

# PURIST

+ SWISS MADE

## *Technique Guide*



# Introduction

The PURIST Leg Positioning System is designed specifically for anterior total hip replacement. It enables all essential leg movements for this procedure using a standard OR table.

This guide outlines the steps for equipment and patient setup, and walks through operation of the device during a typical direct anterior hip replacement case.

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**Disclaimer:** The operator should read and understand the PURIST and Accessories user manuals before using this equipment. Please be advised that portions of this instructional guide depict patient contact. IOT personnel are not permitted to touch patients or position them on the table in any way. Accordingly, all portions of this guide depicting patient contact are intended for healthcare professional guidance only. In addition, only healthcare professionals should operate the PURIST during cases.

# What You Will Need

## PURIST Leg Positioning System

- Manipulates operative leg
- Freestanding



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## Perineal Operative Post (POP)

- Holds patient on the OR table
- Attaches to OR table side rails



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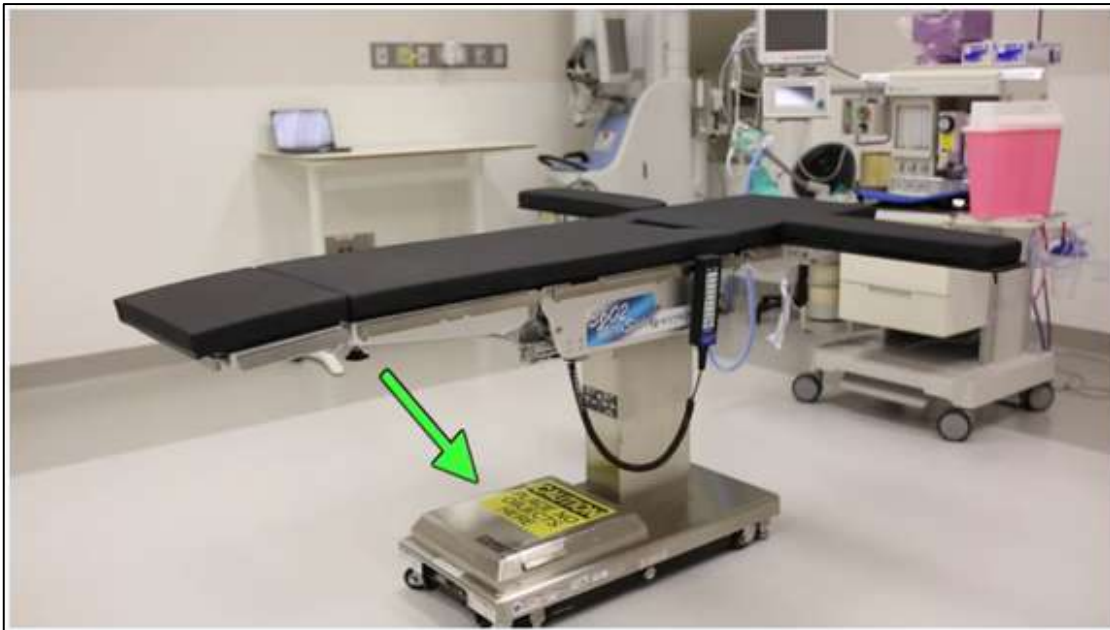
## Opposite Leg Holder (OLH)

- Holds non-operative leg
- Attaches to OR table side rails
- An OR table with a split leg section can also be used in place of the OLH



# OR Table Setup

**1.** The PURIST can be used with any standard OR table. Follow all requirements of the OR table used. We recommend flipping the table orientation 180 degrees when possible so the long portion of the table base will be situated under the patient's center of gravity. This usually provides maximum stability. Ensure there is adequate clearance for the C-arm to maneuver into place.



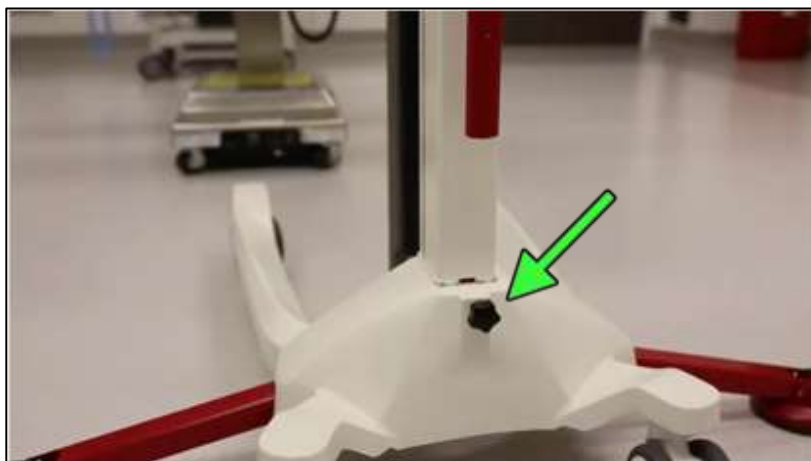
**2.** Remove OR table head section and lock OR table in place.



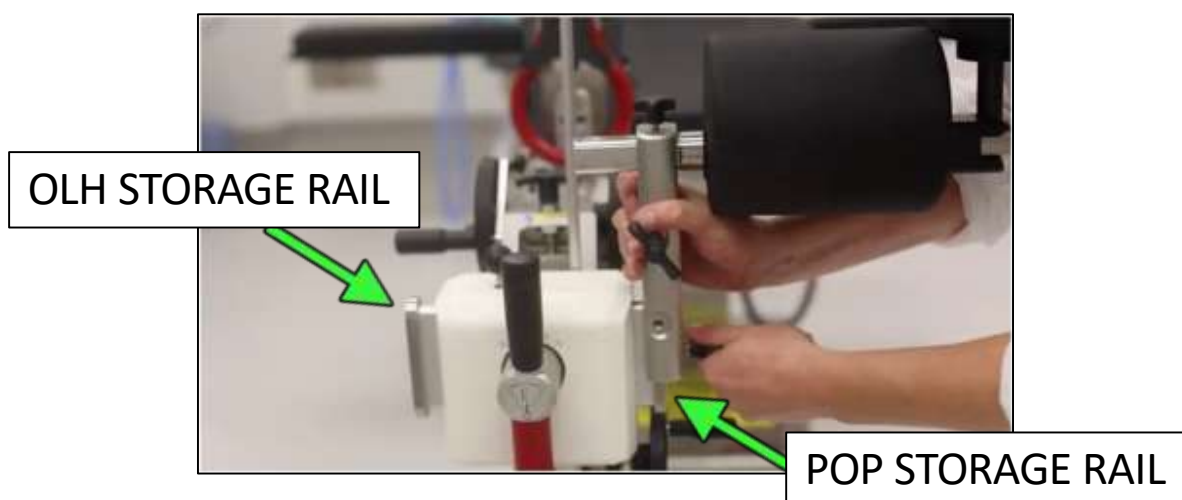
**3.** Roll in the PURIST system with Opposite Leg Holder (OLH) and Perineal Operative Post (POP) attached, and position near the end of the OR table.



**4.** Ensure the star knob is tight securing the height setting device to the chassis.



**5.** Remove OLH and POP from PURIST storage rails, and set them aside.



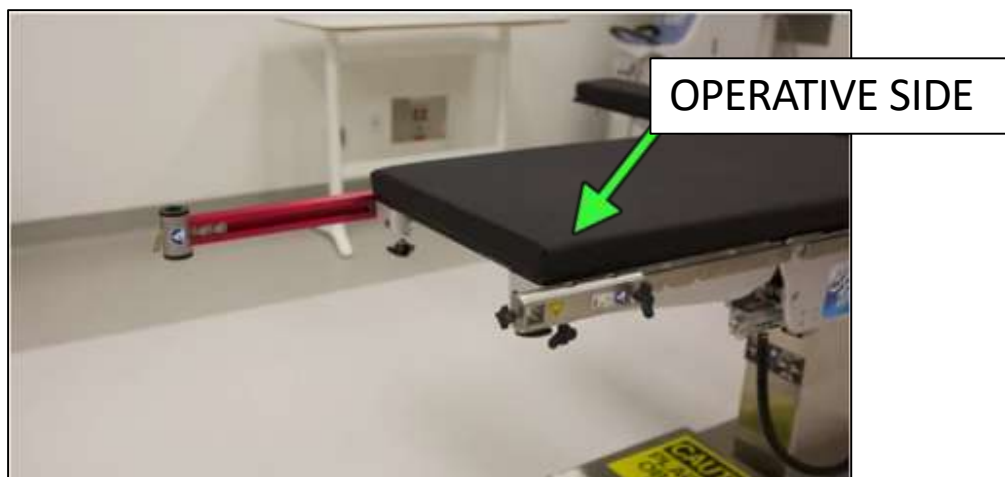
- 6.** Slide OLH extension rail onto non-operative side OR table side rail.  
Do not tighten the levers at this time.



- 7.** Slide POP adapter rail onto operative side OR table side rail. Do not tighten the wing nuts at this time.



- 8.** OR table setup is now complete. This should be done before the patient enters the room.





# Patient Setup

**9.** Transfer the patient onto the OR table.



**10.** Wrap the patient's leg with Coban from the foot to the upper shin. Ensure to wrap far enough up the leg so the traction boot will not directly contact the patient's skin. Repeat this process for the other leg.



**11.** Put boot liners on the patient's feet. These create a more secure traction boot fit and can reduce the risk of pressure points from the traction boots. Ensure the heel is fully seated in the liner. Secure the liner with more Coban.



**12.** Put on both traction boots. Flex the knee and push on the bottom of the boot to ensure the heel is fully seated. Then secure the ankle strap first.

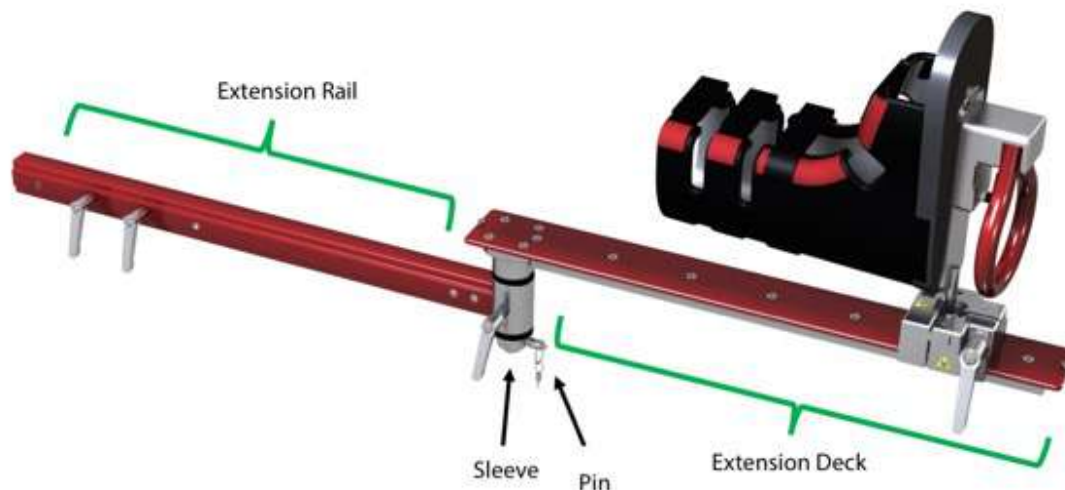


**13.** Fix remaining straps. To tighten the strap, pull down firmly, then lay the strap back over itself to secure the Velcro. There is no need to pull up firmly on the strap, as this could damage the metal clasp on the boot.

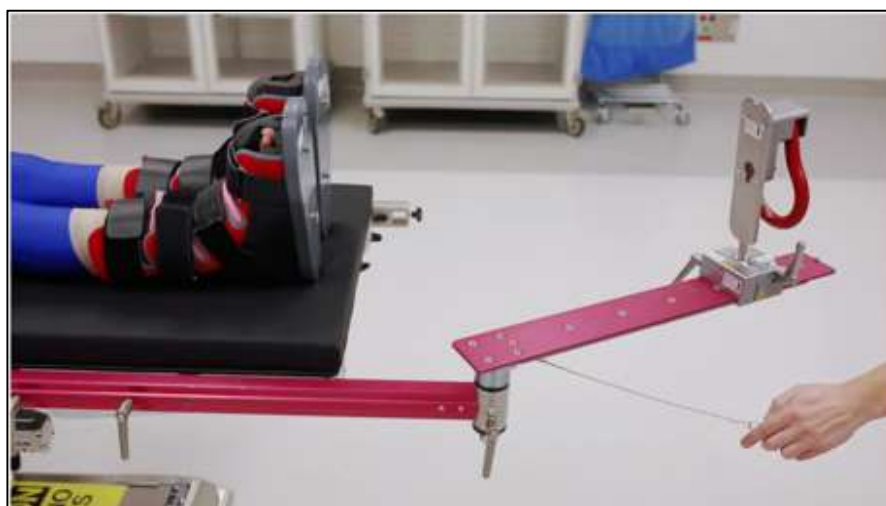




# OLH Installation



**14.** Insert the extension deck into the extension rail.



**15.** Install the sleeve and locking pin to hold these components together.



# POP Installation



**16.** Slide the perineal post with femoral support into the adapter rail and tighten the star grip knob. The femoral support acts as a fulcrum to lift the proximal end of the femur during leg extension. It can also be removed if the surgeon prefers.

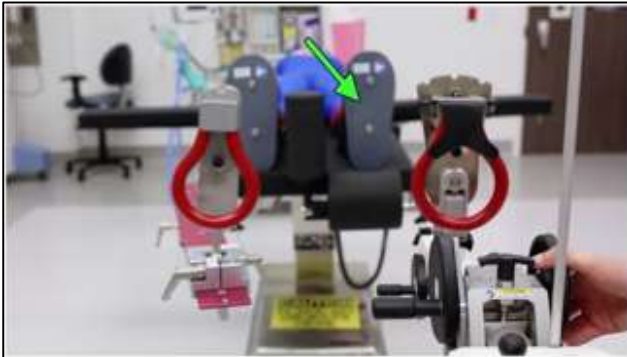


**17.** There are three height settings available. To adjust support height, slide it laterally, rotate the support, then slide it back medially to lock it in place. After adjusting femoral support, tighten both wing nuts to secure the perineal post to the OR table.



# Patient Positioning

**18.** Roll the PURIST into position, aligned with the operative leg. Ensure all PURIST surgical functions are set to zero.



**Surgical Functions Set to Zero**

1. Traction : 0 mm
2. Rotation: 0 °
3. Extension: All the way up
4. Adduction/Abduction: 0 °



**19.** Pull the patient down toward the perineal post. Ensure the patient is tight against the post.



**20.** Adjust the OLH for proper leg length by sliding it along OR table side rail. You can also use the slide lever on the ball heel slider to adjust for leg length. It is best to leave a few inches between the ball-heel slider and the stop screw to allow for further adjustment.



LEAVE A FEW INCHES HERE

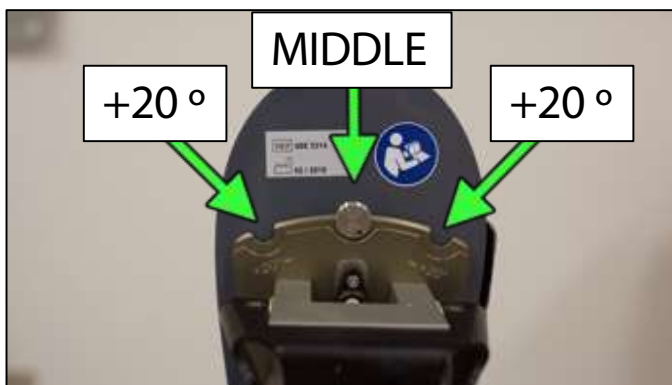
**21.** Attach the non-operative side traction boot to the OLH. This is done by guiding the lower fixing knob into the lower recess, then guiding the upper fixing knob into the upper recess. You will hear it click when it locks into place



**22.** Attach the operative side traction boot to the PURIST.



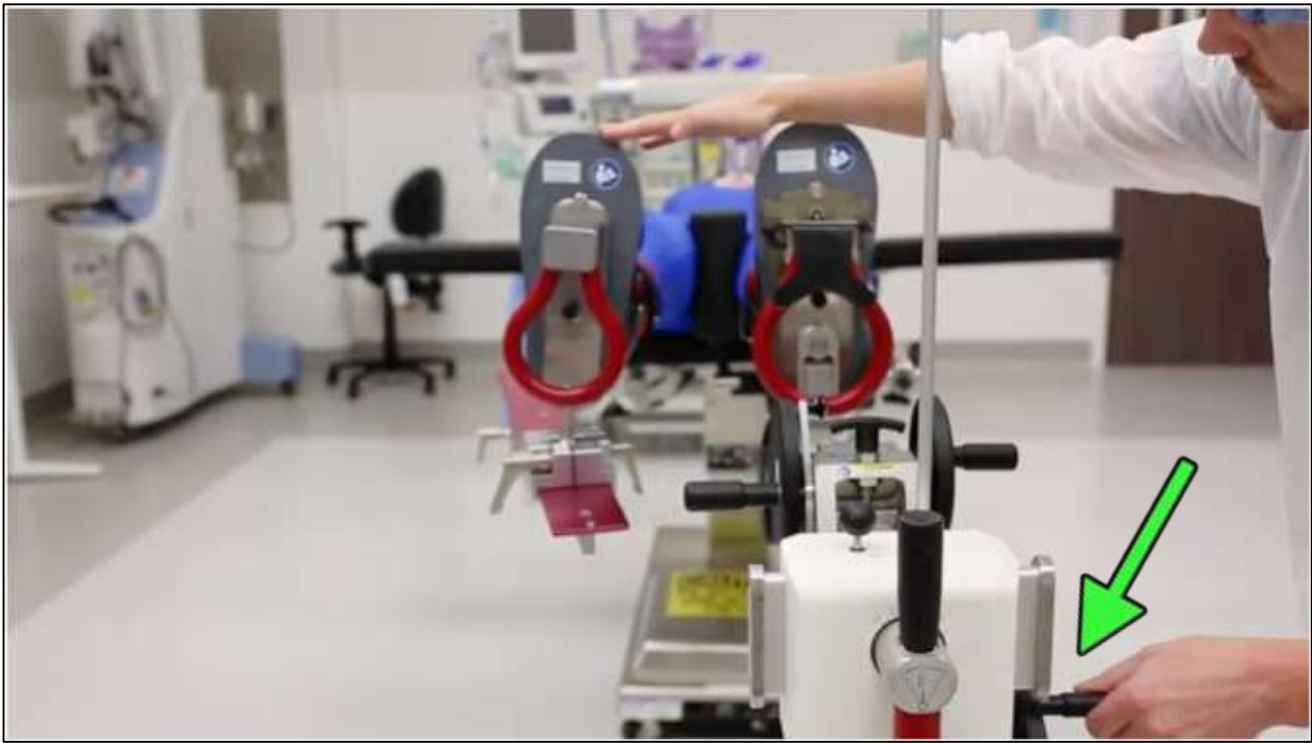
**23.** With the boot clipped into the middle position, maximum boot rotation is 120 degrees. If you clip the boot into the +20 degrees position, maximum external boot rotation of 140 degrees is possible.



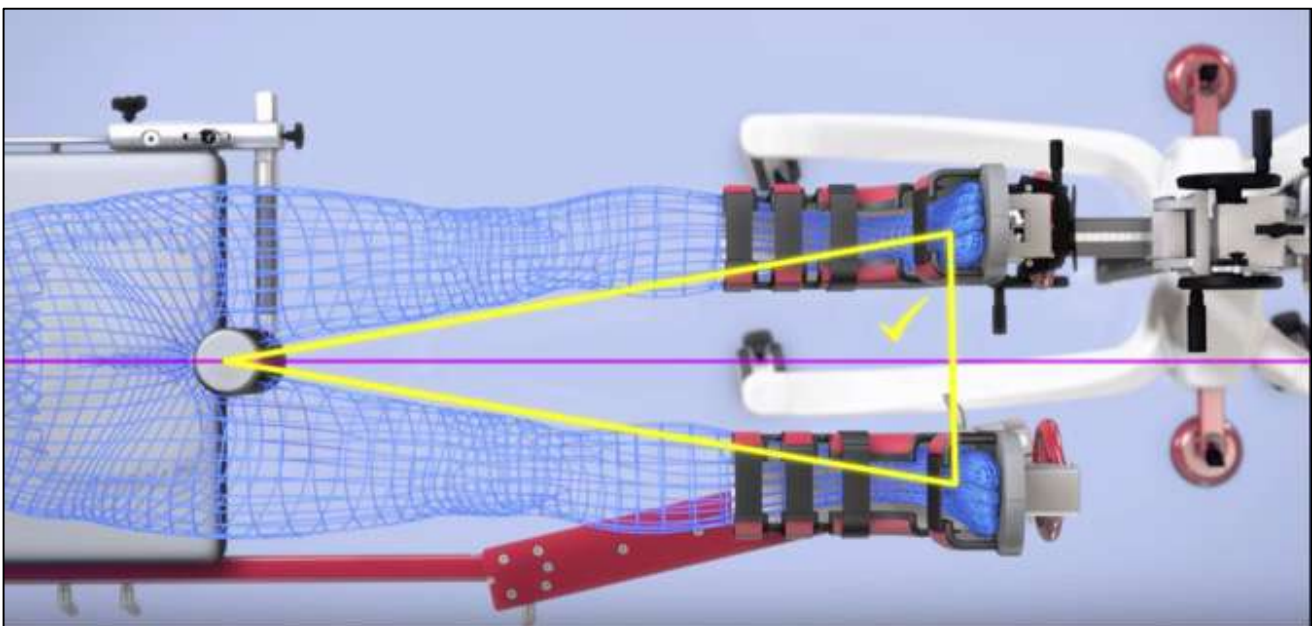
***\*180 degrees of external rotation is possible with 140 degrees of boot rotation and 40 degrees of adduction.***



**24.** After both boots are attached, use the height adjustment hand wheel to match the height of the operative and non-operative boots.



**25.** Position patient as shown. Ensure the pelvis is straight and the legs are shoulder width apart. Make any necessary adjustments on the OLH. Pull back on PURIST to further ensure the patient is tight against the post.

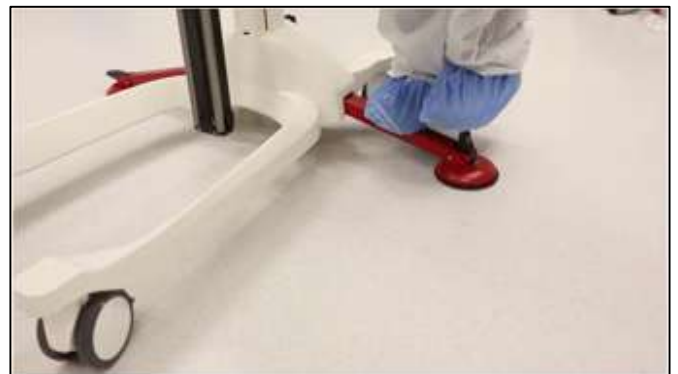




**26.** Lock all four castors.



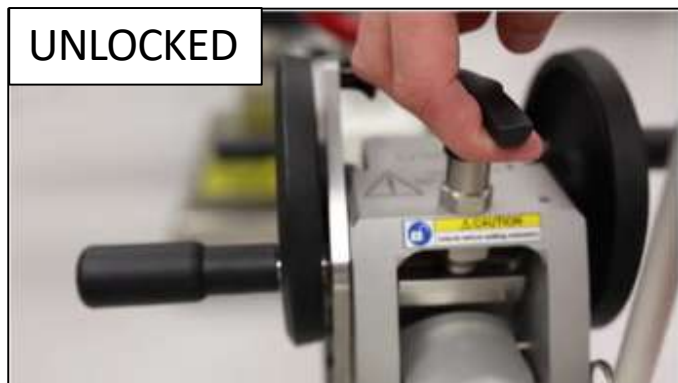
**27.** Engage suction cups. Pull out the red boom as far as possible. Stand on the boom with your inner foot to press down on the suction cup, then flip the lever with your outer foot to engage it. Repeat this process for the other suction cup.



**28.** The suction cups have vacuum indicators to show if they are properly engaged. Ensure both are properly engaged before the operation. If the vacuum indicator pops up and shows red, clean the bottom of the suction cup and the OR floor and try again.



**29.** Unlock the pendulum locking lever by pulling up and rotating it a quarter turn. This will allow the pendulum to swing out and follow the natural arc of the leg during extension.



**30.** Roll the drape and clip it to the drape holder to create a free space for the operator to clearly see and easily access all PURIST surgical functions.



**31.** Review Pre-op Checklist.

<b>PURIST Pre-op Checklist</b> <small>For Orthopaedic Professionals</small>	
Step	Image
<b>1. Set all surgical functions to neutral.</b> Traction = 0 mm Extension = 0 degrees Flexion = 0 degrees Adduction = 0 degrees Abduction = 0 degrees Anterior/Posterior = All set	
<b>2. Ensure feet are wrapped, tight within boots, and straps are attached.</b> When using IOT foot bars, wrap the foot and leg with Coban. If the foot bar can wrap the foot and leg and the foot bar is used to hold the foot bar in position and to ensure a secure, non-slip fit, then use the foot bar instead of the foot bar.	
<b>3. Set both feet to same height.</b> Adjust PURIST height and/or OR table height to match.	
<b>4. Ensure patient is properly set:</b> A. Patient tight against padded operative post (POP). B. PURIST centered on operative leg. C. Legs positioned in an isometric stance.	
<b>5. Ensure the following are tight:</b> A. Star lock securing height setting device to chair. B. Castings from securing base holder to bridle roller track. C. All screws on opposite leg holder (OLH). D. All wing nuts on posterior operative post (POP).	
<b>6. Adjust femoral support height.</b> Pull femoral support outward and rotate to adjust: push inward to lock position (2 height settings available). One locked and one by hand to adjust with leg height adjuster. The femoral support can be set at a distance and push up the femur during leg extension. (Optional Accessory)	
<b>7. Lock all 4 castors and engage suction cups.</b> Ensure suction cups are clean and fully extended below device. Then engage suction cups on the suction side. They should be fully extended to engage with device.	
<b>8. Place drape over drape holder.</b> Ensure all IOT support functions can be easily accessed. Pull back drape and fix with clips.	
<b>9. Ensure pendulum locking lever is unlocked.</b> Lift leg and release suspension.	

# Surgical Functions

The PURIST has 4 surgical functions: Traction, Rotation, Extension, and Adduction / Abduction. The operator should stand directly behind the PURIST for simplest operation of these functions.



A. Traction



B. Rotation



C. Extension



D. Adduction /  
Abduction

## (A) Traction

**Gross Traction:** Pull red handle

**Fine Traction:** Controlled with traction hand wheel



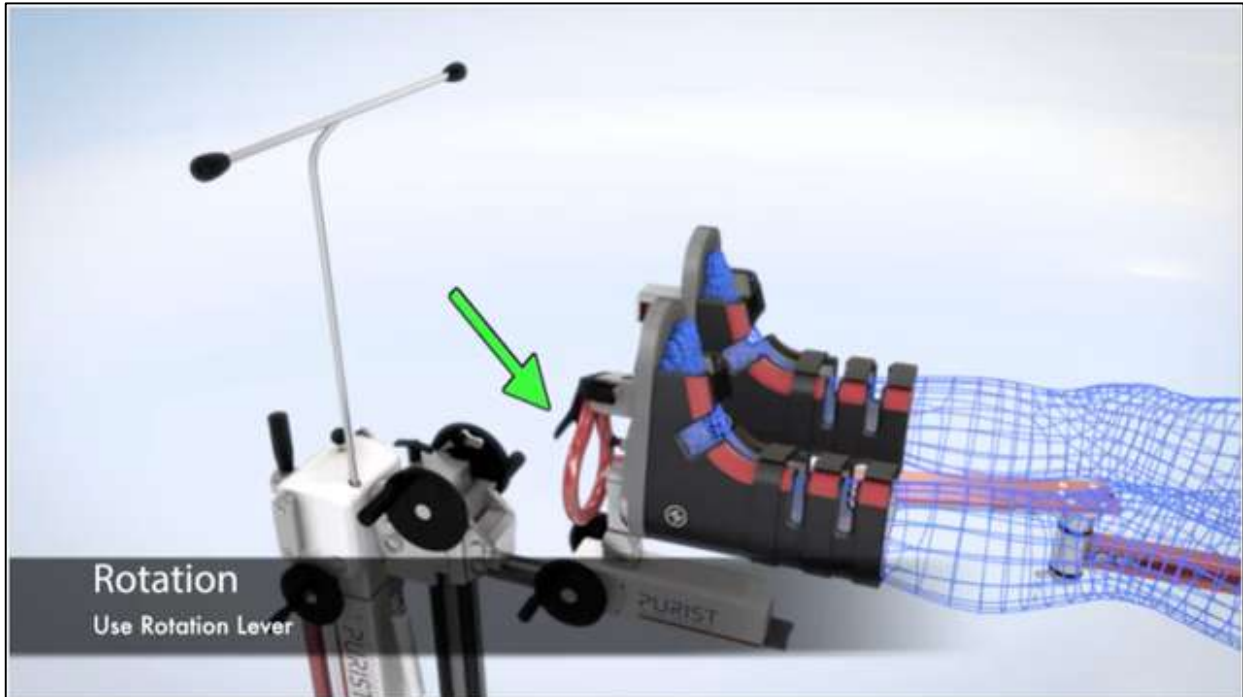
**Remove Traction:** push the traction slider block toward the patient while rotating the hand wheel.



*\*Gross traction function cannot be used to remove traction*

## (B) Rotation

Rotation is controlled in increments of 10 degrees. High levels of external rotation will be used during the case. To rotate the foot, press the thumb operated lever, rotate to the desired position, and release the lever to lock rotation. You will notice the mechanism click into place.





## (C) Extension

To extend the leg, pull up on the extension latch with the left hand and rotate the extension wheel clockwise with the right hand. To return the leg to the neutral position, use both hands to rotate both hand wheels counter-clockwise. There is no need to hold the extension latch when raising the leg due to its ratcheting design.



When a patient's leg is attached (and the pendulum locking lever is unlocked) the pendulum will automatically swing out and follow the natural arc of the leg. The gas strut supports this compensating movement.

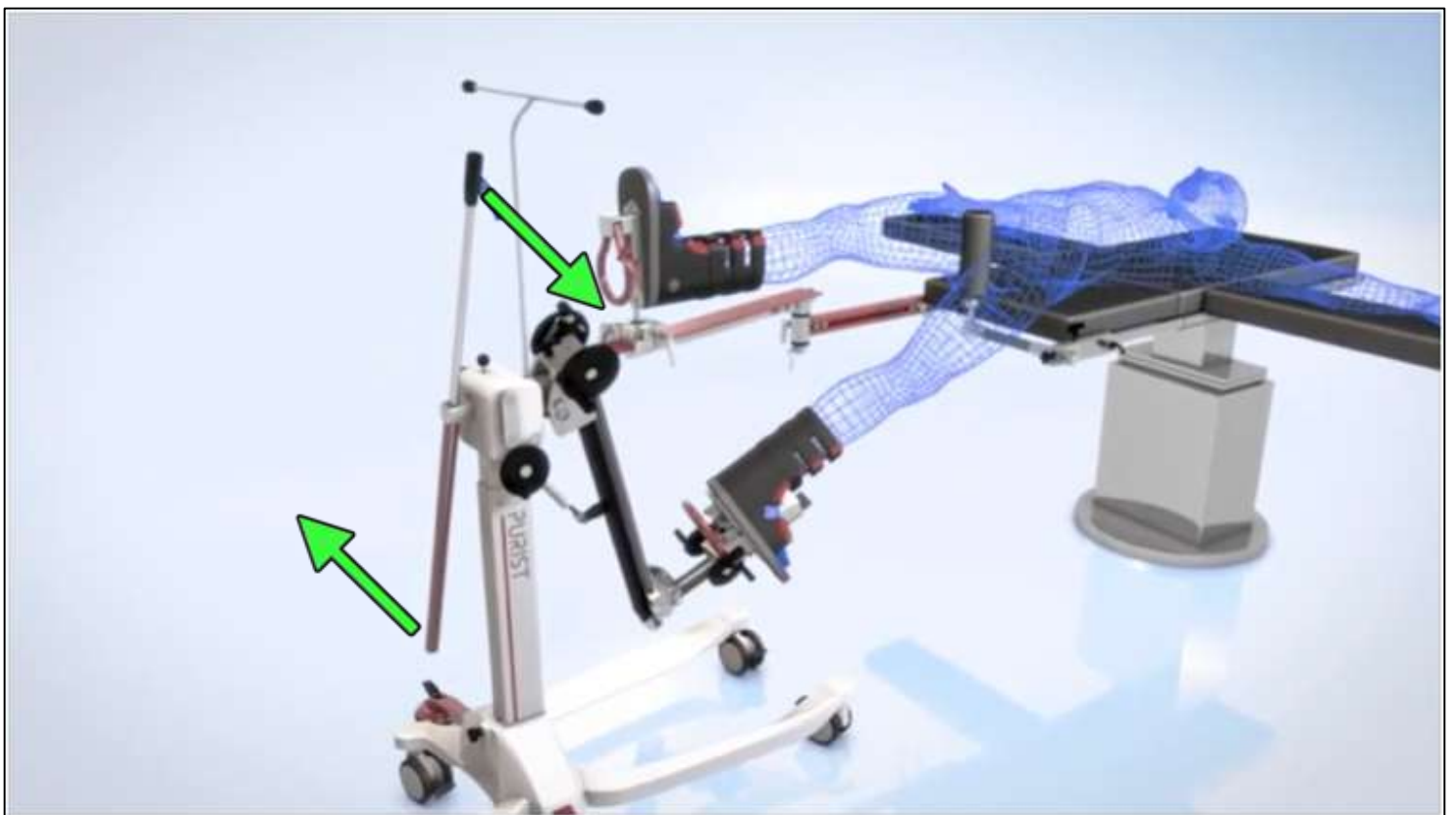


Extension will stay in position when you stop rotating the extension handwheel. Due to the pendulum design, traction will automatically be released during extension as a safety feature.



## (D) Adduction / Abduction

To adduct or abduct the leg, push down on the black release knob, pull up on the lever handle – and rotate to the desired setting. Read off setting on back of PURIST. With the leg at neutral extension, the adduction control will only rotate the foot.

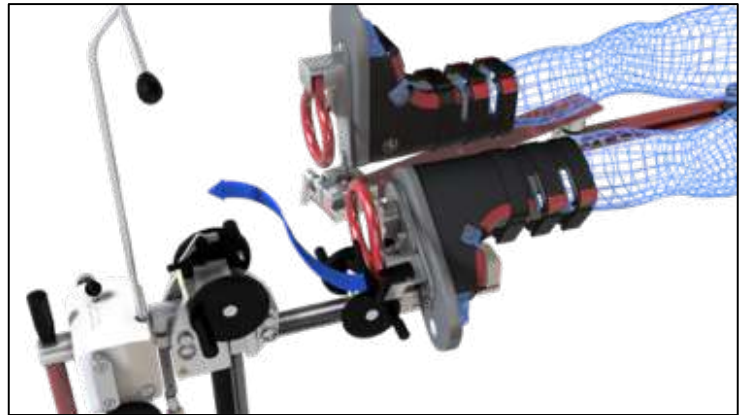


# Hip Dislocation and Reduction

Simultaneous traction and rotation can be used to aid the surgeon.

**Reduce Hip:** Traction and internal rotation. Then remove traction.

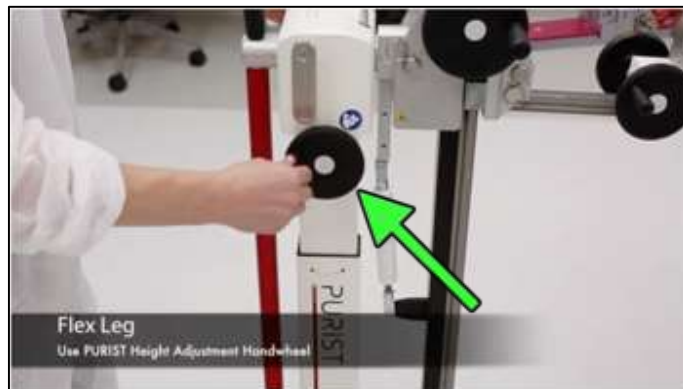
**Dislocate Hip:** Traction and external rotation. Then remove traction.



*\*Hip Reduction Shown*

## Hip Flexion

If you need to add flexion to the operative leg at any time, use the height adjustment hand wheel to raise the leg, then return it to the initial setting.



## Range of Motion Testing

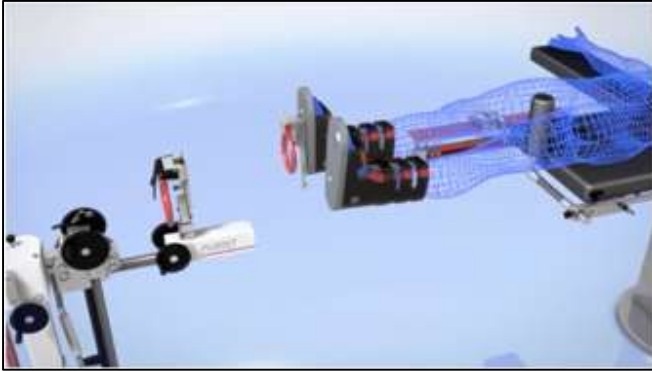
Remove the foot from the PURIST by pulling the black pin shown.

*\*If this is done often, it is easiest to start the case with traction at 10mm. This will allow the boot holder to be moved to 0mm (more proximal) to reconnect the boot. Then return traction to 10mm.*

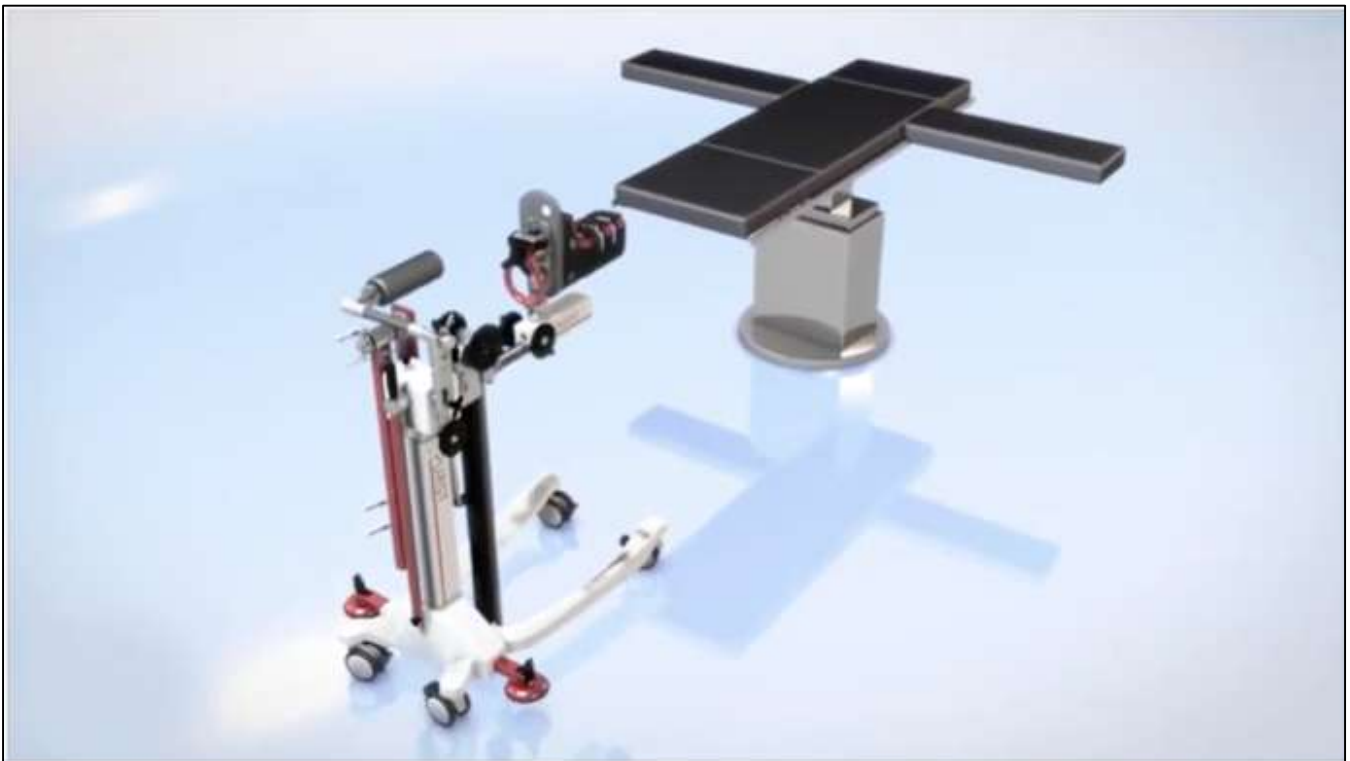


## Post-operative

**32.** After the case, disconnect traction boots from the OLH and PURIST. Pull the patient up so both legs are supported by the OR table.



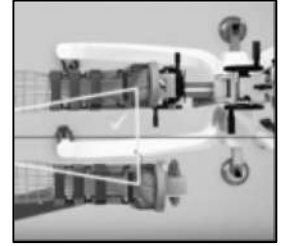
**33.** Remove the POP and traction boots and transfer the patient off the table. Then remove the OLH. Clean the OLH and POP with disinfecting wipes and return them to the PURIST storage rails.



# Surgical Overview

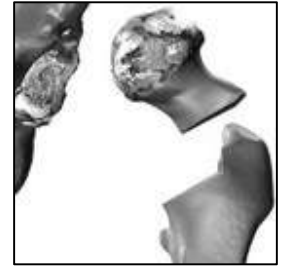
## 1. Start of Case

- All surgical functions set to zero
- Leg in neutral position



## 2. Femoral Neck Resection

- Adjust traction as requested
- Adjust rotation as requested



## 3. Acetabular Preparation

- Adjust traction as requested
- Adjust rotation as requested



## 4. Femoral Broaching and Trial Installation

- Remove all traction
- External rotation
- Extension
- Adduction



## 5. Trial Reduction

- Remove adduction
- Remove extension
- **Reduce hip** (traction and internal rotation, remove traction)



## 6. Final Implant Installation

- **Dislocate hip** (traction and external rotation, remove traction)
- Extension, adduction
- Remove extension and adduction
- **Reduce hip** (traction and internal rotation, remove traction)



For more information about these products or a service, please contact your local IOT representative or visit our webpage.

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**Innovative Orthopedic Technologies, LLC (IOT)** is a privately-held company headquartered in Houston, Texas. The company develops and distributes specialty technologies for the orthopedic market, with a focus on innovative patient positioning devices and other surgical aids that fit seamlessly into the operating room environment.

Today's advanced orthopedic devices and techniques – especially minimally invasive surgery, computer-navigated, and robot-assisted procedures – require equally advanced positioning technologies to fully realize their potential. We aim to streamline procedures, support repeatability, and literally free the hands of the surgical team.

Our surgical solutions focus on easing anterior access to the hip joint, especially for direct anterior hip replacement. To bring our innovative solutions to market, we pursue strategic collaborations with key clinical and industry leaders. We are committed to delivering the highest of quality standards in manufacturing at a competitive price.