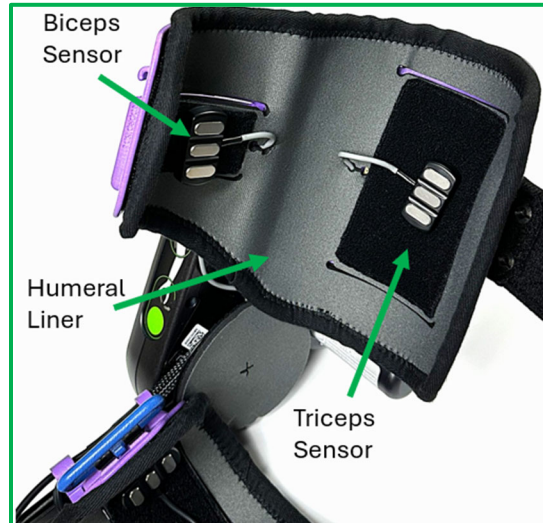
MYOPRO 2x MOTION G SENSORS

Reference the diagram below to understand the various components related to the MyoPro 2x *forearm* sensors.



MYOPRO 2x BICEPS & TRICEPS SENSORS

Reference the diagram below to understand the various components related to the MyoPro 2x *biceps* & *triceps* sensors.



MYOPRO 2x CROSS-BODY HARNESS COMPONENTS

Reference the diagram below to understand the various components related to the MyoPro 2x *cross-body* harness.

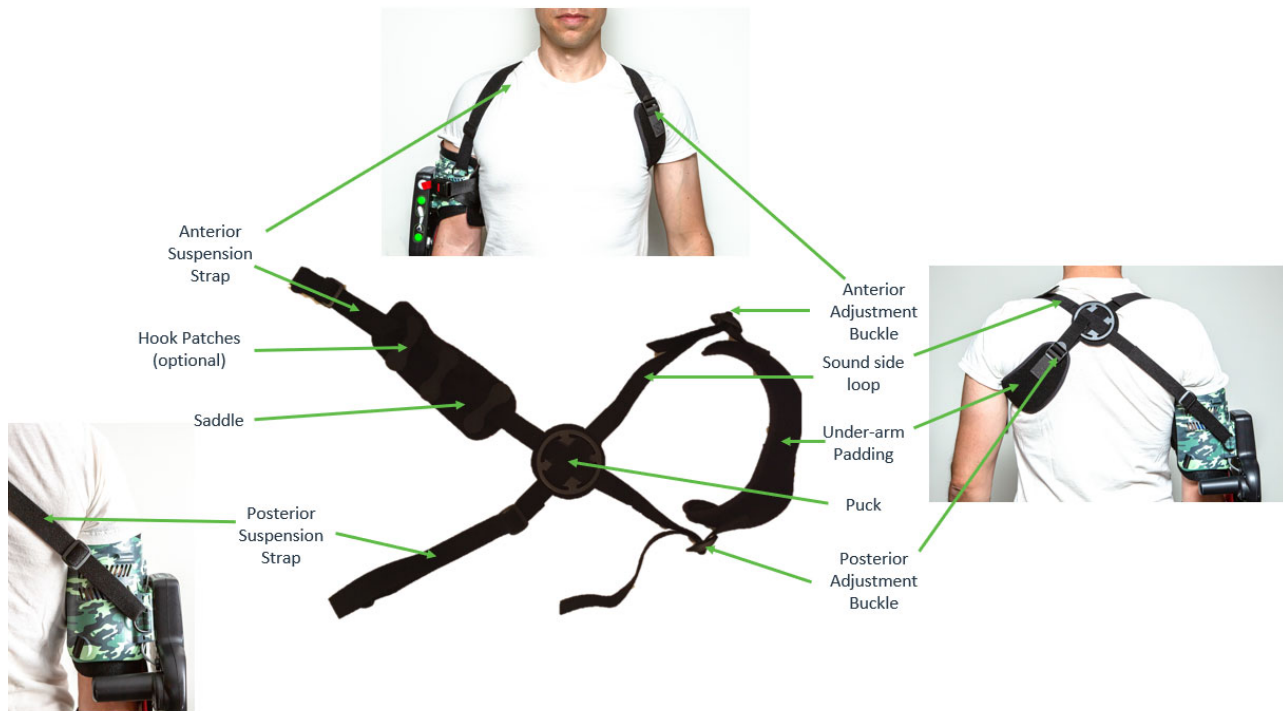
- **NOTE:** Your Provider may have provided you with a harness which differs from the *cross-body* harness shown below. If you received a *figure 8* harness with your MyoPro 2x, refer to *figure 8* harness components diagram on page 15.



MYOPRO 2x FIGURE 8 HARNESS COMPONENTS

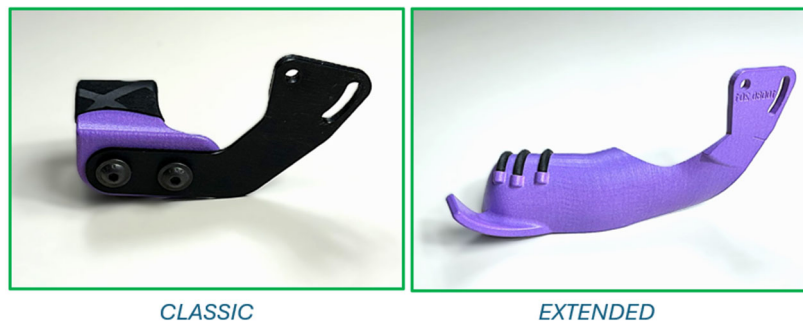
Reference the diagram below to understand the various components related to the MyoPro 2x *figure 8 harness*.

- **NOTE:** Your Provider may have provided you with a harness which differs from the *figure 8 harness* shown below. If you received a *cross-body harness* with your MyoPro 2x, refer to *cross-body harness* components diagram on page 14.



MYOPRO 2x THUMB OPTIONS

Reference the diagram below to understand the two thumb options: *Classic* and *Extended*.



NOTE: Your Provider will fit you with one of the two thumb types. Please consult with your Provider before switching the thumb.

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PUTTING MYOPRO 2x MOTION G ON (“DONNING”)

WARNINGS REVIEW

Before donning the MyoPro 2x Motion G, review the warnings below:

-  **WARNING:** DO NOT expose the MyoPro 2x to flame or excessive heat; personal injury may occur.
-  **WARNING:** The MyoPro 2x is a prescription device and should only be used as indicated under clinical supervision of a Provider, or after receiving instruction from a clinical Provider for at-home use.
-  **WARNING:** The MyoPro 2x is only to be used by the person for whom it is prescribed.
-  **WARNING:** Each component of the device is supplied for safety and best performance. Use all provided components for optimal operation.
-  **WARNING:** ONLY use the MyoPro 2x upper limb orthosis on the prescribed elbow, wrist and hand joints. Each MyoPro 2x is built specifically for a left arm or a right arm; never wear the MyoPro 2x on the other arm.
-  **WARNING:** Tight straps may restrict the User's circulation. Therefore, always check that straps are not too tight throughout the User's range of motion.
-  **WARNING:** Do not sleep while wearing the MyoPro 2x as straps may alter the User's circulation.
-  **CAUTION:** If you detect fumes, flames, melting of components around the battery or battery charger, or the device is hot to touch, **TURN THE DEVICE OFF IMMEDIATELY** and contact your Provider.

STEPS FOR PUTTING ON MYOPRO 2x ORTHOSIS

To ensure proper fit and function, it is essential the MyoPro 2x is donned (put on) correctly before each use. If the MyoPro 2x is donned incorrectly, you may experience discomfort, soreness, and/or pain. You may need assistance to don your MyoPro 2x and if so, whoever assists you should receive training for proper MyoPro 2x donning.

Myomo offers donning instructional videos for the MyoPro 2x on its website (www.myomo.com). If you still have difficulty donning the MyoPro 2x, consult with your Provider and/or therapist for tips and strategies specific to your situation.

Consult the illustrations above to reference the individual components of the MyoPro 2x, which are identified as *italicized* words in the following instructions.

Green Arrows  indicate motion

DONNING SETUP

Before donning your MyoPro 2x, perform the following steps:

1. Ensure that the MyoPro 2x is powered off.

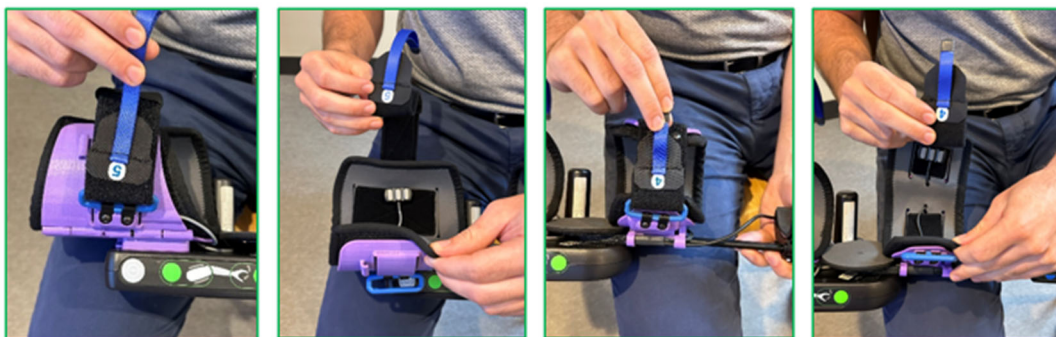
➡ **NOTE:** Pads and straps should be fully air-dried from the previous use.

⚠ **CAUTION:** Do not use a hairdryer to dry components of the MyoPro 2x.



Powered-off MyoPro

2. Pull on the blue tabs to unstrap the *forearm and humeral straps*. Ensure the cuffs are fully open.



Unstrapping the MyoPro Humeral and Forearm Shells

3. Locate the *supination / pronation latch* and pull up on the latch to unlock the *multi-articulating wrist*.

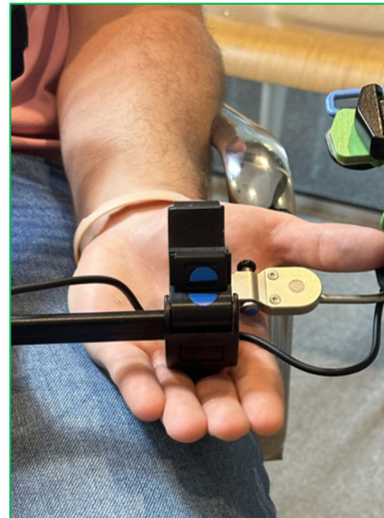


Supination/Pronation Latch

4. The MyoPro will now be able to rotate. Find the blue stickers to align the MyoPro for donning. If your device no longer has blue stickers, align the ring to your preferred donning orientation. Re-latch the *supination / pronation latch*.

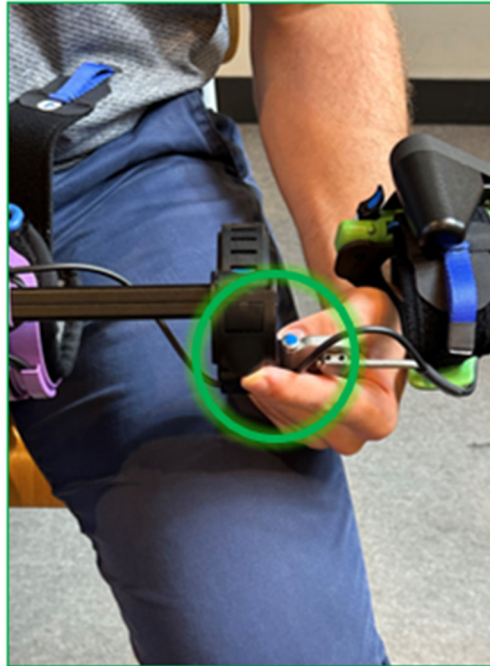


OR



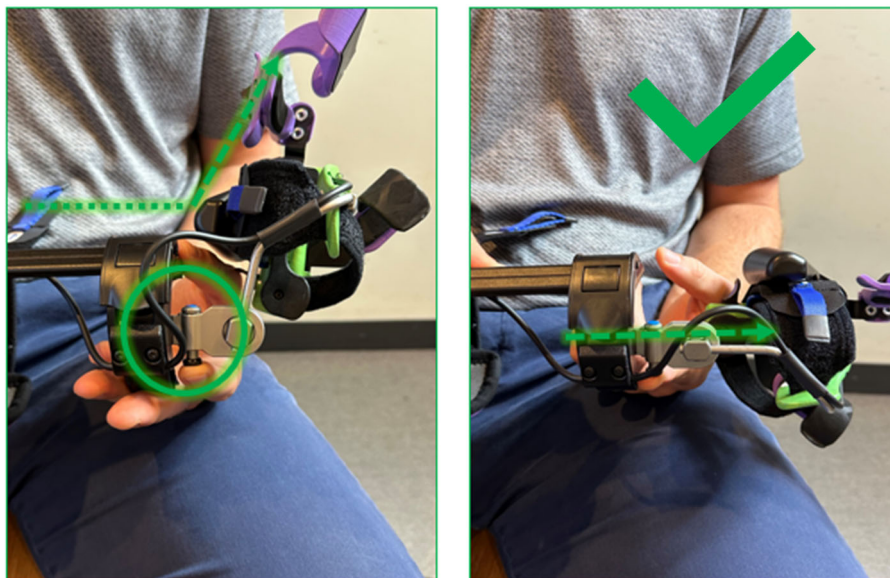
Configuration 1 versus Configuration 2

5. Locate the silver button (*flexion / extension button*) which should be between the *Multi-Articulating Wrist* and the hand components.



Flexion / Extension Button

6. If the MyoPro is not in a straight position, push the silver button allowing the MyoPro hand to pivot. If it is already aligned, skip to step 8.
7. Straighten the MyoPro and press the silver button again to lock the MyoPro in place.



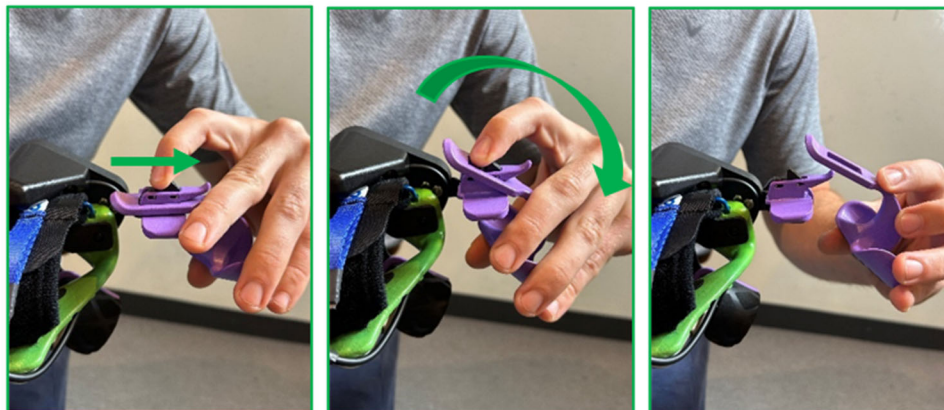
Aligning the Hand Carrier Bar

8. Locate the *finger saddle*.



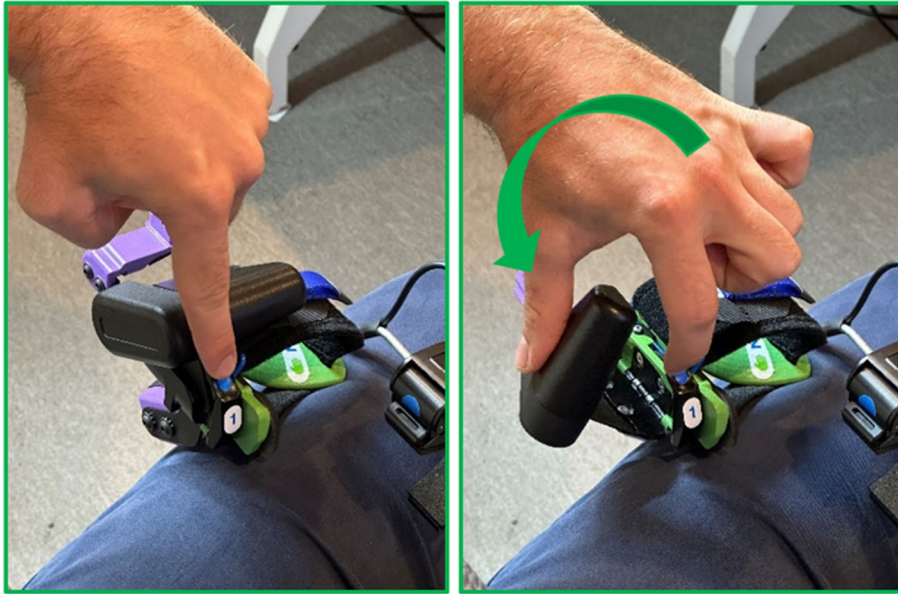
MyoPro Finger Saddle

9. Pinch the lever to release the *finger saddle*. Set aside in a reachable position to retrieve later.



Taking off Finger Saddle

10. On the MyoPro hand, locate the lever. Push down on the lever to open the *hand motor*.



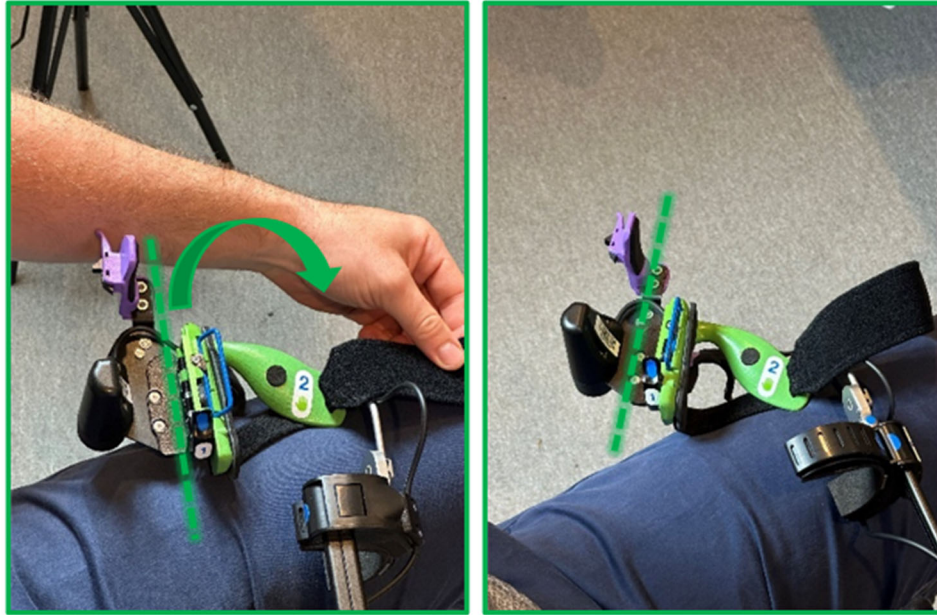
Opening the Hand Motor

11. Pull on the blue tab to unstrap the MyoPro *hand strap*.



Unstrapping the MyoPro hand

12. The MyoPro hand can rotate to provide easier donning access. Rotate the MyoPro hand to your preferred position to make it easier to 'grab the green'.



Twisting the Hand Shell

13. Straighten out the MyoPro to finish the setup process.



Setup MyoPro 2x

DONNING INSTRUCTIONS

Prep: If you have tone/spasticity in your hand/fingers, it may be beneficial to employ various techniques to relax your wrist flexors/extensor muscles before proceeding with donning. Consult your therapist/physician for tone/spasticity management solutions.

1. When donning, position the MyoPro 2x on a surface with adequate friction to prevent it moving away from you, such as your lap.
 2. Begin by ensuring the *hand shell* is rotated, step 12 of the setup process, so the fingers are pointing away from you. This will prevent twisting while donning the hand piece, which may stimulate tone.
- ⊞ **NOTE:** The motor and battery case should rest on the outside of the arm. If the motor and battery case is aligned along the interior of the arm, you may be donning upside down or on the wrong arm.

HAND PLACEMENT

3. When you align the blue stickers on the black wrist ring, your MyoPro will be in one of two orientations. If the green bar (*hand shell*) is lying flat proceed to the next step, and if the green bar is standing up proceed to step 8. Your provider has configured the MyoPro into the orientation which best suits your needs.

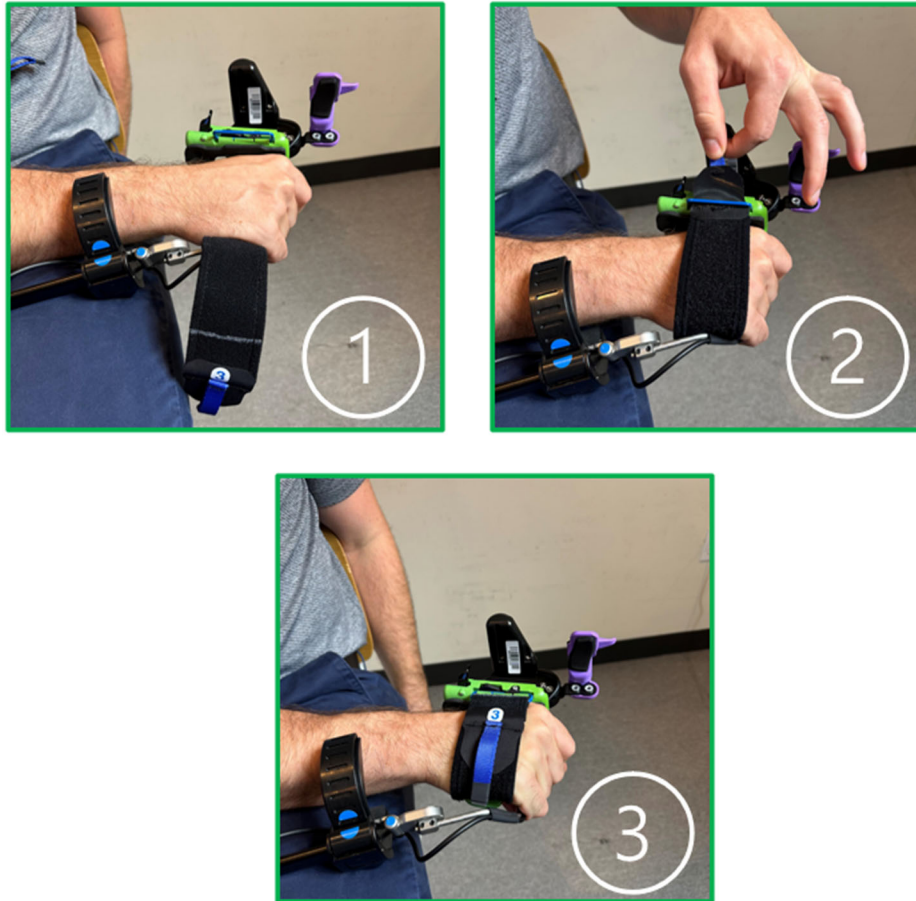
Hand Placement Configuration 1

4. Begin by placing your affected hand onto the *hand shell*. Focus on guiding your thumb into the opening between the green bar and hand strap by 'diving' your thumb through and position your thumb into the *thumb piece*.



Configuration 1 Hand Placement

- ⊙ **NOTE:** If your hand is tight, you will have to uncurl your fingers to pull the hand sufficiently into the hand shell.
5. Position your hand so the base of the thumb is in full contact with the *hand shell*. **Everything is aligned in comparison to the thumb being fully seated against the hand shell. The majority of fit issues occur here.**
 6. Find the *hand strap* and thread the blue tab through the blue ring. Tighten the strap to the white line ensuring that your hand is secure and locked in place. If the hand can slip out, tighten the hand strap until snug.



Donning the MyoPro Hand Configuration 1

7. Jump to step 12 if you've completed the hand donning process

Hand Placement Configuration 2

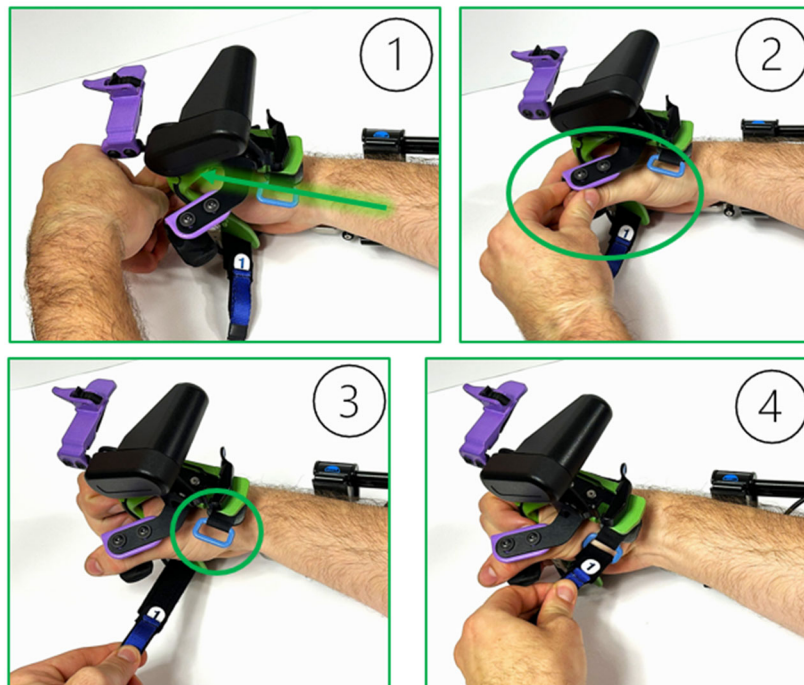
8. Using your unaffected limb to help your affected limb, place your arm on the *multi-articulating wrist*. It may help to have the MyoPro either on your lap or stabilized on another surface.
9. With the black strap loose, reach through the MyoPro hand and guide your affected hand to 'grab the green' bar. Your hand should be underneath the black strap, on top of the green bar.



Guiding the affected hand

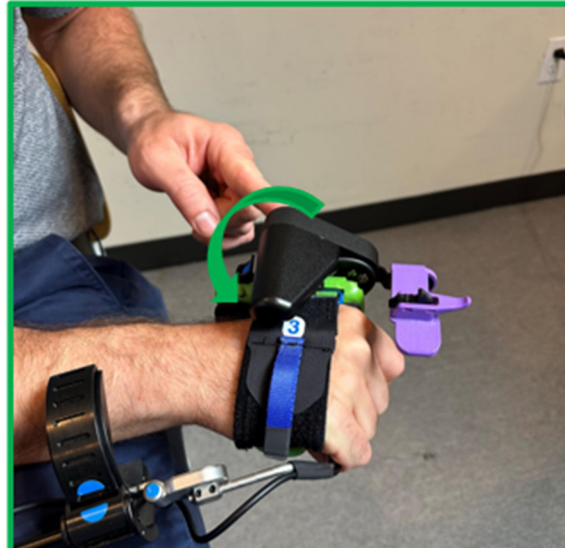
10. Place your thumb in the *thumb piece*.

11. Feed the blue tab of the *hand strap* through the blue ring and tighten the strap securing your hand in place.



Donning the MyoPro Hand Configuration 2

12. Rotate the *hand motor* back to the position over the back of the hand by depressing the tilt lever and simultaneously rotating the *hand motor* back to the closed position. The tilt lever will toggle when the motor assumes the correct position.



Closing the Hand Motor



⚠ FIT CHECK ⚠

CONFIRM THE *HAND SHELL* PLASTIC IS AGAINST THE THUMB WEB SPACE AND THAT THE KNUCKLES ARE PAST THE PALMAR CREASE. MAKING CHANGES TO THE FIT OF THE HAND PAST THIS POINT IS IMPOSSIBLE WITHOUT REMOVING THE BRACE AND STARTING OVER. THE HAND SHOULD BE LOCKED IN THE CORRECT POSITION AT THIS POINT.

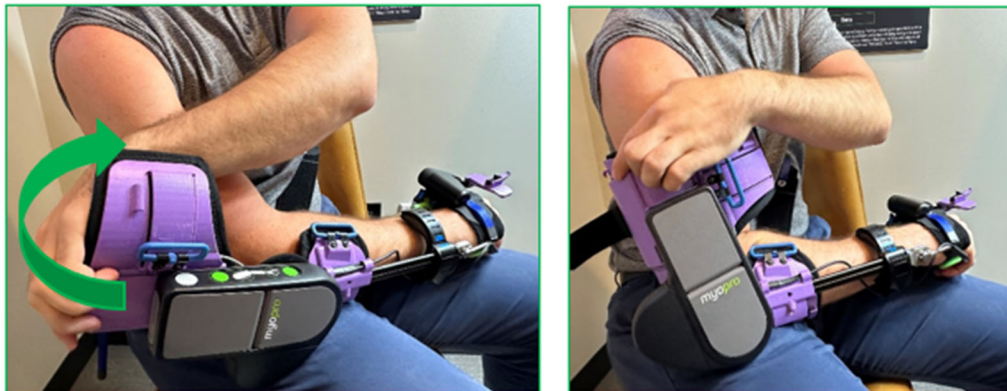
ARM PLACEMENT

- 13.If needed, turn your secured hand to align your arm with the MyoPro.
- 14.Slide your forearm into the black ring (*Multi-Articulating Wrist*) and the forearm cuff.



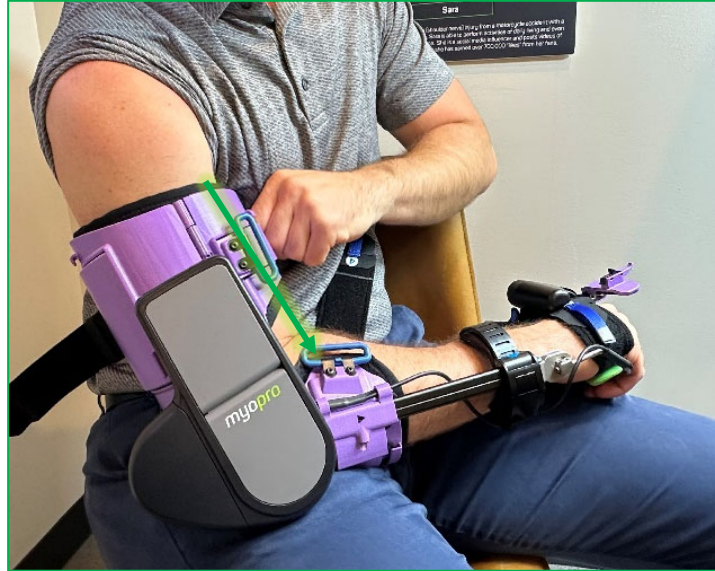
Placing Forearm in Cuff

15. Pull the *humeral cuff* UP to align with your arm.



Pulling up Humeral Cuff

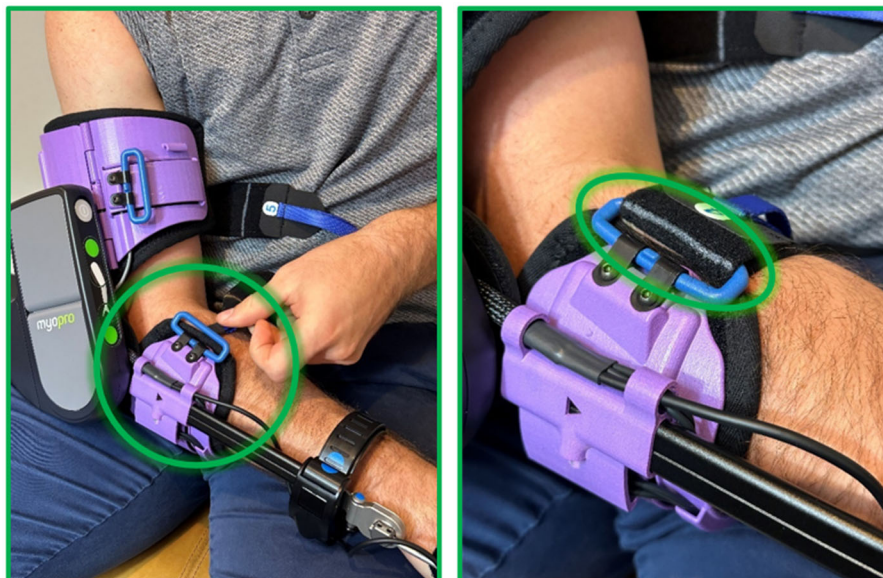
16. When the *humeral cuff* is up, be sure to press your elbow down toward the bottom, near the motor, to ensure proper MyoPro fit.



Pressing Elbow Down

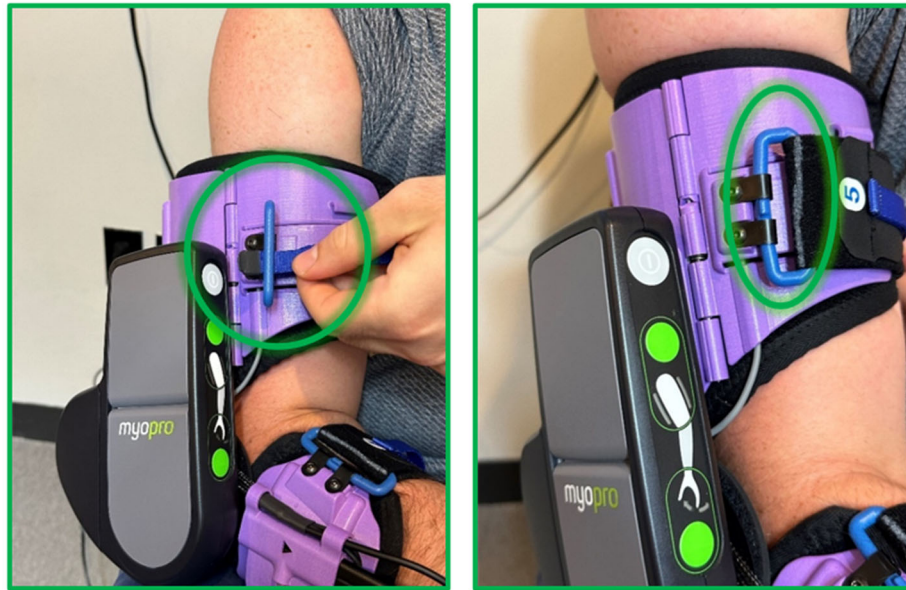
- ⌚ **NOTE:** If needed, unlatch the black ring (*Multi-Articulating Wrist*) and rotate to a more comfortable position. Re-latch the black wrist ring before moving to the next step.

17. Pull the blue tab of the *forearm strap* through the blue ring on the *forearm cuff*. Tighten until you see the white line.



Donning the Forearm Cuff

18. Next you need to reach the *humeral strap*. Move your elbow away from your body to easily access the *humeral strap* from under your arm.
19. Feed the blue tab through the blue ring of the *humeral cuff*. Tighten again until you see the white line.



Donning the Humeral Cuff

20. Attach the *finger saddle*. First position the *finger saddle* on the end of your index and middle fingers with the *finger loop* emerging from between your fingers. Then position the *finger loop* around the *anvil*-**you may pull the anvil down towards the loop without damaging the motor**. Push on the back of the *finger loop* while pulling up on the finger saddle. Once the *latch* toggles, the *finger saddle* is locked in place.



Putting on the Finger Saddle

21. The MyoPro 2x is now applied. For instructions on donning the harness, please reference the next pages' instructions to determine which harness you are using and the instructions for application.

STEPS FOR PUTTING ON MYOPRO 2x HARNESS

A harness is provided with the MyoPro 2x. It serves to both protect your shoulder joint and to suspend the MyoPro 2x in correct position on your arm, so it does not slide off.

⚠ WARNING: A harness should always be worn when the MyoPro 2x is donned, unless directed otherwise by your physician and/or therapist. Failure to wear a harness may result in shoulder joint discomfort, pain, and/or injury.

The MyoPro 2x is available with two harness models depicted below. Following the appropriate instructions, depending on which harness model you have.

CROSS-BODY HARNESS



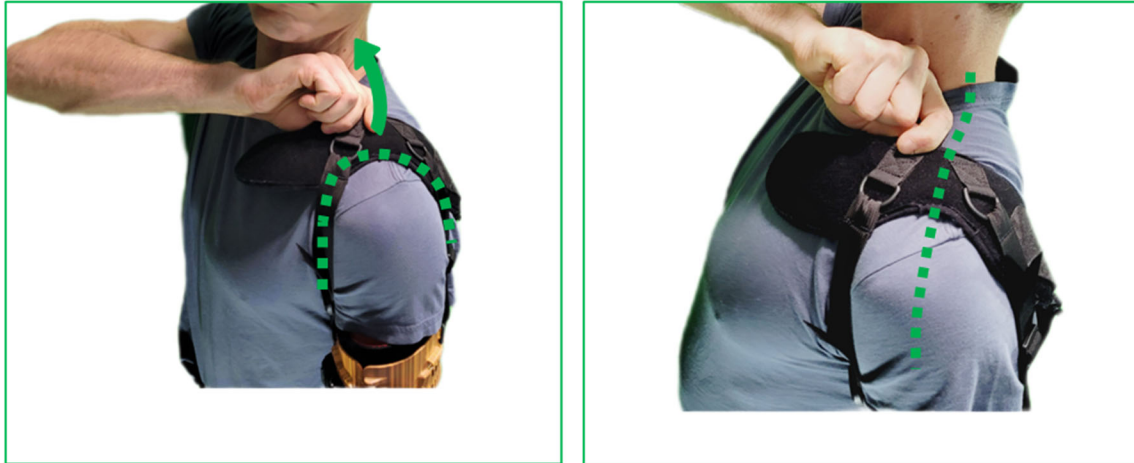
FIGURE 8 HARNESS



CROSS-BODY HARNESS DONNING

If your MyoPro 2x was provided with a *figure 8 harness*, skip this section and proceed to the *figure 8 harness* donning instructions in the next section.

For donning the *cross-body harness*, follow the following steps:



1. Place the harness saddle on your shoulder. The suspension straps should straddle your shoulder. The middle of the saddle should be at the midline of the shoulder, touching neither the neck or shoulder joint. You may have to lift your arm out to the side in order to move the saddle into the correct position.
2. Grab the *cross-body strap* behind your back and pull it underneath your armpit on the side opposite the MyoPro 2x. It may help to hold the *saddle* in place with your chin to prevent migration.



3. Secure the *cross-body strap* using the *release tab*. The *saddle* should lay flat against your body. Adjust the angle of the fastened *release tab* to make the *saddle* sit evenly and comfortably. There should be slack in the *finger adjust loop* at this point.



4. Abduct the shoulder with the MyoPro 2x (lifting it to the side), or use furniture to help lift while pulling the *finger adjust loop* to tension. When your arm returns to your torso, you should feel the tension of the harness saddle on your shoulder, indicating the MyoPro 2x is suspended from your shoulder girdle, not your shoulder joint. Make minor adjustments to the *finger adjust loop* tension until a good balance is reached between suspension and comfort. The Velcro will secure your tension.



CROSS BODY HARNESS DOFFING:

When doffing the Cross Body Harness, remove the cross-body strap by pulling the release tab from the front portion of the shoulder saddle.

➞ **Note:** Do not remove the harness clips from the MyoPro unless you are removing for laundering purposes.



FIGURE 8 HARNESS DONNING

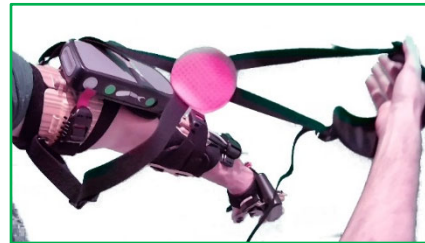
If your MyoPro 2x was provided with a *cross-body harness*, skip this section and refer to the *cross-body harness* donning instructions in the preceding section.

For donning the *figure 8 harness*, follow the steps below:

Orient the harness and check for twists in the strapping. The *puck* has a surface covered in gray fabric, while the other surface is an intersection of the strapping. The gray surface of the *puck* indicates the side that will lay against your back once the harness is donned, while the straps face away from you.

Method 1 (flexibility-dependent)

- 1.1 Place the intact-side arm through the *sound side loop* with the fabric of the *puck* facing you.



- 1.2 With your arm against the saddle, lift the harness over and behind your head. Gravity will do most of the work as you let it slide down towards your shoulder. You're done once it's nestled in your axilla (armpit).



- 1.3 Adjust the *sound side loop* so it rests between the chest and shoulder, protecting the collar bone. It shouldn't make contact with the neck. The *anterior suspension strap* coming off the front of the MyoPro may require small adjustments to rest similarly.



Method 2 (back-pack method)

- 2.1 Starting with the harness behind your back, locate the puck using your sound side. Orient the puck so that the fabric side is towards your back, while the straps face away from you. This will keep the harness oriented in the correct position as you move your hand into the *sound side loop*. Take note that both of the harness straps from the MyoPro begin around the back of the device. The *anterior suspension strap* will be moved into position at the end.



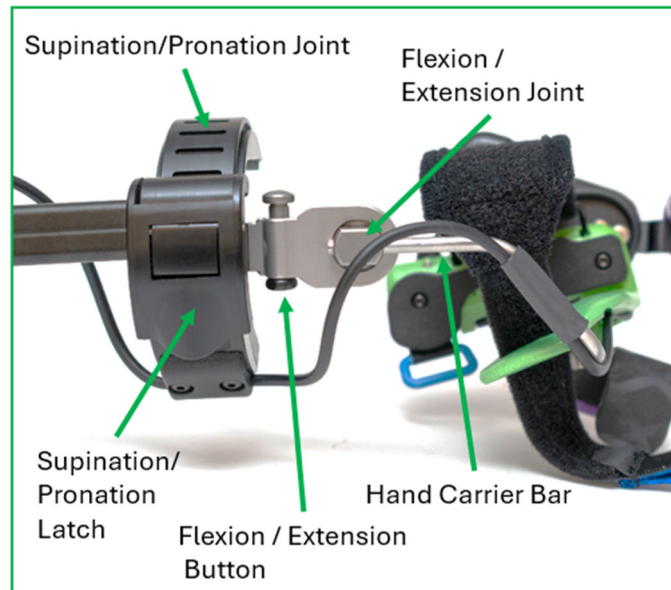
- 2.2 With the *sound side loop* around your intact-side wrist, begin to wriggle the loop up your arm, towards your shoulder. The final motion will require a shoulder shrug to help the strapping cross your shoulders to the front of your body.



- 2.3 Adjust the *sound side loop* so it rests between the chest and shoulder, protecting the collar bone. It shouldn't make contact with the neck. The *anterior suspension strap* coming off the front of the MyoPro may require small adjustments to rest similarly.



ADJUSTING WRIST MODULE



The wrist module position along the user's forearm (proximal-distal) can be adjusted two different ways.

1. Method 1: Move the Hand Carrier Bar in the Flexion/Extension Joint. This can be done by loosening and retightening these set screws with a 3 mm hex key. It is recommended to tighten the set screws to 5 inch/lbs, or approximately a $\frac{1}{4}$ turn (90 degrees) after making contact.
2. Method 2: Move the wrist module along the forearm bar. This can be done by loosening and retightening this set screw with a 2 mm hex key. It is recommended to tighten the set screw to 5 inch/lbs, or approximately a $\frac{1}{4}$ turn (90 degrees) after making contact.



Method 1



Method 2

ADJUST

Open the Supination/Pronation (SP) Latch to adjust the pronation and supination of the SP Joint. Close the SP Latch once the joint is in the desired location.



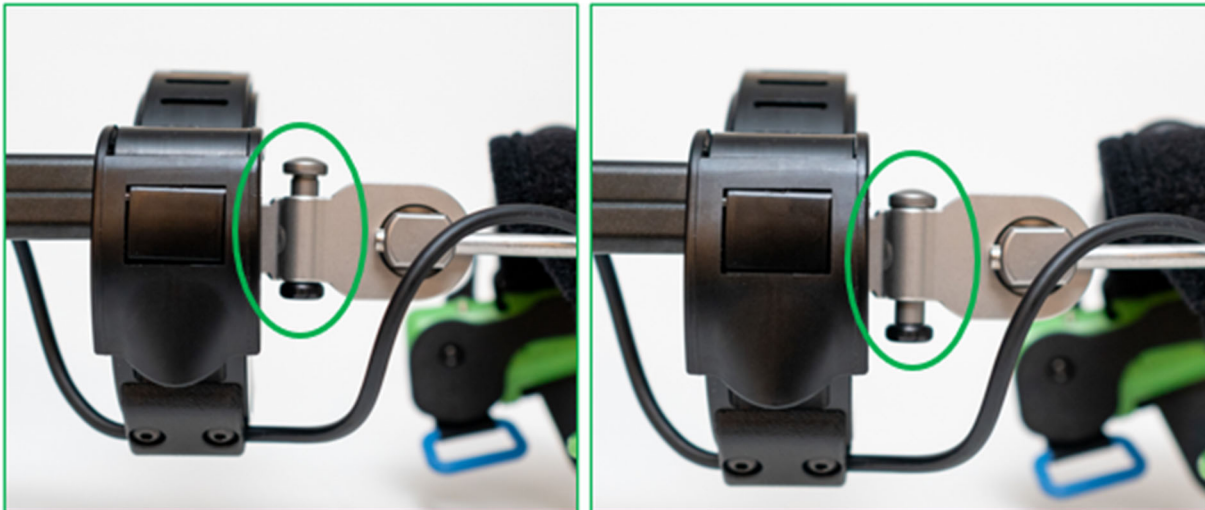
Open Latch

Closed Latch

Caution: The SP latch should be closed when the device is not in use to avoid accidental damage to the components.

ADJUST

Push the Flexion/Extension Button to the unlocked position (shown below) to unlock the Hand Carrier Bar, then adjust the Hand Carrier Bar. Push the Flexion/Extension Button to the locked position to lock the Hand Carrier Bar in the desired position.



Unlocked

Locked

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TAKING OFF MYOPRO 2x ("DOFFING")

WARNINGS REVIEW

⚠ WARNING: If at any time during the use of this device, you notice any of the following, discontinue use and seek guidance from your Provider.

- Movement does not match the User's desired motion.
- Persistent redness, swelling, or skin breakdown (bleeding, chafing, etc.)
- Rash on the arm, hand, or fingers.
- Pain associated with wearing the MyoPro 2x orthosis.
- Unusual noises from the orthosis (popping, clicking, etc.)
- Smells from the orthosis (smoking, burning plastic, etc.)
- Odor from the orthosis (sour smells or other indications of bio-contamination.)

STEPS FOR TAKING OFF MYOPRO 2x

To remove the MyoPro 2x, referred to as “doffing the MyoPro 2x”, follow the steps below:

1. Ensure that the MyoPro 2x is turned OFF.
2. Place the MyoPro 2x in your lap, or on a flat surface that is not slippery.
3. Remove the *finger saddle*.
4. Undo the *hand strap*.
5. Align the *multi-articulating wrist* into a neutral position using the *flexion/extension joint* and *supination/pronation ring*.
6. Open the *forearm cuff*. Pull on blue tab to unstrap the forearm.
7. Open the *humeral cuff*. Note, once the *humeral cuff* is loose, the MyoPro 2x may fall away from your arm. Be sure to secure the MyoPro 2x first so that it does not fall. Pull on the *blue tab* to release the *humeral cuff*.
8. Gently slide your hand back through the loosened *hand straps* and the *hand shell*.

9. Attach the *finger saddle* to the *anvil* so it does not become lost.
 10. Rest the MyoPro 2x in a clean, dry location to ensure it will fully air-dry before next use.
 11. Place the MyoPro 2x into the carrying case for travel or storage.
- ⚠ **CAUTION:** After doffing your MyoPro 2x, check your arm and hand for areas of persistent redness and/or swelling. If there are fit problems with your MyoPro 2x, contact your provider for adjustments.
- ➡ **NOTE:** The MyoPro 2x should remain OFF any time the MyoPro 2x is not being worn.

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BATTERY & CHARGING

BATTERY & CHARGING

- ⚠ **CAUTION:** Do not expose to flame or excessive heat.
- ⚠ **CAUTION:** If you detect fumes, flames, melting of components around the battery or battery charger, or the device is hot to touch, TURN THE DEVICE OFF IMMEDIATELY and contact your Provider.
- 🕒 **NOTE:** Charge the battery before using the device.
- 🕒 **NOTE:** The battery may arrive in “Shipping Mode.” You MUST put the battery on the charging dock to take it out of Shipping Mode. The MyoPro 2x will not turn on if the battery is in Shipping Mode.

CHECK THE BATTERY’S CHARGE LEVEL

Press the black dot on the battery icon to see the battery’s charge level. A light scale (1 to 4 lights) will indicate the battery’s current charge range.



Visual Indicator	One light blinks for 1 second and repeats four times	One light illuminated for 4 seconds	Two lights illuminated for 4 seconds	Three lights illuminated for 4 seconds	Four lights illuminated for 4 seconds
Percent Charge	Less than 10%	10-25%	26-50%	51-75%	76-100%
Icon Display					

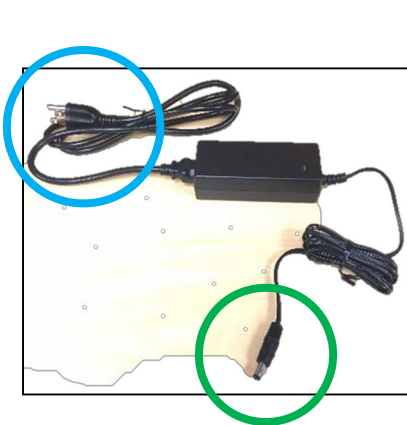
SETTING UP THE CHARGER

⚠ **CAUTION:** Charge the battery indoors only. The battery and battery charger should only be operated in temperatures ranging from 0-40 °C (32-104 °F).

⚠ **CAUTION:** Use only the battery and battery charger provided with the MyoPro 2x.

⚠ **CAUTION:** Do not expose to flame or excessive heat.

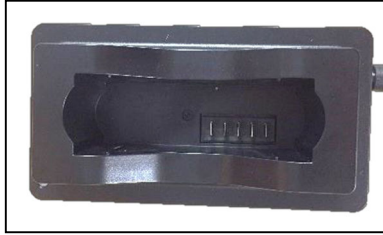
1. Plug the charging cable into the charging dock.



2. Plug the 3-prong end into a wall outlet.



3. Locate the row of metal prongs inside the charging dock.



CHARGING THE BATTERY

- ⚠ **CAUTION:** Charge the battery indoors only. The battery and battery charger should only be operated in temperatures ranging from 0-40 °C (32-104 °F).
- ⚠ **CAUTION:** Use only the battery and battery charger provided with the MyoPro 2x.
- ⚠ **CAUTION:** Do not expose to flame or excessive heat.
- ⌚ **NOTE:** Charging time for a battery with <10% capacity is approximately 3 hours.

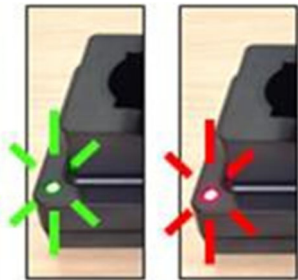
1. Locate the “teeth” on the battery.



2. Align the teeth with the prongs inside the charging dock and push down gently to sit the battery fully onto the prongs.



3. Check the light on the charging dock.



*Flashing (blinking)
between RED &
GREEN*
The charger is
detecting the
battery.



*Illuminated
ORANGE*
The battery is
charging.



Illuminated GREEN
The battery is
charged.



*Illuminated
RED*
There is a problem with the
battery. Remove the battery
from the charger and
contact your provider

OPENING AND CLOSING THE MYOPRO 2x'S BATTERY COMPARTMENT

To open the battery compartment, **press the eject button.**

To close the battery compartment, **push firmly in the center of the compartment door** until the door clicks shut.



Opening the Battery Compartment

INSERTING THE BATTERY INTO THE MYOPRO 2x

⚠ **CAUTION:** Insert only the battery pack that came with the MyoPro 2x into the MyoPro 2x battery compartment.

To insert a charged battery into the MyoPro 2x's battery compartment:

1. Remove the battery from the charging port & unplug the Charging Dock from the wall outlet.
2. Open the battery compartment.
3. The battery only engages fully in the battery compartment ONE DIRECTION. Locate the "myopro" sticker on the battery – position the logo so that it faces toward your arm, with the battery tab pointing up. This will line it up properly for step 4.



4. Gently insert the battery into the battery compartment.
5. Close the battery compartment.

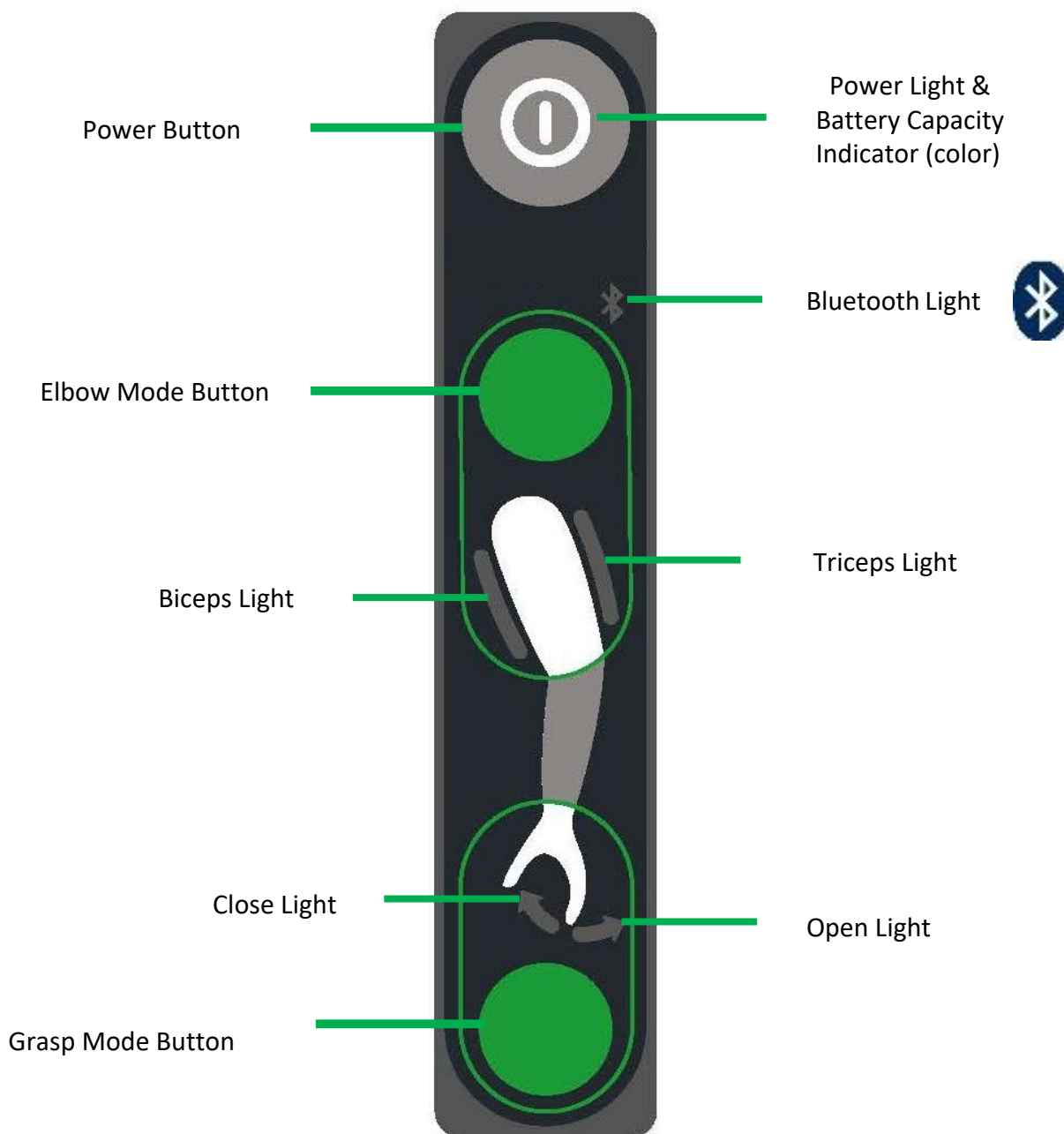
NOTES ON BATTERY HEALTH

-  **WARNING:** If storing the MyoPro 2x for more than one month, remove the battery from the battery compartment.
- ⌚ **NOTE:** If a battery is unused (stored), it should be recharged at least once every 6 months. If uncharged for more than 6 months, the battery could get so depleted that it could be unable to be recharged.
- ⌚ **NOTE:** Best practices for charging the battery:
- The battery is rated for 300 “charge cycles.” A charge cycle is from less than 10% charge to 100% charge. If you charge once a day, the battery should last for 10 months.
 - Lithium ION batteries deteriorate faster when the depth of discharge is higher. Therefore, it is better NOT to fully deplete the battery before charging. Mid-cycle charging (between 40-60% battery charge) will provide the best longevity.
- ⌚ **NOTE:** Batteries do not last forever. If the battery is not holding a charge for more than 30 minutes, or you have been using the battery consistently for more than 12 months, it may be time for a new battery. Contact your Provider to order a new battery.
- ⌚ **NOTE:** The battery charger has an expected life of 3 years.

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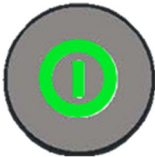
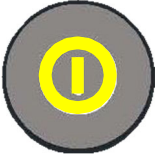
CONTROL PANEL & SENSITIVITY SETTINGS

CONTROL PANEL BUTTONS & LIGHTS DIAGRAM



CONTROL PANEL LIGHTS, DESCRIBED

POWER LIGHT & BATTERY CAPACITY INDICATOR COLOR

NOT Illuminated (off)		The MyoPro 2x is powered OFF.
Illuminated Green		The MyoPro 2x is powered ON. The battery has greater than 15% charge remaining.
Illuminated Yellow		The MyoPro 2x is powered ON. The battery has between 15% and 5% charge remaining.
Illuminated Red		The MyoPro 2x is powered ON. The battery has less than 5% charge remaining.
If color is changing in a repetitive pattern	1. White (may look light-blue) 2. Dark Blue 3. Green 4. Red	<u>The MyoPro 2x is experiencing an error. See Page 134 for instructions.</u>

ⓘ **NOTE:** Another way to check the battery capacity level is to eject the battery and check the light indicator on the battery itself (see Page 50 for instructions).

BLUETOOTH LIGHT

		
NOT Illuminated (off)		The MyoPro 2x <u>is not</u> connected to MyConfig.
Illuminated (on)		The MyoPro 2x <u>is</u> connected to MyConfig.
Flashing (blinking)		<u>The MyoPro 2x is experiencing an Error. See Page 134 for instructions.</u>

HOW TO POWER THE MYOPRO 2x ON AND OFF

- ⚠ WARNING:** Do not use the MyoPro 2x to drive an automobile or operate machinery.
- ⚠ WARNING:** The MyoPro 2x is NOT waterproof. Do not shower, swim, or expose the device to rain or other sources of water. Do not wear the device for assistance to wash dishes by hand as risk for water exposure to the grasp motor is high.
- ⚠ WARNING:** Do not attempt to lift heavy objects with the MyoPro 2x; the elbow motor provides at most 5 lbs of lifting assistance.
- ⚠ CAUTION:** The MyoPro 2x is not suitable for use in the presence of flammable anesthetic mixtures with air, or flammable anesthetic mixtures containing oxygen or nitrous oxide.

POWER ON

- ➡ **NOTE:** Only turn the MyoPro 2x on once it is correctly and comfortably positioned on your arm. The MyoPro 2x should always be powered OFF while you are putting it on your arm. Similarly, ensure the power is OFF before starting to take the MyoPro 2x off your arm. *See your User Manual Appendix for further guidelines.*

1. Press the Power Button.



2. Observe: When the MyoPro 2x is turning ON, all the lights on the control panel will light up.
3. Observe: After 3 seconds, all the lights will turn off, except for Power Button light.
4. The MyoPro 2x is ready to use!

POWER OFF

1. Press the power button.



2. Observe: All the lights will stop being illuminated, indicating that the MyoPro 2x has successfully powered off.

⊞ **NOTE:** The MyoPro 2x should remain OFF any time the MyoPro 2x is not being worn.

SENSITIVITY SETTINGS

Your device will have unique **sensitivity settings** which will be programmed by your Provider when the device is fit to you. These settings correspond to how the device detects and responds to your muscle signal. The sensitivity may be adjusted over time as you continue to use the device. The different sensitivity settings of the device are described below.

Gain Gain refers to amplification of EMG signal that takes place through the sensor hardware. The higher the gain, the more amplified the User's EMG signal will be, and the easier it will be to trigger the assistance of the device.

Threshold Threshold refers to the value that the EMG signal must cross in order to initiate the motor (in response to either an active muscle signal or a relaxed muscle signal). The threshold can be increased or decreased to the point where the User's EMG signal can get well above it upon activating a muscle, and well below it upon relaxing the muscle.

Range of Motion (ROM) Another adjustment the MyConfig can make for the MyoPro 2x is the range of motion for each motor. Your Provider will make sure the range of motion of the elbow and the grasp are optimized for comfort and utility depending on your current passive range of motion.

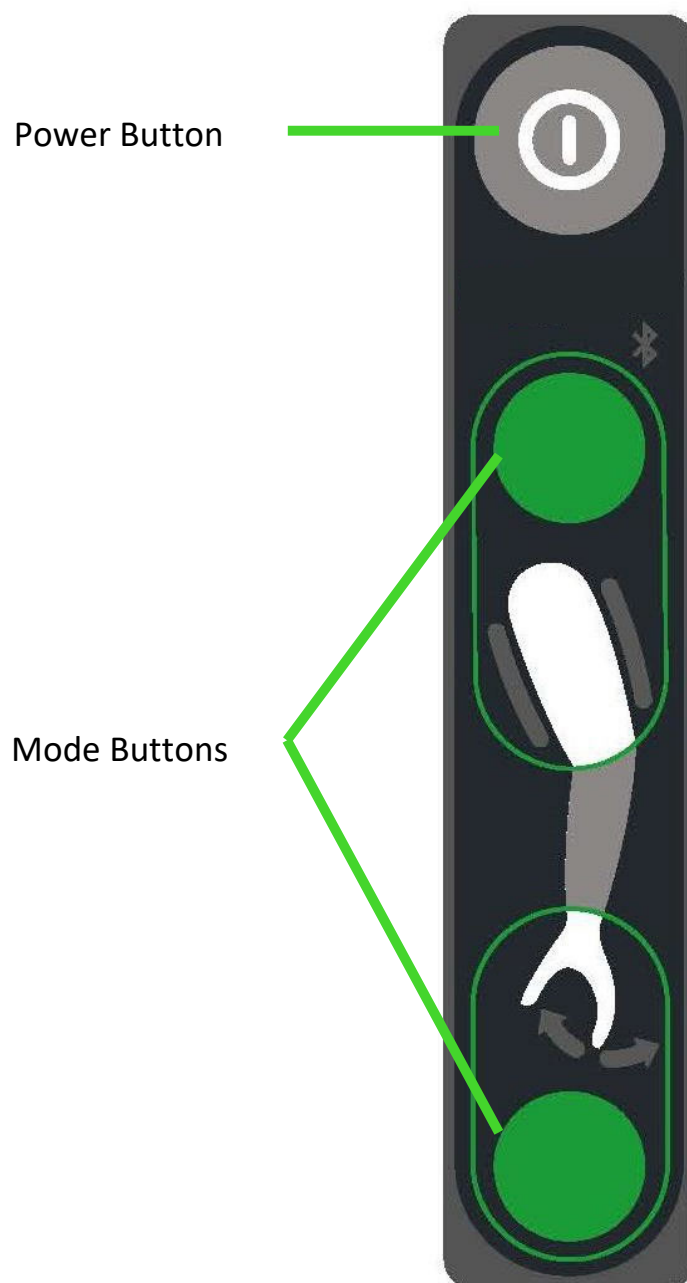
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OPERATING MYOPRO 2x

CONTROL PANEL

See the *User Manual – Sections for All MyoPro 2x Models* document for a comprehensive Control Panel Buttons & Lights Diagram.



MODES OF USE

 **WARNING:** Use caution when using the device in shoulder positions where it is possible for the User to hit him or herself.

The MyoPro 2x may be used in a variety of **modes**. The different modes allow you to operate the MyoPro 2x by tensing or relaxing different muscles. You may find that you want to use different muscles – and therefore different modes – when performing specific tasks with your MyoPro 2x. Modes may be changed using the buttons on the control panel.

When the device is fit to you, your Provider will optimize the sensitivity settings within each mode depending on the strength of your EMG signal at that time. If over time you feel that the MyoPro 2x is not assisting your arm or hand adequately, please contact your Provider; the sensitivity settings may need to be readjusted.

START MODE

When you first power on the MyoPro 2x, the elbow will be in Standby Mode. This setting may be changed by your Provider.

ELBOW MODES

The elbow has four distinct modes of use when the MyoPro 2x is powered on.

1. Standby mode
2. Biceps mode
3. Triceps mode
4. Dual mode

These are explained in the following pages.

GRASP MODES

The grasp has four distinct modes of use when the MyoPro 2x is powered on.

1. Standby mode
2. Open mode
3. Close mode
4. Dual mode

These are explained in the following pages.

- ⊞ **NOTE:** You may experience a slight vibration of the finger support when the grasp reaches a fully closed or fully open position. This would be caused by the hand motor turning on and off as it detects the limits of its range of motion. This is normal operation, and nothing to worry about.

ELBOW MODES

Standby mode	In this mode, neither the Biceps or Triceps Light will be illuminated. The elbow motor will not respond to your EMG signal from either muscle group. Though the MyoPro 2x is powered on, no assistance is being given to your elbow, and the arm will neither flex nor extend. The sensors will be reading your EMG signal from both biceps and triceps, but the motor response is paused. Actions: • This can be useful as a resting mode if straps or sensors need to be adjusted, or if you want to take a short break without turning the device off.	
Biceps mode	In this mode, the Biceps Light will be illuminated. The elbow motor will respond to your biceps EMG signal. Actions: • When you relax your biceps, the device will extend. • When you contract your biceps, the device will flex.	

ELBOW MODES, CONTINUED

Triceps mode	In this mode, the Triceps Light will be illuminated. The elbow motor will respond to your triceps EMG signal. Actions: • When you relax your triceps, the elbow will flex. • When you contract your triceps, the elbow will extend.	
Dual mode	In this mode, both the Biceps and Triceps Light will illuminate. The elbow motor will respond to your biceps <i>and</i> triceps EMG signal. The elbow will only respond to muscle contraction (not relaxation, as in other modes) to assist you with active flexion and active extension of your elbow. You must engage both muscle groups in order for your arm to move in both directions. The MyoPro 2x will respond to whichever muscle signal is stronger at a given moment in time. In order for Dual mode to be most effective, you should be able to isolate the desired muscle (biceps or triceps) and have a limited number of co-contractions prior to using Dual mode. When used well, this mode should allow you greater ability to hold an arm position at a mid-point between fully flexed and fully extended.	

	Actions: • When you contract your biceps, the elbow will flex, as long as your biceps signal is greater than your triceps signal. • When you contract your triceps, the elbow will extend, as long as your triceps signal is greater than your biceps signal.	
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GRASP MODES

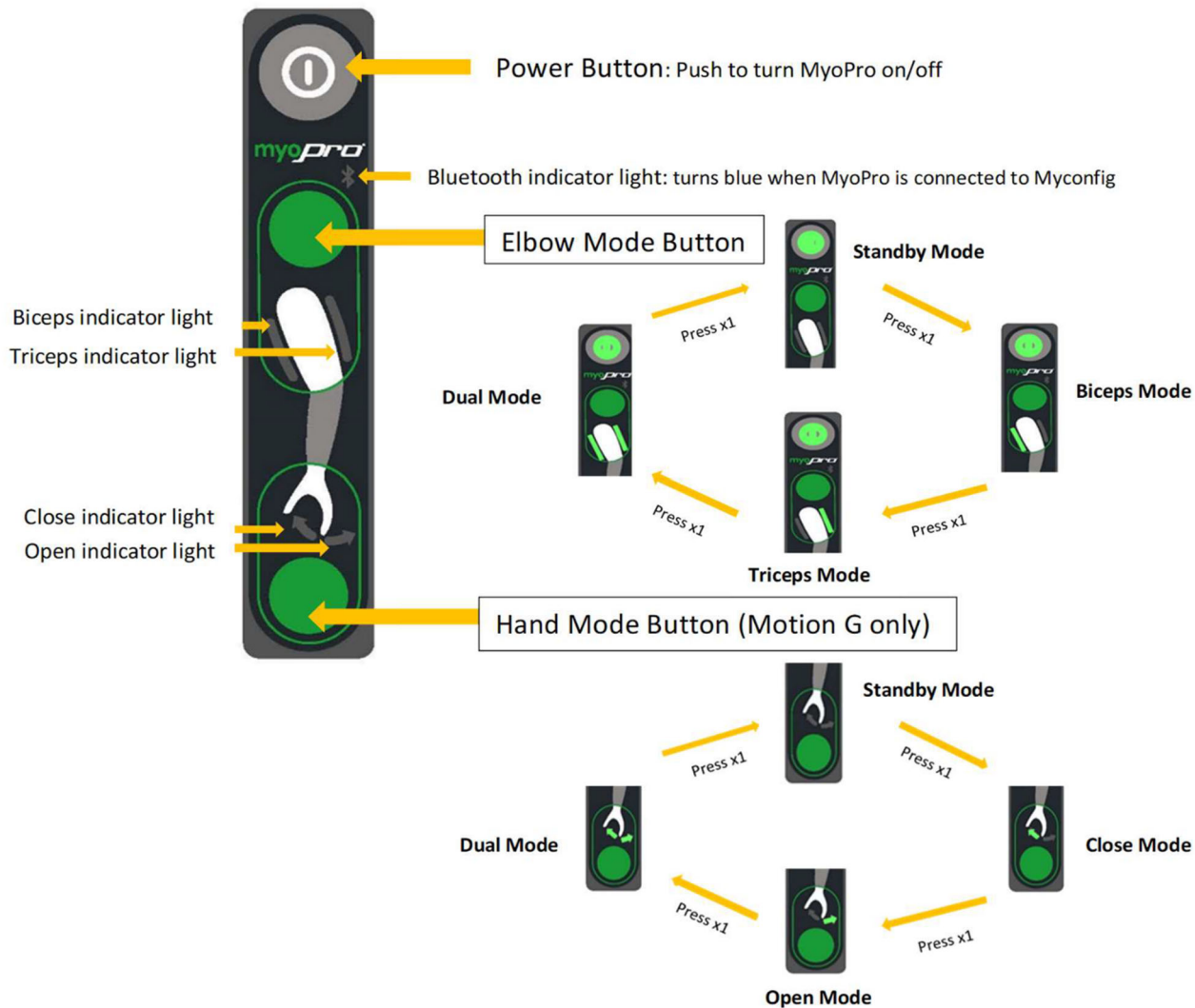
Standby mode	In this mode, neither the Close or Open Light will be illuminated. The grasp motor will not respond to your EMG signal. Though the MyoPro 2x is powered on, no assistance is being given to your hand, and the grasp will neither open nor close. The sensors will be reading your EMG signals from both wrist flexor and extensor muscle groups, but the motor response is paused. Actions: • This can be useful as a resting mode if straps or sensors need to be adjusted, or if you want to take a short break without turning the device off.	
Close mode	In this mode, the Close Light will be illuminated. The grasp motor will respond to your wrist flexor EMG signal. Actions: • When you relax your wrist flexors, the grasp will open. • When you contract your wrist flexors, the grasp will close.	

GRASP MODES, CONTINUED

Open mode	In this mode, the Open Light will be illuminated. The grasp motor will respond to your wrist extensor EMG signal. Actions: • When you relax your wrist extensors, the grasp will close. • When you contract your wrist extensors, the grasp will open.	
Dual mode	In this mode, both the Close and Open Light will illuminate. The grasp motor will respond to your wrist flexor <i>and</i> wrist extensor EMG signal. The grasp will only respond to muscle contraction (not relaxation, as in other modes) to assist you with active close and active open of your hand. You must engage both muscle groups in order for your hand to move in both directions. The MyoPro 2x will respond to whichever muscle signal is stronger at a given moment in time. In order for Dual mode to be most effective, you should be able to isolate the desired muscle group (wrist flexors or wrist extensors) and have a limited number of co-contractions prior to using Dual mode. When used well, this mode should allow you greater ability to hold a hand position at a mid-point between fully closed and fully open.	

	Actions: • When you contract your wrist flexors, the grasp will close, as long as your wrist flexor signal is greater than your wrist extensor signal. • When you contract your wrist extensors, the grasp will open, as long as your wrist extensor signal is greater than your wrist flexor signal.	
--	---	--

CHANGING ELBOW MODE WITH THE CONTROL PANEL



Standby Mode:



This mode is when the MyoPro has been powered on but neither an elbow nor a hand mode has been selected. **The motor will NOT respond in Standby Mode.**

Return to Standby Mode at any time by pushing the elbow and/or hand mode buttons until indicator lights turn off. Alternatively, the MyoPro can be completely powered off at any time during use.

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GO-TO-MEETING AND ZOOM

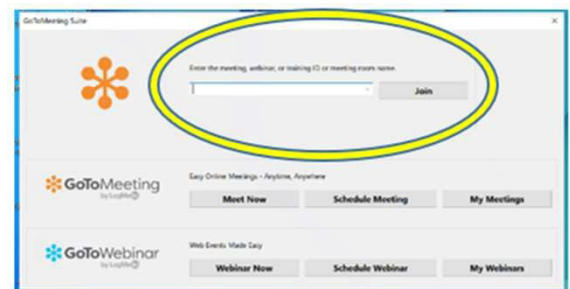
Go-To-Meeting

ON YOUR DESKTOP or TASK BAR (at the bottom of your screen):

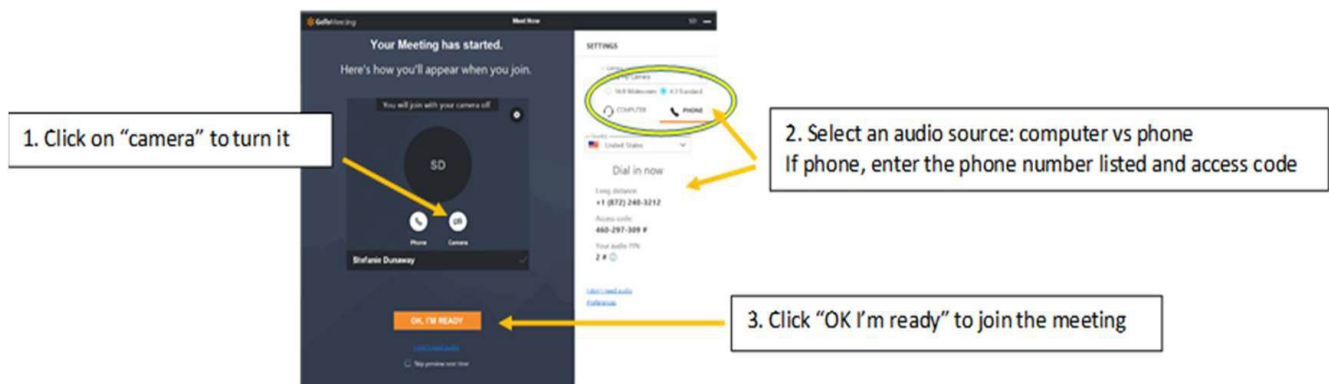
Double click on this icon to open Go-To-Meeting:



Enter the meeting ID (this ID will have been provided to you in an e-mail from Myomo) and click "JOIN".



The meeting will start:



Zoom

ON YOUR DESKTOP or TASK BAR (at the bottom of your screen):

1. Double click on this icon to open Zoom



zoom

2. Click "JOIN MEETING" (Do not sign in)



3. Enter the code that you received on your Telehealth email OR click the link within your email.

The Zoom "Join Meeting" dialog box. It has a title bar "Zoom" and a "Join Meeting" title. The "Enter meeting ID or personal link name" field is circled in yellow. Below it is a "Your Name" field with "MyoPro User" entered. There are three checkboxes: "Remember my name for future meetings" (checked), "Do not connect to audio" (unchecked), and "Turn off my video" (unchecked). The "Do not connect to audio" and "Turn off my video" checkboxes are highlighted with a blue box. At the bottom are "Join" and "Cancel" buttons, with the "Join" button circled in yellow.

Do not click the box for "Do not connect to audio"
Do not click the box "Turn off my video"

Click "Join"

4. While you wait for the host, test your computer audio and computer microphone to ensure that it is working.

Please wait for the host to start this meeting.

This is a recurring meeting
Myomo 11's Personal Meeting Room



If you are the host, please [login](#) to start this meeting.

The Zoom audio and microphone settings section. It has two rows. The first row is for "Speaker" with a "Test Speaker" button circled in yellow and a dropdown menu showing "Speakers (Realtek(R) Audio)". The second row is for "Microphone" with a "Test Mic" button circled in yellow and a dropdown menu showing "Microphone Array (Realtek(R) Au...".

5. Join Video



and Audio



6. You should then be connected to the Myomo Representative and you will be added to the meeting.

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MyConfig View

USER GUIDE



MYCONFIG VIEW (USER)

MyConfig View is a software application pre-installed on the Myomo laptop to visualize what your muscles are doing and how the MyoPro is interpreting them. The MyoPro, when used with MyConfig View, is one of the most sensitive EMG-detection devices available- capable of detecting faint muscle activity. It is important to understand the tools and concepts related to MyConfig software. As you become more consistent in your ability to don and operate the MyoPro, you may need to use MyConfig View less frequently. MyConfig will always be a good resource for troubleshooting issues with arm and/or hand movement.

MyConfig View is intended for MyoPro users.

MyConfig View has the following functions:

- At-home visualization of EMG signals (bio-feedback) while working with your MyoPro
- Trouble-shoot behavior issues in the MyoPro
- Changing *Start Mode(s)*

Note: MyConfig View may not be installed if the laptop is for clinical use only.

CONNECTING MYOPRO TO MYCONFIG VIEW

GETTING STARTED

Step 1: Turn on the MyoPro

Press the power button on the MyoPro control panel.



Step 2: Locate MyConfig View

MyConfig View is located on the Myomo laptop desktop.



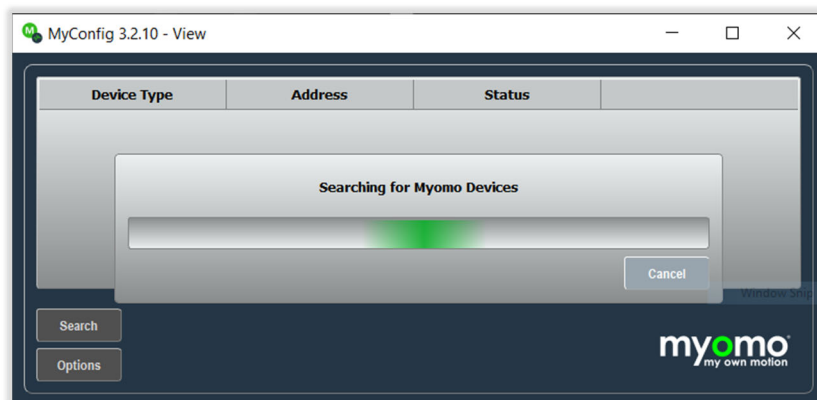
Step 3: Launch MyConfig View

Double click the MyConfig View icon to launch MyConfig View.

The first screen you see should look like this:

MyConfig is searching for the MyoPro via a wireless Bluetooth connection.

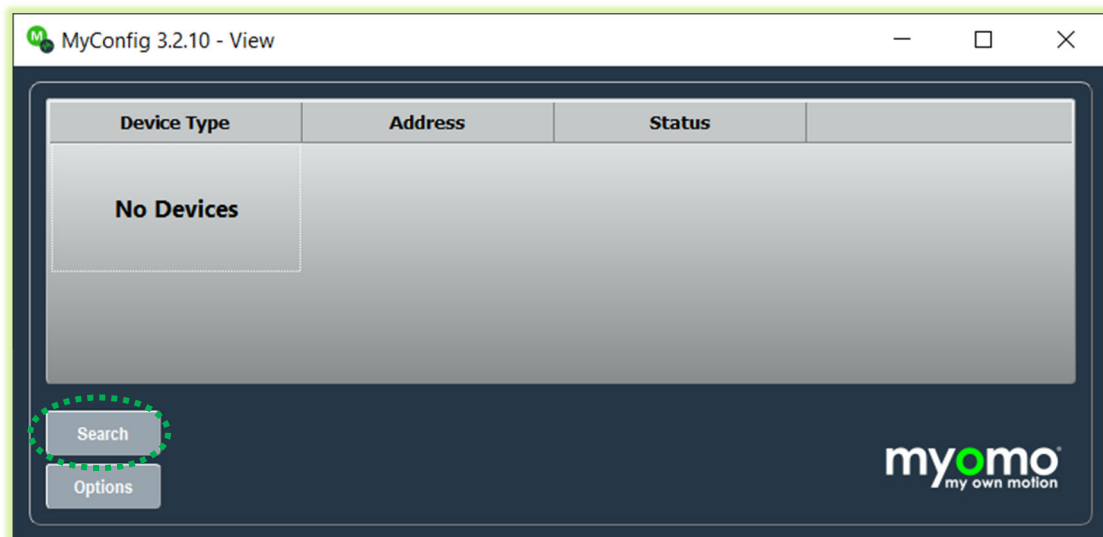
NOTE: if the search bar doesn't appear, it is likely that the Bluetooth radio has been turned off in the laptop settings. You can enable Bluetooth in the Windows Settings.



MYOPRO SEARCH

The MyoPro is always Bluetooth connection ready. If the MyoPro is powered on when you launch MyConfig, the search will begin automatically. By default, the MyoPro will automatically connect once detected by MyConfig.

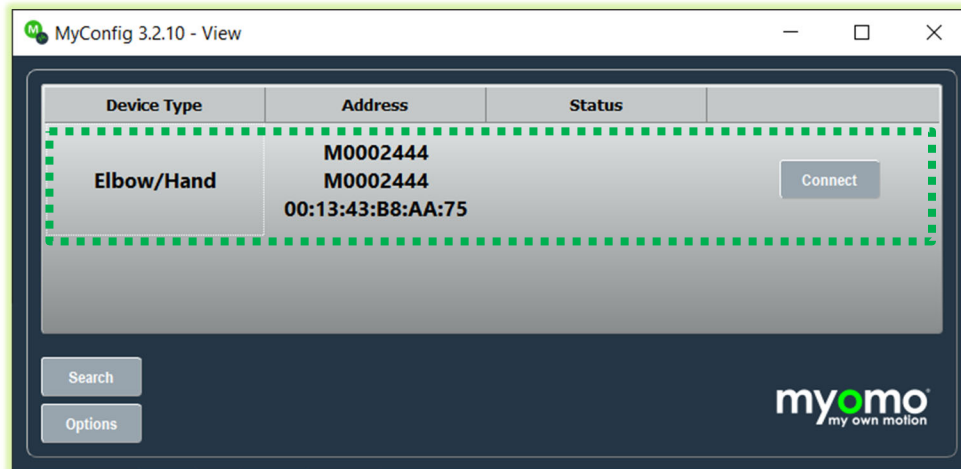
If MyConfig fails to detect the MyoPro and does not connect, click the *Search* button to initiate a new search. This may occur if MyConfig is started before the MyoPro is powered on or if the signal is interrupted during transmission. Moving the MyoPro closer to the Myomo laptop resolves this issue.



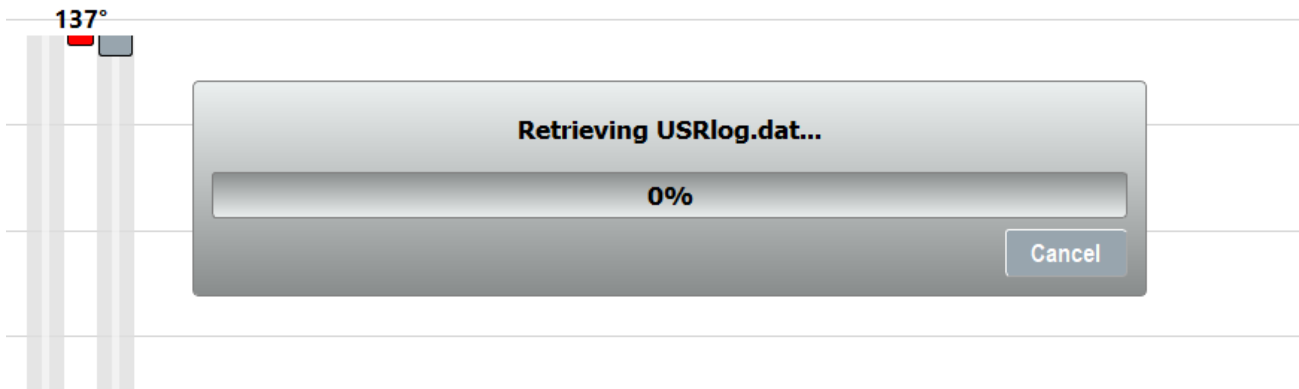
MYOPRO CONNECT

This feature is only available if the MyoPro was previously connected and the EMG screens were closed, or if the “auto-connect” option is disabled in the Options menu.

Click *Connect* for the desired MyoPro.



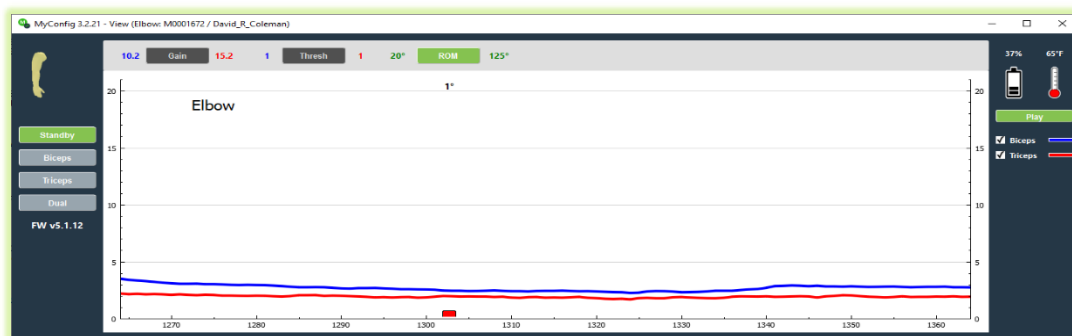
Caution: Do not interrupt the data download during this connection process.



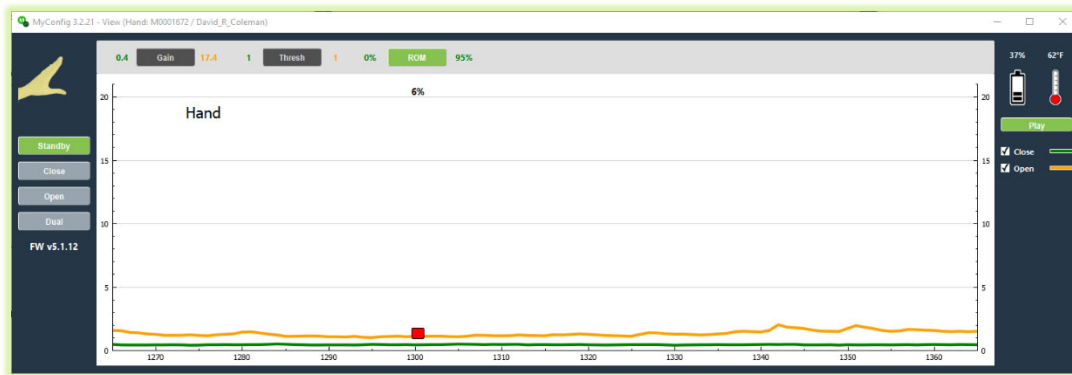
MYOPRO CONNECTION

After a brief search, a window will appear for each MyoPro joint:

Elbow

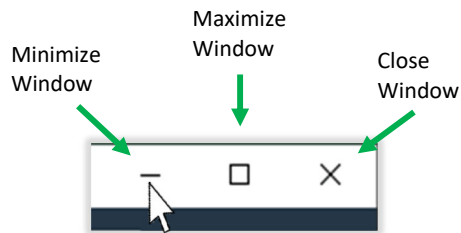


Hand



The MyoPro is now connected to MyConfig View.

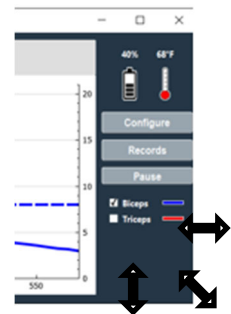
VISUALIZATION



RESIZE WINDOWS

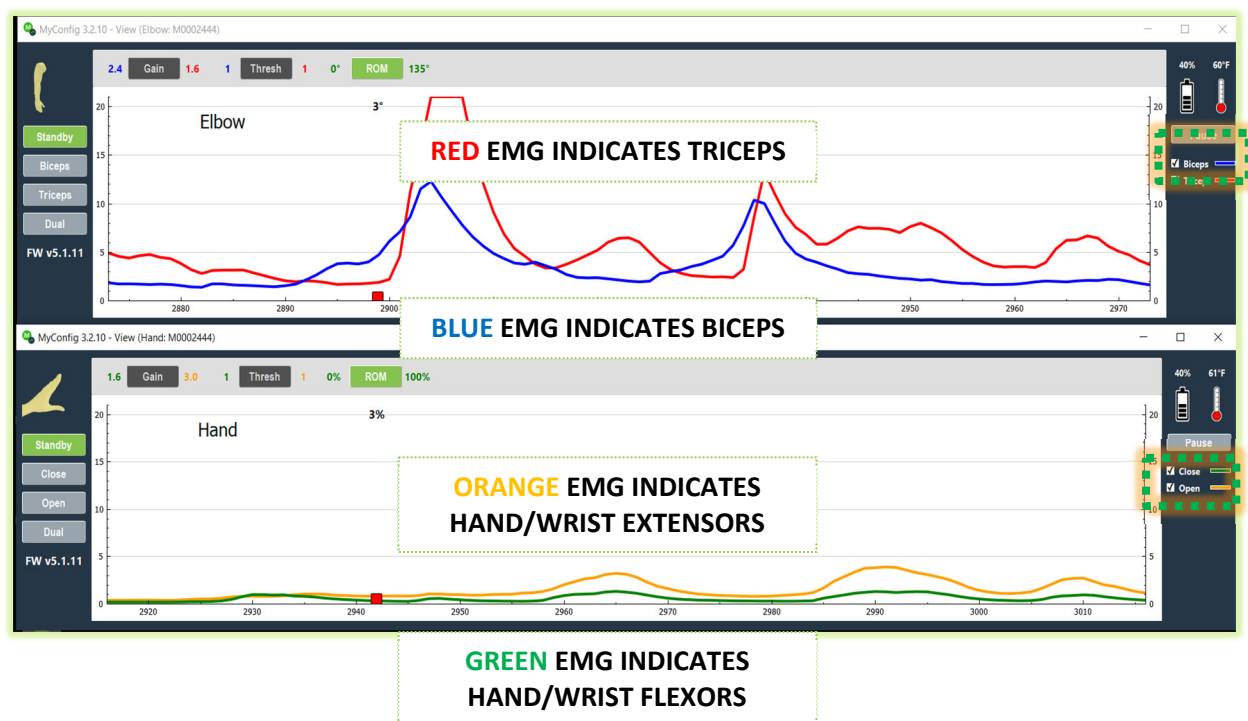
Note: The hand window will appear only if you are using a Motion G. Quickly minimize, maximize, or close windows by using the icons in the upper right window corner, respectively.

Alternatively, while hovering the mouse cursor over the window edge, left-click and hold with one finger, while using a second finger on the trackpad to resize the window.



EMG GRAPH

The EMG signals are the lines of the graph to watch because they show what the muscles are currently doing, how that may differ from what they're trying to do, and if MyoPro is being suitably responsive. EMG signals are color coordinated to match the color of the MyoPro sensors. When the box is checked beside the EMG signal the EMG will be visible on the screen in the coordinating color. (e.g. if biceps is checked, a blue EMG line will be visible).



The MyoPro Motion G elbow and hand both feature four operating modes, with dual mode having 4 behavior options. With these modes, the MyoPro may be configured to your unique abilities, allowing you to select an appropriate setup for your current level of ability and modify settings as you become more proficient with your MyoPro.

DEVICE MODES

ELBOW MODES

Elbow (MyoPro Motion-W and Motion-G)

1. **Standby** mode – motors are inactive

In *Standby* mode the motor is on, but it will not assist motion. It will actually offer more resistance to motion than if the MyoPro were powered off. The sensors are still reading the EMG signals and will be visible on the MyConfig graph. *Standby* mode allows you to see your EMG response before moving to a mode that elicits motion.

2. **Biceps** mode – single-site control, biceps only

- When biceps relax the elbow motor extends (straightens).
- When biceps contract the elbow motor flexes (bends).

3. **Triceps** mode – single-site control, triceps only

- When triceps relax the elbow motor flexes (bends).
- When triceps contract the elbow motor extends (straightens).

4. **Dual** mode – dual-site control (biceps/triceps)

In *Dual* mode, the MyoPro responds to both elbow flexor and extensor EMG signals. It is the most functional and intuitive mode, and there are several control strategies that determine how the MyoPro will behave: Classic with Hold, and 3 advanced modes. The ability to produce visibly different EMG patterns during flexion and extension is needed for dual mode use, and can be a tool to help the user isolate muscles by using the EMG signal as a visual feedback tool. Advanced dual mode can be explored as you are able to isolation your muscles consistently and the need for functional motion increases.

Advanced dual modes utilize a different control strategy than the other modes, but all dual modes utilize the *elbow hold* feature.

- Relaxing both biceps and triceps muscles at the same time so your EMG signals are quiet activates the *elbow hold* feature.
- Elbow flexor activity causes elbow motor flexion (bending).
- Elbow extensor activity causes elbow motor extension (straightening).
- *Dual* mode allows greater ability to stop or pause motion mid-range.

Advanced Dual modes – Use a different control scheme for increased control

- **Constant Speed** – one set speed into flexion and extension
- **Proportional** – motor speed is directly related to measured effort

- **Ramped** – rate of motor speed increases with effort (exponential)

HAND MODES

Hand (Motion-G only)

1. **Standby** mode – motors are inactive
2. **Close** mode – single-site control; hand/wrist flexors only
 - When flexors relax the hand motor opens.
 - When flexors contract the hand motor closes.
3. **Open** mode – single-site control; hand/wrist extensors only
 - When extensors relax the hand motor closes.
 - When extensors contract the hand motor opens.
4. **Dual** mode – dual-site control (hand/wrist flexors and extensors)

In *Dual* mode, the MyoPro responds to both wrist/hand flexor and extensor EMG signals. It is the most functional and intuitive mode, and there are several control strategies that determine how the MyoPro will behave: Classic with Hold, and 3 advanced modes. The ability to produce visibly different EMG patterns during open and close is needed for dual mode use and can be a tool to help you isolate muscles by using the EMG signal as a visual feedback tool. Advanced dual mode can be explored as the user's muscle isolation consistency increases and the need for functional motion increases.

Advanced dual modes utilize a different control strategy than the other modes, but all dual modes utilize the *grasp hold* feature. It is not uncommon for you to be able to utilize elbow dual mode before you are ready for hand dual mode.

- Relaxing both wrist/hand flexors and extensor muscles at the same time so your EMG signals are quiet activates the *grasp hold* feature.
- Flexor activity causes hand motor closing.
- Extensor activity causes hand motor opening.
- Dual mode allows greater ability to stop or pause motion mid-range.

Advanced Dual modes – Use a different control strategy for increased control

- **Constant Speed** – one set speed into hand close and open
- **Proportional** – motor speed is directly related to measured effort
- **Ramped** – rate of motor speed increases with effort (exponential)

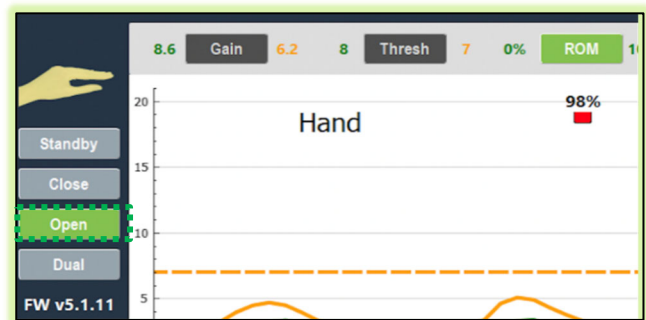
CHANGING MODES

Modes for both the elbow and the hand can be changed by clicking the gray button with the name of the desired mode in the corresponding hand/elbow window.

The selected button appears green, displaying the current mode. EMG visualizations will change color to indicate the EMG mode that is active.

Clicking the button of the desired mode will instantly change which muscle signals the MyoPro is responding to.

NOTE: Elbow and hand modes may also be changed on the MyoPro control panel.

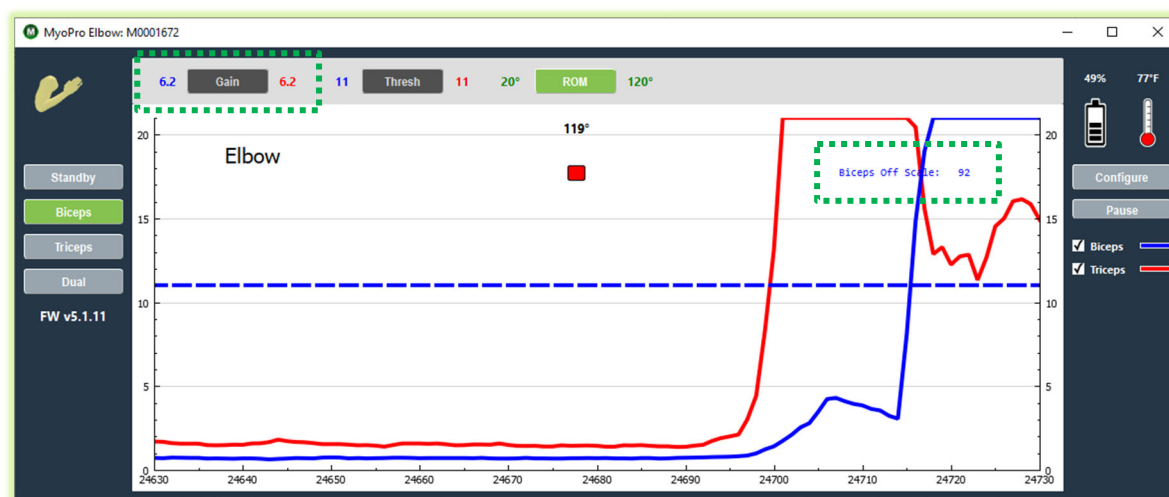


MYCONFIG SETTINGS

MyConfig View Settings only apply to the single-modes, e.g. Biceps, Triceps, Close, and Open, and Classic with Hold Dual Mode at the elbow and hand. These settings are set by your clinician or therapist. MyoPro settings are not adjustable in the MyConfig View.

GAIN

Gain refers to amplification of EMG signal that takes place through the sensor hardware. In the case of the MyoPro, the EMG gain is also amplified via software to create a large degree of adjustment. The higher the gain, the more amplified the EMG signal will be. The gain helps weaker muscles power the motor of the MyoPro. While at rest, try to relax so that your EMG signal is at the bottom ¼ of the screen. When using your muscles at a maximal effort, the gain should be set so that the signal doesn't significantly extend past the top of the screen. If you have significant abnormal tone/spasticity, you may have an elevated resting signal that limits the screen range. When the EMG has left the screen, a text box will indicate the current value. [image below, top right]



The number beside the gain header [image above, top left] represents the amount of amplification used for that mode. The numbers are color coded to coincide with the mode, e.g. the blue number next to the gain button, represents the gain for the biceps mode

THRESHOLD

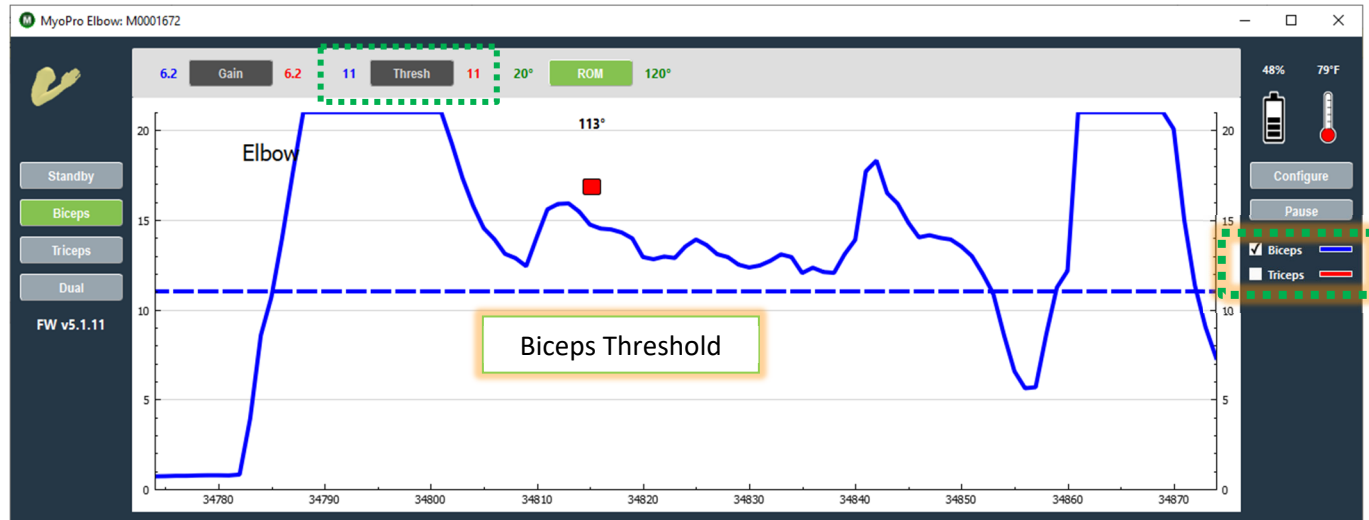
When using the MyoPro in single mode, (e.g. biceps) the threshold should be set such that when the muscle is activated, you can get the EMG signal over the threshold line. This will help create smooth movement of the MyoPro at the desired joint/direction. When you relax that muscle, the EMG signal should drop below the threshold to allow the MyoPro to move back to the starting position of the desired joint/direction. If you have increased abnormal muscle tone/spasticity, the threshold may have to be set higher to allow your EMG signal to drop below the threshold as you relax to initiate movement of the MyoPro.

There should be an ideal threshold setting that is reasonably easy to move above and below for the user. Generally, once the *threshold* is set between 8-12, then all future adjustments can be done at the *gain slider* in an effort to minimize changing multiple settings.

Note: When MyConfig is set correctly, your EMG signals should be visible within the viewable window and not extend beyond the top of the screen except at maximal effort.

The number beside the threshold header [following image, top left] represents the threshold setting used for that mode. The numbers are color coded to coincide with the mode, e.g. the blue number next to the threshold header represents the threshold for the biceps mode [following image, dashed blue line across center].

The device in the following photo is in *Biceps* mode. Because the Triceps EMG is unchecked [following image, far right] only the biceps EMG is being graphed. Additionally, only the biceps *threshold* is visible to indicate that the device is only responding to the biceps EMG in this mode.



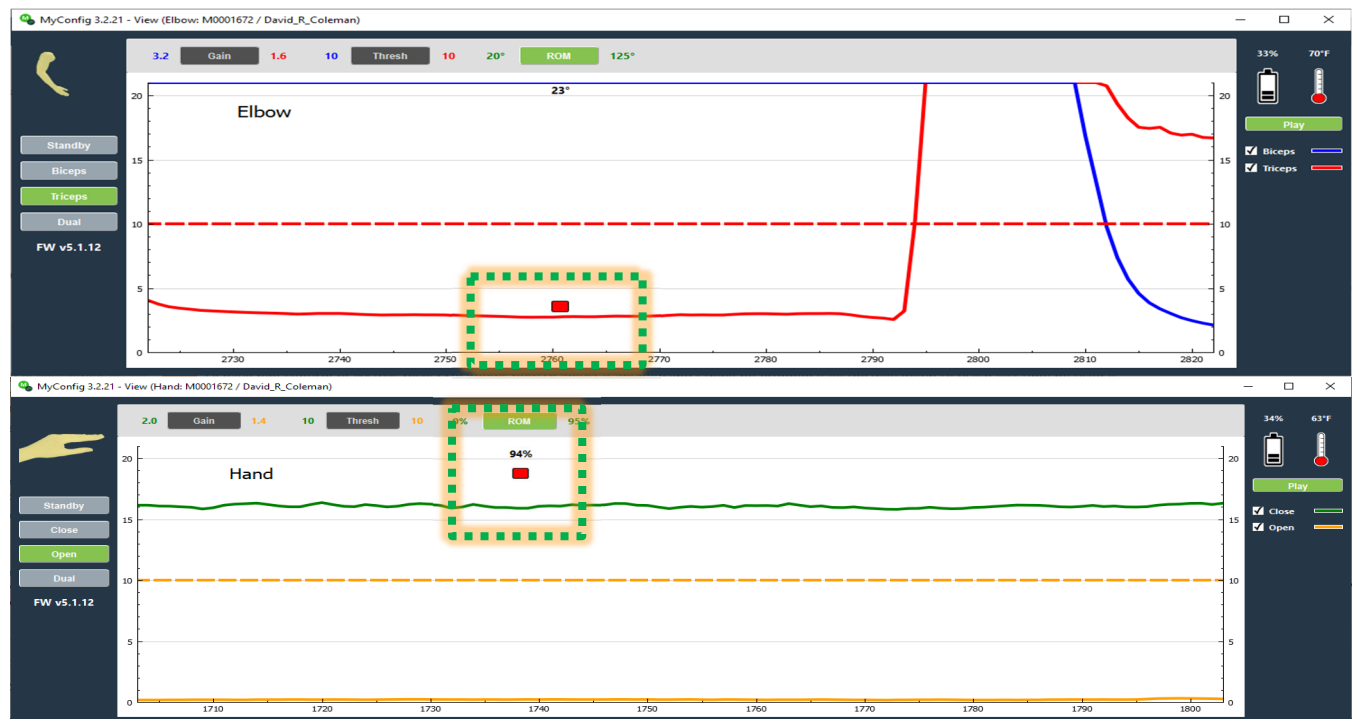
The visible EMG lines can be customized for each mode. Only the relevant EMGs will show by default, e.g. both EMGs being visible in *Dual* mode, or the biceps EMG in *Biceps* mode in the preceding picture. In this example, the triceps EMG can be added to the graph by checking the “Triceps” check box as indicated on the right side of the screen. These boxes will hide the corresponding EMG signal when unchecked.

RANGE OF MOTION (ROM)

The *Range of Motion* (ROM) for each joint motor is available in the corresponding window. For each joint, the left-side number is the extension (elbow straight) end-range, while the right-side number is the flexion (elbow bent) end-range.

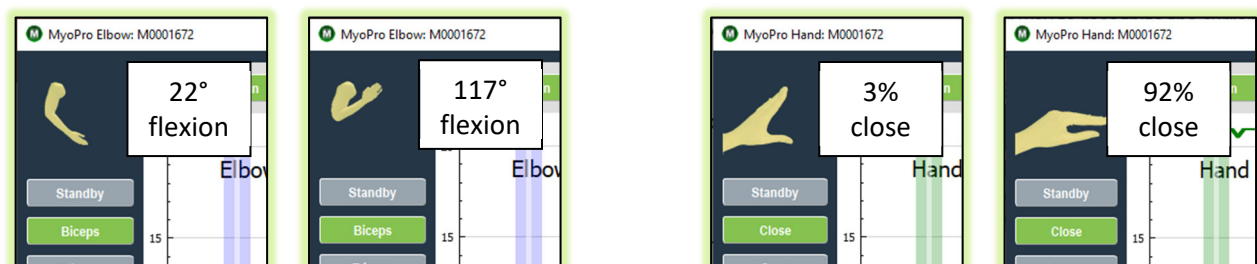
Elbow *ROM* is shown in degrees (0°=full extension, 135°=full flexion).

Hand ROM is shown in % (0%=open, 100%=close).



The current ROM end-ranges are displayed numerically in green above the ROM sliders. The current joint position is indicated by the red square between the ROM sliders, which will move in real-time with elbow position, with a black-colored numerical readout below the ROM header [image above]. In the preceding photos, the elbow is currently at 23° ROM (mostly extended) while the hand is currently at 94% closed (mostly closed).

The graphical representation of the current joint position is in the top-left corner of each window. This is a quick way to recognize the current joint position while looking at the computer screen, without having to interpret the numbers.



In most cases of arm dysfunction, we can expect the arm to become stronger and your functional needs will change. The settings that were correct for you a month ago may no longer be correct for how you present today.

If you believe the Gain, Threshold, or ROM settings are incorrect, please inform your therapist or the clinician responsible for your MyoPro Management.

MYCONFIG TROUBLESHOOTING

Watching MyConfig View, I see my EMG signal floating high on the graph, and/or is unresponsive to my attempts to activate it or relax my muscles.

If the EMG signals in MyConfig View do not mimic your muscle activation and relaxation, consider the following:

- 1) **Relax:** Ensure you are relaxed. Try taking your mind off your arm and your MyoPro, the signal, or anything else related to the orthosis for a minute or two and see if your signal changes.
- 2) **Sensor Position:** Check to make sure the sensors are flush on your skin (not tilted partially off your skin or partly on a bony structure).
- 3) **Hair:** Check for hair interference – if floating EMG continues to be an issue, try trimming your arm hair for better sensor-to-skin contact.
- 4) **Oily Skin:** If your skin is oily, wipe skin and sensors with dry cotton cloth or alcohol wipe. If an alcohol wipe is used, the skin and sensor must be completely air dried prior to sensor reapplication.
- 5) **Dry Skin:** If your skin is dry and/or scaly, use a paper towel or cotton towel to lightly wipe the skin so it becomes a dull pink, and any extraneous dry skin has been removed. If dry skin persists in the area, apply a minimal amount of water to towel, and then lightly moisten the area. No build-up of water should be visible on the skin. Caution: If your skin appears fragile, take great care with wiping your skin to avoid skin injury.
- 6) **Perspiration:** Check for perspiration. If floating EMG continues to be an issue try an antiperspirant wipe (e.g., Certain Dri).
- 7) **Sensor Cuff Tension:** Sensor cuffs may be too loose or too tight – ensure the sensor cuffs are comfortably snug.

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MyConfig Set

CLINICAL GUIDE



MYCONFIG SET (CLINICIAN)

MyConfig is a software application developed for using the MyoPro. It is pre-installed on the Myomo laptop, or available for download via the clinical resource center on Myomo.com. MyConfig is used to determine what the user's muscles are doing and how the MyoPro is interpreting them. The MyoPro, when used with MyConfig, is one of the most sensitive EMG-detection devices available- capable of detecting faint muscle activity. It is important to become competent with the tools and concepts herein. As the user becomes more consistent in their presentation and their ability to don and operate the MyoPro, the use of MyConfig may become less frequent but it will always be a good resource for troubleshooting issues with arm and/or hand movement.

VERSIONS

Note: The MyConfig software for the MyoPro is available in two versions:

MyConfig Set is intended for O&P clinicians & Therapists (OTs, PTs).

MyConfig Set has the following functions:

- Optimizing the settings for a current MyoPro user
 - Observing user's EMG capability
 - Adjusting device behavior and access to features
 - Documenting user activity, compliance, and settings over time
 - Allowing remote adjustment of the MyoPro
 - Setting up parameters for MyoGames
- Evaluating a MyoPro candidate
 - Observing and documenting candidate's EMG capability
 - Using candidate's EMG signals to help set plan for rehab with the MyoPro

MyConfig View* is intended for MyoPro users (view only)

MyConfig View has the following functions:

- At-home visualization of EMG signals (bio-feedback)
- Trouble-shoot behavior issues in the MyoPro
- Changing *Start Mode(s)*

*May not be installed if computer is for clinical use only.

CONNECTING MYOPRO TO MYCONFIG SET

GETTING STARTED

Step 1: Turn on the MyoPro

Press the power button on the MyoPro control panel.



Step 2: Locate and Launch MyConfig Set

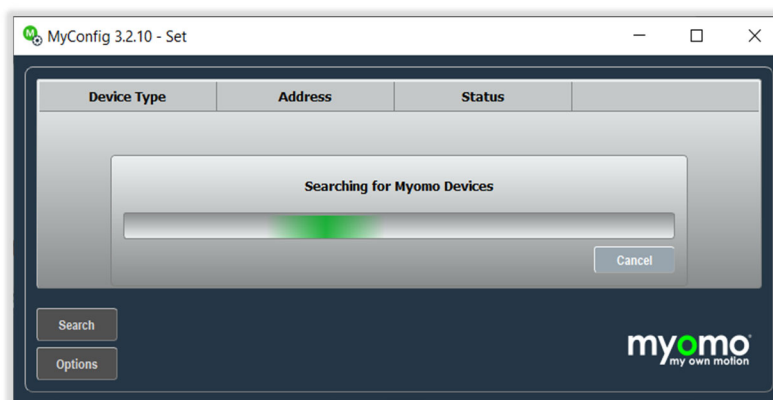
MyConfig Set is located on the Myomo laptop desktop.
Double click the MyConfig Set icon to launch the application.



The first screen you see should look like this:

MyConfig is searching for the MyoPro via a wireless Bluetooth connection.

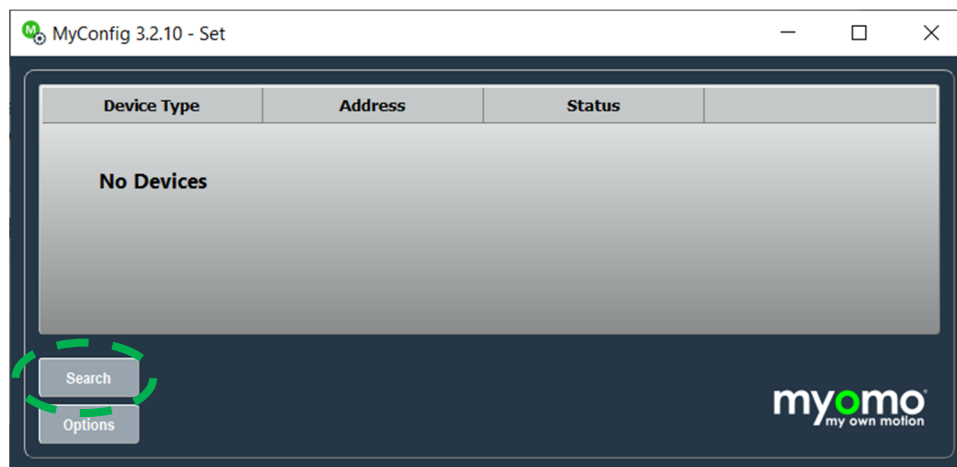
Note: if the search bar doesn't appear, it is likely that the Bluetooth radio has been turned off in the laptop settings. You can enable Bluetooth in the Windows Settings.



MYOPRO SEARCH

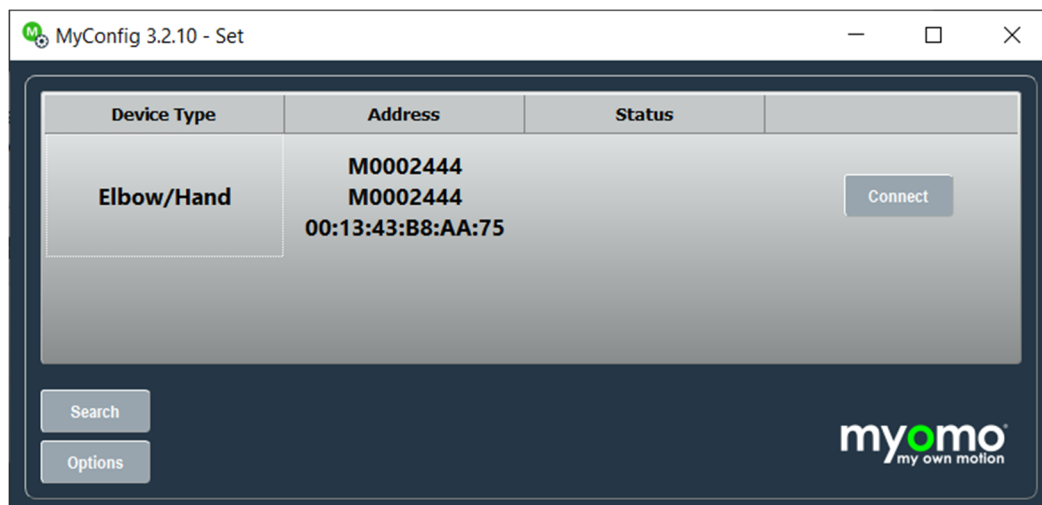
The MyoPro is always Bluetooth connection ready. When you launch MyConfig, the search for nearby devices will begin automatically. If powered on, the MyoPro will automatically connect once detected by MyConfig.

If MyConfig fails to detect the MyoPro and does not connect, click the *Search* button to initiate a new search. This may occur if MyConfig is started before the MyoPro is powered on or if the signal is interrupted during transmission. Moving the MyoPro closer to the Myomo laptop resolves this issue.



MYOPRO FOUND

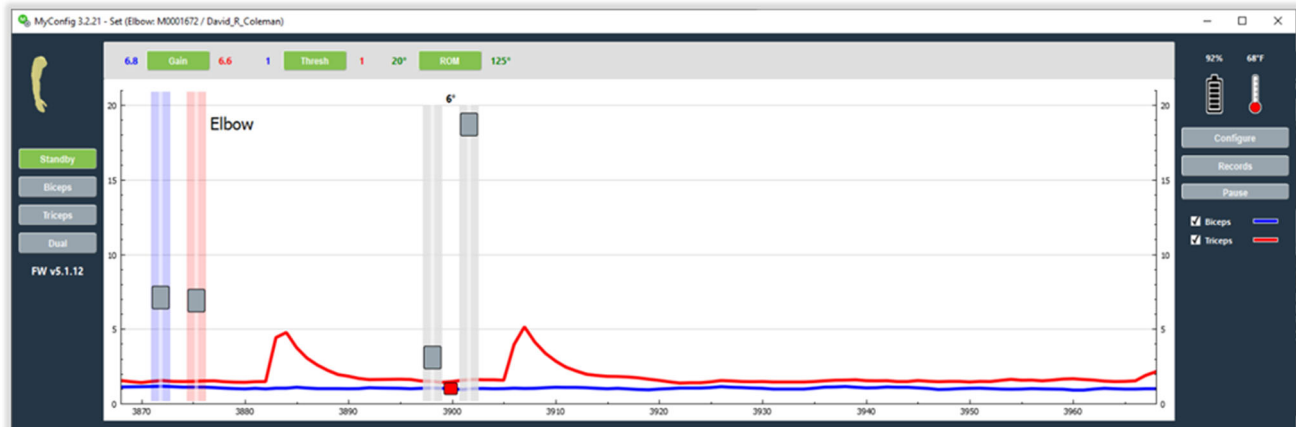
Click *Connect* for the desired MyoPro. If multiple MyoPros are powered on, you will see multiple serial numbers listed.



MYOPRO CONNECTION

After a brief search, a window will appear for each MyoPro joint:

Elbow



Hand



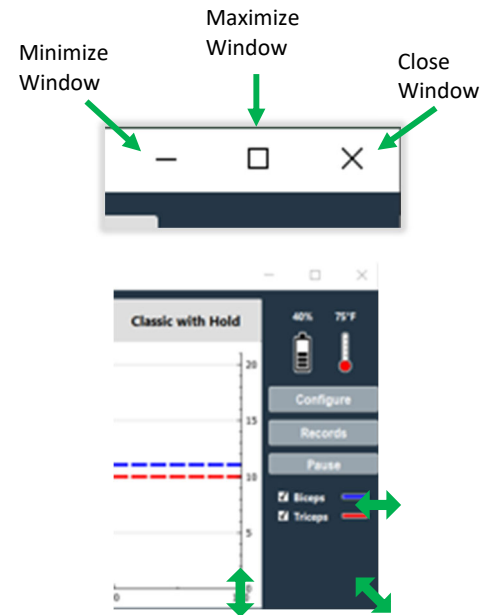
The MyoPro is now connected to MyConfig Set.

VISUALIZATION

RESIZE WINDOWS

Quickly minimize, maximize, or close windows by using the icons in the upper right window corner, respectively.

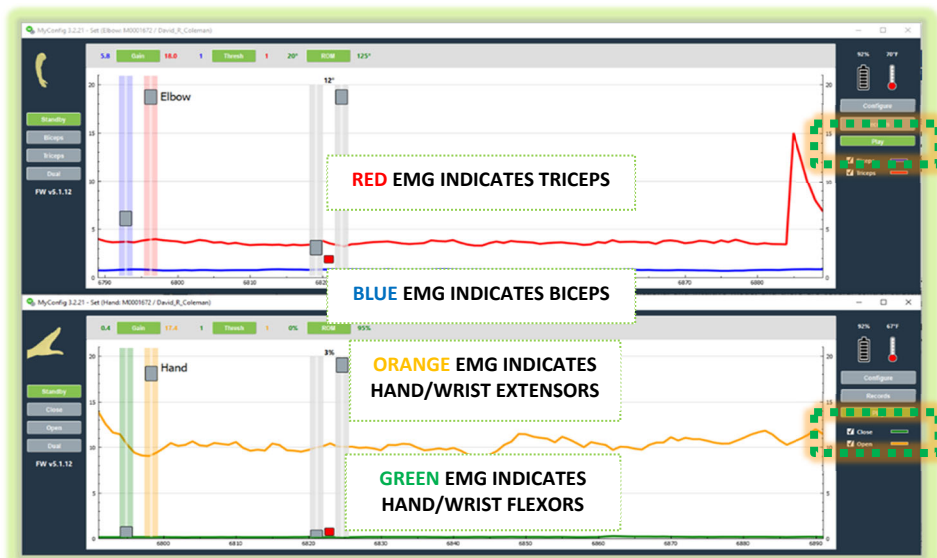
Alternatively, while hovering the mouse cursor over the window edge, left-click and hold with one finger, while using a second finger on the trackpad to resize the window.



EMG GRAPH

The EMG signals are the lines of the graph to watch because they inform what the user's muscles are currently doing, how that may differ from what they are trying to do, and if the MyoPro is being suitably responsive. EMG signals are color coordinated to match the color of the MyoPro sensors. When the box is checked beside the EMG signal the EMG will be visible on the screen in the coordinating color. (e.g. if biceps is checked, a blue EMG line will be visible).

The MyoPro Motion G elbow and hand both feature four operating modes, with dual mode having an additional 4 modes. With these modes, the MyoPro may be configured to the unique abilities of each user, allowing them to select an appropriate setup for their current level of ability as they become more proficient with their MyoPro.



JOINT MODES

ELBOW

Elbow (all MyoPros)

1. **Standby** mode – motors are inactive

In *Standby* mode the motor is on, but it will not assist motion. It will actually offer more resistance to motion than if the MyoPro were powered off. The sensors are still reading the EMG signals and will be visible on the MyConfig graph. *Standby* mode is useful for establishing EMG signal response before moving to a mode where motion is elicited. It will also allow you to approximate correct settings before switching to other modes.

2. **Biceps** mode – single-site control, biceps only

- When biceps relax the elbow motor extends.
- When biceps contract the elbow motor flexes.

3. **Triceps** mode – single-site control, triceps only

- When triceps relax the elbow motor flexes.
- When triceps contract the elbow motor extends.

4. **Dual** mode – dual-site control (biceps/triceps)

In *Dual* mode, the MyoPro responds to both elbow flexor and extensor EMG signals. It is the most functional and intuitive mode, and there are several control strategies that determine how the MyoPro will behave: Classic with Hold, and 3 advanced modes. The ability to produce visibly different EMG patterns during flexion and extension is required for dual mode use, and can be a tool in teaching users muscle isolation. Advanced dual mode behaviors can be explored as the client's need for functional motion increases with consistency. Advanced dual modes utilize a different control strategy than the other modes, but all dual modes utilize the *elbow hold* feature.

- Simultaneous relaxation of both EMG signals activates the *elbow hold* feature.
- Elbow flexor activity causes elbow motor flexion.
- Elbow extensor activity causes elbow motor extension.

Dual mode allows greater ability to stop or pause motion mid-range

Advanced Dual modes – Use a different control strategy for increased control

- **Constant Speed** – one set speed into flexion and extension
- **Proportional** – motor speed is directly related to measured effort
- **Ramp** – rate of motor speed increases with effort (exponential)

HAND

Hand (Motion G only)

1. **Standby** mode – motors are inactive
2. **Close** mode – single-site control; hand/wrist flexors only
 - When flexors relax the hand motor opens.
 - When flexors contract the hand motor closes.
3. **Open** mode – single-site control; hand/wrist extensors only
 - When extensors relax the hand motor closes.
 - When extensors contract the hand motor opens.
4. **Dual** mode – dual-site control; (flexors/extensors)

In *Dual* mode, the MyoPro responds to both wrist/hand flexor and extensor EMG signals. It is the most functional and intuitive mode, and there are several control strategies that determine how the MyoPro will behave: Classic with Hold, and 3 advanced modes. The ability to produce visibly different EMG patterns during flexion and extension is required for dual mode use and can be a tool in teaching users muscle isolation. Advanced dual mode behaviors can be explored as the client's need for functional motion increases with consistency. Advanced dual modes utilize a different control strategy than the other modes, but all dual modes utilize the *grasp hold* feature. It is not uncommon for a user to be able to utilize elbow dual mode before they are ready for hand dual mode.

- Simultaneous relaxation of both EMG signals activates the *grasp hold* feature.
- Flexor activity causes hand motor closing
- Extensor activity causes hand motor opening.
- Dual mode allows greater ability to stop or pause motion mid-range

Advanced Dual modes – Use a different control strategy for increased control

- **Constant Velocity** – one set speed into flexion and extension
- **Proportional** – motor speed is directly related to measured effort
- **Ramp** – rate of motor speed increases with effort (exponential)

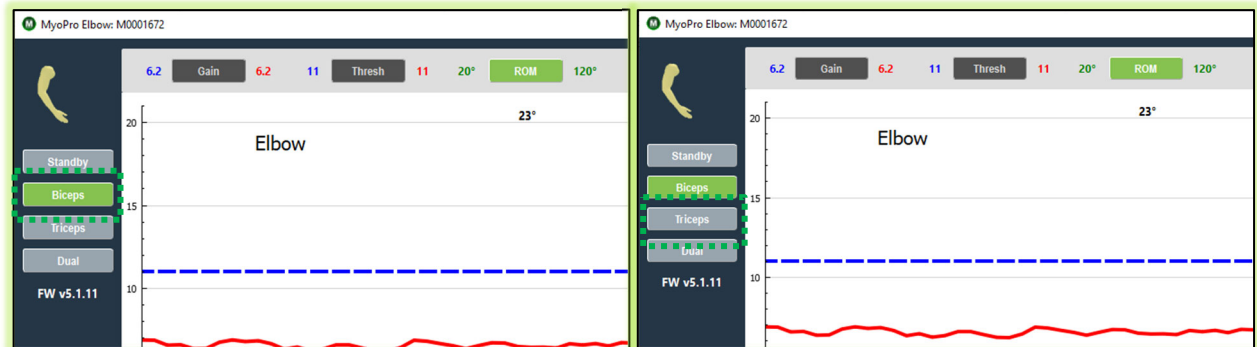
CHANGING MODES

Modes for both the elbow and the hand can be changed by clicking the gray button with the name of the desired mode in the corresponding hand/elbow window.

The selected button appears green, displaying the current mode.

Clicking the button of the desired mode will instantly change which muscle signals the MyoPro is responding to.

Note: Elbow and hand modes may also be changed on the MyoPro control panel.

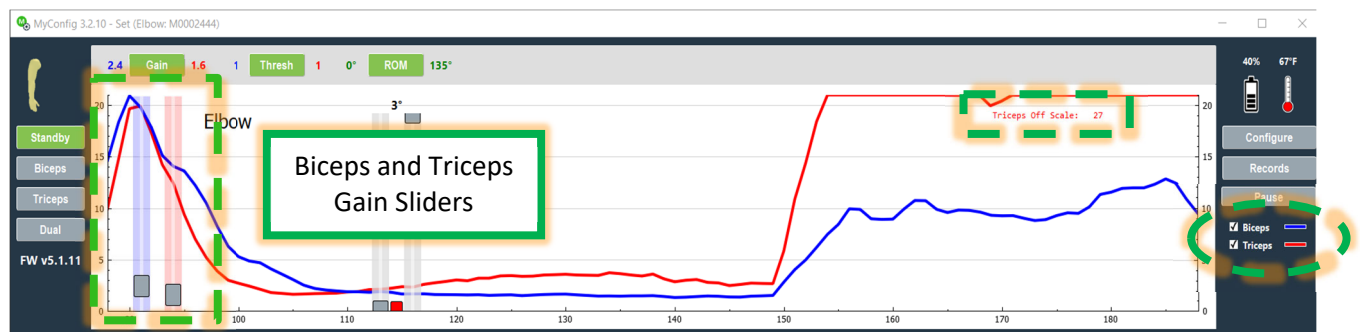


MYCONFIG SETTINGS

GAIN

Gain refers to amplification of EMG signal that takes place through the sensor hardware. In the case of the MyoPro, the EMG gain is amplified via software as well to create a large degree of adjustment. Changes to the gain value occur at 0.2 intervals. With a maximum value of 20.0, there are 100 available values for each *gain* slider, offering a great degree of fine-tuning.

EMG value changes are proportional to the EMG line changes. I.E, doubling the gain value will double the values seen on the EMG screen. The higher the gain, the more amplified the user's EMG signal will be. It's generally desirable that while at rest the user's EMG is at the bottom ¼ of the screen, while a maximal effort motion doesn't allow their signal to significantly exceed the top of the screen. A user with significant tone may already have an elevated resting signal and a stronger (more detectable) signal. When the EMG signal has left the screen, a text box will indicate the current value instead.



The *gain* slider and value are color-coded to indicate which EMG they are relevant to.

The EMG screens have an upper-limit of “20”, after which the EMG line won't be visible. The Triceps EMG in this picture currently reads “27”, which is an indication that either the electrode is picking up abnormal activity, or the gain setting is too high.

Any changes made to the *gain* values will save in real-time. It is important to write your values down prior to changing them if you want to revert back to them. Another way to retrieve your settings is by Configuration Report *prior* to changing your settings.

How to save records and run Configuration Reports can be found on page 124 and 125.

THRESHOLD

Threshold (Thresh) refers to the value that the EMG signal must exceed to initiate the motor (in response to either an active muscle signal or a relaxing muscle signal). Once in an active mode (anything other than *Standby* mode), click the *Thresh* button to make the adjustment sliders appear.

Ideally, we want the user to be able to move the MyoPro in either direction with relative ease. The placement of the threshold line will take into account what mode is being used, the clinician and user's goals (e.g. tone management vs strengthening vs functional training) and the user's response. Generally, once the *threshold* is set between 8-12, then all future adjustments can be done at the *gain* in an effort to minimize variables.

The *threshold* slider and value are color-coded to the relevant EMG.



Since the device in the preceding photo is in *Biceps* mode, only the biceps EMG is being graphed. Additionally, only the biceps *threshold* is visible to indicate that the device is only responding to the biceps EMG in this mode.

The visible EMG lines can be customized for each mode. In the example above (*Biceps* mode), the triceps EMG can be added to the graph by checking the “Triceps” check box as indicated on the right side of the screen. Unless clearly indicated, it is generally better to have both EMGs information available instead of hidden, as it better informs of the condition of the arm.

Just like the gain settings, all changes to the threshold settings are updated in real-time on the device and will save automatically. It is important to write your values down prior to changing them if you want to revert back to them. Another way to retrieve your settings is by Configuration Report *prior* to changing your settings.

RANGE OF MOTION (ROM)

The *Range of Motion* (ROM) for the motor is accessible on each joint window. For each joint, the left-column slider controls the extension end-range, while the right-column slider controls the flexion end-range. Appropriate device *ROM* will be determined primarily by the user's passive ROM, but other considerations include functional tasks, resting position, and mechanical advantage of different arm positions and finger-contact at the hand.

Elbow *ROM* is shown in degrees (0°=full extension, 135°=full flexion).
Hand *ROM* is shown in % (0%=open, 100%=closed).

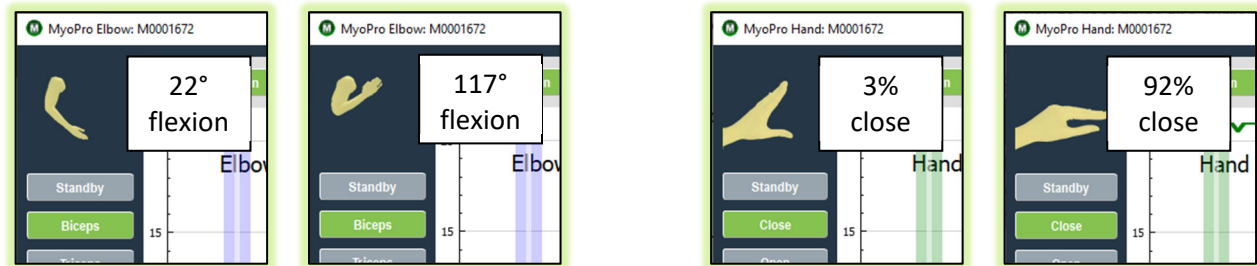


The current ROM end-ranges are displayed numerically in green above the ROM sliders. In the preceding photos, the elbow ROM is set at 0 to 135° ROM while the hand ROM is set at 0%-100% of available ROM. The current joint position is indicated by the red square between the ROM sliders, which will move in real-time with elbow/hand position, with a black number current position value atop the ROM sliders. In the preceding photos, the elbow is currently at 3° ROM (almost full extension) while the hand is currently at 5% closed (nearly fully open).

Any changes made to the *ROM settings* will remain in place as they are automatically saved when values are changed. It is important to write your values down prior to

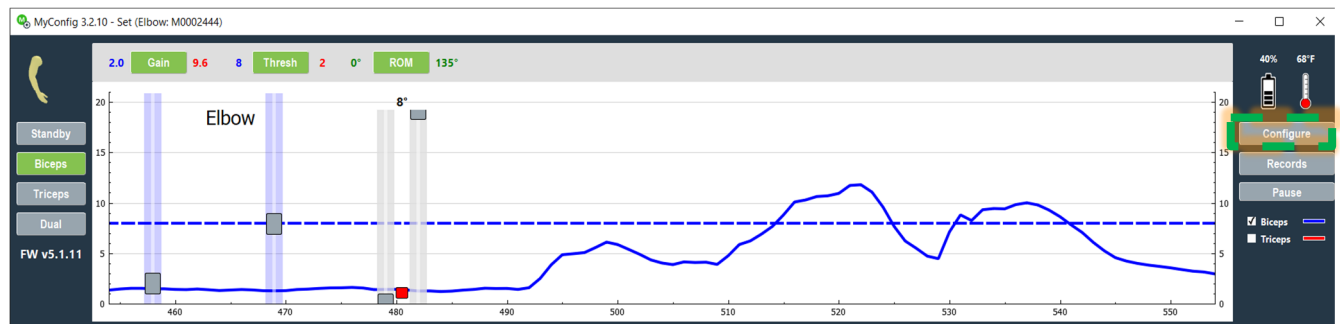
changing them if you want to revert back to them. Another way to retrieve your settings is by Configuration Report *prior* to changing your settings.

A graphical representation of the current joint position is in the top-left corner of each window. This is a quick way to recognize the current joint position while looking at the computer screen, without having to interpret the numbers.



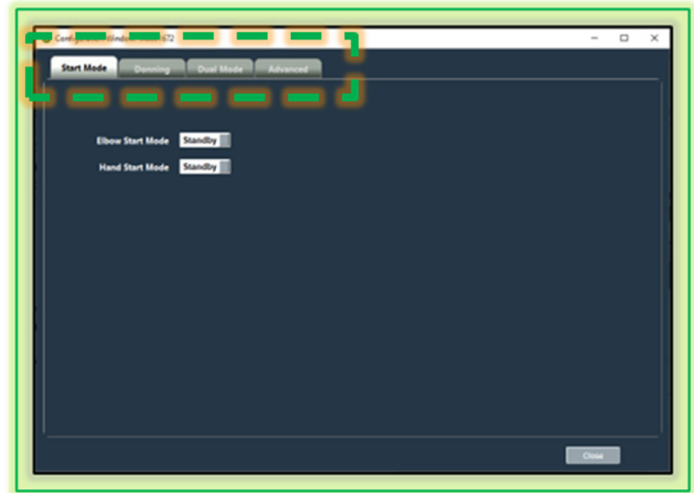
CONFIGURE

The *Configure* menu button is located on the right side of the hand or elbow EMG window. Clicking the button in either window will allow you to make and save changes to either joint.



The *Configure* screen contains 4 tabbed menus:

- 1) Start Mode
- 2) Donning Mode
- 3) Dual Mode
- 4) Advanced

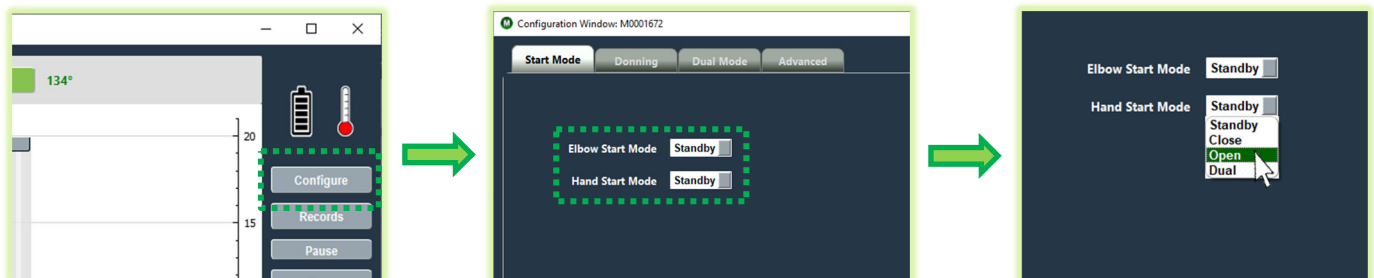


START MODE

The motors are pre-set to be in *Standby* mode when the MyoPro is first powered on. However, you may prefer a different *Start Mode* for each MyoPro joint.

To change the *Start Mode*:

1. Select the *Configure* button on the right-hand side of either the hand or elbow window.
2. A new window with several tabs will pop up- the first of which is *Start Mode*. From the dropdown menu for the corresponding joint, select the desired *Start Mode*.
3. Select *Close*. The setting will be saved to the MyoPro for the next time you power it on and it will start in the saved *Start Mode* as a default.

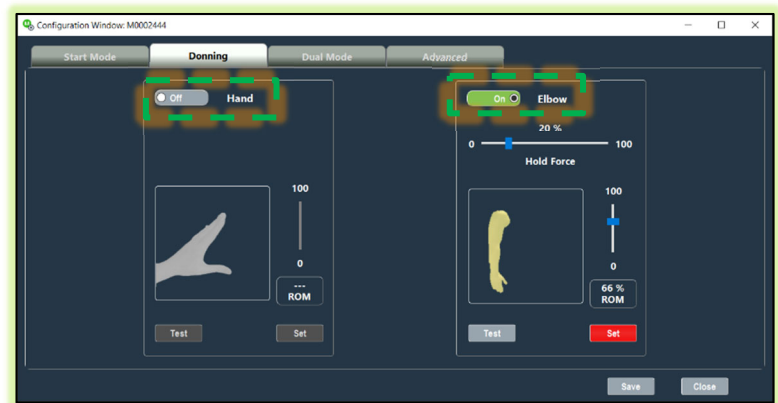


DONNING MODE

Donning Mode is a feature designed to assist the user in independently donning the device once it is activated. The behavior of donning mode is programmed through MyConfig Set, but can only be initiated on the physical MyoPro.

Any combination of the joint motors can be involved in

Donning Mode by sliding the slider at the top of the Donning Mode window.

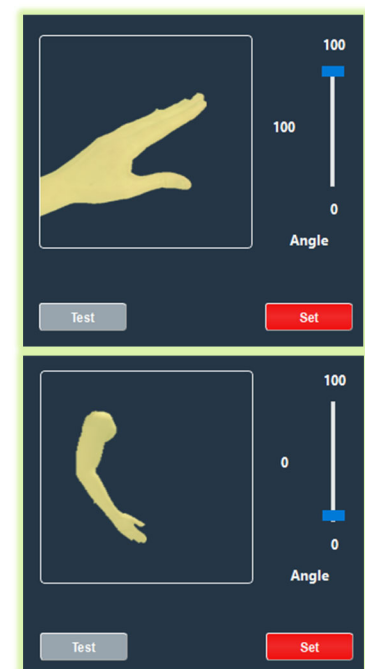


Like the EMG window, the graphic of the hand and elbow will approximate the MyoPro device position. This lets the user try different static positions of the elbow and hand to see which is most helpful for donning.

Select positions using the slider to the right of the graphic of the joint you are testing. All values are in “% of programmed ROM.” For example, for the elbow, a value of 0 is full programmed extension, while a value of 100 is the programmed end-range of elbow flexion.

To try a position, click the “Test” button. The MyoPro and the graphic will move to the position specified by the slider. When a suitable position is decided, clicking “Set” will save that position to be used for Donning Mode.

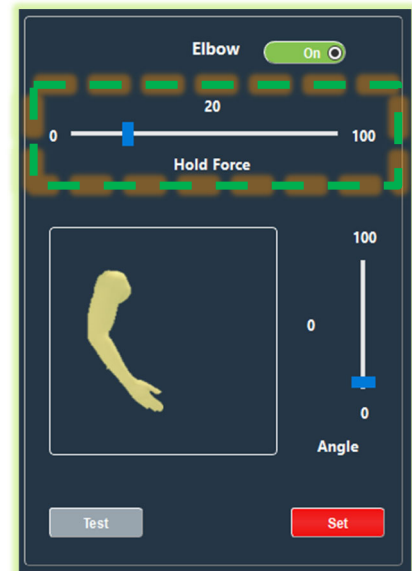
The elbow has an additional setting in Donning Mode that the hand motor does not. The *Hold Force* determines how much resistance to motion the elbow will provide after it moves to the set position during Donning Mode. A maximal value of 100 will make the elbow act very rigid, while a minimal value of 0 will allow the elbow to move freely after moving into position during Donning Mode. This setting cannot be



tested here, so the only way to experience the *Hold Force* is by initiating donning assist at the elbow on the MyoPro.

Please note: Donning mode does not support Hold Force when the value is less than 20.

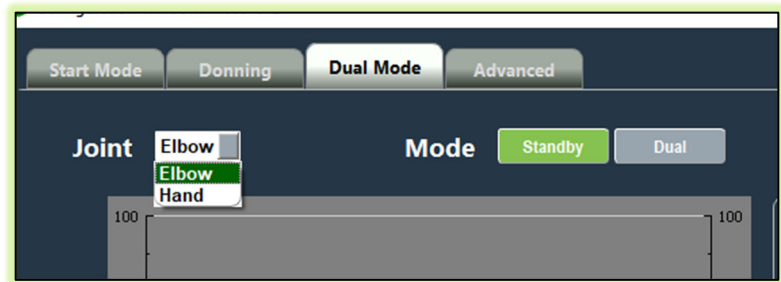
Donning Mode parameters can be saved and retrieved through the “Records Management” window. See page 124.



ADVANCED DUAL MODE

MyConfig software has four Dual Mode settings.

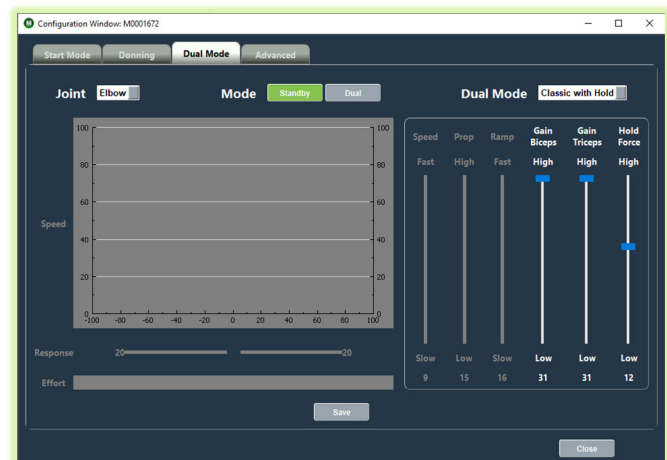
- Classic with Hold
- Constant Speed
- Proportional
- Ramped



The *Dual Mode* menu allows the clinician to choose from the four available *Dual Mode* selections. All four *Dual* modes have settings that can only be accessed and programmed through this menu.

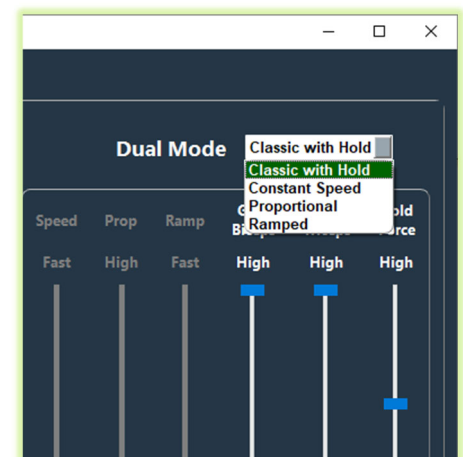
Select which joint to program by opening the drop-down menu in the top-left of the window.

Note: Entering the *Configure* menu puts the MyoPro into *Standby* mode. No matter which mode is selected, the screen won't provide feedback until the Mode is switched from *Standby* to *Dual*.

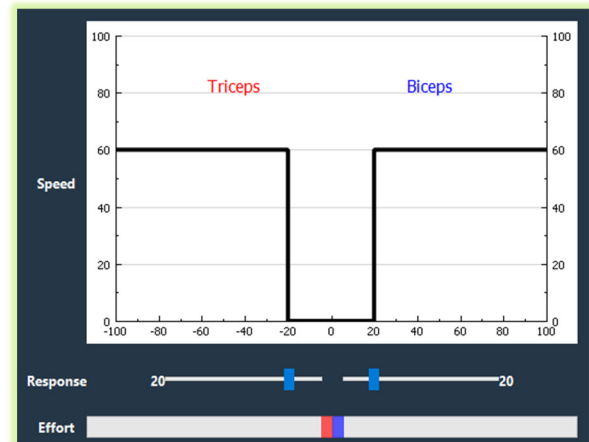


The Dual Mode drop-down menu is used to select the desired Dual Mode. Because “Classic with Hold” mode isn't programmed in this menu, the graph on the left of the screen will remain grayed-out until another mode is selected.

Attention: unlike the EMG screens, where all changes are pushed to the device immediately, in the Dual Mode tab, any changes will not take effect unless the red save button is pressed. If the save button is red, it's an indication that you have made changes to the settings that the MyoPro is not acting on.



The graphs in this Dual Mode tab are different than the EMG graph that is displayed for single modes or Classic Dual Mode. The two-tailed graph shows how the biceps, triceps, open, and close EMGs relate to each other. It communicates a lot of information in a small amount of space. MyoPro *Dual* mode behavior will be determined by the changes made to the two-tailed graph. The primary changes will come from the sliders on the right-side of the window.



The sliders on the right side of the window are how adjustments to dual mode behavior are made. No mode utilizes every slider. In the following sections, the purpose of each slider will be defined, and which sliders are applicable during which modes will also be identified.

Speed defines motor speed during constant velocity mode.

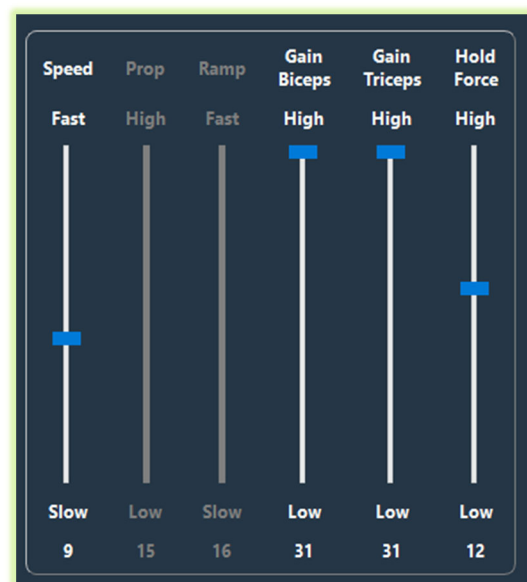
Prop defines the increase in motor speed as it relates to *effort*.

Ramp defines the rate of motor speed increase as it relates to *effort*.

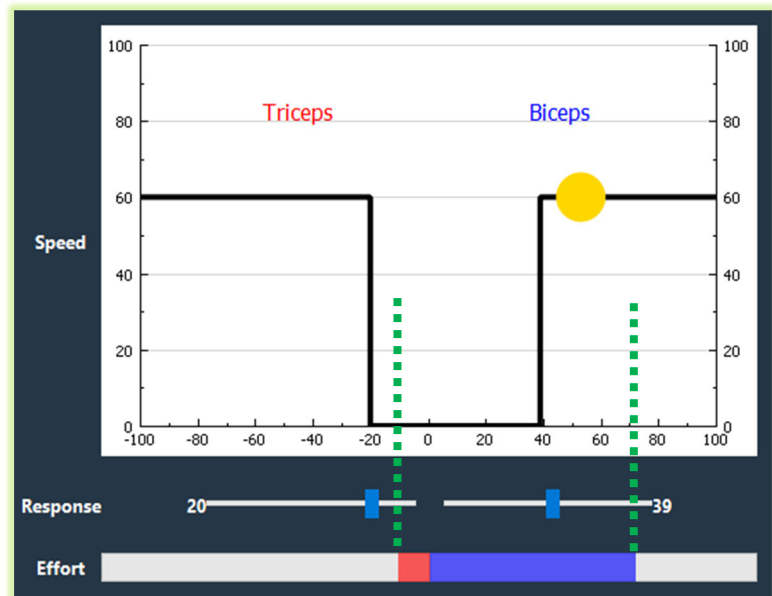
Gain Biceps/Close is the amount of biceps/close effort amplification (joint-dependent).

Gain Triceps/Open is the amount of triceps/open effort amplification (joint-dependent).

Hold Force indicates the amount of resistance to motion the joint will apply when the *Hold* feature is engaged.



Effort is the conversion of each EMG signal into a bar visualization. This represents the user's current muscle exertion relative to their maximum ability. On this screen we aren't tracking the EMG signals over time, but we are able to visually estimate the difference between the flexor and extensor EMG signals. The right-side *effort* bar demonstrates the flexor activity, while the left-side *effort* bar demonstrates the current extensor EMG activity.

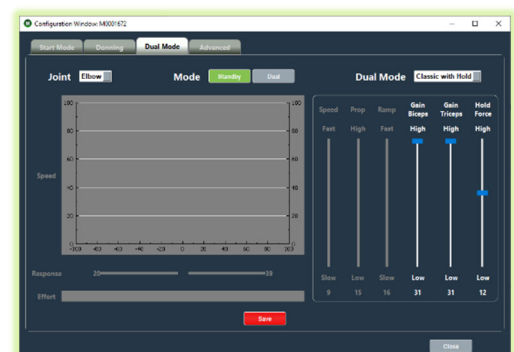


It is easy to see in the above graphic that the blue *effort* bar is around 70, while the red *effort* bar is around -10. The difference between the two effort bars determines the X-axis position of the yellow ball. For the y-axis position, the yellow ball will travel the graph of the bold line. The shape of the bold line is determined by the *Response* slider, visible in the previous picture and the *Dual* mode that has been selected.

Response determines how much *effort* must be produced before the motor begins moving. It is very similar to the *threshold* in single-site or classic dual modes.

Classic with Hold

Classic with Hold is the most straightforward *Dual* mode. It does not use the two-tailed graph, instead using the *threshold* of the EMG windows, which is why the graph is inactive in this window. The only setting to adjust in the Dual Mode tab for this mode is *hold force*.



Constant Speed

This mode allows the clinician to select and limit the motor speed. Otherwise, it behaves very similarly to *Classic with Hold* mode. The graph indicates that the motor has only one speed with which to move into extension or flexion, while it won't move at all between the two *response* sliders. This mode may be helpful for beginners and for those with spasticity, since the movement can be made slow and consistent.



Proportional

Proportional allows the user to control the speed of the motor in a way that reflects their level of muscle control. A small amount of *effort* will produce slower motion, while maximal *effort* can produce maximum speed. In this graphic the maximum extension speed is 60% of max motor speed at 100% triceps effort, while the 100% flexion speed can be achieved with 100% biceps effort.



Ramped

Ramped allows for quicker changes in motor speed related to *effort*. The *response* dead zone can nearly be eliminated because of the taper of the graph.



ADVANCED CONFIGURATION

The last tab of the *Configuration* menu has to do with advanced settings for the MyoPro.

The Advanced Configuration menu contains fields that are both useful to understand in rare circumstances, and **options that should never be touched unless instructed to by a Myomo engineer.**



The relevant settings will be described first, and are indicated in green, while the options that shouldn't be adjusted are in red.

Advanced Settings on the left side of the screen, the green-text settings below, must be set separately for the elbow and hand by choosing the drop down under "Advanced Settings".

Extension Effort/Flexion Effort or Open Effort/Close Effort describes the maximum value for the extension or flexion *effort bars*, respectively, in the dual mode tab. Raising this value decreases responsiveness for a user that too easily fills their *effort bar*, while reducing this value makes it easier for the user to achieve maximum *effort*.

Low/High ROM Threshold sets the ROM the selected joint has to be in for the *hold* force to activate. In this example screen above, the Hold feature at the elbow would be prohibited from engaging during the last 15% of ROM, e.g. the last 30 degrees of extension won't allow the elbow to lock. Similarly, the High ROM Threshold makes it so the elbow won't lock with the MyoPro in full flexion.

Curviness changes the default slope of the curve in *ramped* dual mode. Lower values are shallower while higher values are steeper. Default value is 2.

Alarm/Donning Melody Volume allows the user to change the volume of sound notifications during donning mode and other behaviors.

The values on the right side of the screen, the values indicated by red marquee, will update the settings automatically in the corresponding window for the hand and the elbow when the values are changed for either joint. These values are shared between hand and elbow.

Overheat Prevention enables or disables a feature that protects the control circuit of the MyoPro during peak power demand. When overheat protection is enabled, the MyoPro will repeat a single-beep for the duration of the "Motor Cmd Timeout" value. Without this box checked the user will get no auditory warning that the motor is about to turn off. This is separate from the motor temperature indicators on the EMG screen. Effectively, when the MyoPro is working as hard as it possibly can, a beep will let you know that a timer has begun that will cause the device to deactivate in an effort to protect itself.

Motor Cmd Timeout sets the amount of time (and beeps) before the overheat prevention feature disables the device.

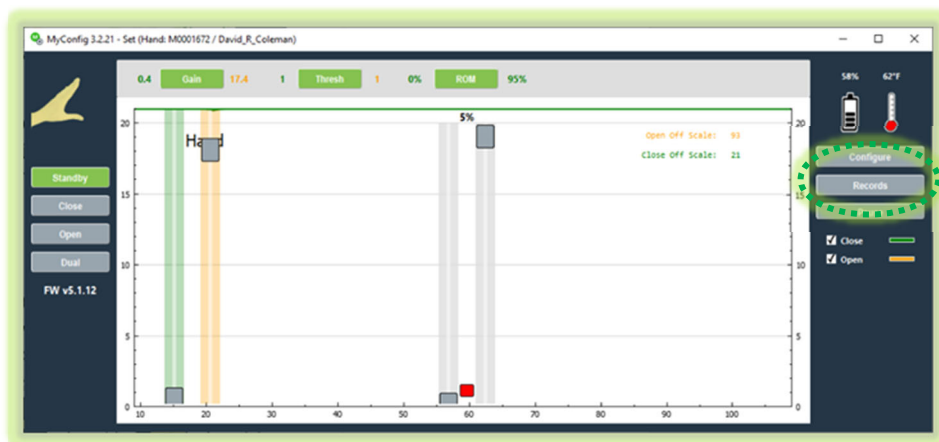
Battery Current Threshold limits the amperage discharge from the battery to protect the MyoPro components.

Alarm Volume and Donning Mode Volume maximum is 50, minimum is 0.

Clicking “Save” or hitting the “Enter” key will enact the changes made to the device. Otherwise, to continue without saving, click the “Close” button or return to another tab inside the *Configuration* menu.

MYCONFIG RECORDS

Click the *Records* button to open the *Records Management* window and features.



Current Settings			
Mode	Gain	Threshold	ROM: 0%-100%
Standby	31 / 31	-- / --	Start Mode: Standby
Close	1 / --	7 / --	Prop Mode: Enabled
Open	-- / 31	-- / 7	Max Motor: 100%
Dual	31 / 31	8 / 7	EMG Sample: 2
			Motor Factor: 5

Loaded Settings			
Mode	Gain	Threshold	ROM: -----
Standby	-- / --	-- / --	Start Mode: -----
-----	-- / --	-- / --	Prop Mode: -----
-----	-- / --	-- / --	Max Motor: ----
-----	-- / --	-- / --	EMG Sample: ----
Dual	-- / --	-- / --	Motor Factor: ----

Save MyoPro settings to a file archive.

Select *Usage Report* to print or create a PDF of:

- Device Details
- Compliance
- Notes/Comments

Recover settings that were saved to a file archive and re-load them to a MyoPro.

The *Usage Report* is a powerful tool to document user compliance and device value. It can also inform the clinician about where the user is having difficulty with use. A usage report may also be requested when working with technical support to provide device details.

MyoPro Usage Report

02 Nov 2021 11:11:02

Patient Name: J Doe

Patient ID: 123456

General Information

MyConfig Version:

3.2.05

Device Type:

Left Elbow/Hand

Firmware Version:

5.1.11

Device SerNum:

M0001672

Bluetooth ID:

00:13:43:69:61:C3

Unique Name:

M0001672

MyoPro Events

Power Up/Dn:

6/6

User Sessions

Total Sessions:

11

Total Session Hrs:Min:

8:56

Total Elbow Fix/Ext Cycles:

13/14

Total Hand Cls/Opn Cycles:

6/6

Last 11 Sessions - old to new

Timestamp	Session Minutes	Elbow Fix/Ext	Hand Cls/Opn
Tue Oct 26 09:42:39 2021	13	0/0	0/0
Tue Oct 26 09:42:09 2021	42	1/1	0/0
Mon Nov 1 11:58:18 2021	0	0/0	0/0
Mon Nov 1 10:58:17 2021	13	0/0	0/0
Mon Nov 1 11:22:07 2021	14	0/0	0/0
Mon Nov 1 12:52:31 2021	134	0/0	0/0
Mon Nov 1 16:52:14 2021	162	7/7	0/0
Tue Nov 2 08:26:06 2021	0	0/0	0/0
Tue Nov 2 08:24:31 2021	62	5/6	6/6
Tue Nov 2 09:39:28 2021	3	0/0	0/0
Tue Nov 2 09:36:43 2021	93	0/0	0/0

Notes

Document Example

CONFIGURATION REPORT

The Configuration Report includes:

- Configuration Parameters
- Dual Mode Parameters
- Advanced Dual Mode Parameters
- Donning Parameters
- EMG Graph

MyoPro Elbow Configuration Report

15 Dec 2022 10:49:57

Patient Name: J DOE

Patient ID: 123456

General Information

MyConfig Version:	3.2.10	Device Type:	Right Elbow/Hand
Firmware Version:	5.1.11	Device SerNum:	M0002444
Bluetooth ID:	00:13:43:B8:AA:75	Unique Name:	M0002444

Configuration Parameters

Mode	Gain	Thresh	ROM Limits:	0°-135°
Standby:	2.4 / 1.6	- / -	Start Mode:	Standby
Biceps:	2.0 / -	8 / -	Prop Mode:	Enabled
Triceps:	- / 9.6	- / 2	Max Motor:	100%
Dual:	4.2 / 4.4	11 / 10	EMG Sample:	2
			Motor Factor:	5

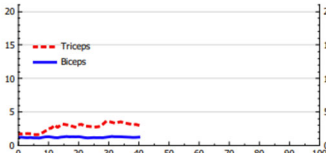
Dual Mode Parameters

Mode:	Classic	Speed:	9
Flexion Response:	20	Prop:	15
Extension Response:	20	Ramp:	16
Dual Mode Hold Force:	12	Donning Active:	1 (Yes)
Donning Hold Force:	20%	Donning Position:	20%

Advanced Dual Mode and Donning Parameters

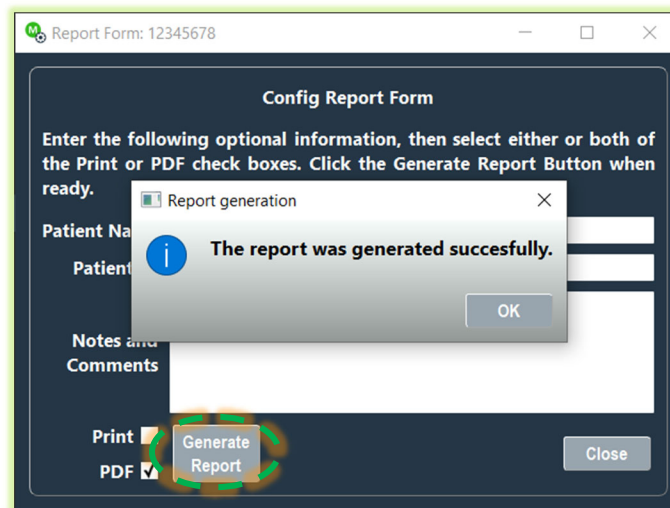
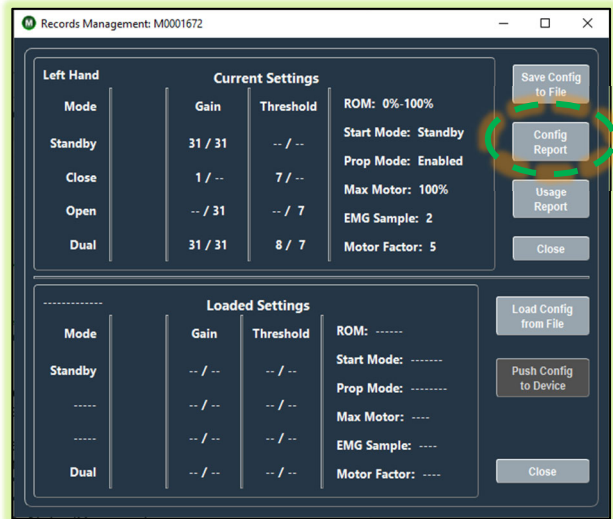
Extension Effort:	75%	Curviness:	2
Flexion Effort:	75%	Motor Cmd Timeout:	10 sec
Low ROM Threshold:	15%	Battery Current Thrsh:	1000 mA
High ROM Threshold:	3%	Alarm Volume:	50
Overheat Protection:	1 (Yes)	Donning Melody Volume:	50

Elbow EMG Graph



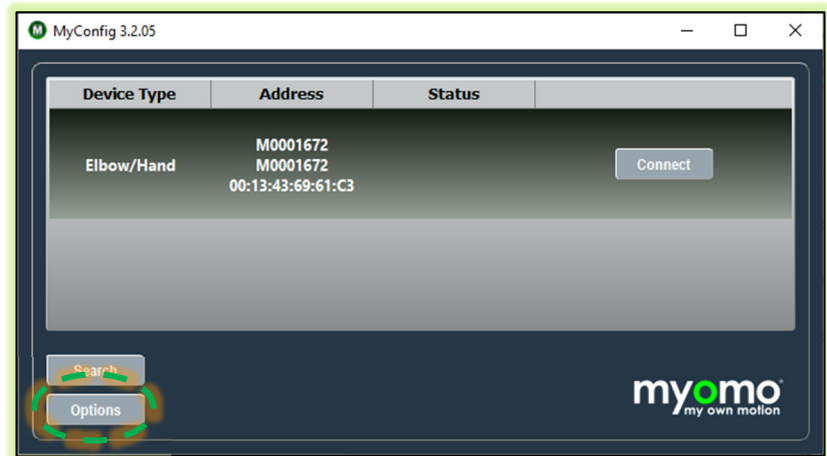
Time (s)	Triceps (dashed red)	Biceps (solid blue)
0	1.0	0.5
10	2.0	0.5
20	3.0	0.5
30	4.0	0.5
40	3.0	0.5
50	2.0	0.5
60	1.0	0.5
70	1.0	0.5
80	1.0	0.5
90	1.0	0.5
100	1.0	0.5

1. Select *Config Report* to launch the report form.
2. Input user's name, notes, and/or comments.
3. Select *Print* or *PDF*, or both.
4. Select *Generate Report*.
5. A confirmation of report generation will be displayed.



OPTIONS

To access additional options for MyConfig features, select *Options* in the lower left of the launch window.



Start-up Search/Connect Options

Software and Firmware auto-Update

Transfer Log Files upon Connection

Screen displays Motor Amps

Bluetooth FW

Options

Search Time

Auto-Search upon Startup ☒

Auto-Connect after Search ☐

Auto-Update ☒

Log-File Transfers ☒

Display Motor Command ☒

Fahrenheit ☒ Celsius ☐

Comms Update

File Location

Language

Window Controls

Start with Sliders On ☒

Start with Thermal On ☒

Optimize Plotting ☐

Auto-Scale Window upon Connect ☒

% Screen Width

% Screen Height

OK Cancel

Advanced Window Controls for EMG screen User Interface

MyConfig Display Language

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MAINTENANCE

BEST PRACTICES FOR SMOOTH PERFORMANCE

Several factors can result in erratic movement of the orthosis.

- ⇒ **NOTE:** The metal components of each sensor must have contact with the skin in order to properly read EMG signal.

FACTOR A: STRAP TENSION

Make sure the Upper Sensor Cuff and Upper Cuff Closure are comfortably snug – not too tight, not too loose.

FACTOR B: SENSORS PLACEMENT

Check that the sensors are centered on the correct muscle site. Some placement adjustment may be made by shifting how the strap is wrapping around your arm.

- ⇒ **NOTE:** Velcro on the back of each sensor allows it to be detached and reattached to the sensor cuffs in a more optimal position. However, this adjustment should **ONLY** be done by your Provider.

FACTOR C: STATIC

Due to static build up and environmental factors, it can take up to 5 minutes for some Users' resting muscle signal to stabilize. If you experience no response from the device, wait 5-10 minutes after donning orthosis to begin using.

- ⇒ **NOTE:** If you experience pain or discomfort, turn off the MyoPro 2x and check that the straps and pads are not twisted or bunched up. Rest and try again. If pain or discomfort continues, discontinue use of the MyoPro 2x and consult your Provider.

CLEANING THE MYOPRO 2x

Clean the parts of the MyoPro 2x (control panel, orthosis, and sensors) which touch your skin once a week, or more frequently if dirt or debris has accumulated. To clean the MyoPro 2x, wipe with a soft cloth lightly dampened with Isopropyl Alcohol. Use a Q-tip dampened with Isopropyl Alcohol to get into any smaller grooves, such as on the sensor heads.

- ⚠ **CAUTION:** The MyoPro 2x and accessories are not waterproof. Take care to protect the device from coming in contact with liquids. Never immerse, pour, or spray water or other liquids directly onto the MyoPro 2x.
- ⚠ **CAUTION:** Do not use a hairdryer to dry components of the MyoPro 2x.
- ⚠ **CAUTION:** Avoid harsh cleaning agents such as bleach and ammonia.
- ➡ **NOTE:** Take care to prevent the buildup of debris. Let the MyoPro 2x completely dry out before putting it on again.

REPAIRING THE MYOPRO 2x

Repairs should be made only by your Provider, or by Myomo, directly. To ensure absolute safety of device and personnel, **only** Myomo staff may address repairs to the mechanical or electrical components of the MyoPro 2x. If such a repair is needed, your Provider will send your MyoPro 2x to Myomo, Inc. Myomo will conduct the repair, and send your MyoPro 2x back to your Provider. The estimated turnaround time for repairs is 1-2 weeks.

It is considered a Minor risk for a user to be without his or her MyoPro 2x for an extended period. This repair strategy provides the safest and most reliable pathway for returning the MyoPro 2x to the user in optimal condition.

- ⚠ **WARNING:** No modification or disassembly of the mechanical or electrical components of the MyoPro 2x is allowed as it may expose other dangers.
- ➡ **NOTE:** Disassembling the MyoPro 2x will void the warranty.

STORING THE MYOPRO 2x

After taking the device off, rest in a clean, dry place to allow the MyoPro to dry.

- ⚠ **CAUTION:** Do not use a hairdryer to dry components of the MyoPro 2x.
- ⚠ **CAUTION:** Protect the MyoPro 2x from damage, always use the carrying bag provided with the unit to store or transport the MyoPro 2x.
- ⇒ **NOTE:** Ensure the MyoPro 2x is completely dry before storing.

Place in the carrying bag for travel and storage. The device may need to be repositioned in order to fit properly into the carrying bag. Gently bring the upper and lower arm frames closer together so the device is in a fully flexed elbow position. This will require moving the elbow motor while the device is powered off. **Move the motor as slowly and as gently as possible, with minimal force.** This is the best practice for avoiding damage to the motor.

Storage Environment

The MyoPro 2x should be stored:

- In a dry location
- Away from direct sunlight
- In temperatures between 0 to 40 °C (32 to 104°F)

The battery is recommended to be stored at or below 20 °C (68 °F), in a low humidity environment, free of dust and corrosive gasses. It is best to keep the battery with a state of charge between 50-80%, particularly for longer-term storage.

⚠ **WARNING:** If the MyoPro 2x is not intended to be used within one month, remove the battery from the battery compartment.

⇒ **NOTE:** Even if it is in storage, the battery should be recharged every 6 months.

DISCARDING THE MYOPRO 2x

⚠ **WARNING:** Do not incinerate the battery.



Contact your Provider to facilitate proper disposal or recycling.

SEE TECHNICAL SPECIFICATIONS & DEVICE MARKINGS FOR ADDITIONAL INFORMATION.

AVOIDING DAMAGE TO THE MYOPRO 2x

The MyoPro 2x is designed to facilitate voluntary movements. It can be damaged by excessive force, either from a user forcibly moving the motor too hard, or if something (such as the arm of a chair) restricts the MyoPro 2x's movement as it is trying to assist the User.

⚠ **CAUTION:** Excess force applied to rotate the motors in either direction will permanently damage the motors.

➡ **NOTE:** If you move the elbow or grasp motors to change the orthosis's position when it is in Standby mode or off, do so as gently as possible, with minimal force.

➡ **NOTE:** Stall Detection Feature:

If the MyoPro 2x's motor gets stuck, for example, by a user's strength or by the arm of a chair, the motor will momentarily shut off. The user would feel that the MyoPro 2x stops trying to move the user's arm. The device will stop responding to EMG signal and the motor will be able to move passively (as if the device were turned off). This feature prevents the motor from overheating and drawing excessive power from battery when the motor's movement is restricted. The user should relax and try to reposition the MyoPro 2x away from any interfering objects. The motor will restart on its own, and the device will once again be listening for the user's EMG signal to direct it.

MYOPRO 2x ERROR

⚠ CAUTION: If you detect fumes, flames, melting of components around the battery or battery charger, or the device is hot to touch, **TURN THE DEVICE OFF IMMEDIATELY** and contact your Provider.

RECOGNIZING WHEN THE MYOPRO 2x IS EXPERIENCING AN ERROR

When the MyoPro 2x detects an error and initiates an error code, it will not function normally. An electrical or mechanical failure is indicated by the following:

- The Bluetooth light will be flashing (blinking).
- The Power light will be slowly changing color in a repeating pattern – White (which may look Light Blue), Blue, Green, Red, repeat.
- The 4 Mode lights will be turning on and off each time the Power light changes color.

The combination of the Power light color and the 4 mode lights create an **Error Code**. *You do not need to know what the Error Code means; it is intended only for the manufacturer.*

WHAT TO DO ABOUT AN ERROR

1. Turn the MyoPro 2x off.
2. Wait a few moments.
3. Turn the MyoPro 2x back on.
4. Check the control panel lights – are you still seeing an error code? YES or NO?

If NO: continue working with your MyoPro 2x as usual.

If YES, or if the error comes back: contact your Provider, and relay the following information:

When the power button is White , what mode lights are illuminated?	☐ Biceps	☐ Triceps	☐ Close	☐ Open
When the power button is Blue , what mode lights are illuminated?	☐ Biceps	☐ Triceps	☐ Close	☐ Open

When the power button is Green , what mode lights are illuminated?	☐ Biceps ☐ Triceps ☐ Close ☐ Open
When the power button is Red , what mode lights are illuminated?	☐ Biceps ☐ Triceps ☐ Close ☐ Open



Contact your Provider for assistance with a continuing error.

LOCATION OF IDENTIFYING NUMBERS

Elbow Motor Unit

The primary identifying number for each individual MyoPro 2x is located on the back of the battery and electronics case: it is the serial number for the elbow motor.

It is written as “M000” followed by a 3 or 4-digit number.



Charger

The identifying information for the charger is located on the underside of the charger.



Battery

The identity information for the battery is located on the white label near the battery’s “teeth”.



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TECHINICAL SPECIFICATIONS & MARKINGS

TECHNICAL SPECIFICATIONS

⚠ WARNING: The MyoPro 2x is not suitable for use in the presence of flammable anesthetic mixtures with air, or flammable anesthetic mixtures with oxygen or nitrous oxide.

ENVIRONMENTAL REQUIREMENTS

Temperature	MyoPro 2x Device Operating: 0 to 40 °C (32 to 104 °F) Storing: -10 to 60 °C (14 to 140 °F)
Humidity	10% - 90% relative humidity, non-condensing
Atmospheric Pressure	700 hPa to 1060 hPa

POWER ELEMENTS

Electrical Characteristics	
Battery Power Source	External/interchangeable 10.80V 3350mAh 36.20Wh Lithium Ion rechargeable battery pack
Battery Charger	Battery Charger: 20-26VDC / 2.8A max Power Supply: 100-240VAC / 50-60Hz
Internal Clock Memory Battery	Internal 3.0 V 40mAh Lithium Coin battery
Environmental Requirements	
Temperature	Battery Charger Operating: 0 to 40 °C (32 to 104 °F) Storing: -10 to 70 °C (14 to 158 °F) Power Supply Operating: 0 to 40 °C (32 to 104 °F) Storing: -10 to 70 °C (14 to 158 °F) Battery For charge: 0 to +45 °C (32 to 113 °F) For discharge: -20 to +60 °C (-4 to 140 °F) Storage < 1 year: -20 to +20 °C (-4 to 68 °F) Storage < 3 months: -20 to +45 °C (-4 to 113 °F) Storage < 1 month: -20 to +60 °C (-4 to 140 °F)

ELECTROMAGNETIC COMPATIBILITY

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. Only Myomo personnel may inspect or repair mechanical or electrical components of the MyoPro 2x in order to maintain basic safety and essential performance with regard to electromagnetic disturbances. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the User is encouraged to try to correct the interference by one or more of the following measures:

- Re-orient or re-locate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

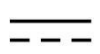
ON-DEVICE MARKINGS

Symbol	Description
	Attention – Refer to the accompanying instructions
	Power “On/Off” (push-push) IEC 60417-5010
	The product should be disposed of according to local guidelines
	Complies with FCC Part B Standards- Medical Equipment
	Safety Tested to 60601-1 3rd Edition as amended 1 and 60601-1-2 electromagnetic disturbances.
	RoHS Compliant
	Applied Part Type BF
	Class II construction, does not require a ground

ADDITIONAL INFORMATION

Symbol	Description
	Keep dry
IP21	Ingress Protection rating 21
 40°C 0°C	Operating Temperature Range: 0 to 40 °C (32 to 104 °F)
 90% 10%	Operating Humidity Range: 10% to 90% non-condensing
 1060 hPa 700 hPa	Operating Atmospheric Pressure Range: 700 hPa to 1060 hPa
	Manufacturer: Myomo Inc.

BATTERY AND CHARGER MARKINGS

Symbol	Description
	General warning sign
	Instructions for use
	For indoor use only
	The battery and battery charger comply to the current regulations of the EU guidelines
	The battery complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
	The product should be disposed of according to local guidelines
 Li-ion	Recycling Symbol
	For USA and Canada: Please call 1-800-822-8837 for information on how to recycle this battery
	Charger RoHs (China)
	Battery RoHs (China)
	DC Voltage
	UN Transportation Test
	UL Recognized for Canadian and US market

TOOLKIT



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CLIENT INFORMATION GUIDE

- MEDICARE SUPPLIER STANDARDS
- CLIENT BILL OF RIGHTS
- CLIENT RESPONSIBILITIES
- HOME SAFETY INFORMATION
- INFECTION CONTROL
- DISASTER PREPAREDNESS
- ADVANCE DIRECTIVES INFORMATION
- CLIENT COMMUNICATION FORM

MEDICARE DMEPOS SUPPLIER STANDARDS

Note: This is an abbreviated version of the supplier standards every Medicare DMEPOS supplier must meet in order to obtain and retain their billing privileges. These standards, in their entirety, are listed in 42 C.F.R. 424.57(c).

1. A supplier must be in compliance with all applicable Federal and State licensure and regulatory requirements.
2. A supplier must provide complete and accurate information on the DMEPOS supplier application. Any changes to this information must be reported to the National Supplier Clearinghouse within 30 days.
3. A supplier must have an authorized individual (whose signature is binding) sign the enrollment application for billing privileges.
4. A supplier must fill orders from its own inventory, or contract with other companies for the purchase of items necessary to fill orders. A supplier may not contract with any entity that is currently excluded from the Medicare program, any State health care programs, or any other Federal procurement or non-procurement programs.
5. A supplier must advise beneficiaries that they may rent or purchase inexpensive or routinely purchased durable medical equipment, and of the purchase option for capped rental equipment.
6. A supplier must notify beneficiaries of warranty coverage and honor all warranties under applicable State law, and repair or replace free of charge Medicare covered items that are under warranty.
7. A supplier must maintain a physical facility on an appropriate site and must maintain a visible sign with posted hours of operation. The location must be accessible to the public and staffed during posted hours of business. The location must be at least 200 square feet and contain space for storing records.
8. A supplier must permit CMS or its agents to conduct on-site inspections to ascertain the supplier's compliance with these standards.
9. A supplier must maintain a primary business telephone listed under the name of the business in a local directory or a toll-free number available through directory assistance. The exclusive use of a beeper, answering machine, answering service or cell phone during posted business hours is prohibited.
10. A supplier must have comprehensive liability insurance in the amount of at least \$300,000 that covers both the supplier's place of business and all customers and employees of the supplier. If the supplier manufactures its own items, this insurance must also cover product liability and completed operations.
11. A supplier is prohibited from direct solicitation to Medicare beneficiaries. For complete details on this prohibition see 42 CFR § 424.57 (c) (11).
12. A supplier is responsible for delivery of and must instruct beneficiaries on the use of Medicare covered items, and maintain proof of delivery and beneficiary instruction.
13. A supplier must answer questions and respond to complaints of beneficiaries and maintain documentation of such contacts.
14. A supplier must maintain and replace at no charge or repair cost either directly, or through a service contract with another company, any Medicare-covered items it has rented to beneficiaries.
15. A supplier must accept returns of substandard (less than full quality for the particular item) or unsuitable items (inappropriate for the beneficiary at the time it was fitted and rented or sold) from beneficiaries.
16. A supplier must disclose these standards to each beneficiary it supplies a Medicare-covered item.
17. A supplier must disclose any person having ownership, financial, or control interest in the supplier.
18. A supplier must not convey or reassign a supplier number, i.e., the supplier may not sell or allow another entity to use its Medicare billing number.
19. A supplier must have a complaint resolution protocol established to address beneficiary complaints that relate to these standards. A record of these complaints must be maintained at the physical facility.
20. Complaint records must include: the name, address, telephone number and health insurance claim number of the beneficiary, a summary of the complaint, and any actions taken to resolve it.
21. A supplier must agree to furnish CMS any information required by the Medicare statute and regulations.
22. All suppliers must be accredited by a CMS-approved accreditation organization in order to receive and retain a supplier billing number. The accreditation must indicate the specific products and services, for which the supplier is accredited in order for the supplier to receive payment for those specific products and services (except for certain exempt pharmaceuticals).
23. All suppliers must notify their accreditation organization when a new DMEPOS location is opened.
24. All supplier locations, whether owned or subcontracted, must meet the DMEPOS quality standards and be separately accredited in order to bill Medicare.
25. All suppliers must disclose upon enrollment all products and services, including the addition of new product lines for which they are seeking accreditation.
26. A supplier must meet the surety bond requirements specified in 42 CFR § 424.57 (d).
27. A supplier must obtain oxygen from a state-licensed oxygen supplier.
28. A supplier must maintain ordering and referring documentation consistent with provisions found in 42 CFR § 424.516(f).
29. A supplier is prohibited from sharing a practice location with other Medicare providers and suppliers.

30. A supplier must remain open to the public for a minimum of 30 hours per week except physicians (as defined in section 1848(j) (3) of the Act) or physical and occupational therapists or a DMEPOS supplier working with custom made orthotics and prosthetics.

CLIENT BILL OF RIGHTS

Myomo feels strongly that all clients deserve care, treatment, and services that safeguard their personal dignity and respect their cultural, psychosocial, and spiritual values. As an individual receiving products and services from Myomo, we will honor your rights. You have the following rights:

- To select those who provide your healthcare products and services.
- To be provided with legitimate identification by any person or persons who enters your residence to provide products and services for you.
- To receive the appropriate or prescribed products and services in a professional manner without discrimination relative to your age, sex, race, religion, ethnic origin, sexual preference or physical or mental handicap.
- To be promptly informed if the requested or prescribed healthcare products and services are not within the scope, mission, or philosophy of Myomo, and therefore be provided with information about an appropriate organization providing such products and/or services.
- To be dealt with and treated with courtesy and respect by each Myomo representative.
- To have your privacy and your property respected at all times.
- To assist in the development and planning of your health care program that is designed to satisfy, as best as possible, your current needs.
- To be provided with adequate information from which you can give your informed consent for the commencement, continuation, transfer to another health care provider, or termination of service.
- To express concerns or grievances or recommend modifications to your equipment without fear of discrimination or reprisal.
- The right to contact HQAA, in the event Myomo does not address your concerns in a timely manner, by US Mail or E-Mail.

HQAA
114 East 4th St., Suite 200
Waterloo, IA 50703
info.hqaa.org/home
- To request and receive complete and up-to-date information relative to the status of your order or inquiry.
- To receive products and services within the scope of your health care plan outlined by your physician, promptly and professionally, while being fully informed as to our organization's policies, procedures and charges.
- To refuse products and services, within the boundaries set by law, and receive information relative to the ramifications or consequences that will or may result due to such refusal.
- To request and receive information regarding products, services, and costs.
- To be involved, as appropriate, in discussions and resolutions of conflicts and ethical issues related to your health care.
- To expect that all information received by Myomo shall be kept confidential and shall not be released without proper authorization.

CLIENT RESPONSIBILITIES

You and Myomo are partners in your healthcare plan. To ensure the finest service possible, you must understand your role and responsibilities in this partnership. As a client, you are responsible for the following:

- To provide Myomo with complete and accurate information regarding your health history.
- To participate in the planning and provision of requested products and/or services by asking questions and expressing concerns.
- To notify Myomo of any major changes in your health status, such as being hospitalized, prior to demonstration or delivery of requested products and services.
- To provide all requested insurance and financial information in relation to the provision of products and services.
- To sign the required consents and releases needed for the provision and insurance billing of requested products and services.
- To follow all recommended Myomo protocols provided at delivery and within the device manual.
- To notify Myomo of any change in your address, telephone number, insurance, and physician.
- To provide a safe home environment in which your products and services can be demonstrated, delivered, or serviced.
- To treat Myomo personnel with respect.
- To notify Myomo when you will NOT be home at the time of a scheduled demonstration, delivery, or service of requested products.
- To notify Myomo when experiencing any problem or difficulty with provided equipment or service.
- To accept the responsibility for any refusal of products and service.

Home Safety Information

As a valued client of Myomo, we are concerned for your personal safety.

Listed below is important educational information regarding home safety:

Home Safety

- Check your home for potential barriers such as excess clutter or blocked hallways and exits that may prevent evacuation during an emergency. Remove these obstacles from doors and hallways to facilitate prompt exit during emergencies.
- Always keep your home secure by locking entry doors and providing adequate outside lighting around your home after dark. Various sources indicate that simply displaying security yard signs and/or window decals can decrease your chances of being burglarized by up to 75%.
- Remove or repair potential hazards that may cause injury or falls such as loose or frayed carpeting and loose or uneven flooring. Also, practice bathroom safety by eliminating hazards such as wet slippery flooring by placing bathroom floor mats and safety strips on the tub or shower floor to prevent slips and/or falls.

Fall Prevention in Your Home

- Clear pathways in the home. Remove items that could cause you to trip over them. Example: papers, books clothes and shoes.
- Remove small throw rugs or use double – sided tape to keep the rugs from slipping.
- Avoid stepping onto or standing on a step stool. Keep items at arm's reach.
- Install grab bars next to your toilet and in your tub or shower.
- Use non-slip mats in the bathrooms and on shower floors.
- Wear shoes both inside and outside of your home, avoid going barefoot or wearing slippers.
- Improve the lighting in your home
- Have your vision checked annually. You may be wearing the wrong glasses or have a medical condition that affects your vision.

Fire Safety

- *Install Smoke Detectors.* Make sure you have at least one working smoke alarm on each level of your home. They should be tested once a month and the battery replaced according to the manufacturer's instruction.
- *Plan Your Escape from Fire.* Prepare ahead for a fire emergency by mapping-out your escape plan. Know two ways out of every room in case fire or smoke blocks one way out. If a member of the household uses a wheelchair, provide at least two accessible emergency exits that are wide enough and equipped with safe ramps if necessary.

- *Keep an Eye on Smokers.* Careless smoking is the leading cause of fire deaths in North America. Refrain from smoking around oxygen and never smoke in bed or when lying down, especially if the smoker is on medication that increases drowsiness.
- *Practice Cooking Safety.* Never leave cooking unattended. Keep flammables, such as potholders, towels, and loose clothing away from cooking areas. Make sure stoves and other cooking areas are clean and free from grease buildup.
- *Check Heating Systems Regularly.* Have heating systems checked annually by a qualified professional. Keep portable heaters and space heaters at least three feet from anything that can burn. Never use the oven to heat a home.
- *Keep Matches and Lighters Away from Children.* Store all matches and lighters in areas where children cannot see or reach them, preferably in a locked cabinet. Teach children that matches and lighters are tools, not toys. Involve them in practicing fire safety, including practicing the use of exits during an emergency.
- *Crawl Low Under Smoke.* During a fire, smoke and poisonous gases rise with the heat. The leading cause of death in a fire is asphyxiation, wherein one suffocates due to the increase of poisonous gases and lack of oxygen and causes loss of consciousness or death within minutes.
- *Stop, Drop and Roll.* If your clothes catch fire: stop where you are, drop to the ground, cover your face with your hands, and roll over and over to smother the flames.
- *Use Electricity Safely.* Have the wiring in your home and appliances checked by a licensed electrician. Do not use electrical appliances with frayed or worn-out cords. Do not overload electrical outlets with several appliances. Avoid running electrical cords under rugs or carpet.
- *Protect Yourself.* Keep fire extinguishers handy around the home. Keep your address and directions to your house next to your phone in case you have to call to report an emergency. In case of fire: Get out of the house immediately; call for emergency assistance; and do not go back into the house for any reason.
- *Oxygen Precautions.* Do not charge your MyoPro batteries near your oxygen concentrator or oxygen tank. Check with your oxygen provider for further precautions.

Infection Control

Avoiding contagious diseases like the common cold, strep throat, and other contagious viruses is important to everyone. Here are some easy things you can do to fight the spread of infection.

Clean Your Hands

- Use soap and warm water. Rub your hands vigorously for at least 20 seconds. Rub your palms, fingernails, in between your fingers, and the back of your hands.
- Or, if your hands do not look dirty, clean them with alcohol-based hand sanitizers. Rub the sanitizer all over your hands, especially under your nails and between your fingers, until your hands are dry.
- Clean your hands before touching or eating food. Clean them after you use the bathroom, take out the trash, change a diaper, visit someone who is ill, or play with a pet.

In the event of an infectious disease pandemic

- Consult Federal, State, and local health guidelines for appropriate precautions to protect your health and the health of others.
- If the disease is spread by airborne transmission (breathing, coughing, speaking, singing), wear an appropriate face mask covering your mouth and nose in the presence of others.
- Minimize unnecessary travel to limit potential disease exposure.
- Keep an appropriate social distance from others and avoid crowded environments.
- If you come in close contact with someone who is infectious, quarantine yourself for the recommended period of time. Consider taking a screening test to confirm if you have become infected.
- If you become infected, isolate yourself to prevent the spread of disease to others for the recommended period of time.

Make sure healthcare providers clean their hands or wear gloves

- Doctors, nurses, dentists and other health care providers encounter lots of bacteria and viruses. Before they treat you, ask if they have cleaned their hands.
- Health care providers should wear clean gloves when they perform tasks such as taking throat cultures, pulling teeth, taking blood, touching wounds or body fluids, and examining your mouth or other parts of the body. Do not be afraid to ask them if they should wear gloves.

Cover your mouth and nose

- Many diseases are spread through sneezes and coughs. When you sneeze or cough, the germs can travel 3 feet or more! Cover your mouth and nose to prevent the spread of infection to others.
- Use tissue! Keep tissues handy at home, at work and in your pocket. Be sure to throw away used tissues and clean your hands after coughing or sneezing.
- If you do not have a tissue, cover your mouth and nose with the bend of your elbow or hands. If you use your hands, clean them right away.

If you are sick, avoid close contact with others

- If you are sick, stay away from other people or stay home. Do not shake hands or touch others.
- When you go for medical treatment, call ahead and ask if there is anything you can do to avoid infecting people in the waiting room.

Get shots to avoid disease and fight the spread of infection

- Make sure that your vaccinations are current – even for adults. Check with your doctor about shots you may need. Vaccinations are available to prevent many diseases.

Disaster Preparedness

Being prepared for emergencies can reduce the fear, panic, and inconvenience that surrounds a disaster.

Check for hazards in the home.

- During and right after a disaster, ordinary items in the home can cause injury or damage. Anything that can move, fall, break or cause fire is a home hazard. Check for items such as bookcases, hanging pictures, or overhead lights that could fall in an earthquake or a flood and block an escape path.

Be ready to evacuate.

- Have a plan for getting out of your home or building (ask your family or friends for assistance, if necessary). Also, plan two evacuation routes because some roads may be closed or blocked in a disaster.

Have disaster supplies on hand.

- Flashlight with extra batteries
- Non-electric can opener
- Portable, battery-operated radio and extra batteries
- Essential medicines
- First aid kit and manual
- Cash and credit cards
- Emergency food and water
- Sturdy shoes

Maintain a list of the following important items and store it with the emergency supplies. Give a copy to another family member and a friend or neighbor.

- Special equipment and supplies, e.g., hearing aid batteries
- Current prescriptions names and dosages
- Names, addresses, and telephone numbers of doctors and pharmacist
- Detailed information about the specifications of your medication regime

Create a self-help network of relatives, friends or co-workers to assist in an emergency.

- If you think you may need assistance in a disaster, discuss your disability with relatives, friends, and co-workers and ask for their help. For example, if you need help moving or require special arrangements to receive emergency messages, make a plan with friends. Make sure they know where you keep emergency supplies. Give a key to a neighbor or friend who may be able to assist you in a disaster.

Contact your local emergency information management office now.

- Many local emergency management offices maintain registers of people with disabilities so they can be located and assisted quickly in a disaster. Check with your local county authorities for information on registration and special needs emergency shelters. Wearing medical alert tags or bracelets to identify your disability may help in case of an emergency. Know the location and availability of more than one facility if you are dependent on a dialysis machine or other life-sustaining equipment or treatment.

If you have a severe speech, language, or hearing loss:

- Use text to 911 service (where available) or telecommunications relay services to contact 911 if needed.
- Store a writing pad and pencils to communicate with others.
- Keep a flashlight handy to signal whereabouts to other people and for illumination to aid in communication.
- Remind friends that you cannot completely hear warnings or emergency instructions. Ask them to be your source of emergency information as it comes over their radio.
- If you have a hearing ear dog, be aware that the dog may become confused or disoriented in an emergency. Store extra food, water and supplies for your dog.

Planning for Evacuation

- Plan in advance of where you will go if an emergency threatens. Listen to the advice of local officials.
- Decide whether it is better to leave the area, stay with a friend or go to a public shelter. Each of these decisions require planning and preparation.

Advance Directive Information

PLANNING FOR IMPORTANT HEALTH CARE DECISIONS

What are advance directives?

"Advance directive" is a general term that refers to your oral and written instructions about your future medical care, in the event you become unable to speak for yourself. Each state regulates the use of advance directives differently. There are two types of advance directives: a living will and a medical power of attorney.

What is a living will?

A living will is a type of advance directive in which you put in writing your wishes about medical treatment should you be unable to communicate at the end of life. Your state law may define when the living will goes into effect and may limit the treatments to which the living will applies. Your right to accept or refuse treatment is protected by constitutional and common law.

What is a medical power of attorney?

A medical power of attorney is a document that enables you to appoint someone you trust to make decisions about your medical care if you cannot make those decisions yourself. This type of advance directive may also be called a "health care proxy" or "appointment of a health care agent." The person you appoint may be called your health care agent, surrogate, attorney-in-fact, or proxy. In many states the person you appoint through a medical power of attorney is authorized to speak for you any time you are unable to make your own medical decisions, not only at the end of life.

Why do I need an advance directive?

Advance directives give you a voice in decisions about your medical care when you are unconscious or too ill to communicate. As long as you are able to express your own decisions, your advance directives will not be used and you can accept or refuse any medical treatment. But if you become seriously ill, you may lose the ability to participate in decisions about your own treatment.

What laws govern the use of advance directives?

Both federal and state laws govern the use of advance directives. The federal law, the Patient Self-Determination Act, requires health care facilities that receive Medicaid or Medicare funds to inform patients of their rights to execute advance directives. All 50 states and the District of Columbia have laws recognizing the use of advance directives. Please consult your attorney, physician, or clergy for information regarding your state's requirements.

Myomo's policy regarding advance directives.

Myomo has provided you with a Bill of Rights and shall honor those rights. We understand that the information of Advance Directives and/or Living Wills are part of your rights as a patient. Myomo will not assist in the formation of advance directives. We advise you to contact your physician, attorney, or clergy to assist in the formation of such directives.

In a medical emergency, Myomo's policy is to call 911 for medical assistance. Myomo representatives who are currently trained and certified to perform CPR (Cardio-Pulmonary Resuscitation) may provide assistance to the level of their training, education and/or professional experience in the course of performance of duties. Myomo does not assume any responsibility for any injury, temporary or permanent, as a result of assistance provided.

Client Communication Form

Myomo provides the highest quality products and services for our clients. To ensure that our products and services meet your satisfaction, we encourage you to notify us and to describe any concern you may have regarding your care, treatment, service and client safety issues.

Any notifications in this regard will be routed to your MyoCare Coach, who will promptly review it and will make verbal or written communication with you to assure your concern is being addressed.

You can submit your concerns via email or regular mail.

Email: MyoCare@myomo.com

Client Name

Initial Date of Concern

Individual Completing Form

Date of Form Completion

Please describe your concern(s):

Client Signature

Date



Phone: 877.736.9666

Email: MyoCare@myomo.com

Corporate Hours: Monday – Friday (EST) 9:00 am – 5:00 pm

45 Blue Sky Drive, Suite 101
Burlington, MA, 01803

Myomo.com