

The *SaeboFlex* and *SaeboReach*: Talking Points

FAST FACTS:

- The *SaeboFlex* and *SaeboReach* were developed by two Occupational Therapists
- Designed as a therapeutic tool to retrain hand and arm function for those with neurological impairments such as stroke and head injuries.
- They are dynamic orthoses that functionally position the weakened wrist/hand/fingers and/or elbow to allow for grasp and release and elbow extension.
- Similar to an Ankle Foot Orthosis which functionally positions a weakened ankle and foot
- The orthotics rely on use of graded springs and tension cords that assist with opening the hand after volitional grasp and extending the elbow after flexing.
- It allows an individual to therefore incorporate the hand for grasping and releasing, and extending the elbow for reaching tasks, during therapy and home activity programs to retrain/regain use of a hemiparetic arm
- Once the individual is fit with the orthosis, it allows them to involve the hand/arm in high repetition/mass practice activities, which stroke research now supports is necessary to regain lost function and influence cortical plasticity in the brain.
- Preliminary research with use of the orthoses have demonstrated improvements in range of motion, strength, decreased tone/spasticity, and increased functional use of the affected limb.

SaeboFlex

- The *SaeboFlex* is:
 - Custom fabricated, wrist hand finger orthosis specifically designed for stroke survivors who exhibit minimal hand function.
 - Specifically, the stroke survivor can usually close their hand (i.e. curl the fingers into a fist) but he or she cannot then open the hand or extend his or her fingers.
 - The *SaeboFlex* orthosis will support the patient's wrist and hand which have been weakened due to a neurological condition (e.g., stroke, TBI, incomplete spinal cord, etc.). The *SaeboFlex* orthosis will allow the patient to use their affected wrist and hand thereby enhancing their ADL performance and promoting functionality.
- The *SaeboFlex* is made up of:
 - A forearm cuff
 - A semi-oval shaped hand piece with 4 metal attachments that mimic the fingers
 - A thumb support that positions the thumb to allow grasp and release
 - A variable resistance spring system for the fingers and thumb that helps the person using the *SaeboFlex* perform functional grasping.

- The *SaebFlex* allows individuals to perform functional grasp and release activities that would otherwise be impossible.
- Stroke survivors use the *SaebFlex* at home and in therapy.
- The *SaebFlex* is not a passive device nor does it have electrical parts. It is volitionally based. Therefore, the patient is required to do 100% of the work.

SaebReach

- The *SaebReach* is:
 - Custom fabricated, elbow wrist hand finger orthosis specifically designed for stroke survivors who exhibit minimal arm and hand function.
 - Specifically, the stroke survivor can usually bend their elbow and close their hand (i.e. curl the fingers into a fist) but he or she cannot then extend their elbow or open the hand.
 - The *SaebReach* orthosis will support the patient's elbow, wrist and hand which have been weakened due to a neurological condition (e.g., stroke, TBI, incomplete spinal cord, etc.). The *SaebReach* orthosis will allow the patient to use their affected elbow, wrist and hand thereby enhancing their ADL performance and promoting functionality.
- The *SaebReach* is made up of:
 - Above elbow cuff
 - Forearm cuff
 - Semi-oval shaped hand piece with 4 metal attachments that mimic the fingers
 - Thumb support that positions the thumb to allow grasp and release
 - Variable resistance elbow extension system that helps the person using the *SaebReach* perform functional reaching
 - Variable resistance spring system for the fingers and thumb that helps the person using the *SaebReach* perform functional grasping.
- The *SaebReach* allows individuals to perform functional grasp and release activities that would otherwise be impossible.
- Stroke survivors use the *SaebReach* at home and in therapy.
- The *SaebReach* is not a passive device nor does it have electrical parts. It is volitionally based. Therefore, the patient is required to do 100% of the work.