

LUKE Arm Training Protocol

Screening Evaluation: Clinical Video Telehealth (CVT) or similar contact between a referring provider and a Military Health System (MHS) designated subject matter expert located at a MHS Advanced Rehabilitation Center. This session will include evaluation, screening specific to LUKE Arm and patient and referring provider education on the LUKE Arm and subsequent training program. If additional services or referrals need to be completed prior to proceeding with the LUKE Arm evaluation, those recommendations will be made during the screening process.

MHS Advanced Rehabilitation Center -based Intensive Training Program

1. **Preparatory Prosthesis Timeline:** 5 day protocol (Typical for MHS beneficiaries that have successfully participated in the DEKA research take home study)

Considerations for additional time needed beyond 5 days:

- Complex prosthesis fittings
- New to the LUKE Arm technology
- Patients with executive function impairment as shown with neurocognitive testing, but are still candidates for the LUKE Arm

Day 1:

- Multidisciplinary clinic team evaluation (60 min)
 - Goal setting for short term stay and long term follow up care
- Prosthetist begins casting and fabrication process
- OT/PT with prosthetist (if possible) begin controls training (2 hours)
 - IMU
 - EMG
 - Pressure sensor/air bladder

Days 2-3:

- Prosthetist begins socket fitting and modifications as appropriate
- OT/PT with prosthetist (if possible) begin virtual reality controls training (2 hours)
 - In sitting
 - In standing

Days 3-4:

- Live training with LUKE Arm on in clinic and with mannequin if available (3 hours)
 - Optimizing controls
 - Utilizing different grips

Day 5:

- Begin training with patient wearing the LUKE Arm (3 hours). Training does not have to be consecutive hours, and if patient cannot tolerate LUKE Arm for entire time period adjunct rehabilitation and training will occur.
 - donning/doffing the device
 - therapeutic activities

- therapeutic exercise
- ADL training
- Prosthetic training

2. Definitive Prosthesis Fabrication Timeline: 5-7 days

Considerations greater than 1 week until next fitting:

- Patient's schedule does not permit return on accelerated schedule
- Socket fabrication has complexity beyond typical upper limb prosthetic socket
- 3rd party is needed to assist with LUKE Arm configuration/repair

3. Definitive Prosthesis Fitting and Delivery Timeline: 2-5 days, or until discharge criteria is met

Considerations for stay of longer than 2 days:

- Patients new to the LUKE Arm technology
- Complex prosthesis fittings may have needs for multiple modifications
- Patients that need continued control training
- Patients with executive function impairment as shown with neurocognitive testing, but are still candidates for the LUKE Arm

Discharge Evaluation to be done on final day of training with definitive prosthesis

Patient is able to:

1. don and doff the prosthesis with or without caregiver assistance
2. have control mastery to safely use the arm without risk to oneself or any other individual
3. safely store the prosthesis when not in use
4. charge the prosthesis
5. understand the safety rules of using the device
6. exercise sound judgement
7. tolerate weight of prosthesis
8. have a proper fitting socket/harness

If patient is unable to achieve the above items, the amputation care team will meet with the patient and determine a plan of care.

Discharge Planning and Follow-up Care

- Refer to the Outcome Assessment and Program Evaluation Guidelines for recommended follow-up outcome measures and monitoring timeline.
- Shipping of prosthesis to be done by MHS Advanced Rehabilitation Center (if needed)
- Follow up training to be scheduled at local facility for patient 2-3 times per week until goals have been achieved and/or patients function is optimized

- Initial sessions to be done via clinical video telehealth with occupational or physical therapist at the MHS Advanced Rehabilitation Center, with the site prosthetist as needed, until local facility staff is comfortable with continuation of care
- Prosthetic management will also be done via clinical video telehealth as appropriate
- Repairs will be handled by shipping the LUKE Arm to the fitting prosthetist or Mobius Bionics