

# SaeboFlex & SaeboReach Trouble Shooting FAQ



## SaeboFlex

### 1. How do I prevent distal migration?

- Reposition the Forearm Shell so it is proximal to the ulnar head. Make sure the Forearm Straps are tight to limit any distal migration.
- Consider placing ventilated or perforated shelf liner that has been cut into a 2" band and wrap around the wrist. In addition, a wrist sweatband can fill in the additional space.
- Finally, if the Forearm Shell is too large, you may need to re-measure and order a different size.

### 2. How do I know if the Dorsal Hand Piece is in the right position?

Position the distal edge of the Dorsal Hand Piece in relation to the PIP joint of the 3rd finger. If the client exhibits increased tone, move the Hand Piece closer to the PIP joint. With individuals with high tone, position the distal edge of the Dorsal Hand Piece approximately 1/8th inch proximal to the PIP joint of the 3rd digit. For those with less tone, position the distal edge of the Dorsal Hand Piece approximately ¼ inch proximal to the PIP of the third digit.

Remember to not cover the PIP joints of any finger. Additionally, the distal edge of the Dorsal Hand Piece should not make contact with the proximal edge of the Digit Caps. If contact is made, the Hand Piece may push the Digit Caps distal.

### 3. How do I determine the correct angle of pull?

Ideally, the angle of pull should be just behind 90° (approximately 80°). When the finger is passively brought into extension so the dorsum of the finger is close to the underside of the Finger Lead Mount, the crimp can start to come through the hole (but not fully) in the Finger Lead Mount. However, the attachment site on the top of the digit cap should remain distal to the end of the Finger Lead Mount.

### 4. My client is exhibiting hyperextension of the MCP's while in the SaeboFlex. What do I do?

- MCP hyperextension is often eliminated simply by moving the Hand Strap distally to better support the MCP joint. There are three holes below the Hand Strap. Remove the screw on the radial side of the Hand Strap, move the Strap to the distal hole and re-secure.
- Another method to alleviate MCP hyperextension is to place a piece of foam used to build up handles over the proximal phalanges of the digits that are hyperextending. Simply cut enough of the foam tubing to cover the proximal phalanx. Make sure that the foam does not block PIP flexion. This will act as a buttress against the Dorsal Hand Piece and prevent the MCP from hyper-extending.
- If the above two suggestions do not work and the client exhibits moderate to severe soft tissue shortening, you may want to switch the wrist angle to a 15 degree wrist mount.

### 5. How do I position the thumb correctly?

The thumb should be positioned in a combination of palmar abduction and radial abduction ("thumbtation"). It is recommended that the web space be on a complete stretch. If the web space is not on stretch, then rotate the Thumb Lead Mount more until a stretched position is found. You may also need to bend the Thumb Lead Mount to find the adequate position.

### 6. My client's thumb is medially rotating during grasping and the MCP is blanching white. What do I do?

When patient exhibits MCP flexion or dorsal subluxation, it causes the thumb to medially rotate during grasping. If this occurs, consider the following:

- The client's thumb may be in too much opposition or palmar abduction. If this is the case, please rotate the Thumb Lead Mount into more palmar adduction.
- The client may need a Thumb Strap. To properly control MCP flexion or dorsal subluxation, we recommend applying Thumb Strap #1 (refer to course manual).
- If the client's thumb IP joint is very lax, and the above 2 solutions are not effective, contact Saebo to learn how to apply a custom thermoplastic gutter splint to correct the deformity.

### 7. My client exhibits MCP hyper-extension of the thumb. How do I protect it while in the SaeboFlex?

Your patient will require Thumb Strap #2 (refer to course manual). This strapping strategy will provide volar support that will prevent volar gliding in the MCP joint. Please keep in mind that some patients may exhibit severe hypermobility of the thumb and may need to apply both Thumb Strap #1 and #2.

### 8. What if my client's thumb is making contact with the Thumb Lead Mount?

If you have repositioned the Thumb Mount and Thumb Lead Mount proximally, and your client's thumb is still making contact with the Thumb Lead Mount, you will need to bend the Thumb Lead Mount to create more room.

Prior to bending the Thumb Lead Mount, remove the SaeboFlex from your client. Then, loosen the set screw and align the Thumb Lead Mount so it is in a neutral position. Slide the Thumb Lead Mount proximally into the Thumb Mount as far as it can go and resecure. To stabilize, place your thumb onto the Thumb Mount and hold. With your other hand bend the Thumb Lead Mount just a few degrees.

## 9. What do I do if my client's fingers are deviating?

In order to prevent deviation (radial or ulnar), it is recommended that you try the following in the order that they are presented. If the first technique is not successful, move on to the next one in succession.

- Position the Dorsal Hand Piece more distally; this will give you better control over the proximal phalanges. Once the Hand Piece is more distal, please tighten the Hand Strap very securely.
- Position the Finger Lead Mounts closer to a 90° angle of pull. This will provide more control distally.
- Splay the Finger Lead Mounts in the opposite direction of the deviation. Loosen the screw on the Finger Lead Mount and splay ulnarly to reduce radial deviation and radially to reduce ulnar deviation.
- Place a piece of blue foam tubing, used to build up handles, over the proximal phalanges of the digits that are deviating. Simply cut enough of the foam tubing to cover the proximal phalanx. Make sure that the foam does not block the PIP joint. This will provide support for the MCP joints limiting the amount of rotation that occurs. If this does not work, try placing an additional foam ring on the adjacent digit.
- Bi-pull technique (refer to video on training portal).
- Consider a 15° wrist mount.

## 10. What do I do if there is space at the distal end of the Digit Caps?

- Distal migration can cause the Digit Caps to slide off; check the Forearm Shell to see if it has distally migrated. If so, see helpful hints for distal migration in this section.
- The wrong angle of pull can cause the Digit Caps to slide distal. As a reminder regarding angle of pull, as you bring the dorsal aspect of the finger up to the underside of the digit cap, the crimp can start to come through the hole (but not fully) in the Finger Lead Mount. However, the attachment site on the top of the Digit Cap should remain distal to the end of the Finger Lead Mount.
- If the Dorsal Hand Piece is making contact with the proximal end of the Digit Caps, move the Hand Piece proximal.
- Make sure the Digit Caps are the correct size and that the Strap is tightly secured. If the Digit Cap is too small and the finger cannot be fully inserted, order a larger Digit Cap. If the Digit Cap is too large and the finger is loose inside the Cap, pad the roof of the Cap with closed cell adhesive backed foam.

## 11. What do I do if the proximal end of the Digit Cap is lifting off of the finger?

- The size of the Digit Cap may be too large; consider using a smaller sized Digit Cap, but make sure the finger can be inserted fully into the Cap. If smaller-sized Digit Cap does not fit appropriately, then use the current larger Digit Cap and pad the roof with adhesive closed cell foam.

- If the angle of pull is at or past 90°, the Digit Cap can lift off the finger. Check the angle of pull and consider readjusting as needed.
- Make sure the Digit Cap strap is securely fastened.
- If the Dorsal Hand Piece is too far distal, it may make contact with the proximal edge of the Digit Cap causing the Cap to slide distal and lift off the finger.
- The proximal end of the Digit Cap may lift off the finger if the digit cap is too short. A longer Digit Cap that covers most of the middle phalanx will solve the concern. If you are using a C2 or F2, consider a C or F. If you are using an A, try B. Please keep in mind that the Digit Cap should not cover the PIP joint.

## 12. What do I do if the proximal end of the Digit Cap is digging into the middle phalanx of the finger?

If the angle of pull is significantly less than 90° (0–45°), then the angle is too shallow and the Digit Cap will dig into the middle phalanx. Simply loosen the screw on the Finger Lead Mount and move further distal, bringing the angle closer to 80°.

## 13. Only some of the fingers are making contact with the ball during grasping. How do I correct this?

- Shorten the Bead Line of the finger or fingers that are making contact with the ball. This will assist in creating overflow to the fingers not making contact. If this doesn't work, then;
- Lengthen the Beads Lines of the fingers that are not making contact to decrease the tension to these fingers.
- In the beginning, the ulnar digits may not consistently be able to make contact with the ball, which is fine. The fingers are still flexing and the muscle is activating regardless if the ulnar digits contact the ball.

## 14. How can I get my client to grasp the ball consistently?

- Be sure to position the ball on the radial side of the hand when attempting to grasp.
- The thumb must be in contact with the ball prior to squeezing.
- The clinician can facilitate forearm pronation to make sure the thumb and index finger remain in proper position prior to grasp. Many clients have the tendency to supinate and flex their elbow when attempting to squeeze (flexor synergy pattern) so this technique can be valuable for successful grasp and release in the beginning.
- Consider repositioning the traction tabs on the Digit Caps so better contact can be made with the ball or object.
- If the client's grip strength is weak, use less resistive Springs or rubber bands on the fingers or thumb.
- Consider using electrical stimulation in conjunction with the Saebo orthosis.

## 15. My client has a strong over-powering thumb. What can I do to control this?

Sometimes you will encounter a patient that has strong recruitment of thumb (i.e., IP flexion or CMC adduction). When the patient attempts to grasp the ball, he or she will exhibit very little control at the thumb. If you have seen the above, consider attempting to immobilize the joint. By doing this, you can minimize the unnecessary movements that occur during grasping.

### Please try the below steps:

1. Switch to the strongest Spring the patient can tolerate (i.e., blue).
2. Shorten the Bead Line to create more resistance.
3. Apply Thumb Strap #1; please secure the Strap tight.
4. If need be, apply a second Thumb Strap adjacent to the first Strap for extra stabilization.

Please remember the thumb is over powering for a reason. The above are good strategies to allow the patient to perform adequate grasp and release activities. In order to improve the thumb control, you will need to address the problem through agonist retraining exercises and possibly Botox.

## 16. My client just received Botox, and when attempting to grasp, the MCP joints flex, but the PIP joints remain at neutral. How can I get the PIP joints to flex more?

If your client is unable to flex his or her PIP joints following a Botox injection, consider the following:

1. Wrap strapping material (similar to the Digit Cap straps) around the affected proximal phalanges and the Finger Lead Mounts (see Swan neck trouble shooting strategies in the manual). By anchoring the fingers to the Finger Lead Mounts, the MCP joints remain in a neutral position during squeezing, therefore, causing the forces to be translated to the PIP joints instead. This may result in more flexion at the PIP joints.
2. In addition to anchoring the fingers to the Finger Lead Mounts, consider also loosening the Bead Line for the affected fingers so the PIP joints are prepositioned in slight flexion. This will make it easier to flex the digits.
3. Consider using a less resistive Spring or rubber band.

**Note: Botulinum toxin has been used clinically to reduce hypertonicity commonly seen after neurological injury. When also using the Saebo orthosis, it is important to consider the following:**

- The primary muscles responsible for grasping with the Saebo Orthosis include the Flexor Digitorum Superficialis (FDS) and Flexor Pollicis Brevis (FPB). FDS flexes the PIP joints of the fingers, and FPB flexes the MCP joint of the thumb.
- If too much Botox is administered to the FDS or FPB, it may prevent the patient from being able to effectively use the Saebo Orthosis.

## SaeboReach

### 1. What do I do if my client's Above Elbow Cuff is too tight?

- a. If the Cuff appears to be tight, you can stretch it by placing one side on the edge of the table, pull open the other side and push down. Alternatively, consider flattening the above Elbow Cuff on the floor and hold. It is recommended that you hold the stretched position for 45–60 seconds.

### 2. How do I get my client's elbow to fully extend?

- a. Make sure the Elbow Stop is positioned just proximal to the olecranon.
- b. Slide the Outriggers more distal to change the angle of pull on the Tension Cords.
- c. Shorten or tighten the Tension Cords.
- d. Consider electrical stimulation to the triceps.

### 3. How do I prevent the Above Elbow Cuff from rotating?

- a. Make sure the Above Elbow Cuff is centered on the belly of the biceps with the opening anterior on the upper arm.
- b. Apply non-slip material underneath the Cuff to minimize migration.
- c. Decrease the tension on the side of the rotation.
- d. Increase the tension on the side opposite to the rotation.
- e. Use only one Tension Cord instead of two by removing the Cord that is causing the rotation.

### 4. The Tension Cords are making contact with my client's forearm during elbow flexion. How do I correct this?

- a. Confirm that the Above Elbow Cuff is positioned correctly.
- b. Slide the Outriggers in a distal direction.
- c. When the elbow is flexed to 90°, be sure there is a 2" space between the end of the Pulleys and the forearm.
- d. Reposition the Elbow Stop so the distal edge is just proximal to the olecranon when the elbow is extended.