



USER MANUAL

Sections for all MyoPro 2 Devices



Motion E



Motion W



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.

User Manual – Sections for All MyoPor 2 Devices PN26036 Rev4

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INTRODUCTION

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 2. 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 3 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 2 use that will help optimize performance or help avoid a common issue that new Users may face.

INTENDED USE

The MyoPro 2, 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 2 is indicated for use by adults diagnosed with long term muscle weakness OR partial paralysis.

CONTRAINDICATIONS

The MyoPro 2 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 2 DESCRIPTION

The MyoPro 2 consists of a combination of the following components: a shoulder harness, 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 a shoulder harness (specifically built for the left shoulder or right shoulder, Part Numbers 25781 and 25782, respectively), for added comfort and secure fit of the MyoPro 2. The MyoPro 2 also comes with two interchangeable, lithium-ion battery packs (Part Number 25626) with a separate battery charging dock (Part Number 25687), as well as a laptop (Part Number 1879). 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 2. A carrying bag (Part Number 25881) is provided for transporting and storage of the MyoPro 2.

The MyoPro 2's EMG-control circuit continuously monitors and senses, *but does not stimulate*, the User's muscles. The MyoPro 2 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 2 to assist the User to initiate and complete desired motions.

The MyoPro 2 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 2:

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



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



- ⚠** Do not use the MyoPro 2 to drive an automobile or operate machinery.



- ⚠** Do not sleep while wearing the device



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



- ⚠** The MyoPro 2 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 2; 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 2 is allowed as it may expose other dangers.


- ⚠** If storing the MyoPro 2 for more than one month, remove the battery from the battery compartment.


- ⚠** If at any time during the use of this device, you notices 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 2 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 2 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 2.
- ▲ Use only the battery and battery charger provided with the MyoPro 2.
- ▲ Insert only the battery pack that came with the MyoPro 2 into the MyoPro 2 battery compartment. myomo[®]
my own motion
- ▲ 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 2 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 2. For proper cleaning instructions, see Page 32.
- ▲ Excess force applied to rotate the motors in either direction will permanently damage the motors.
- ▲ The MyoPro 2 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 2 from damage, always use the carrying bag provided with the unit to store or ship the MyoPro 2.

Icon Credits

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

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 2 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.

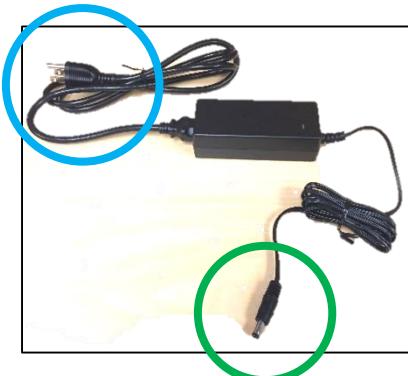


Visual Indicator	One light blinks for 1 second and repeats four times	One light illuminated for 4 seconds	Two lights illuminated for 4 seconds	Three lights illuminated for 4 seconds	Four lights illuminated for 4 seconds
Percent Charge	Less than 10%	10-25%	26-50%	51-75%	76-100%
Icon Display					

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 2.
- ▲ **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 2.
- ▲ **CAUTION:** Do not expose to flame or excessive heat.
- ◎ **NOTE:** Charging time for a battery with <10% capacity is approximately 3 hours.

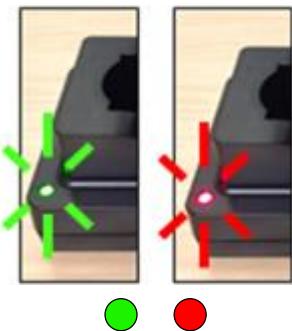
1. Locate the “teeth” on the battery.



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.



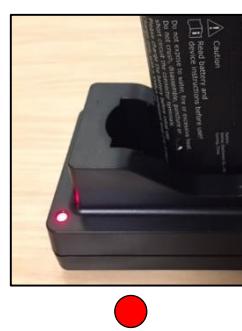
Illuminated ORANGE

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 2'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**.



INSERTING THE BATTERY INTO THE MYOPRO 2

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

To insert a charged battery into the MyoPro 2'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 "Myomo" 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.



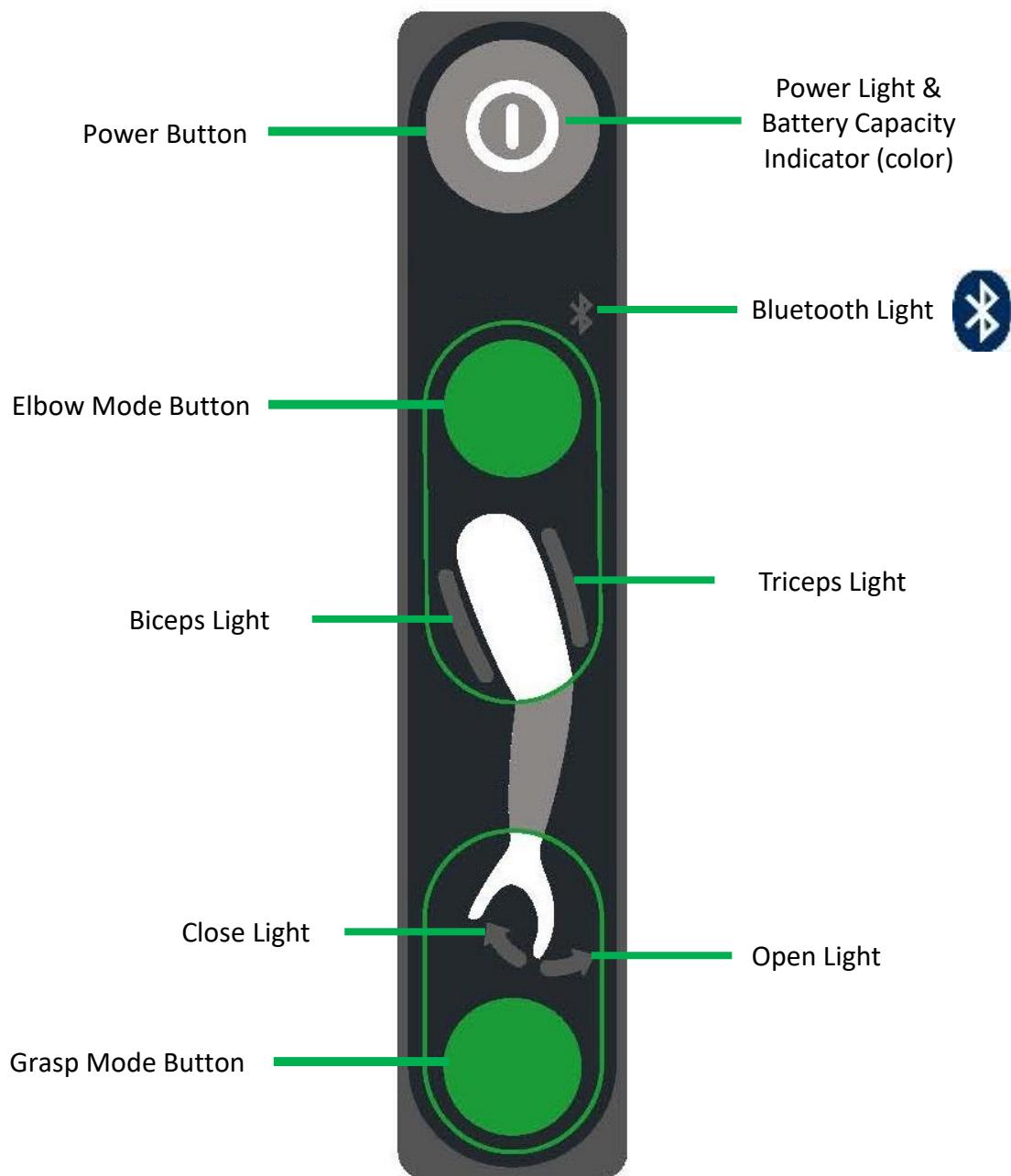
4. Gently insert the battery into the battery compartment.
5. Close the battery compartment.

NOTES ON BATTERY HEALTH

- ⚠ **WARNING:** If storing the MyoPro 2 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.

CONTROL PANEL & SENSITIVITY SETTINGS

CONTROL PANEL BUTTONS & LIGHTS DIAGRAM



CONTROL PANEL LIGHTS, DESCRIBED

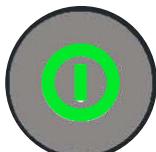
POWER LIGHT & BATTERY CAPACITY INDICATOR COLOR

NOT Illuminated (off)



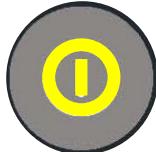
The MyoPro 2 is powered OFF.

Illuminated Green



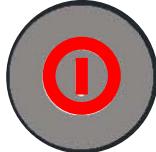
The MyoPro 2 is powered ON.
The battery has greater than 15% charge remaining.

Illuminated Yellow



The MyoPro 2 is powered ON.
The battery has between 15% and 5% charge remaining.

Illuminated Red



The MyoPro 2 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

[The MyoPro 2 is experiencing an error. See Page 36 for instructions.](#)

ⓘ **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 17 for instructions).

BLUETOOTH LIGHT

NOT Illuminated (off)



The MyoPro 2 is not connected to MyConfig.

Illuminated (on)



The MyoPro 2 is connect to MyConfig.

Flashing (blinking)



[The MyoPro 2 is experiencing an Error. See Page 36 for instructions.](#)

HOW TO POWER THE MYOPRO 2 ON AND OFF

- ⚠ **WARNING:** Do not use the MyoPro 2 to drive an automobile or operate machinery.
- ⚠ **WARNING:** The MyoPro 2 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 2; the elbow motor provides at most 5 lbs of lifting assistance.
- ⚠ **CAUTION:** The MyoPro 2 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 2 on once it is correctly and comfortably positioned on your arm. The MyoPro 2 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 2 off of your arm. See your *User Manual Appendix* for further guidelines.

1. Press the Power Button.



2. Observe: When the MyoPro 2 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 2 is ready to use!

POWER OFF

1. Press the power button.



2. Observe: All the lights will stop being illuminated, indicating that the MyoPro 2 has successfully powered off.
- ⌚ **NOTE:** The MyoPro 2 should remain OFF any time the MyoPro 2 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.
Boost	Boost refers to amplification of EMG signal that takes place through the software. The higher the Boost, 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 2 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.

MAINTENANCE
&
TROUBLESHOOTING

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 2 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 2 and consult your Provider.



CLEANING THE MYOPRO 2

Clean the parts of the MyoPro 2 (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 2 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 2 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 2.
- ▲ **CAUTION:** Do not use a hairdryer to dry components of the MyoPro 2.
- ▲ **CAUTION:** Avoid harsh cleaning agents such as bleach and ammonia.
- ◎ **NOTE:** Take care to prevent the buildup of debris. Let the MyoPro 2 completely dry out before putting it on again.

REPAIRING THE MYOPRO 2

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 2. If such a repair is needed, your Provider will send your MyoPro 2 to Myomo, Inc. Myomo will conduct the repair, and send your MyoPro 2 back to your Provider. The estimated turnaround time for repairs of this nature is 1-2 weeks.

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

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

STORING THE MYOPRO 2

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 2.
- ▲ **CAUTION:** Protect the MyoPro 2 from damage, always use the carrying bag provided with the unit to store or transport the MyoPro 2.
- ◎ **NOTE:** Ensure the MyoPro 2 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 2 should be stored...

- In a dry location
- Away from direct sunlight
- In temperatures between 0 to 40 °C (32 to 104°F)
- If the MyoPro 2 is not going to be used for 1 month or longer, remove the battery from the battery compartment

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

- ⚠ **WARNING:** If storing the MyoPro 2 for more than 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 2

- ⚠ **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 2

The MyoPro 2 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 2'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' 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 2's motor gets stuck, for example, by the User's strength or by the arm of a chair, the motor will momentarily shut off. The User would feel that the MyoPro 2 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 2 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.

TROUBLESHOOTING

TROUBLESHOOTING TIPS

For additional clinical or technical questions or issues relating to the device, contact your Provider. If your issues remain unresolved, your Provider may contact Myomo. See Page 3 for contact information.

SYMPTOM	POSSIBLE CAUSE	SOLUTION
Device is behaving erratically/oscillating in a distinct repeating pattern	Inappropriate sensitivity settings	Talk to your Provider to adjust sensitivity settings
	Poor MyoPro 2 fit	Check that cuffs and closures are snug, sensors are sitting flat on the skin, and the MyoPro 2 is aligned correctly on the arm
	Poor sensor conductivity	Check that cuffs and closures are snug, sensors are sitting flat on the skin, and the MyoPro 2 is aligned correctly on the arm
Discomfort	The straps are too tight	Discontinue use and contact your Provider to ensure proper fit
	Poor MyoPro 2 fit	Discontinue use and contact your Provider to ensure proper fit
Device appears to fight or resist your movement	Low battery	Charge battery
	Incorrect MyoPro 2 Use	Contact your Provider to learn correct usage techniques
	Inappropriate sensitivity settings	Talk to your Provider to adjust sensitivity settings.
There is a clicking/grinding sound or frame of device appears “loose” when not in use	There is a mechanical problem	Contact your Provider
Device “locks up” or movement is slow/stiff when in a mode	Low battery	Charge the battery
	Inappropriate sensitivity settings	Talk to your Provider to adjust sensitivity settings.
	Device is in Standby mode	Use the buttons on the Control Panel to change out of Standby mode

MYOPRO 2 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 2 IS EXPERIENCING AN ERROR

When the MyoPro 2 detects and error and initiates and 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 2 off.
2. Wait a few moments.
3. Turn the MyoPro 2 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 2 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?	<input type="checkbox"/> Biceps	<input type="checkbox"/> Triceps	<input type="checkbox"/> Close	<input type="checkbox"/> Open
When the power button is Blue , what mode lights are illuminated?	<input type="checkbox"/> Biceps	<input type="checkbox"/> Triceps	<input type="checkbox"/> Close	<input type="checkbox"/> Open
When the power button is Green , what mode lights are illuminated?	<input type="checkbox"/> Biceps	<input type="checkbox"/> Triceps	<input type="checkbox"/> Close	<input type="checkbox"/> Open
When the power button is Red , what mode lights are illuminated?	<input type="checkbox"/> Biceps	<input type="checkbox"/> Triceps	<input type="checkbox"/> Close	<input type="checkbox"/> 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 2 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".



TECHNICAL
SPECIFICATIONS
&
MARKINGS

TECHNICAL SPECIFICATIONS

⚠️ WARNING: The MyoPro 2 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

MyoPro 2 Device	
Temperature	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 11.25V 2950mAh 33.2Wh 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 2 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
	Operating Temperature Range: 0 to 40 °C (32 to 104 °F)
	Operating Humidity Range: 10% to 90% non-condensing
	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
	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

USER MANUAL APPENDIX C



Specific instructions for your unique MyoPro 2

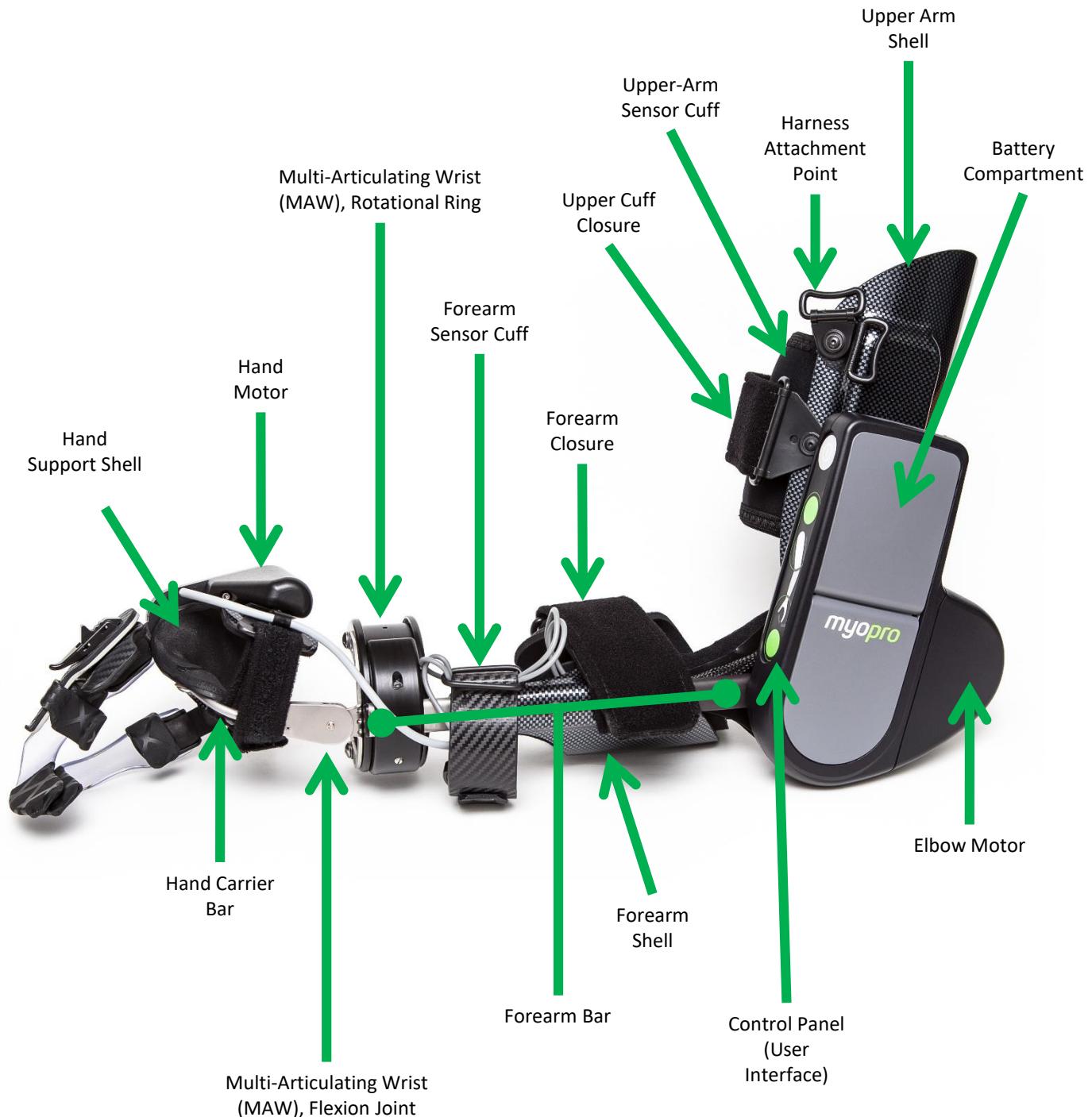


CONTENTS

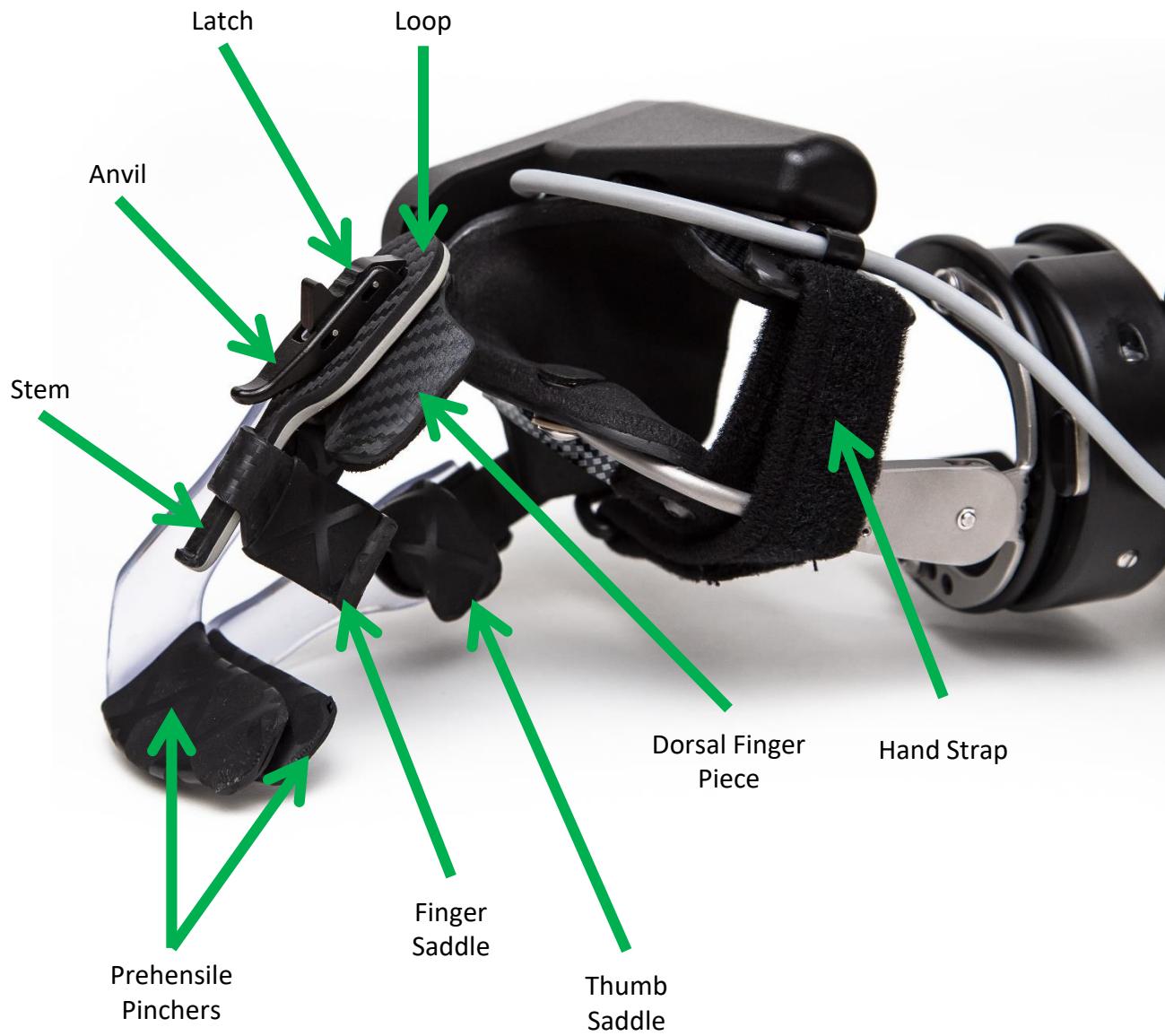
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MYOPRO 2 MOTION G DIAGRAM

Component names and references (not every device includes every component).



FINGER SUPPORT DIAGRAM CLOSE-UP



PUTTING YOUR MYOPRO 2 ON ("DONNING")

PUTTING YOUR MYOPRO 2 ON (“DONNING”)

The following pages include step-by-step instructions for putting the MyoPro 2 on (sometimes referred to as “donning the MyoPro 2”).

WARNINGS REVIEW

BEFORE donning the MyoPro 2, review the warnings below:

- ⚠ **WARNING:** DO NOT expose the MyoPro 2 to flame or excessive heat; personal injury may occur.
- ⚠ **WARNING:** The MyoPro 2 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 2 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 2 upper limb orthosis on the prescribed elbow, wrist and hand joints. Each MyoPro 2 is built specifically for a left arm or a right arm; never wear the MyoPro 2 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 device 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 YOUR MYOPRO 2 ON

1. POWER OFF: While donning, the MyoPro 2 should be turned OFF; check that it is OFF before starting to put the MyoPor on your arm.
 - ⌚ **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 2.
2. PREPARE: Place the MyoPro 2 in your lap, or on a flat surface that is not slippery.
3. HAND: Start with the hand support shell: check that the strap around the hand support shell is loose. Feed your fingers through so the under side of the hand support shell sits in your palm, and your thumb rests in the Thumb Saddle. Be sure the base of your thumb presses against the hard plastic (opposite of the hand strap). Leave the fingers free while you continue to put the rest of the device on – we will secure the finger support as the last step.
 - ⌚ **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.
4. WRIST: Lower your wrist into the multi-articulating wrist (MAW), rotation portion.
5. FOREARM: Lower your forearm into the forearm shell.



6. Secure the Forearm Closure.
7. FINISH LOWER ARM: Tighten and secure the Velcro hand strap. This will keep the MyoPro 2 in place while you continue to don.



STEPS FOR PUTTING YOUR MYOPRO 2 ON, CONTINUED

8. UPPER ARM:



Wrap the Upper Sensor Cuff around your upper arm, keeping attention on the Biceps and Triceps sensors; when the Upper Sensor Cuff is properly fit, the sensors should be centered over the biceps and triceps muscles. Secure the Upper Cuff Closure and pull to tighten before securing the strap's Velcro.

- ⌚ **NOTE:** the sensor with the **BLUE** Velcro goes on biceps, the sensor with the **RED** Velcro goes on triceps.

Upper Sensor Cuff



Upper Cuff Closure



STEPS FOR PUTTING YOUR MYOPRO 2 ON, CONTINUED

9. FOREARM SENSOR: Slide the Forearm Sensor Cuff onto the forearm. Tuck the Forearm Sensor Cuff's Velcro strap under the forearm bar and secure the Velcro.



- ⌚ **NOTE:** The sensor with the **GREEN** Velcro goes on the inner side of the forearm (aligned with the palm), and the sensor with the **YELLOW** Velcro goes on the outer side of the forearm (aligned with the back of the hand).

STEPS FOR PUTTING YOUR MYOPRO 2 ON, CONTINUED

10. HARNESS: Secure the harness:

- Rest the shoulder pad on the shoulder of your MyoPro 2 arm.
- Wrap the strap under your non-MyoPro 2 arm.
- Secure the Quick Release tab.



STEPS FOR PUTTING YOUR MYOPRO 2 ON, CONTINUED

11. FINGER SUPPORT:



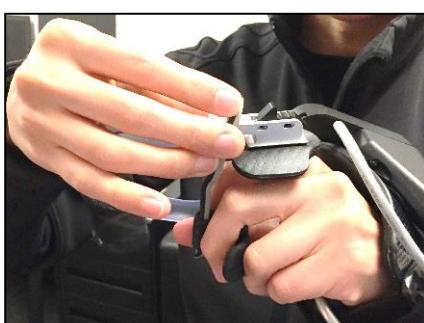
Start with the finger support detached from the Anvil.



Work the Finger Saddle under your fingers while holding the Stem and Loop.



Lift the Stem upward to position the Loop over the Anvil.

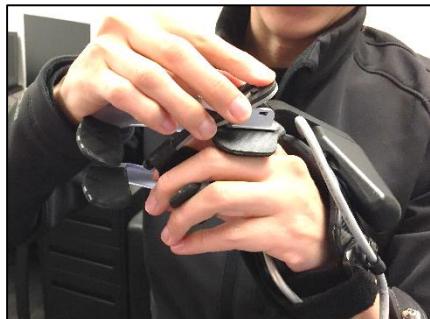


You can hang the Loop from the Anvil to take a break or to reposition your other hand for the next step.



STEPS FOR PUTTING YOUR MYOPRO 2 ON, CONTINUED

11. FINGER SUPPORT, continued:



Continue to guide the loop over the anvil. The instructions below outline two different techniques for this:

TECHNIQUE A



Push down on the end of the Loop to engage the Latch.

TECHNIQUE B



Lift your fingers from underneath the Finger Saddle.

Since the Stem is rigid, this will cause the end of the loop to rotate over the Latch. (You may also push down on the stem for additional leverage.)



Done!

TAKING YOUR MYOPRO 2 OFF ("DOFFING")

TAKING YOUR MYOPRO 2 OFF ("DOFFING")

WARNINGS REVIEW

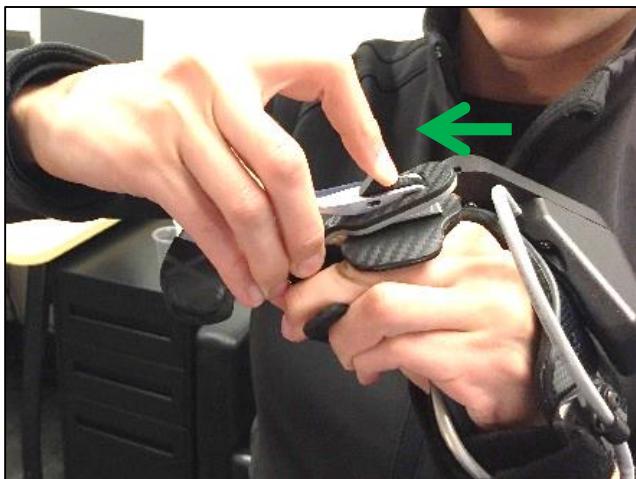
- ⚠ WARNING:** If at any time during the use of this device, you notices any of the following, discontinue use and seek guidance from your Provider.
- Movement does not match the User's desired motion.
 - Persistent redness, swelling, or skin breakdown (bleeding, chafing, etc.)
 - Rash on the arm, hand, or fingers.
 - Pain associated with wearing the MyoPro 2 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 YOUR MYOPRO 2 OFF

1. Turn the MyoPro 2 OFF.
2. Place the MyoPro 2 in your lap, or on a flat surface that is not slippery.
3. Undo the harness Quick Release tab.
4. Release the Finger Support (see Page 17 for images).
5. Loosen the hand strap.
6. Remove the Forearm Sensor Cuff from your forearm.
7. Undo the Upper Cuff Closure.
8. Undo the Forearm Closure.
9. Gently slide your hand back through the loosened hand strap and Hand Support Shell
10. Rest the MyoPro 2 in a clean, dry location to ensure it will fully air-dry before next use.
11. Place the MyoPro 2 into the carrying bag for travel or storage.

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

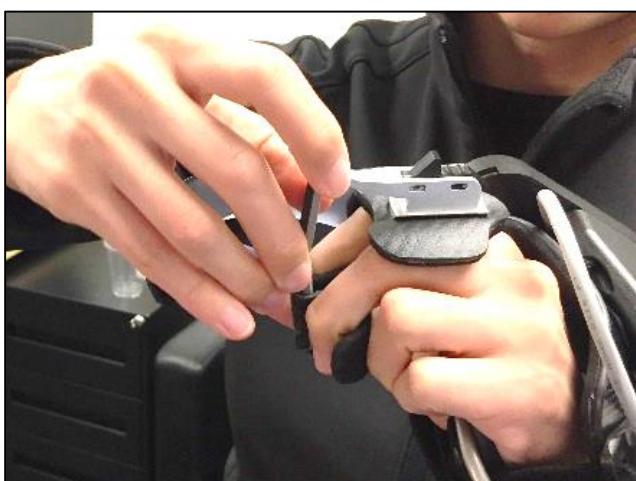
STEPS FOR TAKING YOUR MYOPRO 2 OFF, CONTINUED



Push/pull the slider forward to release the loop.



The loop will slide over the Anvil as soon as it is free.

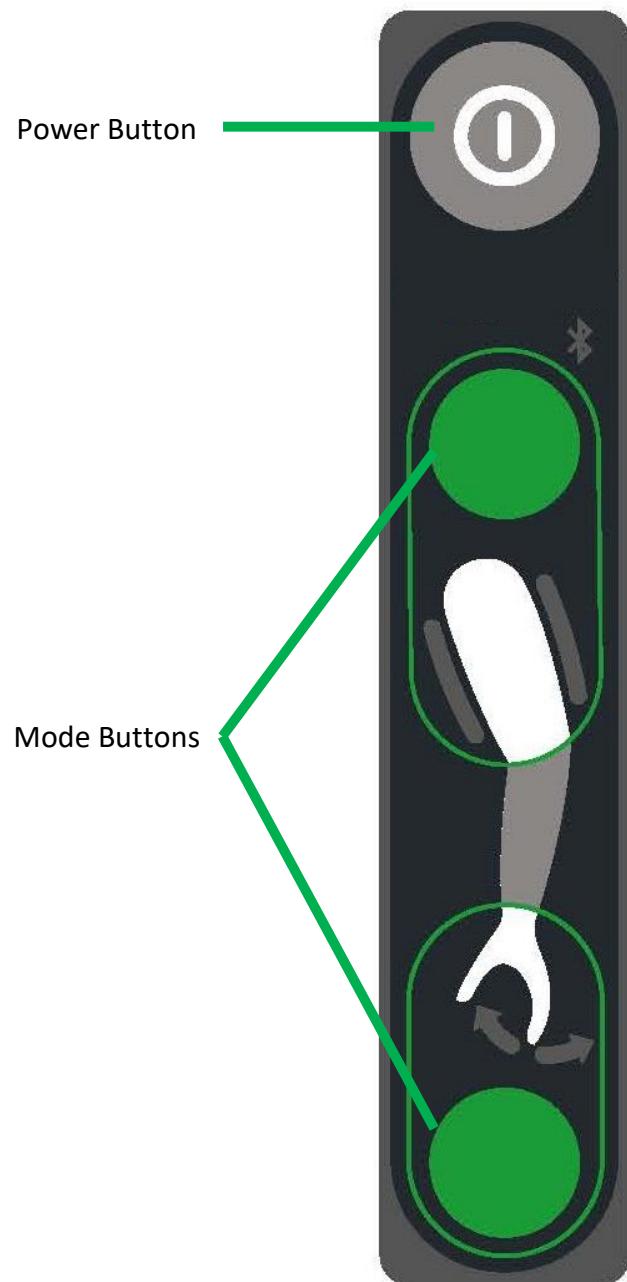


Remove the "W", Stem and Loop from under your fingers and store in the MyoPro 2's carrying bag.

USING YOUR MYOPRO 2

CONTROL PANEL

See the *User Manual – Sections for All MyoPro 2 Devices* 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 2 may be used in a variety of **modes**. The different modes allow you to operate the MyoPro 2 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 2. 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 2 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 2, 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 2 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 2 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	<p>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.</p> <p>Though the MyoPro 2 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.</p> <p>Actions:</p> <ul style="list-style-type: none"> • 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	<p>In this mode, the Biceps Light will be illuminated. The elbow motor will respond to your biceps EMG signal.</p> <p>Actions:</p> <ul style="list-style-type: none"> • When you relaxes your biceps, the device will extend. • When you contracts your biceps, the device will flex. 	

ELBOW MODES, CONTINUED

Triceps mode	<p>In this mode, the Triceps Light will be illuminated. The elbow motor will respond to your triceps EMG signal.</p> <p>Actions:</p> <ul style="list-style-type: none"> • When you relax your triceps, the elbow will flex. • When you contracts your triceps, the elbow will extend. 	
Dual mode	<p>In this mode, both the Biceps and Triceps Light will illuminated. The elbow motor will respond to your biceps <i>and</i> triceps EMG signal.</p> <p>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.</p> <p>You must engage both muscle groups in order for your arm to move in both directions. The MyoPro 2 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.</p> <p>Actions:</p> <ul style="list-style-type: none"> • 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. 	

GRASP MODES

Standby mode	<p>In this mode, neither the Close or Open Light will be illuminated. The grasp motor will not respond to your EMG signal.</p> <p>Though the MyoPro 2 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.</p> <p>Actions:</p> <ul style="list-style-type: none"> • 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	<p>In this mode, the Close Light will be illuminated. The grasp motor will respond to your wrist flexor EMG signal.</p> <p>Actions:</p> <ul style="list-style-type: none"> • When you relax your wrist flexors, the grasp will open. • When you contract your wrist extensors, the grasp will close. 	

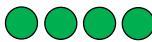
GRASP MODES, CONTINUED

Open mode	<p>In this mode, the Open Light will be illuminated. The grasp motor will respond to your wrist extensor EMG signal.</p> <p>Actions:</p> <ul style="list-style-type: none"> • When you relax your wrist extensors, the grasp will close. • When you contract your wrist extensors, the grasp will open. 	
Dual mode	<p>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.</p> <p>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.</p> <p>You must engage both muscle groups in order for your hand to move in both directions. The MyoPro 2 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.</p> <p>Actions:</p> <ul style="list-style-type: none"> • 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

The elbow mode button cycles through the 4 elbow modes, moving to the next mode each time you press the mode button.

When the MyoPro 2 is turned ON, the elbow will be in Standby mode unless it has been changed by your Provider.

	Press the elbow mode button one time to put the elbow into Biceps mode
	Press the elbow mode button again (a second time) to put the elbow into Triceps mode
	Press the elbow mode button again (a third time) to put the elbow in Dual mode
	Press the elbow mode button again (a fourth time) to return the elbow Standby mode

Repeat the above cycle to scroll through and change to another mode at any point during your MyoPro 2 use.

CHANGING GRASP MODE WITH THE CONTROL PANEL

The grasp mode button cycles through the 4 grasp modes, moving to the next mode each time you press the mode button.

When the MyoPro 2 is turned ON, the grasp will be in Standby mode unless it has been changed by your Provider.

	Press the grasp mode button one time to put the grasp into Close mode
	Press the grasp mode button again (a second time) to put the grasp into Open mode
	Press the grasp mode button again (a third time) to put the grasp in Dual mode
	Press the grasp mode button again (a fourth time) to return the grasp Standby mode

Repeat the above cycle to scroll through and change to another mode at any point during your MyoPro 2 use.