Joint Assembly NEURO CLASSIC Carbon, NEURO LOCK Carbon

This online tutorial shows the joint assembly of our water-resistant system knee joints:

- NEURO CLASSIC Carbon
- NEURO LOCK Carbon

The NEURO LOCK Carbon is a water-resistant system knee joint and especially light thanks to its carbon fibre reinforced joint case. Corresponding materials such as primer and 2-component adhesive as well as their usage are shown in this online tutorial step by step.

You will find further information on the system joints in the instructions for use.

Note:
Due to constructional differences, the joint assembly of the NEURO LOCK Carbon slightly differs from the NEURO CLASSIC Carbon joint assembly. In contrast to the locked system knee joint, the NEURO CLASSIC Carbon is a free moving system joint that can be used as supporting joint for the NEURO LOCK Carbon at a bilateral orthotic treatment.

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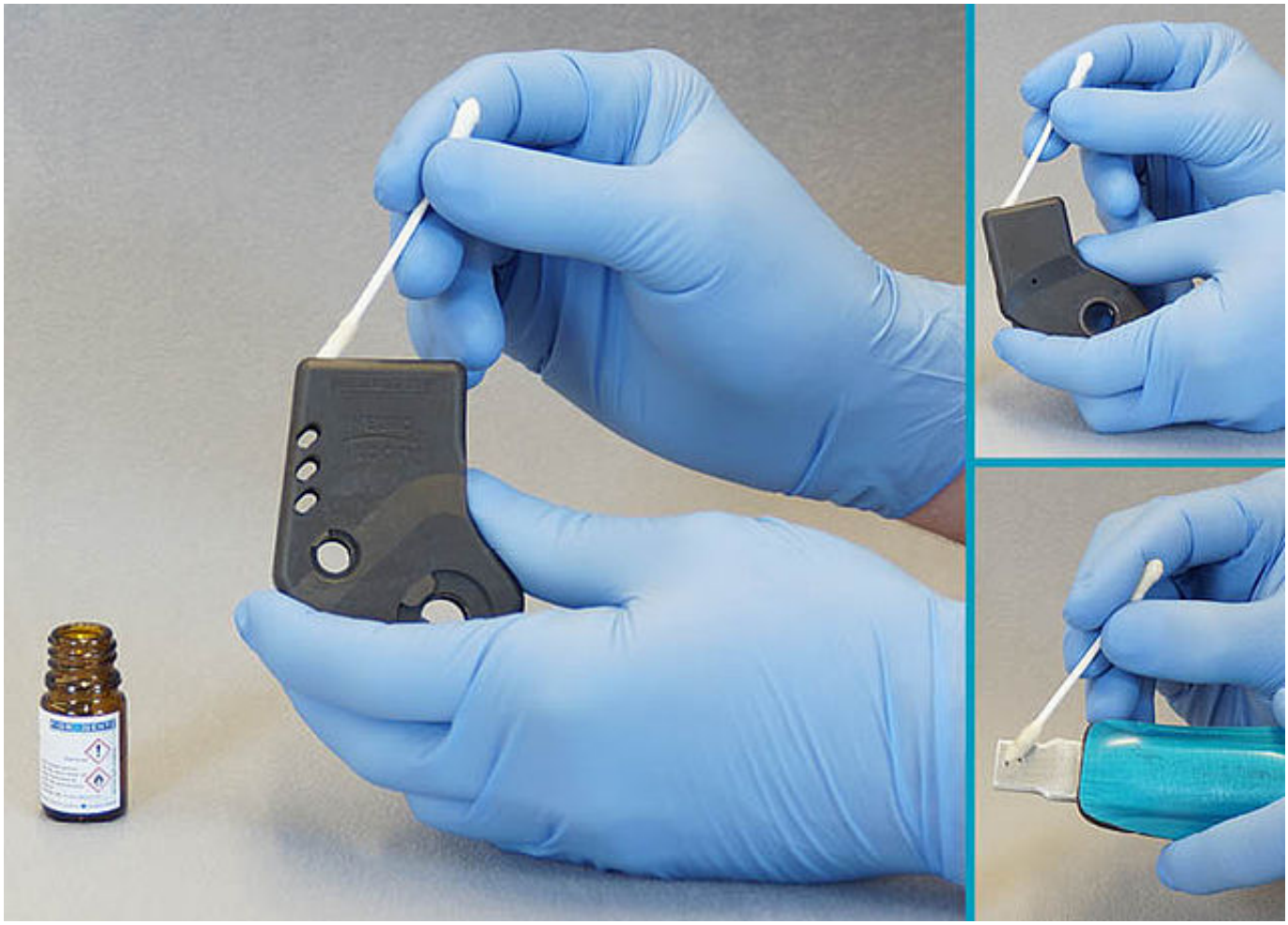
Step 1/26

Clean the system joint and all screw drives (e.g. with LOCTITE® 7063 Super Clean) in order for the screws to be effectively fixed later on.
Note: mind the safety data sheet *when using the Super Clean LOCTITE® 7063.*



Use the delivered cotton swab and apply some primer to the adhesive surfaces in the joint's upper part for the system anchor as well as to the system anchor.

Allow the primer to flash off completely.

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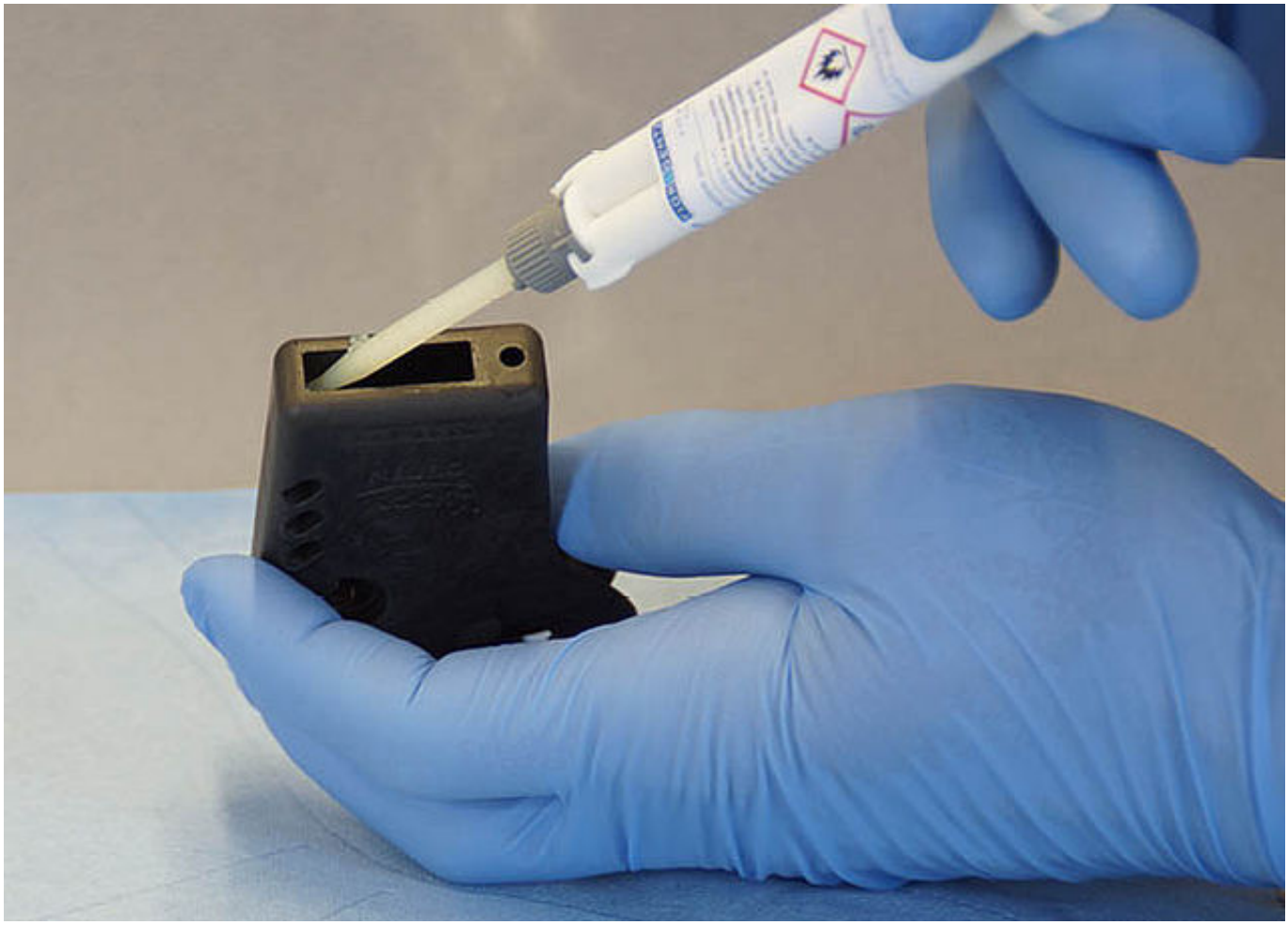

Inject a sufficient amount of the 2-component adhesive in the joint's upper part using the delivered dual-chamber syringe.
Note: mind the safety data sheet *when using the 2-component adhesive.*

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Immediately stick the system anchor as far as possible into the joint's upper part.

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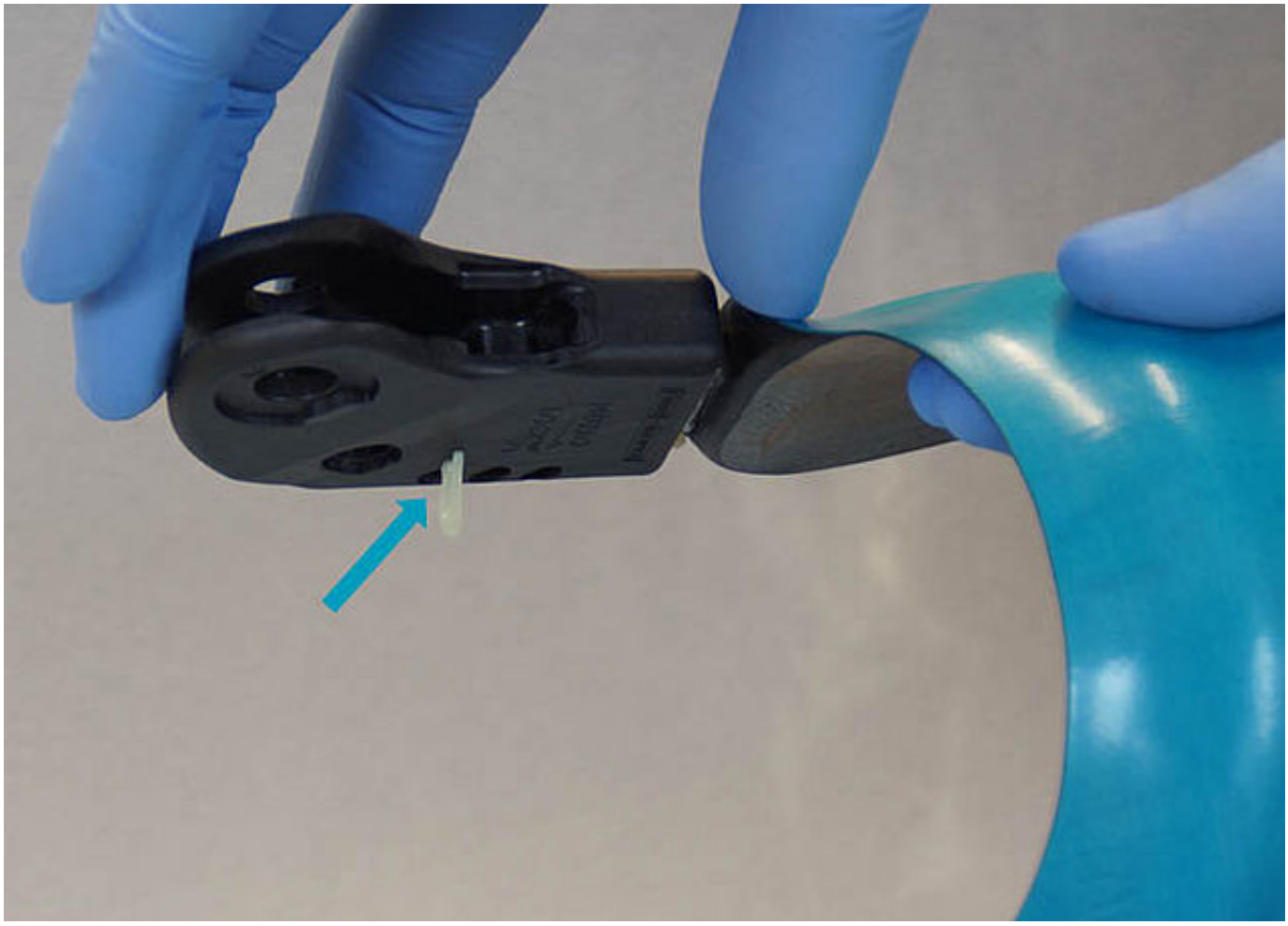

Hold the joint's upper part in such a way that the surplus adhesive can run out of one side.

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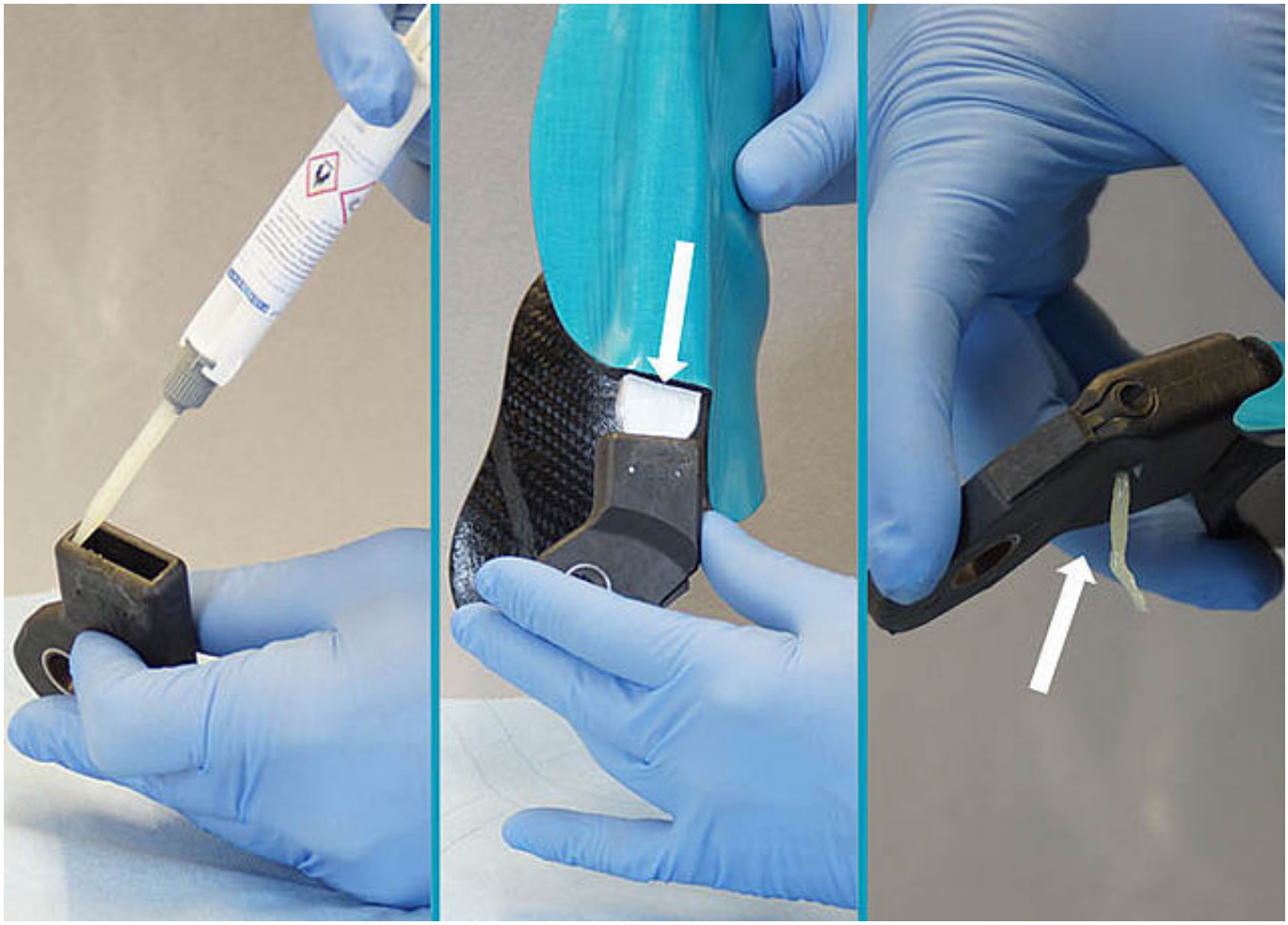

Repeat the previous work steps for the joint's lower part.

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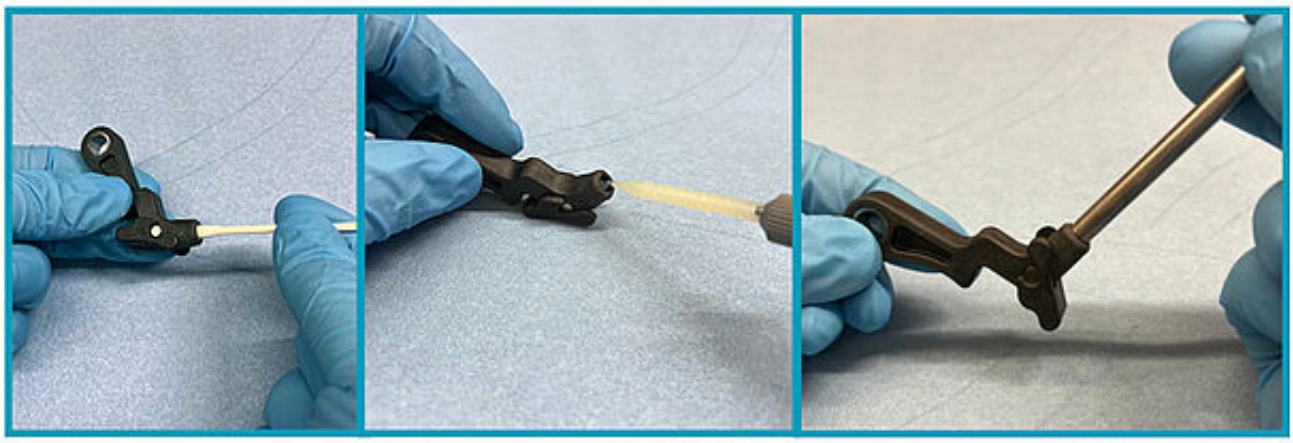

Repeat the previous work steps in order to adhere the lever extension to the locking pawl.

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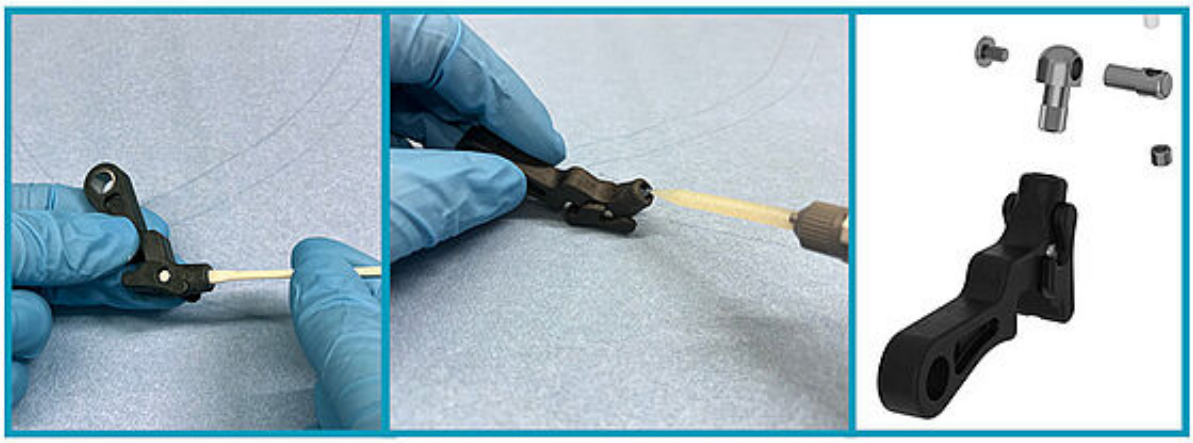

Repeat the previous work steps in order to adhere the pulling cable adaptor to the locking pawl.

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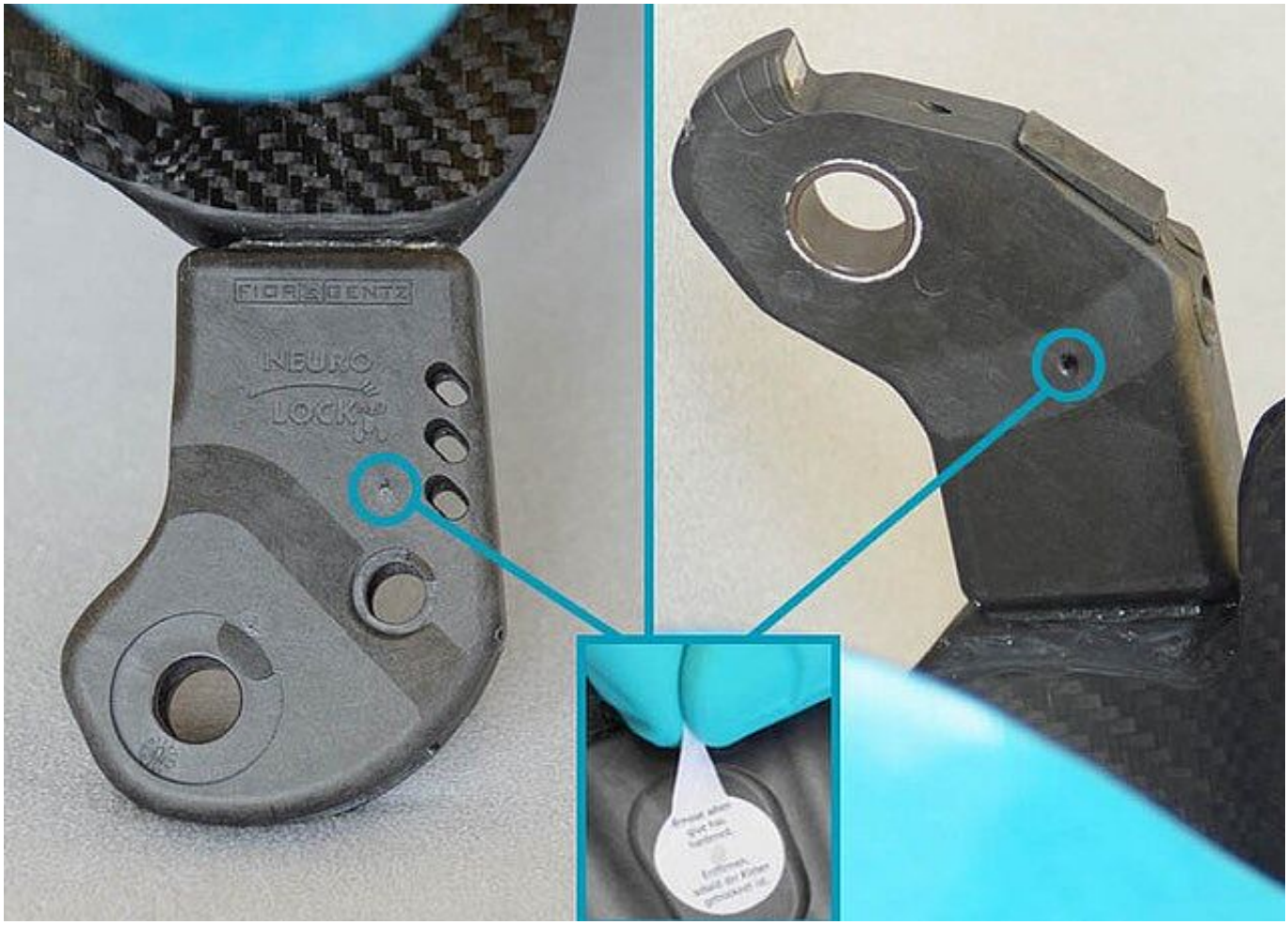

Surplus adhesive accumulates on a sticker on the joint's upper and lower part. Remove the removable stickers as well as possible adhesive residues. Let the adhesive harden at about 23°C room temperature for about 24 hours until the final strength is reached.

Note: the lower the temperature, the longer the adhesive needs to harden.

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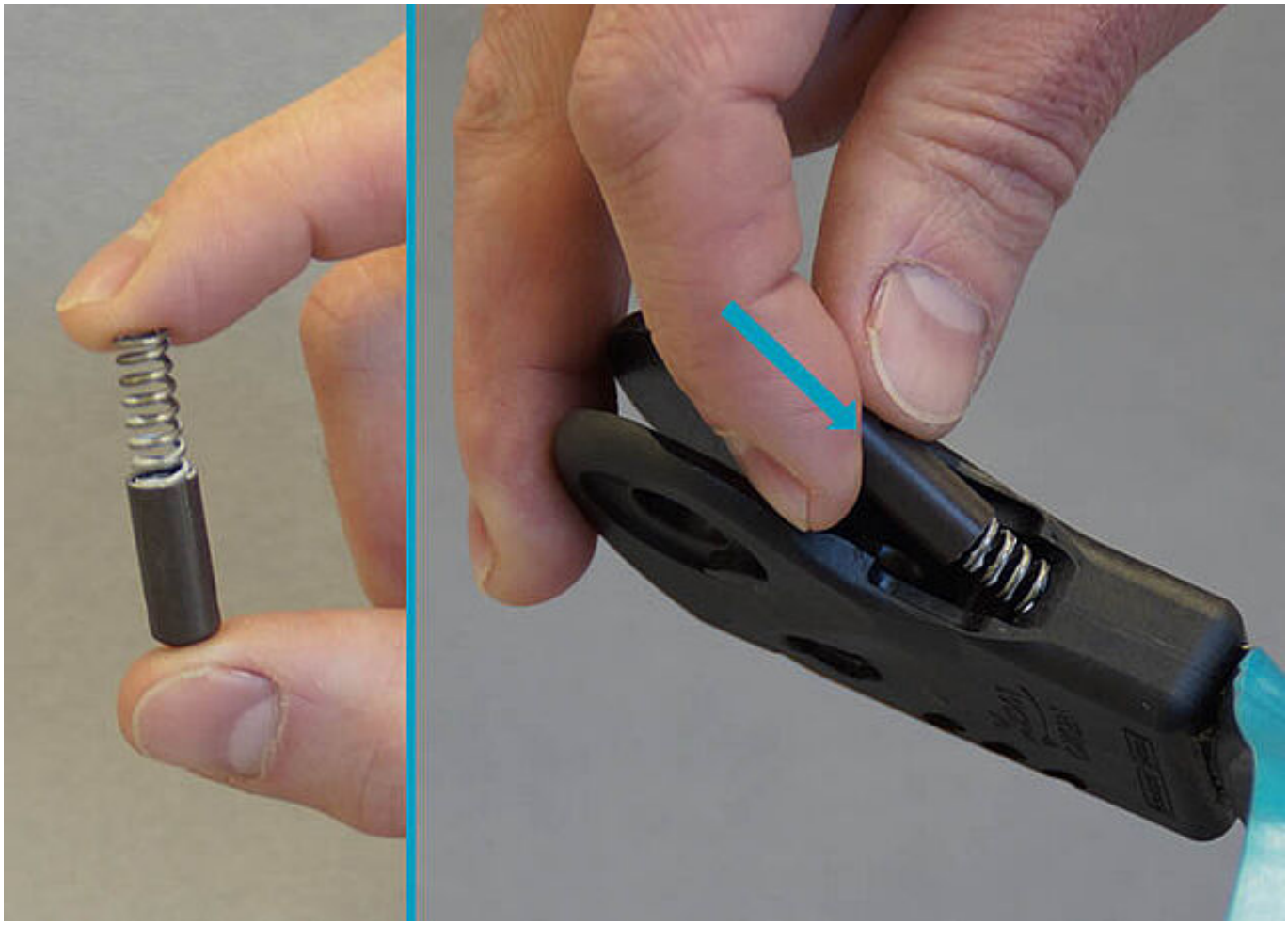

For system knee joints with coil spring:
Grease the coil spring with orthosis joint grease and put it into the spring guide. Insert both into the joint's upper part.

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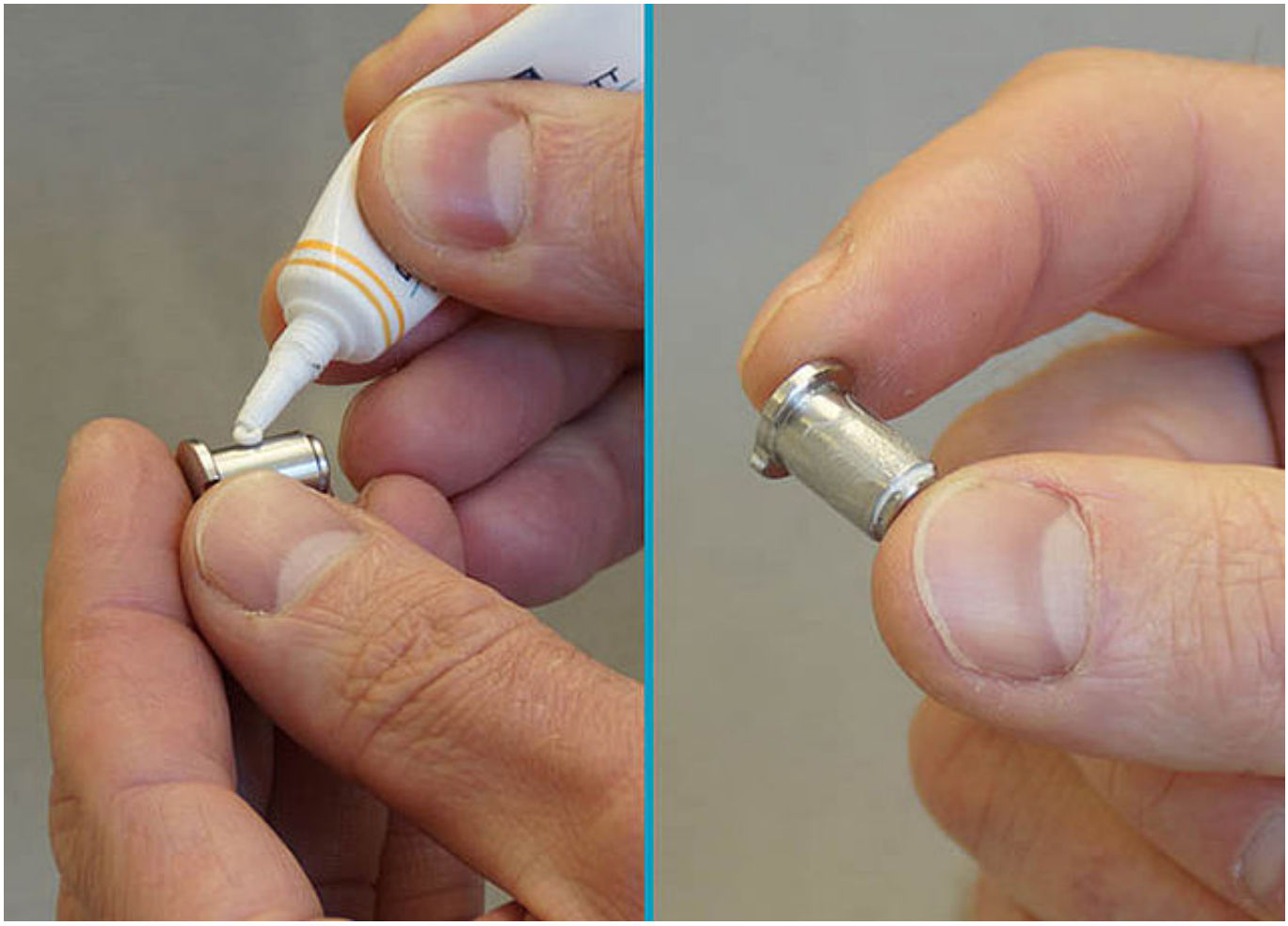

For system knee joints with locking pawl:
Slightly grease the sliding surfaces of the bearing nut for the locking pawl with orthosis joint grease.
Make sure that the thread is grease-free.

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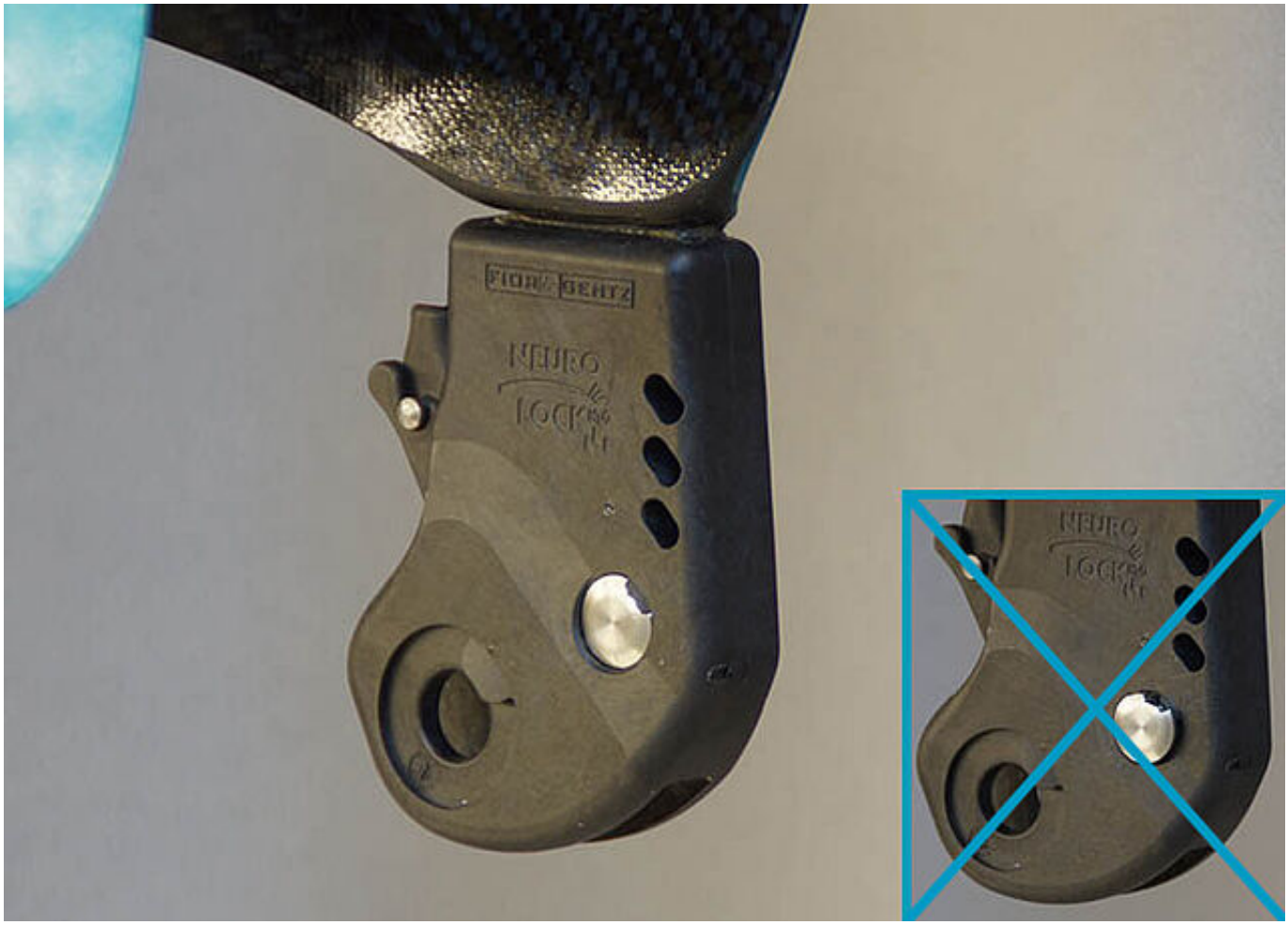

For system knee joints with locking pawl:
Assemble the locking pawl. Put the bearing nut into the joint's upper part from within. Make sure that it fits properly.

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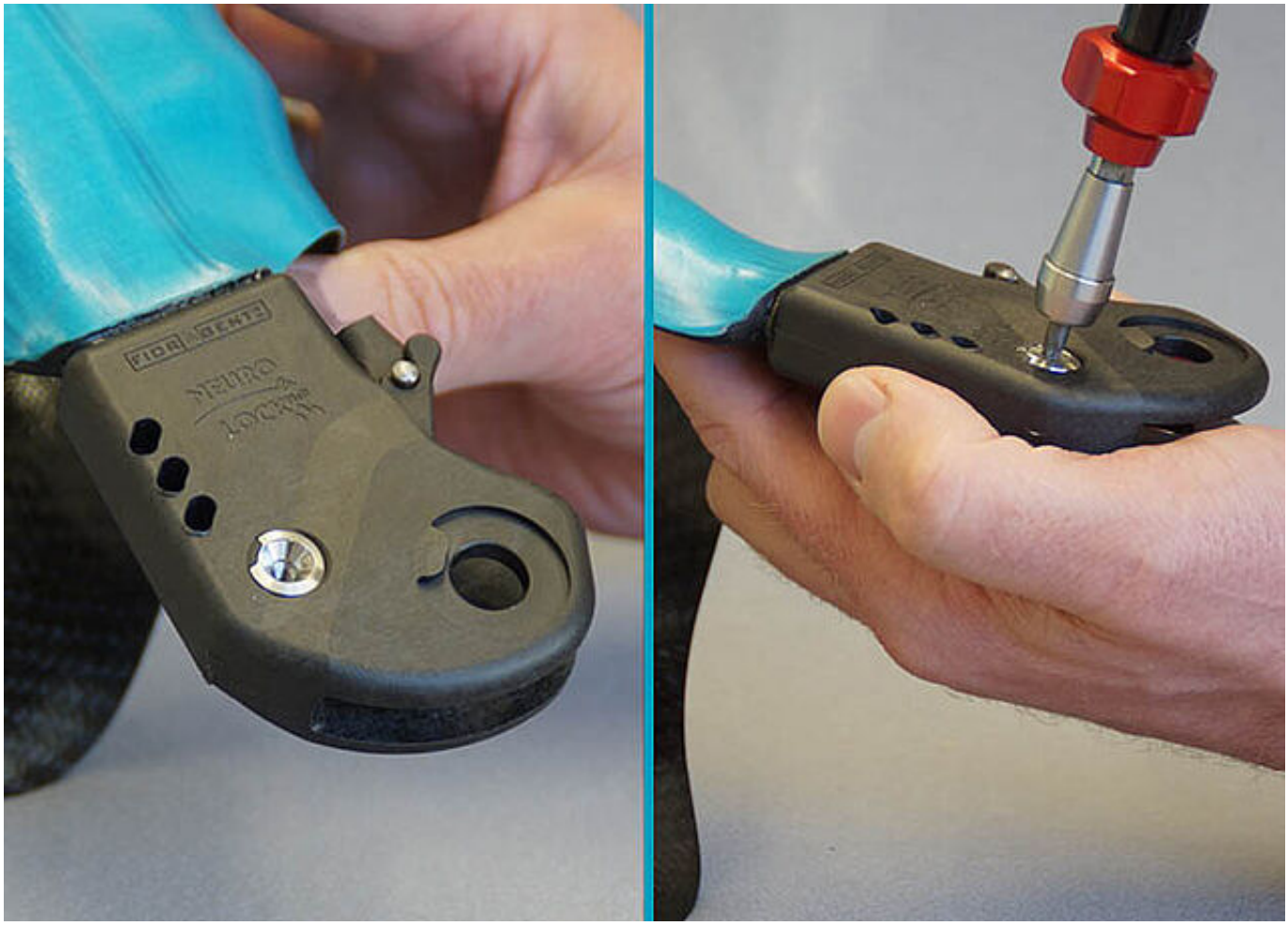

For system knee joints with locking pawl:
Place the cover disc onto the front of the joint's upper part. Turn in the countersunk flat head screw with a torque which corresponds to the system width.
Note: you will find information about the torque (Nm) on the system joint's cover disc or in the instructions for use*.*

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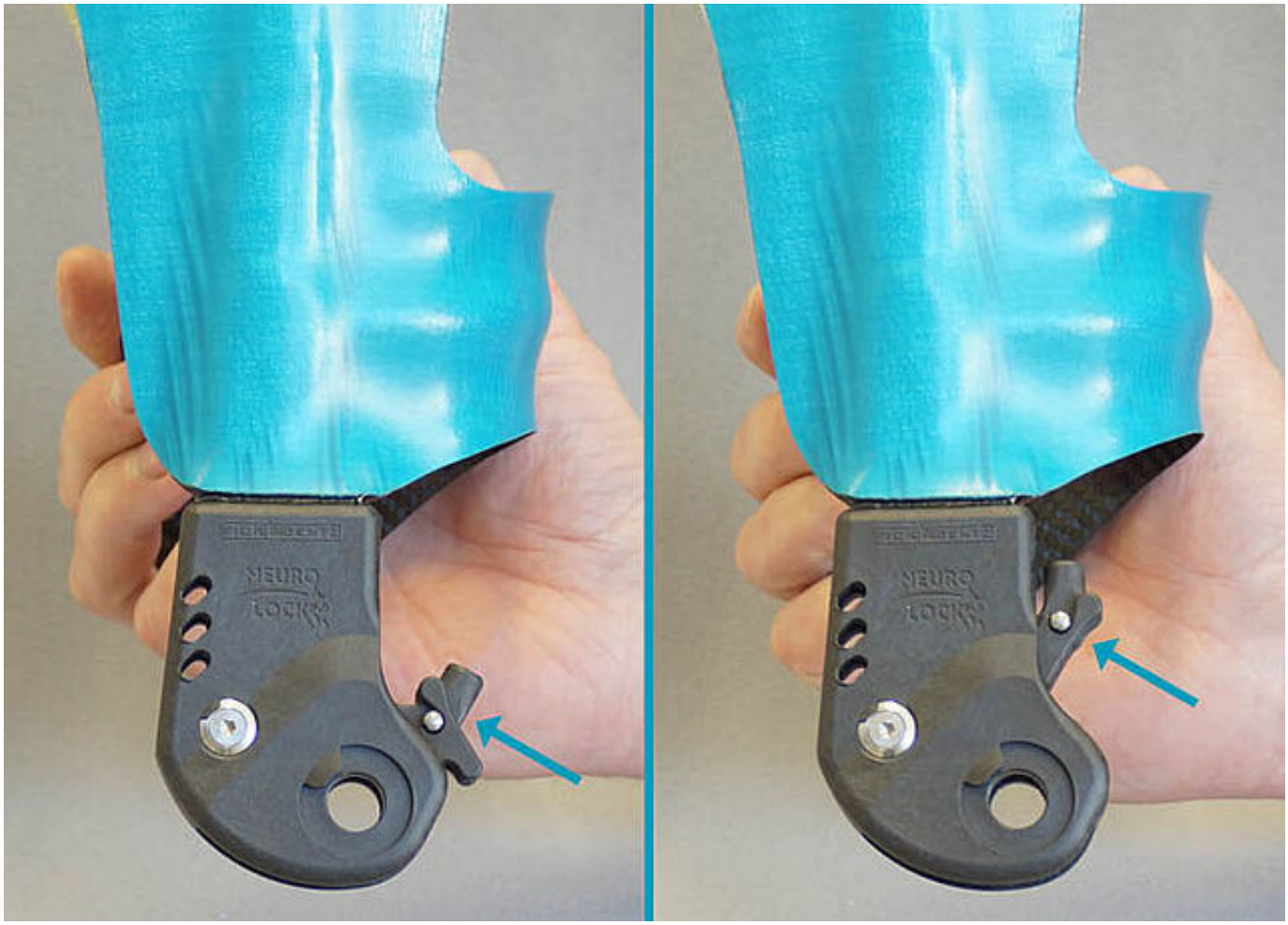

For system knee joints with locking pawl:
Secure the locking pawl (permanent unlock function) in order to facilitate the following assembly. Push the locking pawl upwards and let the fixing pawl snap into place on the joint's upper part.

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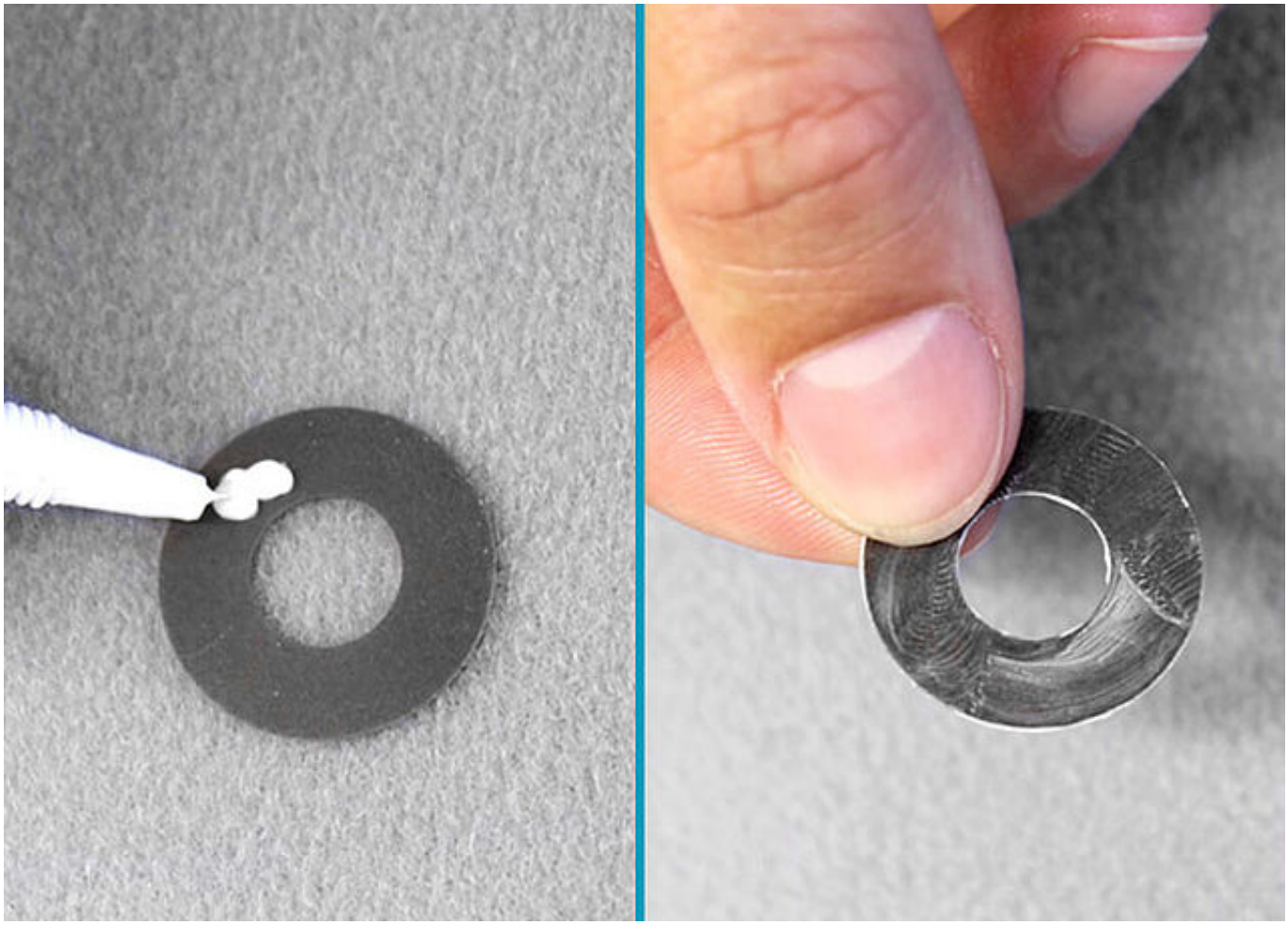

Grease the sliding washers slightly on both sides with orthosis joint grease.

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Place the greased sliding washers on both sides of the joint's lower part. Slide the joint's lower part from below into the joint's upper part.

Note: place the sliding washers somewhat further up the bore in order to facilitate the assembly.

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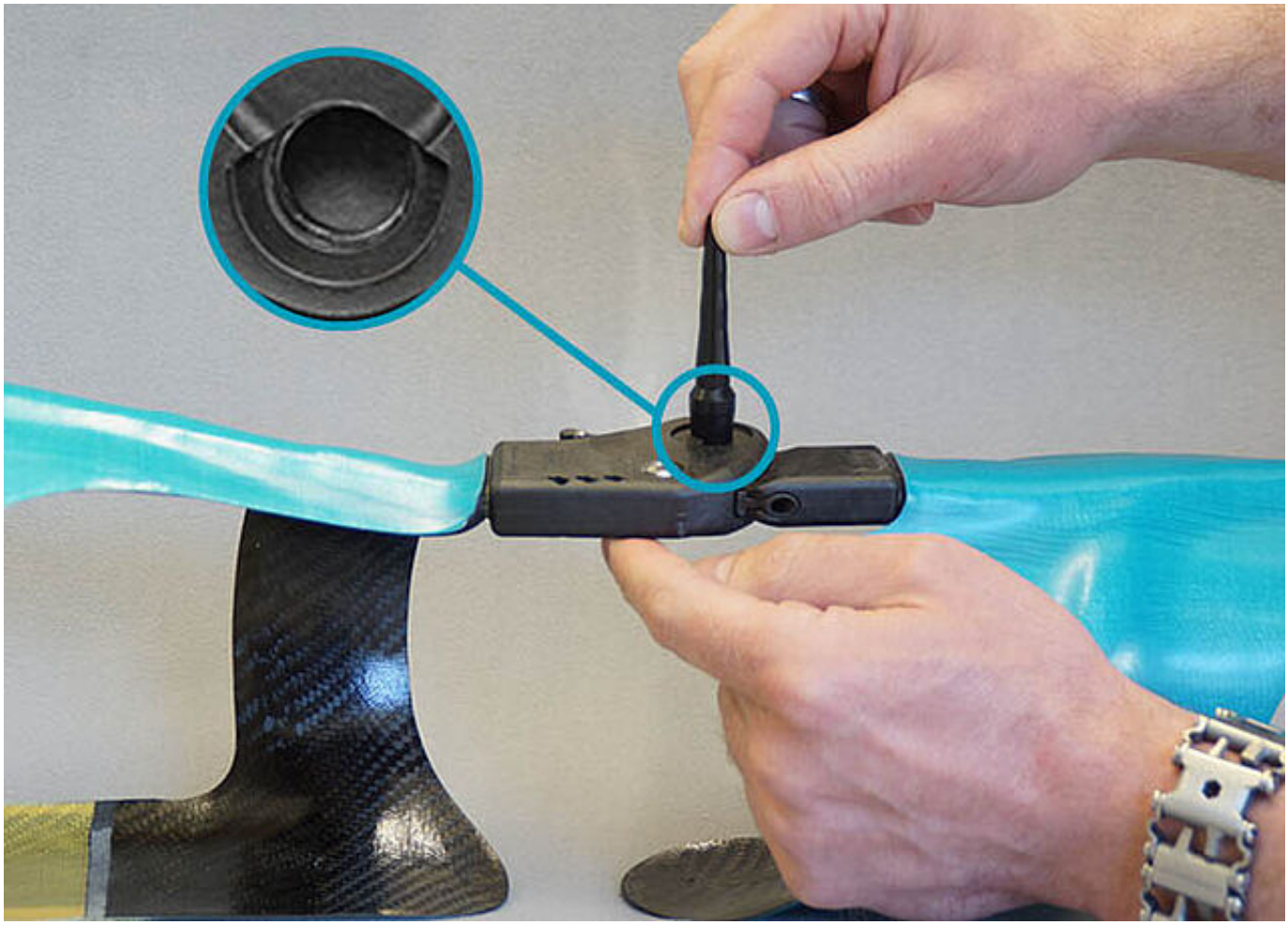

Check if the sliding washers fit well and correct the position with the sliding washer centring pin, if necessary.

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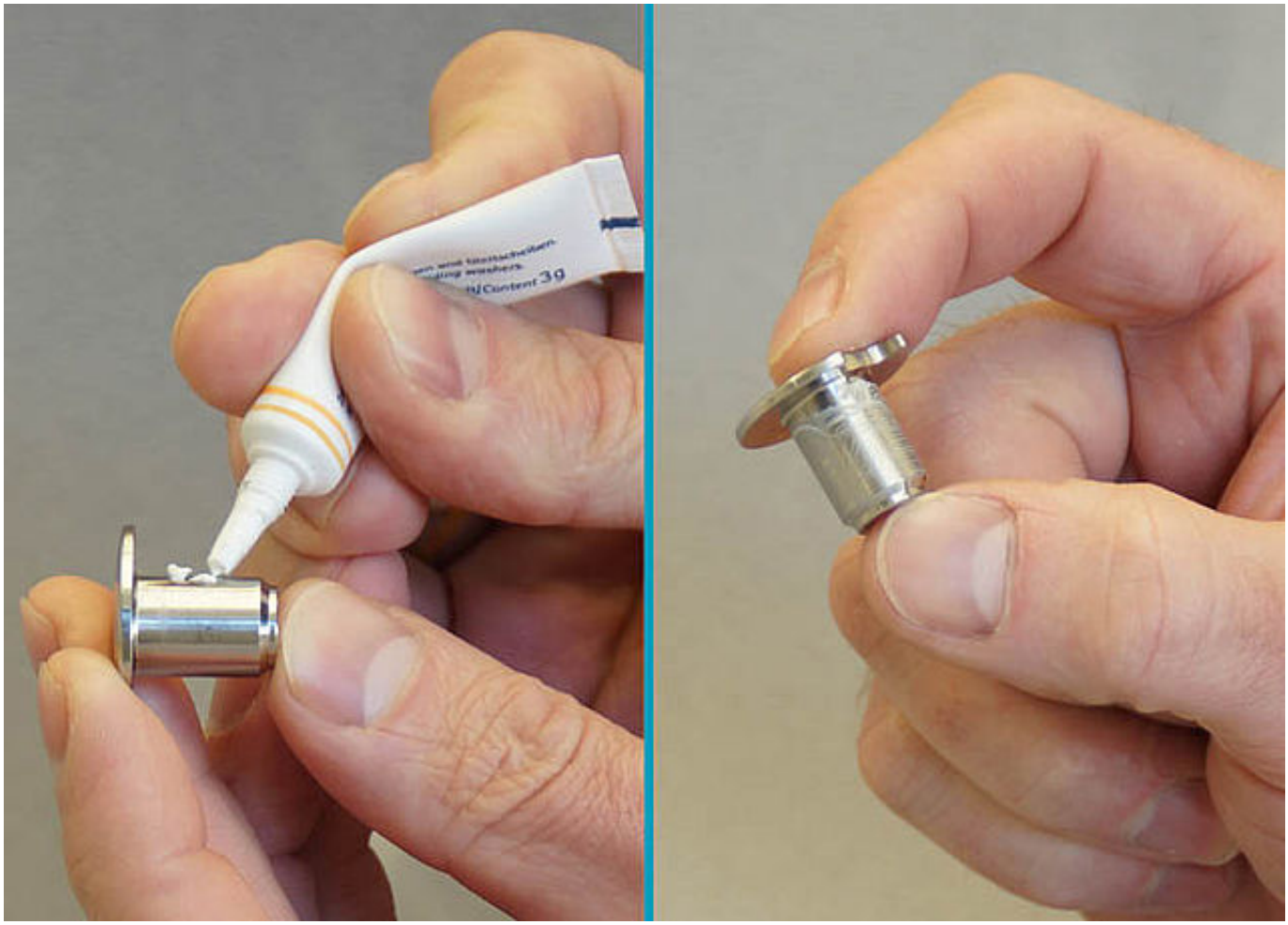

Slightly grease the sliding surfaces of the second bearing nut with orthosis joint grease. Make sure that the thread is grease-free.

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Put the bearing nut into the intended opening of the system joint's backside. Make sure that it fits properly.

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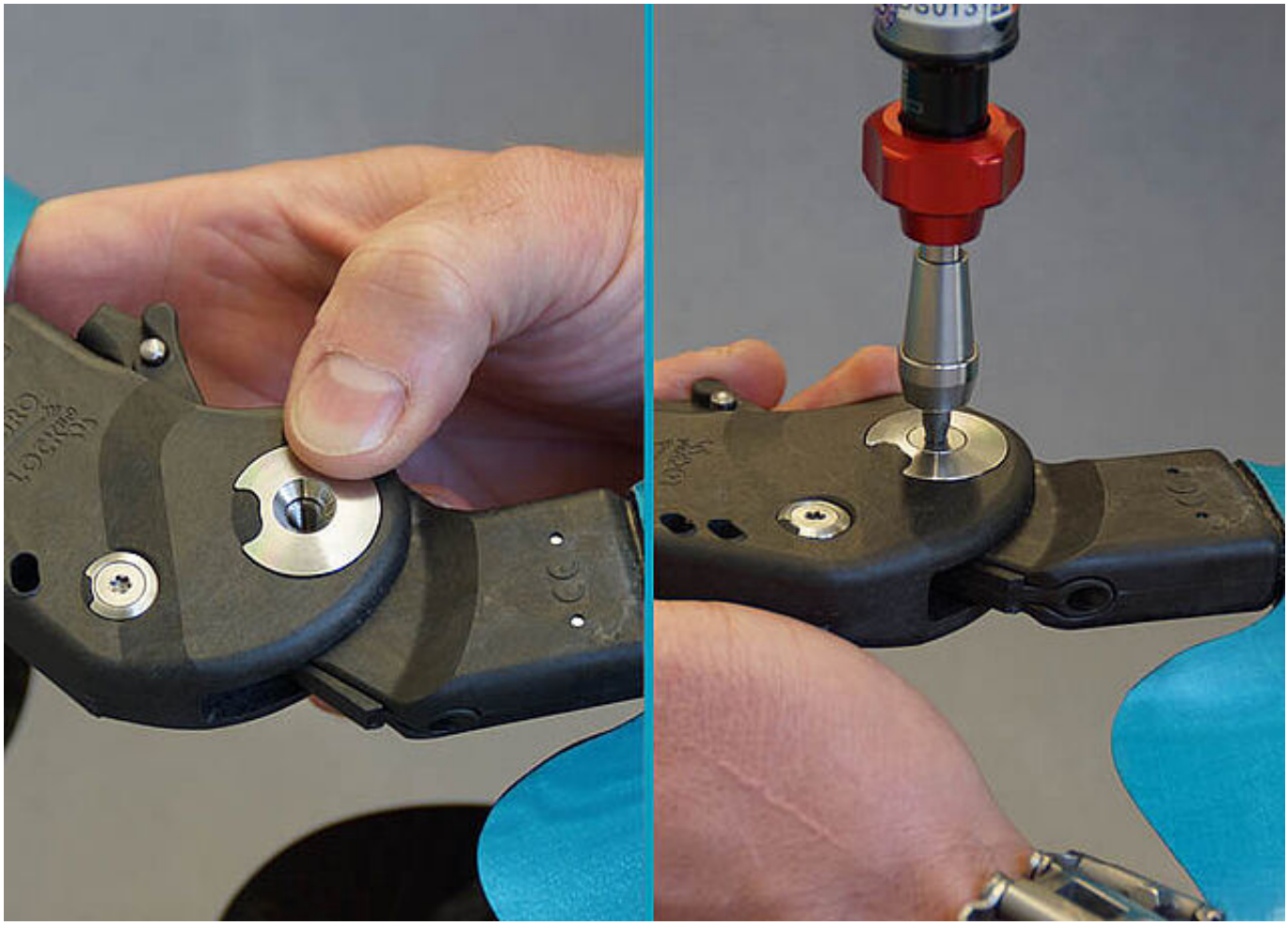

Place the cover disc onto the front of the system joint. Turn in the countersunk flat head screw with a torque which corresponds to the system width.

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Check if the system joint moves freely. Bring the system joint in extension. In order to check the flexion, hold the orthosis in a horizontal position and then let go of the thigh shell. The thigh shell should smoothly fall downward up to the maximum possible flexion angle. If the joint does not move freely, mount the next thinner sliding washers, repeat all steps from step 12 onwards and check again.
Note: at a bilateral orthosis, only check one system joint at a time.

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Check if the system joint moves without lateral play. Hold the lower leg shell and try to move the thigh shell in varus-valgus. If the joint runs with lateral play, mount the next thicker sliding washers, repeat all steps from step 12 onwards and check again.

Note: at a bilateral orthosis, only check one system joint at a time.

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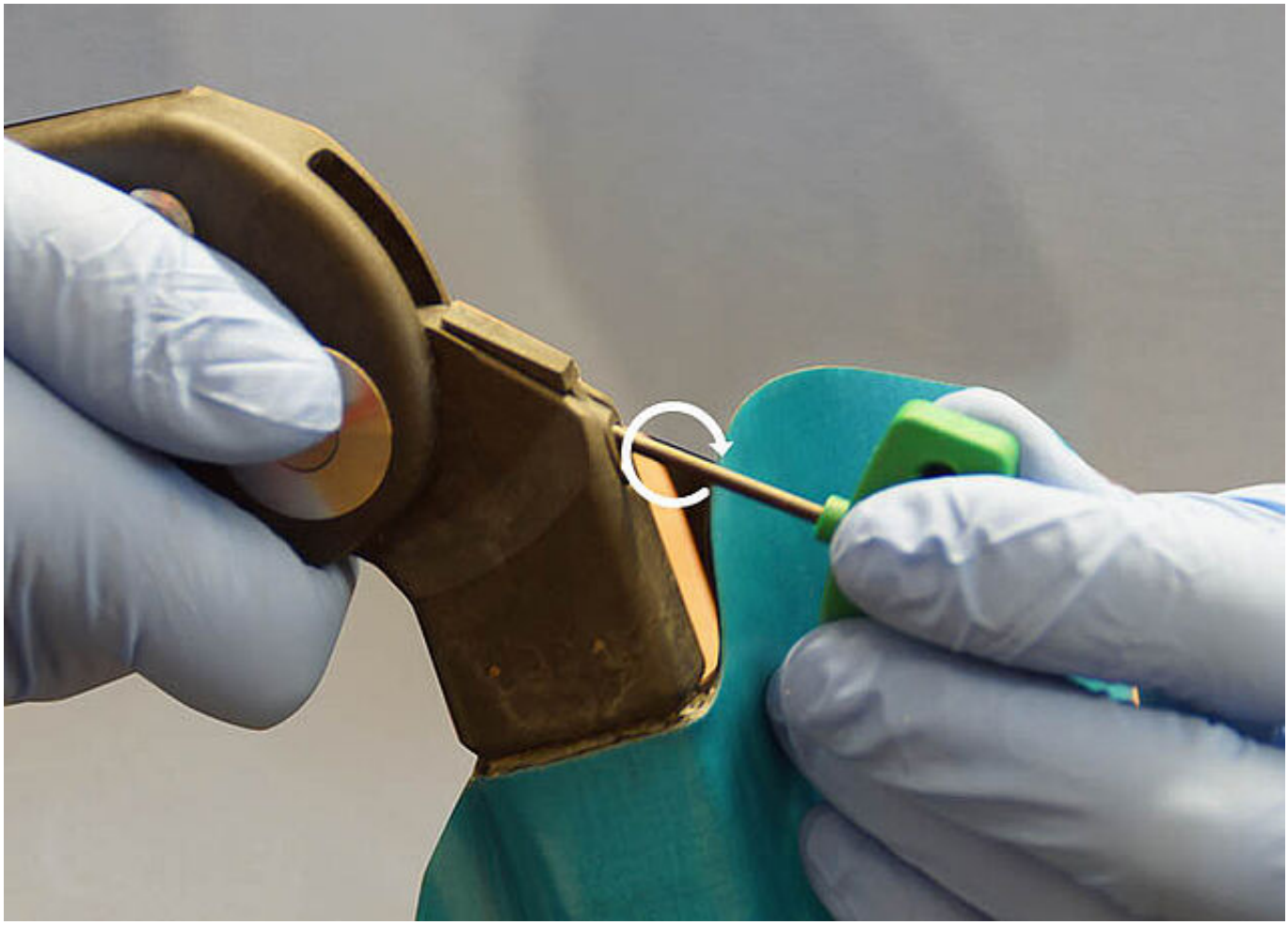

When you use a supporting joint or produce a bilateral orthosis, make sure that both system joints reach the extension stop at the same time.

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For system knee joints with locking pawl:
Bring the system joint as far as possible in extension. Then, disable the permanent unlock function by pressing the locking pawl against the joint's upper part. Check if the locking pawl is locked. Hold the lower leg shell and try to move the thigh shell against it. There should be no movement in the system joint.
Note: mind the information on the locking pawl in the instructions for use*.*

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For system knee joints with locking pawl:
If you note play in the system joint in ap direction, adjust the extension stop accordingly. Turn in the extension stop until there is no more play.
Unlock the system joint and have the locking pawl snap in maximum extension. The locking pawl must not be mounted too high.
Make sure the locking pawl can be unlocked and locked.

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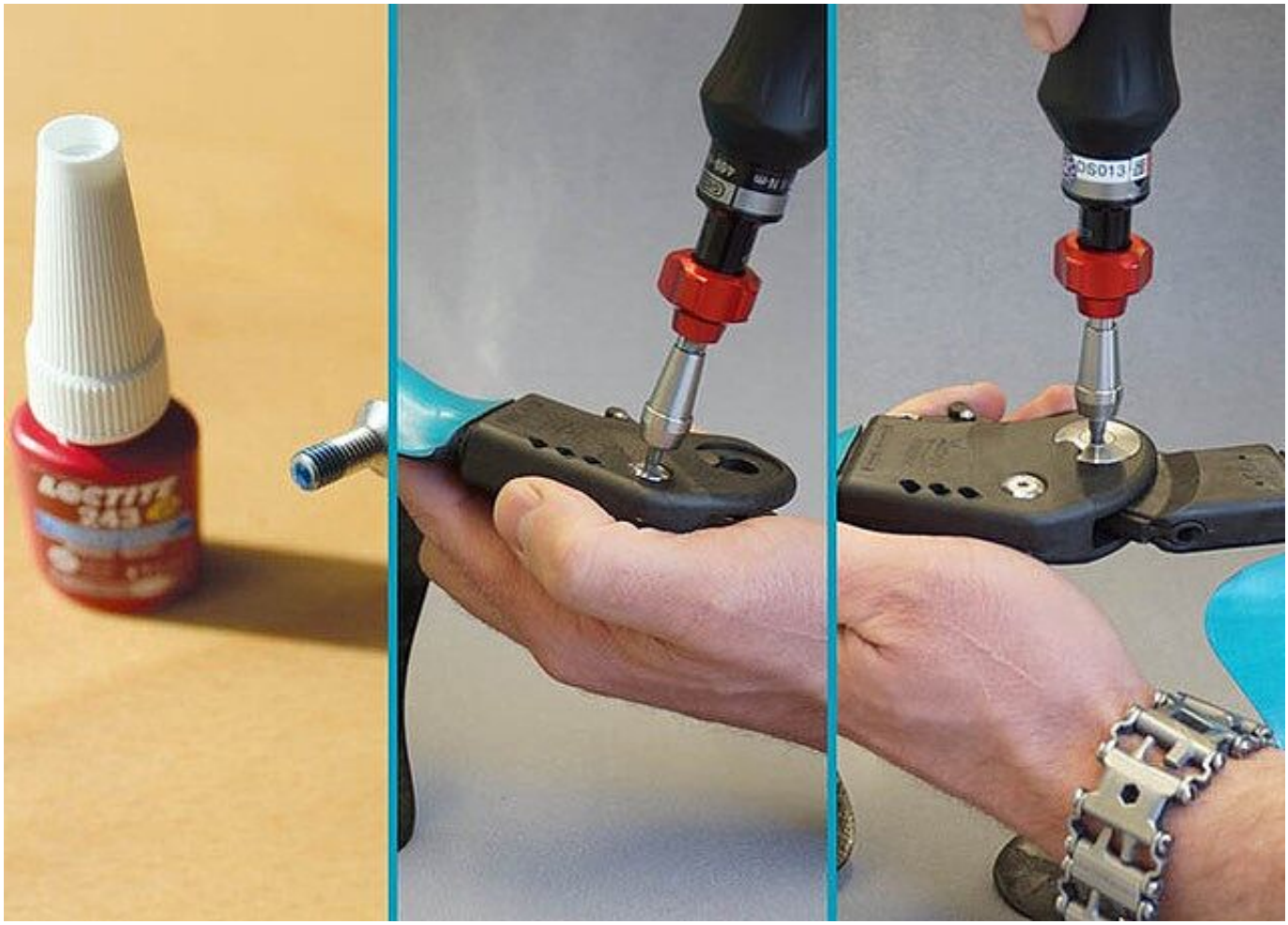

Secure both screws with LOCTITE® 243 medium strength and the torque corresponding to the system width. Let the adhesive harden (final strength after approx. 24 hours).
Note: mind the safety data sheet *when using LOCTITE® 243 medium strength.*

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