



LuxArm

Shoulder Subluxation Brace &
Arm Support System

Instructional Fitting Guide



IMPORTANT information before you start

We strongly recommend your LuxArm fitting be completed with an occupational therapist. It is imperative for your comfort and the effectiveness of the system that it is properly customized. Please read these fitting instructions thoroughly before using the LuxArm system.

Additional consumer tips can be found on our website

<https://activearmsupports.com/consumer-tips/>

- * *Plan for about 30 minutes for the initial fitting process. Once the customization is complete, daily adjustments for comfort only require a few minutes.*
- * *It is best to fit the LuxArm while sitting edge of bed/mat table to allow for easy access all the way around the belt and forearm piece.*
- * *A second person is recommended to complete the initial fitting process to help with client safety and positioning while making adjustments.*

For questions regarding your LuxArm please contact us at

info@ActiveArmSupports.com

LuxArm is supporting your arm recovery.

Use: LuxArm is intended for complex arm injuries that are due to a stroke/ brain injury, other neurological injury or spinal cord injury. Some possible conditions for use include: upper limb paresis, shoulder subluxation, abnormal tone, edema or arm pain that requires protection and therapeutic positioning at multiple joints to support healing. An occupational therapist is recommended to properly adjust and customize the LuxArm to each user.

Cleaning: Remove all covers and wash on gentle cycle and in cool temperature or wash by hand with mild soap and water. Wring out excess water and hang to dry or tumble dry on low temperature. Replace covers once dry. All other components may be wiped cleaned with an intermediate level disinfectant. All covers can be replaced when worn out, see website for ordering. If using a Clinic Demo Kit clean all fabrics and plastic surfaces with approved facility equipment cleaners between each client.

Warning: LuxArm is a wellness device to support proper joint alignment, to facilitate therapeutic stretch and to mitigate the negative side effects of a complex arm injury. The LuxArm can be worn any time the user is out of bed and as tolerated or as recommended by the therapist/doctor. It is NOT recommended that the belt be worn in bed; however, the forearm component can be separated from the belt and used as a night time wrist/ hand splint as needed. The LuxArm should not be worn in the shower.

Manufacturing Information: LuxArm is made in the USA exclusively for Active Arm Supports at 7481 Hygiene Rd, Longmont, CO 80503.

Customer Support Contact Information: Email: info@ActiveArmSupports.com; Mail: Active Arm Supports, P.O. Box 248, Hygiene, CO 80533; Phone: 303.519.2428

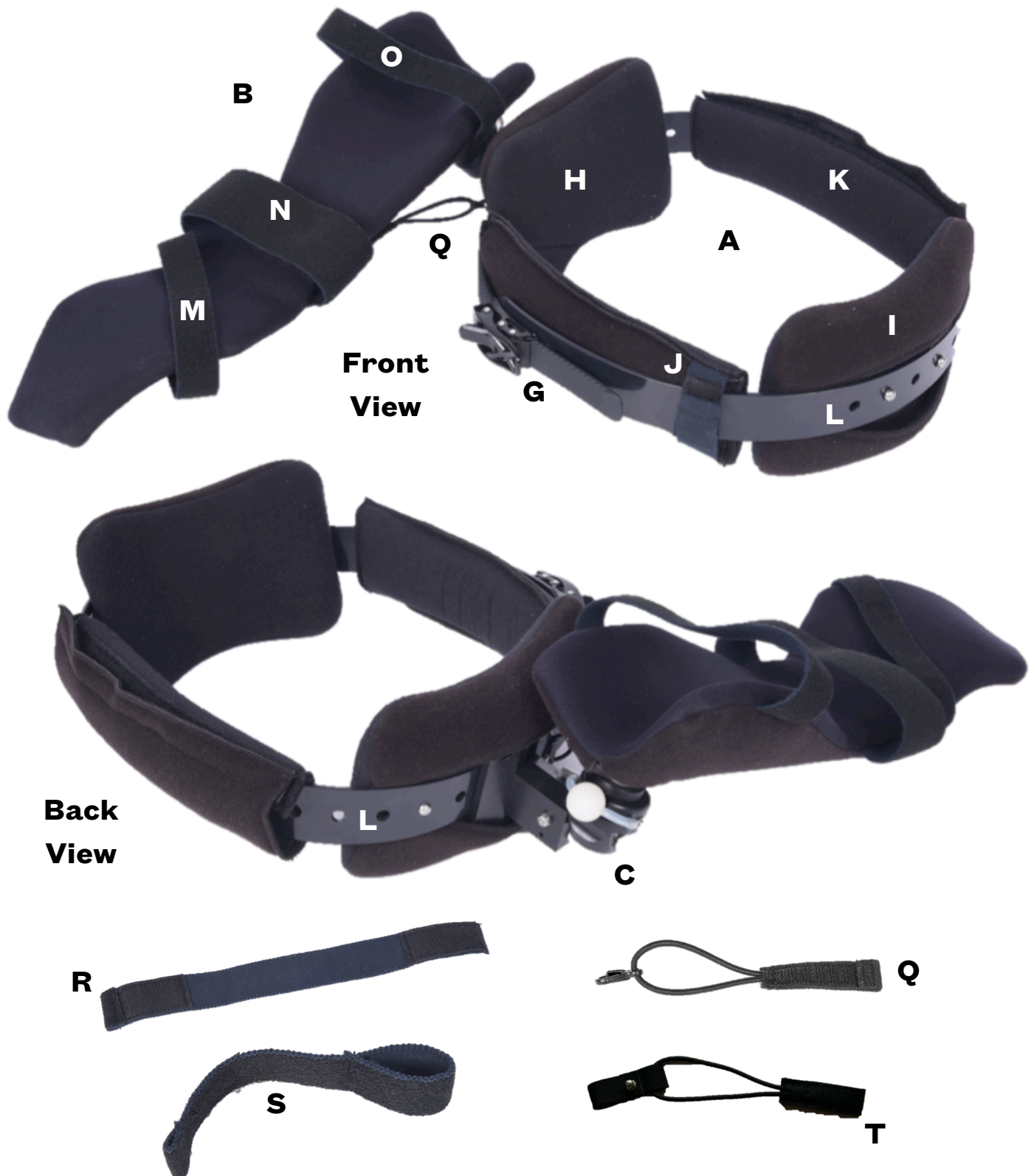




- Provides static protection with dynamic arm support
- Removes neck and shoulder pressure caused by straps
- Reduces shoulder subluxation
- Minimizes pain & improves symmetrical trunk posture
- Positions the arm for visual attention
- Adjusts at wrist and fingers for therapeutic stretching
- Moves at elbow/shoulder in a limited range of motion
- Separates into 2 pieces for nighttime hand splinting or daily exercise goals
- Works in conjunction with other treatment interventions



LuxArm Components



- A. Belt
- B. Forearm Piece
- C. Connection Joint
- D. Rubber Ball Lock
- E. Elbow Locking Latch
- F. Vertical Subluxation Track
- G. Ratchet Buckle/Strap
- H. Affected Side Hip Pad
- I. Unaffected Side Hip Pad

- J. Front Pad with Strap
- K. Back Velcro Pad
- L. Belt Buttons
- M. Dorsal Hand Strap
- N. Wrist Strap
- O. Forearm Strap
- P. Circular Connection Pin

- Q. Velcro-Clip Strap to Limit External Shoulder Rotation (optional)
- R. Elastic Velcro Distal Finger Strap (optional)
- S. Elastic Velcro Loop Thumb Strap (optional)
- T. Button Strap to Increase External Rotation (optional)



Step 1:

Separate Belt & Forearm Piece

- a. Find the connection joint where the belt and the arm piece meet.
- b. Roll the rubberized ball downward to unlock.
- c. Remove the forearm piece by sliding it out of the connection track (push arm piece backwards & lift up).
- d. Reverse these steps to reconnect the forearm piece after the belt has been customized.

Special Note: A static arm gets stiff and tight. The LuxArm allows for some arm movement while in use to support changes in tone and healthy muscle length.

- * The circular pin on the underside of the forearm piece allows for shoulder internal & external rotation.
- * The external rotation of the shoulder can be limited with the optional Velcro-Clip strap while the Button strap can promote external rotation. See page 24.
- * The amount of elbow extension can be limited with the elbow locking latch located on the connection joint. See step 6 for more details.
- * The movement available in the connection joint supports modified ROM exercises as well as volitional movement trials in: shoulder internal/external rotation, elbow flexion/extension and distal arm circumduction.

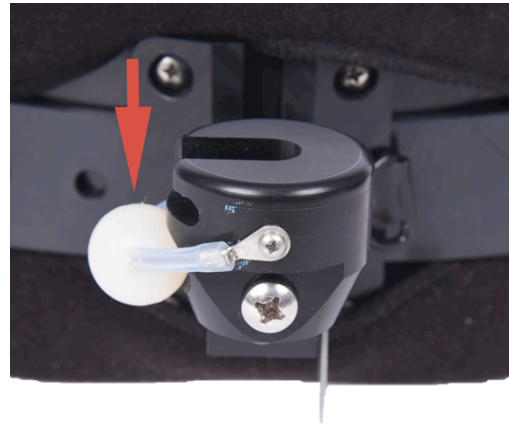




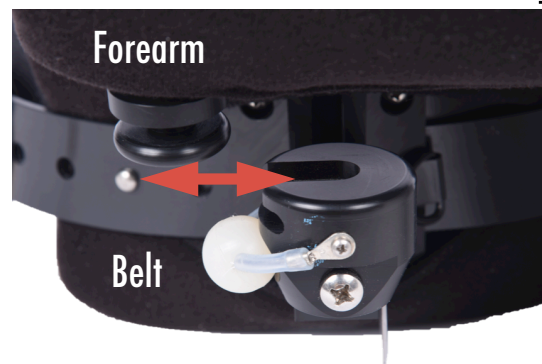
Belt and forearm connection joint



Connection joint - ball closed when up



Connection joint - ball open when down



Unlock/Open the connection joint by moving the ball down, slide the forearm piece towards the back of the belt and lift up to release



Step 2:

Position Buckle & Remove Back Pad

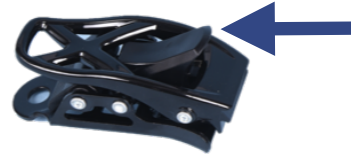
The initial belt fitting will be completed from the BACK of the belt. Once the belt has been customized, daily entry will be through the ratchet buckle located in front.

- a. BEFORE opening the back pad for sizing, make sure the ratchet buckle on the front is connected and set about 2 inches from the tail end (2-3 finger width). This will allow the greatest flexibility of tightening and loosening the belt later on. The ratchet buckle works the same as a ski boot buckle for tightening and loosening.
- b. Next, unVelcro the back pad that wraps around the belt. Take note of which direction the Velcro closes as you will need to put this back on later.
- c. Keep the front ratchet buckle engaged and unsnap the 2 metal buttons found at the back of the belt. Snapping/unsnapping is easiest when the buttons are positioned at a slight angle while going through the hole of the belt.





Lift the long end toward the affected side to tighten



Lift the short end toward the unaffected side to loosen



Position the ratchet buckle about 2" from the tail end of the strap



Remove the back padding by releasing the Velcro to reveal the 2 snap buttons



Unsnap the 2 buttons in back to, but leave front buckle engaged.
Adjust the belt fit to be snug and resnap 2 buttons.



Step 3:

Align Affected Hip Pad & Size Belt

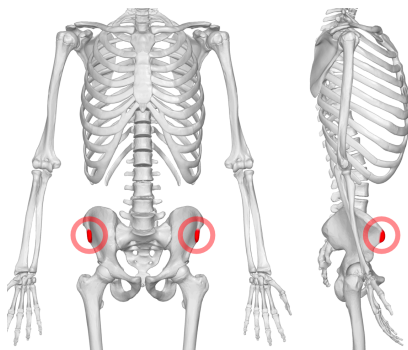
Keeping the front ratchet closed, begin sizing the belt by aligning the **affected** side hip pad over the anterior superior iliac spine. Be sure the consumer has a tall posture and stands (if able to do so safely) in this step.

- a. Align the hip pad on the AFFECTED side at **waist height**. The top-front part of the hip bone should be covered by the pad.
- b. Continue wrapping the belt around the front of the body and around to the back. Be sure to maintain the proper position of the hip pad over the hip while wrapping the belt around the waist.
- c. Finish sizing the belt by overlapping the ends of the belt in the back to create a snug waist fit, then re-snap both buttons. **NOTE: The belt should be SNUG around the waist and buckle should rest near the navel.**
- d. Replace the back Velcro pad over the overlapping belt components with the padded side next to the body. Be sure the pad is oriented so the bottom flap closes **OVER** the top flap to prevent accidentally opening during transfers to/from a stand.

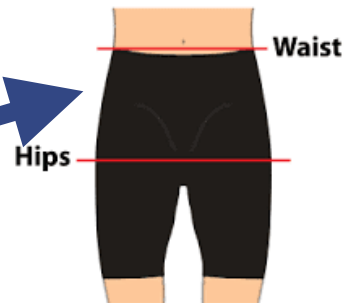


***If the belt is too low you may not get enough lift to correct the shoulder subluxation.**

***If the hip pads are not grabbing your waist (top of your pelvis and slightly anterior), the belt may rotate or pull away from the body more than normal.**



ASIS- Anterior Superior Iliac Spine



Belt sits around waist and on top of hip bones. Hip pads rest slightly anterior to lateral aspect of body



Affected side hip pad with connection joint



Resnap buttons to create a snug fit around the waist and then replace the back pad to cover



Step 4:

Align UNaffected Hip Pad As Needed

Once the belt is sized around the waist, check the comfort and position of the UNaffected hip pad. Padding positioned over the ASIS will increase comfort.

- a. Align the hip pad on the UNAFFECTED side to cover the top-front part of the hip bone. Use the button snap(s) on the hip pad to easily reposition along the belt. Caution, if the pad is hugging the waist and top of the hip bone you may get belt rotation.
- b. Once the belt has been fitted and the 2 hip pads aligned, practice putting on and taking off *just* the belt component using the front ratchet buckle system. Also practice tightening and loosening the ratchet after it is engaged. Many find they are most comfortable loosening the belt 1-2 notches while seated, but need to tighten the belt back up **before** transferring, standing or ambulating in order to provide the most consistent shoulder support.
- c. Future adjustments from the back of the belt only need to occur if there is a significant change in body weight around the waist. Daily management on/off is through the front of the belt with the ratchet buckle.

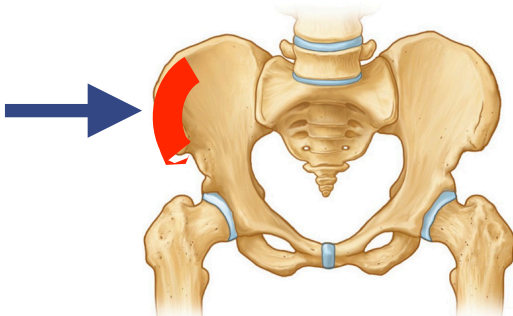


***If the belt is sized correctly, each hip pad should cover the ASIS and the buckle should be near the navel when snug.**

***If the hip pads are aligned but the buckle is off-center, refit the belt from the back buttons then repeat step 4.**



Unaffected hip pad does not have the connection joint. After the belt has been sized, the UNaffected hip pad can be repositioned forward or back along the belt using the two button snaps



ASIS of the hip should be protected by the hip pad



Belt sits around the waist and **hip pad sits slightly anterior and over ASIS**





Special Note:



Putting the Belt On & Taking it Off

Open the elastic Velcro strap on the front belt pad/sleeve only when taking the whole LuxArm on/off.

- a. The side of the belt with the ratchet strap fits into the black pocket of the front pad. UnVelcro the small elastic strap on that front pad when putting on and taking off the LuxArm.
- b. Position the belt around the waist and tighten the ratchet buckle while the Velcro elastic strap is open. Close the small Velcro elastic strap around the tail end of the ratchet strap only AFTER it passes through the buckle.
 - ◆ Leave Velcro strap on the front pad closed for simple tightening and loosening during the day. Reference pictures for more details.
 - ◆ To tighten the ratchet, lift the long end of buckle.
 - ◆ To loosen the ratchet, lift the short end of buckle.

The purpose of the front pad is to provide protection, comfort & to help the overlapping belt parts and ratchet strap stay aligned with each other. This Velcro strap works similar to how a standard belt has a loop that secures the tail end of a belt.

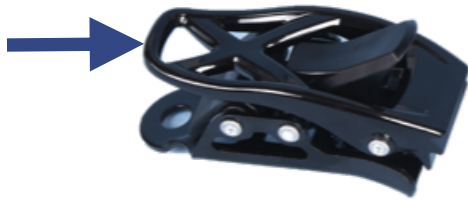




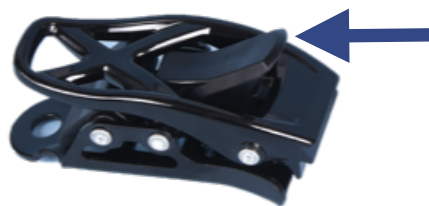
Elastic Velcro strap on front pad- **CLOSED** while tightening and loosening the buckle



Elastic Velcro strap on front pad- **OPEN** for brace management on/off



Lift the long end toward the affected side to tighten



Lift the short end toward the UNaffected side to loosen



Step 5:

Customize the Forearm Component

You are now ready to customize the forearm/hand component. There are numerous positions the fingers and wrist can be bent to fit the needs of your affected arm. The position you choose should be based on pain management needs, therapeutic stretch and proper alignment. An occupational therapist is recommended to help you make these positioning decisions.

Because of the durability of the device, you can re-adjust your forearm, wrist and finger positions any time during your recovery to accommodate your changing arm. We recommend making all custom bends by hand and/or gently using the edge of a table to assist you.

Please note that when the forearm piece is oriented correctly, there will be a black circular pin on the underside near the elbow. See examples of the most common wrist, finger and forearm positions, but use the position that meets your needs.



1. Narrow strap distal to elbow crease
 2. Wide strap proximal to wrist crease
 3. Narrow strap diagonal across back of hand and through web space between thumb and index
- ◆ (Optional thumb and distal finger straps also available)



Note: Avoid crossing any joint with the straps. We recommend a snug and secure fit of the soft elastic straps, but not tight as you don't want to inhibit circulation or create skin irritations. The thumb is often very sensitive and an optional thumb strap is included for more positioning flexibility along with an optional distal finger strap to manage spasticity.



Manage spasticity and provide therapeutic stretch with customized forearm, wrist and finger positions. Limit external shoulder rotation with Velcro-Clip Strap.



Step 6:

Re-Connect the Belt & Forearm Piece

To re-connect the forearm component to the belt, align the pin found on the underside of the forearm piece (near the elbow) to the “U” shaped slot on the connector piece of the belt. After sliding the pin all the way into the slot, gently roll the rubberized ball up to ‘lock’ it into place.



Elbow Latch: There is a locking latch for more customization at the elbow. BEFORE moving the latch to lock/unlock, be sure to lift up the hand to achieve full elbow flexion. This will release the weight of the arm and allow the latch to engage/disengage easily. Move the bottom of the latch toward the body to lock and away from the body to unlock. Gently lower the hand/arm after you feel the latch click into position (avoid dropping the arm suddenly).

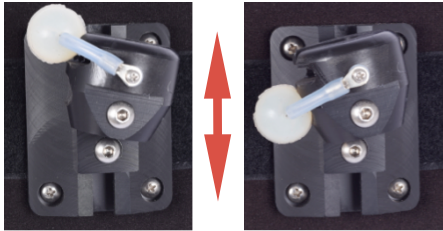
When the elbow latch is locked, it will prevent the elbow from extending beyond ~100 degrees. When the elbow latch is unlocked, it will allow the elbow approximately 60-120 degrees range of motion.

(Interesting fact...Functional range of motion needed at the elbow for eating is 70-130 degrees.)





Note: Olecranon (boney aspect of elbow) should not be resting on the forearm piece, but rather off the end to prevent a pressure point.



Connection joint is closed when the ball is up & **open** when **down**



Insert forearm pin into connection joint and roll ball UP to lock/close



Elbow latch unlocked (move bottom of latch away from the body)



Elbow latch locked (move bottom of latch toward the body)



Elbow latch controls amount of allowable extension (Elbow flexion is never limited)



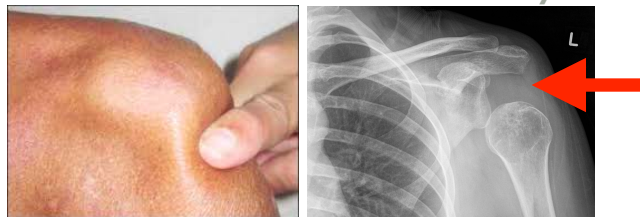
Step 7:

Adjust for Shoulder Subluxation

An **occupational therapist** should help you identify your shoulder subluxation correction needs and assist with this customization step. The adjustment to reduce the shoulder subluxation is made at the connection joint and moves along a vertical sliding track. *(Be sure the forearm piece is reconnected to the belt, the ball is locked/closed, the elbow latch is locked and the arm straps fastened during this step.)*

IF you can see or palpate a shoulder subluxation when the entire LuxArm System is on, then loosen the hex screw and slide the block UP the vertical track to reduce the subluxation. Look for symmetry in the shoulders from a front & back view and re-palpate to verify alignment. Retighten the screw.

IF you notice the affected shoulder is positioned higher than the other shoulder, then loosen the hex screw and slide the block DOWN the track until the shoulders are even. Re-check shoulders for symmetrical height and re-palpate the shoulder to see if the subluxation has been effectively managed.

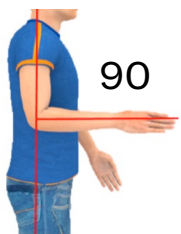


Finger palpation of shoulder subluxation:
adjust connection joint up to reduce

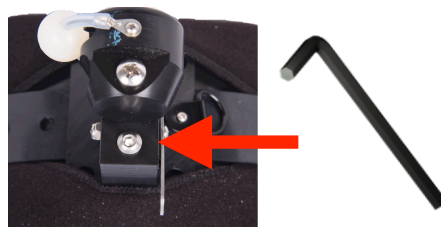




Special Note: Before you adjust for a subluxation, check the **elbow position** from a side view of the body. The elbow should be positioned NEUTRAL or slightly ANTERIOR to the body, but not behind the body. If the elbow is too far back, redo steps 3-4 to move the hip pad forward on the belt. Bringing the elbow slightly forward (i.e. slight shoulder flexion) will help ensure that the humeral head is properly aligned in the glenohumeral joint when you lift the humerus to minimize the subluxation.



Correct arm position while
adjusting for shoulder subluxation
(elbow latch is locked)



Hex screw for shoulder
subluxation adjustment



Vertical Subluxation Track: Approximately 2.5 inches of adjustable range
to reduce a subluxation

IF you cannot palpate a subluxation and the shoulders are of equal height, then there is no need to adjust the vertical track. Your therapist can verify if your shoulder is correctly aligned in the joint.





Optional Accessory Straps

The LuxArm was intentionally designed NOT to hold the arm in a perfectly static position because movement is so important! However, LuxArm understands everyone's needs are different. A variety of accessory straps have been included to customize your experience throughout your recovery. Talk to your therapist about whether the additional straps are necessary for your recovery needs.

1. **Velcro-Clip Strap to Limit External Shoulder Rotation**
 - a. Clip the elastic cord to the D-ring on the belt. Stretch the cord to the underside of the forearm piece near the wrist.
2. **Distal Finger Strap for Spasticity (Double Velcro)**
 - a. Align the strap between MCP & PIP joints or between PIP & DIP joints to hold the distal finger joints in extension.
3. **Loop Thumb Strap for Spasticity (Single Velcro)**
 - a. Place the elastic loop between the IP joints of the thumb and secure the Velcro end under the forearm piece to achieve the desired position.
4. **Button Strap to Promote External Shoulder Rotation**
 - b. Velcro the strap to the underside of the forearm piece near the elbow on the lateral aspect. Stretch the cord to the backwards and snap into available hole in the belt.



Pads & Covers

The belt and forearm pads/covers were designed for the 'real world'. They can be washed following the instructions below or when they wear out you can order replacements at ActiveArmSupports.com.

1. Washing Instructions:

- Zip the forearm cover and adhere all Velcro straps so they don't snag other items in the wash
- COLD water wash on delicate or gentle cycle
- Use a mild detergent like Dreft
- Air dry overnight or tumble dry on LOW heat for 30-60 minutes

2. Putting On the Pads/Covers:

- Slip the arm cover over the the finger end first and pull over frame. Use a small hook(paperclip works well) to zip close the underside and be sure the circular pin is not obstructed. The cover slides on easier when the frame is contoured near the elbow and the wrist region is bent in slight extension.
- Slip the hip pads/covers over the shaped forms on the belt with the padded aspect inward where it will protect the body.
- Check to see that the belt is oriented upright before putting on the front and back pads.
- Wrap the back Velcro cover/pad around the belt where it overlaps and snaps together. Be sure the padding is on the inside (close to the body) and the longer Velcro flap folds up over the shorter flap to adhere.
- The front side of the belt with the ratchet strap slides into the black sleeve/pocket of the front pad with the small elastic strap facing outward. The ratchet strap does not thread into the pocket. The small elastic strap helps hold the belt straps together and should only be opened when putting the LuxArm on/off.

*Congratulations, your **LuxArm** system is ready to support you throughout your rehabilitation!*



Consumer Tips:

The LuxArm is intended to be a wellness device for ergonomic and safe positioning of the arm when it is too impaired to function on its own. Neuromuscular training and rehabilitation is still needed and encouraged to regain functional use of the affected arm. Please follow the range of motion and active exercise programs designed by your therapists to obtain the best recovery results.

Brace on/off & Tightening:

- Sitting at the edge of the bed or on a mat table allows for the best initial fitting and easiest donning of the brace. A second person is typically needed for initial customization and putting on the brace.
- Many people can remove the forearm straps and undo the buckle with one hand, typically a second person is not needed to remove the brace.
- An 8 inch ZipTie can be used with a modified technique by some people to independently put the LuxArm on with one hand. Contact the company for details.
- Customers have reported increased comfort when the belt is loosened 1-2 notches after sitting AND increased support and stability of the belt if it is tightened 1-3 notches prior to standing.

Clothing & Toileting with the LuxArm:

- Elastic waistband pants are best to use with the LuxArm brace. It is also recommended that the brace be worn over a t-shirt to add a layer of protection for your skin.
- Customers have identified that positioning the elastic waistband of their pants over the hip pads rather than under makes it easier to manage pants up/down during toileting so the brace does not have to be removed and the affected arm stays supported throughout the activity of toileting.

Consumer Tips:

LuxArm Wearing:

- The LuxArm should NOT be worn in the shower.
- The LuxArm belt should NOT be worn to bed, however the forearm piece can be separated and used at night as a positioning hand splint.
- If the forearm piece is worn at night, it is suggested that the affected arm be ergonomically positioned on a pillow and elevated while sleeping (if needed for management of edema).
- LuxArm is meant to be worn throughout the day while seated, standing, walking and transferring, but always follow the wearing schedule recommended by your therapist.

General Safety & Maintenance:

- As with any new splint/brace, please do skin inspections when using the LuxArm to be sure you are not getting any pressure points. Adjust the LuxArm with a therapist's assistance if you notice any new red spots that do not go away 20 minutes after removing the device.
- The forearm component of the brace has been purposely designed to quickly and easily separate from the belt for exercises and therapy throughout the day. However, ergonomically positioning the arm between therapy sessions is important for consistent support and management of the shoulder subluxation. Changes in sensation and visual neglect can often lead to further injury of the paretic arm and thus the LuxArm increases safety when worn.
- To better support the transverse arch of the hand, place half of a nerf ball (golf ball size) under the cover in the palm region. Contact the company for more details.
- The brace has been intentionally designed with an open shoulder (no straps) to allow for simultaneous use of e-stim, taping, thermal modalities, topical cream use or other interventions to maximize your recovery needs. Edema gloves can also be worn simultaneously as needed under the forearm straps. The Non-Abrasive Grip Kit from Cat Tongue can be added to the forearm cover for added traction, but it needs to be replaced after each washing.
- If the belt is snug around the high waist as it is intended to be worn, it can also be used as a gait belt for support during transfers and ambulation.
- Spot wash the covers with a mild soap (i.e. Dawn) and water and let dry overnight for small spills. Machine wash covers in cold water on gentle cycle for larger spills and tumble dry on low. Do not machine wash plastic components of belt or forearm, instead clean with sanitizing wipes.



LuxArm positions the entire arm and facilitates your recovery goals with its consistent support during movement, compatibility with other interventions and highly customizable design.



POSITIONING THE ENTIRE PARETIC ARM IN ONE DEVICE

LuxArm

For a FREE fitting consultation, please e-mail us at:
info@activearmsupports.com

Visit our website for other products and accessories that will support your arm recovery goals!

