

Armeo®Power

CLINICAL TROUBLESHOOT DOCUMENT

PROBLEM:

**THE ORTHOSIS MOVES UP TOO FAST
AFTER THE “DEVICE SETTINGS” SCREEN.**



- **Solution 1:** Check that the **height** and **weight** of your patient are correctly set in the patient's profile: since these values determine the estimated weight of the arm, they influence the amount of arm weight support provided.
- **Solution 2:** Check the **orthosis segment lengths** in the “DEVICE SETTINGS” screen. If in the software the segments are set longer than their real length, the orthosis weight compensation will be higher than required.
- **Solution 3:** Decrease the **arm weight support** percentage in the “ARM WEIGHT SUPPORT SETTINGS” screen.

As precaution, you can position the arm of the patient at roughly 45° of shoulder flexion before moving to the “SAFETY ZONES”. Additionally, you can hold your hand on the device to slow down the upward movement.

PROBLEM:**THE PATIENT'S ARM IS STUCK IN A POSITION AND ALL THE JOINTS ARE BLOCKED.**

This behavior may be due to constraints such as the safety zones or the joint limits set with A-ROM.

Solution:

1. **Pause** the exercise (either pausing on the screen or pressing the red button of the Telestop).
2. **Move** the patient arm away from the position where it got stuck;
3. **Continue** the exercise (click "Play" on the screen or press the acknowledge button of the Telestop).
4. If the issue persists, open the Training Region Editor and **adapt the training region**. If the locking happens at one of the edges of the workspace, you can try to reduce the training region on that side. Alternatively, click "Set by tracking" and move the patient's arm in areas which are easily reached. Save and continue playing.

PROBLEM:**THE PATIENT'S ARM "BOUNCES" AGAINST A VIRTUAL WALL WHILE ATTEMPTING TO REACH A TARGET AND THE SAFETY ZONE WARNING APPEARS.**

The arm hits the safety zones and the device does not allow trespassing, hence it feels like the patient's movement is blocked.

- **1D exercises:** pause the exercise and reposition the patient's arm so that the orthosis does not hit the safety zone while performing the movements required by the exercise. Then continue with the exercise.
- **2D/3D exercises:** go to the Training Region Editor and reduce the area on the side that is conflicting with the safety zone, by moving the black arrow.
- **Safety Zones may be too broad:** reset these as close as possible to the body, without touching, in order not to "cut out" a too large chunk of the workspace (see QRG).

PROBLEM:

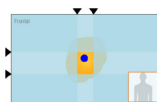
THE EXERCISE ONLY SHOWS A FEW ITEMS OR THE EXERCISE SKIPS LEVELS.



- **Solution 1:** Adjust the training region such that there is more overlap with the workspace. If not possible:
- **Solution 2:** redo the AROM and AMOVE assessments in “Passive” mode.
- **Solution 3:** reset the Safety Zones as close as possible to the body, without touching, in order not to “cut out” a too large chunk of the workspace (see QRG).

PROBLEM:

IT IS NOT POSSIBLE TO EXTEND THE TRAINING REGION TO SOME AREAS OF THE WORKSPACE.



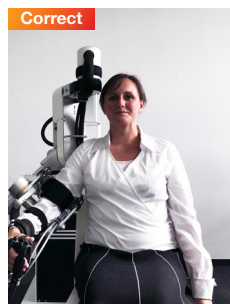
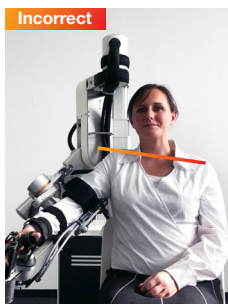
This is due to the exercise architecture. Some exercises require that the training region falls 100% within the workspace (i.e. “Inner Box”, no white space in any of the planes) – see also the Table “Exercise Architecture” on the Hocoma Knowledge Platform or in the Exercise Supplement. For these exercises, the software automatically selects the rectangle (2D) or cube (3D) with the largest possible volume that can be found within the patient’s workspace. As a result, enlarging the default training region is not possible without first creating a larger workspace (larger AMOVE).

- The following exercises use the “Inner Box” for the target placement:
 - Save the Monster
 - Treasure Island
 - Helicopter Rescue
 - Painting
 - Trace It!
 - Connect the Dots
 - Farmer
 - Plumber

PROBLEM: ONE SHOULDER IS HIGHER THAN THE OTHER.

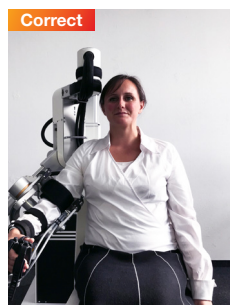
Possible reason 1: The orthosis is set too high for the patient. The reference line on the robotic shoulder is set higher than the head of the humerus and the shoulder is lifted up.

Solution: lower the orthosis with the remote control.



Possible reason 2: The upper arm length is too short for the patient. The elbow is correctly aligned but the shoulder is lifted up.

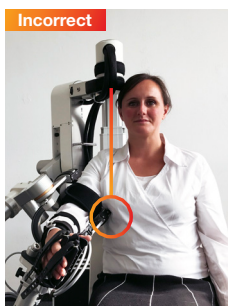
Solution: slide the arm of the patient in the orthosis to properly align the shoulder and set the upper arm segment longer. Check the alignment of the elbow.



PROBLEM: THE ORTHOSIS TOUCHES THE PATIENT'S TRUNK.

The orthosis is too close to the body. The robotic shoulder joint is not aligned with the acromion and the ring is in contact with the chest of the patient.

Solution: Move the orthosis away from the patient until the robotic shoulder joint is aligned with the acromion.



This troubleshoot document is not meant to replace the user manual. In the case of doubt regarding any information presented herein, please refer to the user manual. All users must read the user manual before using the ArmeoPower. It is strongly recommended that you regularly consult Hocoma's website (www.hocoma.com/legalnotes) for the latest available information. Please contact service@hocoma.com for technical and clinical.applications@hocoma.com for clinical requests.