precisionos

VR Rental Library

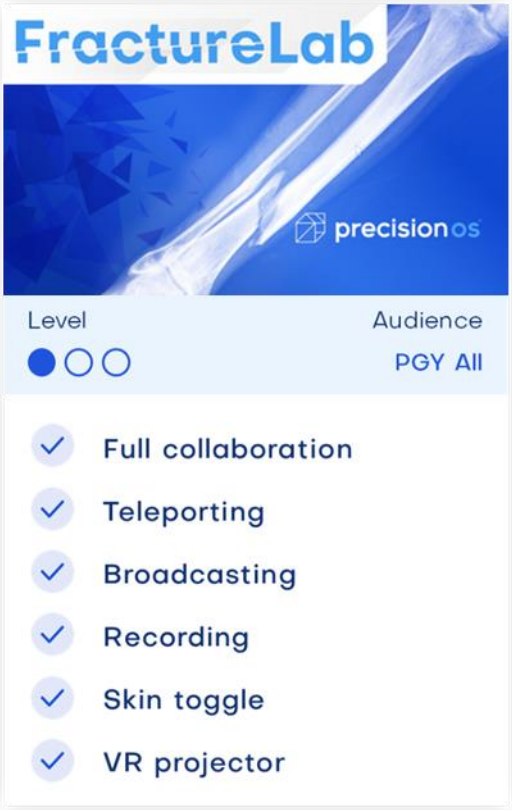
2025

CONTENTS

This document contains all PrecisionOS surgical simulation Apps that can be rented, along with their learning objectives and associated walkthrough videos.

FractureLab

Download and practice fracture cases directly within the virtual O.R from an ever-expanding case catalogue.



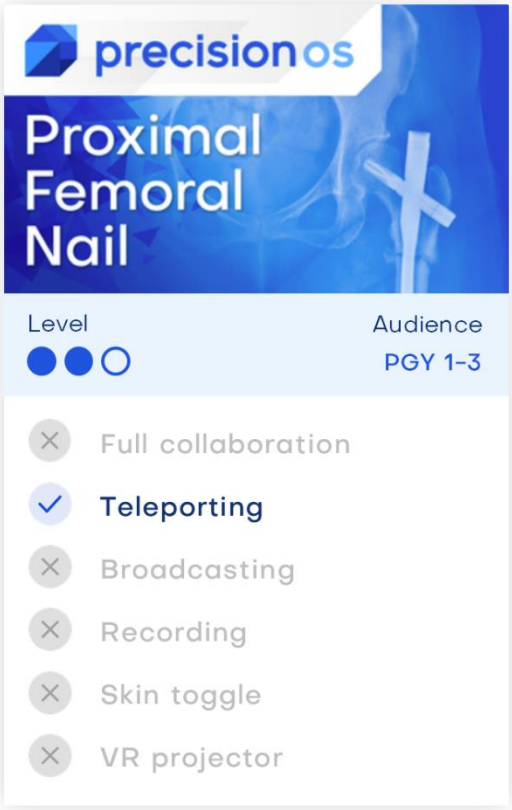
App Walkthrough Video:

Learning objectives:

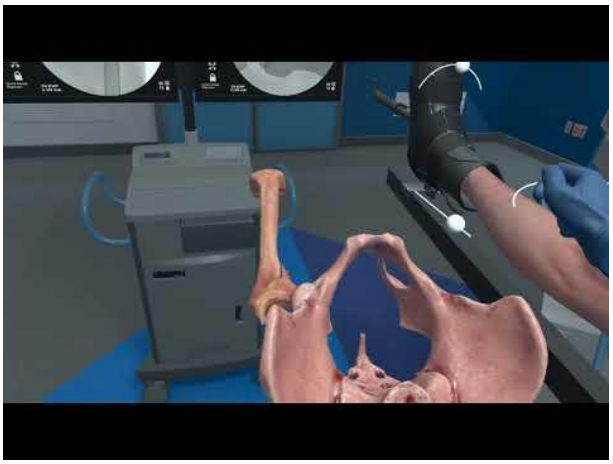
1. Choose from a catalogue of fracture cases
2. Utilize a C-arm to image fracture planes and guide placement of hardware devices.

Proximal Femoral Nail

Basic triangulation skills, C-Arm, K-wire, screw insertion of an intertrochanteric hip fracture.



App Walkthrough Video:

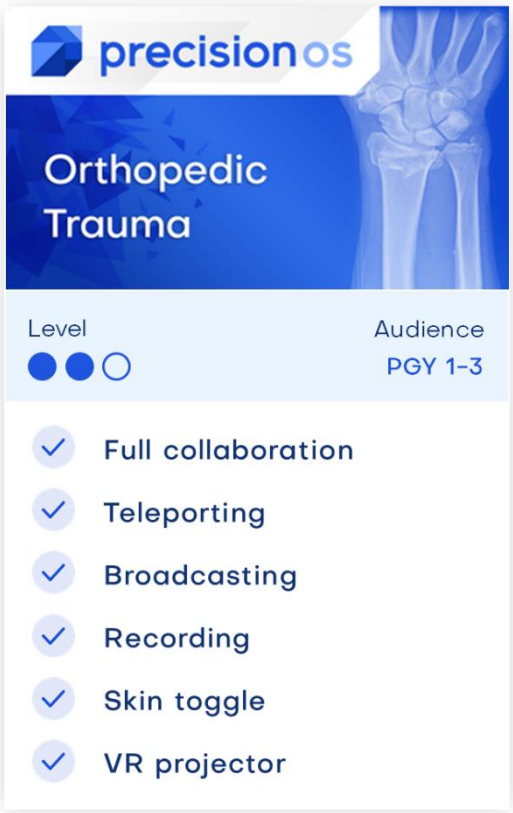


Learning objectives:

1. Carry out the reduction maneuvers and insertion of internal fixation devices.
2. Demonstrate knowledge of the anatomy and surgical approaches used in managing intertrochanteric hip fractures.

Orthopedic Trauma:

Closed reduction and percutaneous pinning of a distal radius fracture.



App Walkthrough Videos:

Case 1: Distal radius

Case 2: Medial malleolus

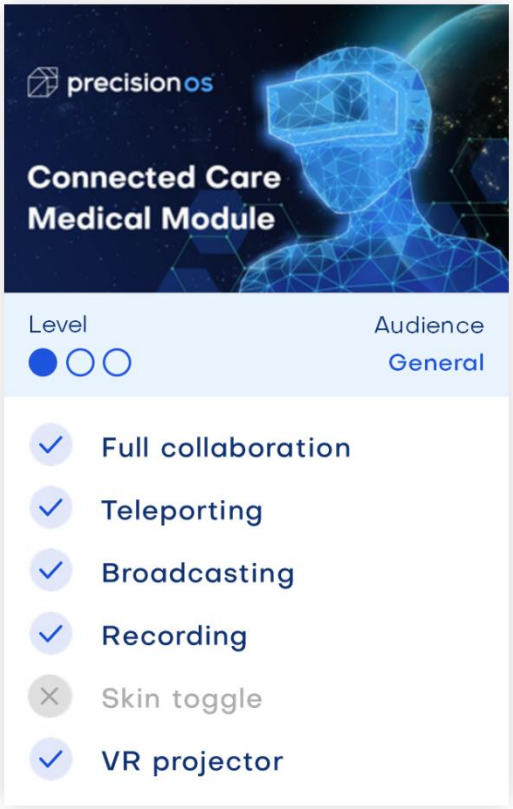
Case 3: Syndesmosis injury

Learning objectives:

1. Utilize a C-arm to image fracture planes and guide placement of hardware devices.
2. Manipulate and position the extremity to facilitate the insertion of K-wires percutaneously to stabilize and fixate fractures.

Connected Care Medical Module:

A non-surgical environment covering the basics of chest compressions for CPR



App Walkthrough Videos:

Case 1: CPR

Case 2: Dislocated shoulder

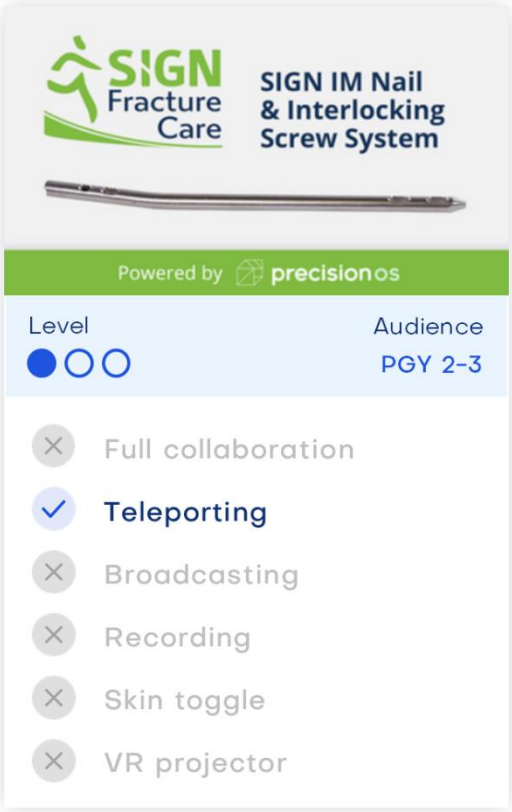
Case 3: Tension pneumothorax

Learning objectives:

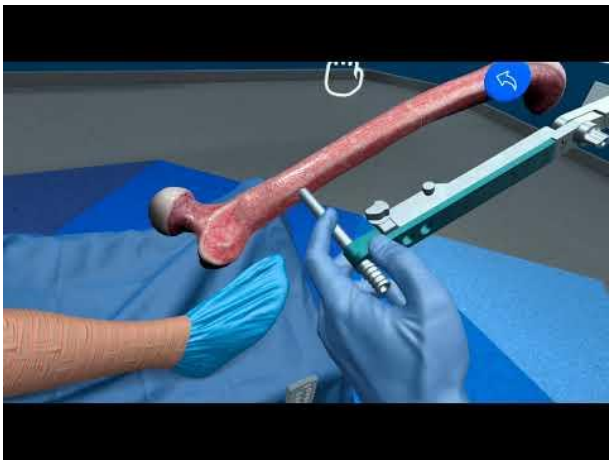
1. Identify acute emergency scenarios and practice appropriate techniques for rescue.

SIGN IM Nail: Retrograde approach

Retrograde Intramedullary femoral nail insertion by SIGN Fracture Care, developed for low-middle income country use.



App Walkthrough Video:

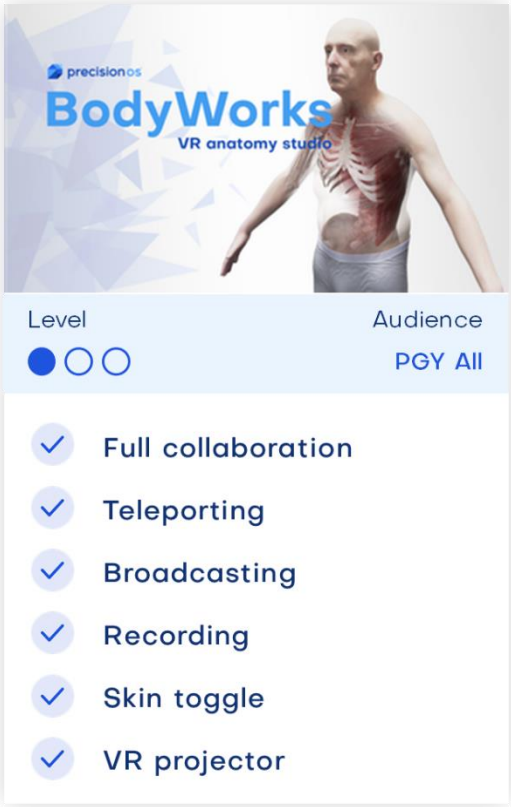


Learning objectives:

1. Describe operative set up and equipment requirements for an intramedullary nail in treatment of a closed, mid-diaphyseal femur fracture.
2. Perform a retrograde intramedullary nail fixation of a mid-diaphyseal femur fracture.

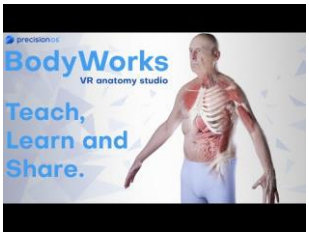
BodyWorks with Delphi

BodyWorks is a fully featured anatomy application focused on surgical education. Our integrated AI agent, Delphi, can manipulate visual models, highlight key structures, clarify complex anatomy, and even create targeted questions.



App Walkthrough Videos:

Case 1: Anatomy Studio



Delphi – AI Agent

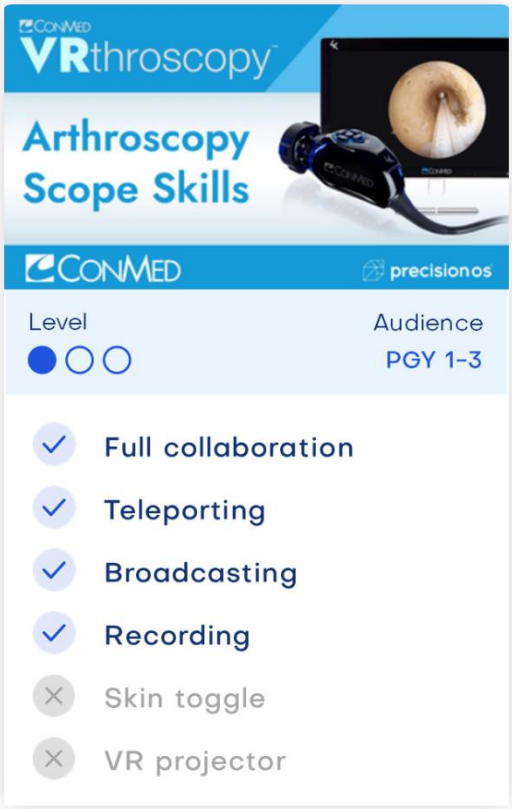
Case 2: Surgical Anatomy

Learning objectives:

1. Visualize relevant musculoskeletal, nervous, and circulatory structures throughout the human body.
2. Refine your visuospatial understanding of anatomy in the context of surgery.

Arthroscopy Scope Skills

Arthroscopy skills trainer



App Walkthrough Video:

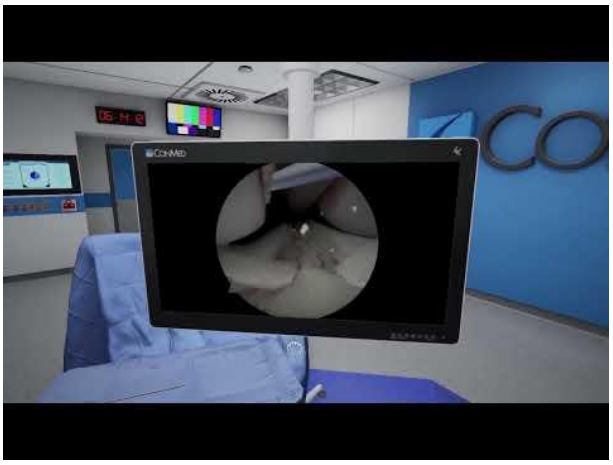
Learning objectives:

1. Utilize 30-degree and 70-degree arthroscopes to practice telescoping, rotating, pivoting, and periscoping.

Anteromedial ACL Reconstruction

Arthroscopic ACL reconstruction including femoral and tibial tunnel positioning and graft fixation.

App Walkthrough Video:



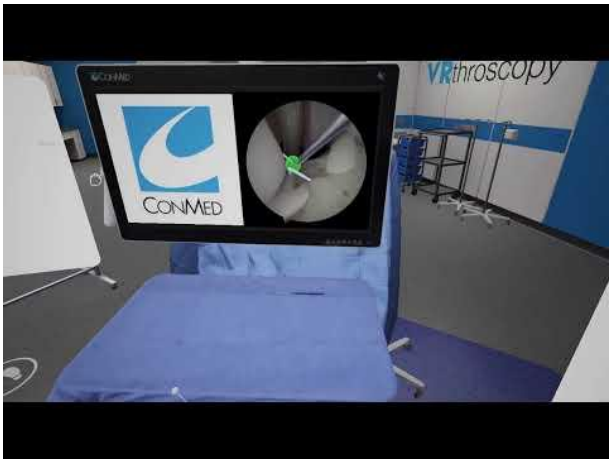
Learning objectives:

1. Utilize limb positioning, and arthroscopic triangulation skills to enable anatomic graft fixation.
2. Summarize the complete approach to an anteromedial ACL reconstruction.

All inside ACL Reconstruction

Arthroscopic ACL reconstruction featuring an all-inside approach.

App Walkthrough Video:



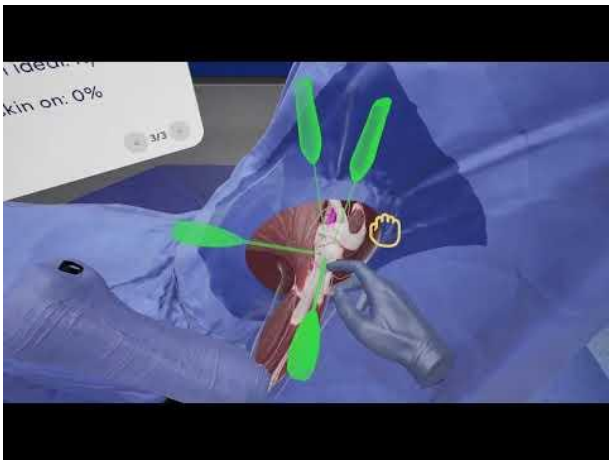
Learning objectives:

1. Utilize arthroscopic triangulation skills to position and place graft sockets that mimic anatomic ACL.
2. Summarize the complete approach to an all-inside ACL reconstruction.

Rotator Cuff Repair

Arthroscopic double row repair including anchor placement and suture management.

App Walkthrough Video:



Learning objectives:

1. Describe operative set up and equipment requirements for performing an arthroscopic double row rotator cuff repair.
2. Visualize the subacromial space and position suture anchors to repair torn supraspinatus and infraspinatus tendons.

Hip Arthroscopy: Femoroacetabular Impingement

Arthroscopically address femoroacetabular impingement.

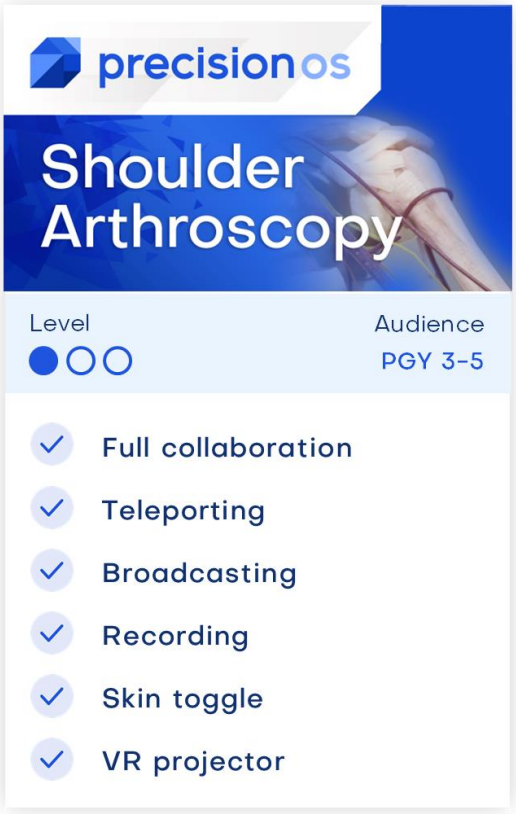
App Walkthrough Video:

Learning objectives:

1. Demonstrate visuospatial skills for 3D orientation using simulated fluoroscopy and arthroscopic viewing portals about the hip.
2. Recognize how to position instruments appropriately identify and remove impinging bone in FAI.

Diagnostic Shoulder Arthroscopy:

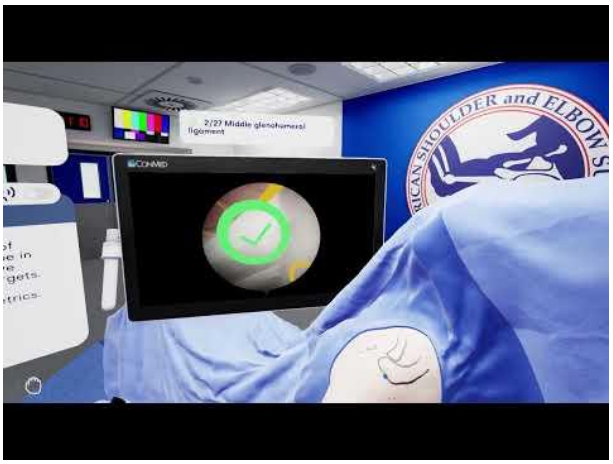
The learner manipulates an arthroscope to identify over twenty anatomical structures inside the left shoulder



App Walkthrough Video:

Case 1: Beach Chair Left Shoulder

Case 2: Beach Chair Right Shoulder

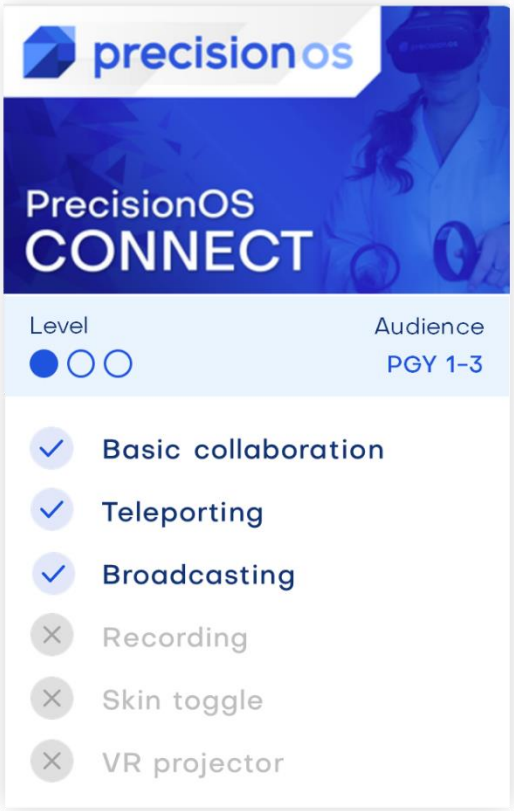


Learning objectives:

1. Utilize a spinal needle to position and form portals for left and right shoulder arthroscopy.
2. Insert the arthroscope and manipulate it to visualize a variety of anatomical landmarks within the left and right shoulder joints.

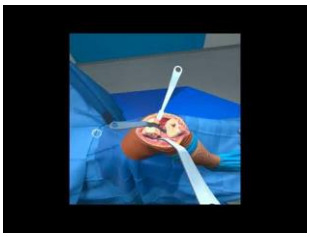
PrecisionOS Connect: Tibial resection

Practice skills involved in a tibial resection with immediate feedback.

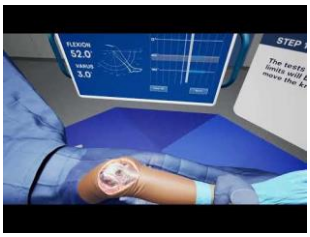


App Walkthrough Videos:

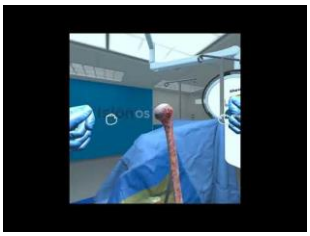
Case 1: Tibial resection



Case 2: Knee range of motion



Case 3: Humeral head resection

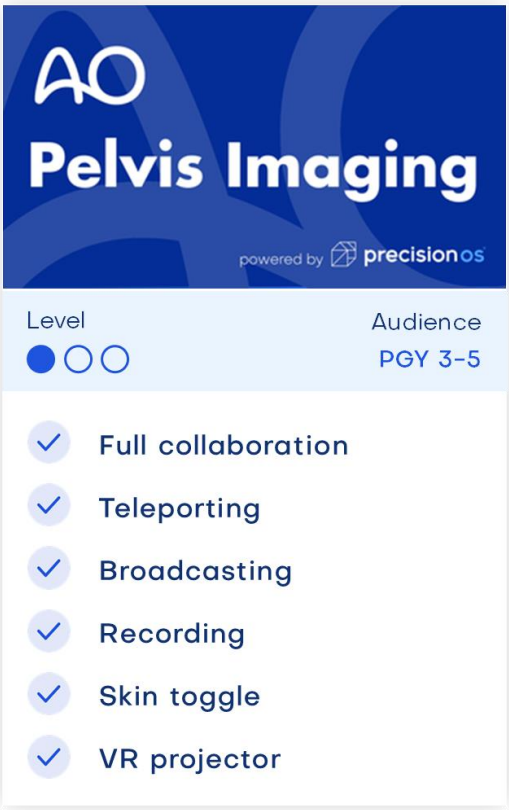


Learning objectives:

1. Perform a revision proximal tibial cut while minimizing tibial resection, and avoiding soft tissue injury.
2. Perform range of motion tests on the knee at a variety of angles of flexion.
3. Perform a proximal humeral neck cut to varying NSA and version options.

AO Pelvis Imaging:

Intraoperative X-ray imaging of a fractured pelvis – learn the AO-recommended standard projections.



App Walkthrough Videos:

Case 1: C-arm Tutorial

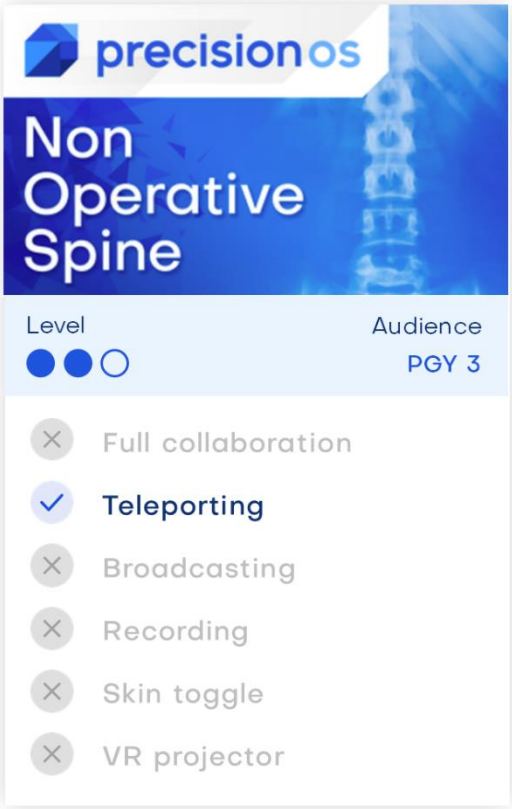
Case 2: Pelvis Imaging

Learning objectives:

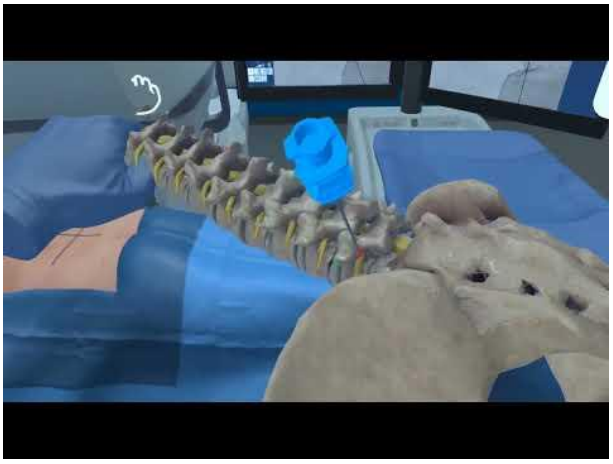
1. Operate the CIARTIC Move C-arm and summarize it's features for intraoperative patient imaging.
2. Recognize appropriate patient positioning for standard radiographic projections of the hip.
3. Capture suitable interoperative X-rays of the hip to make a differential diagnosis.

Minimally Invasive Spine Landmarking

Introduction to imaging and spinal needle insertion to reinforce spine landmarks.



App Walkthrough Video:

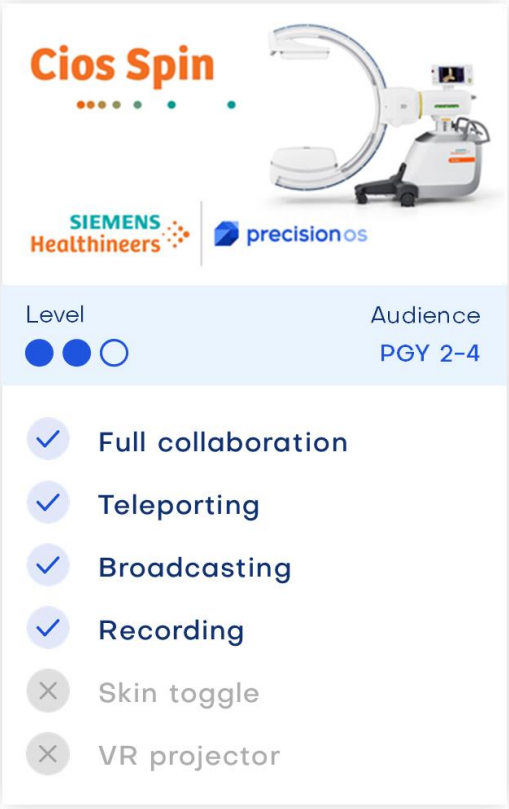


Learning objectives:

1. Demonstrate visuospatial skills for 3D orientation using simulated fluoroscopy to localize relevant structures for non-operative management of degenerative spine disorders.

Cios Spin – Setup & Pedicle Screw Insertion

Prepare and manipulate a C-arm for spine imaging. Acquire and enhance intraoperative spine images captured on C-arm for spine imaging. Capture a 3D spine scan using a C-arm to visualize pedicle screw hardware intraoperatively. Insert pedicle screws into a patient with hyperlordosis



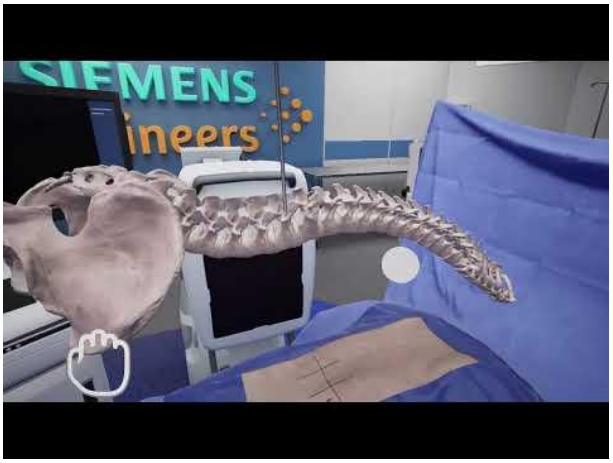
App Walkthrough Video:

Case 1: C-arm Setup

Case 2: Optimizing 2D images

Case 3: 3D scan features

Case 4: Pedicle Screw insertion – Hyperlordosis

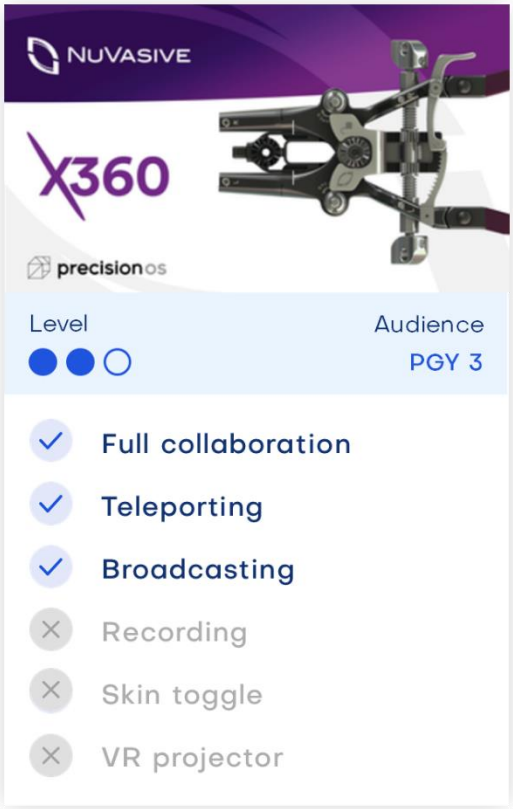


Learning objectives:

1. Locate the major components of a C-arm machine.
2. Visualize L1 access on a patient with hyperlordosis using a C-arm.
3. Insert a pedicle screw into L1 of a patient with hyperlordosis and confirm correct placement with intraoperative C-arm imaging.

X360 – Interbody Fusion

Position and recognize the appropriate setup for a lateral spine procedure.



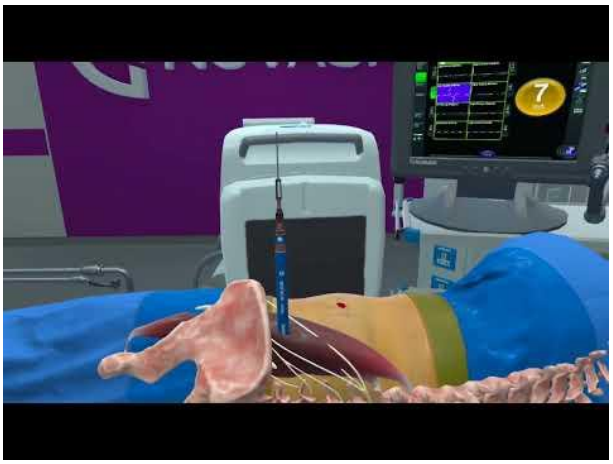
App Walkthrough Video:

Case 1: Patient positioning

Case 2: Anterior lumbar interbody fusion

Case 3: Extreme Lateral Interbody Fusion

Case 4: Lateral Pedicle Screw Insertion

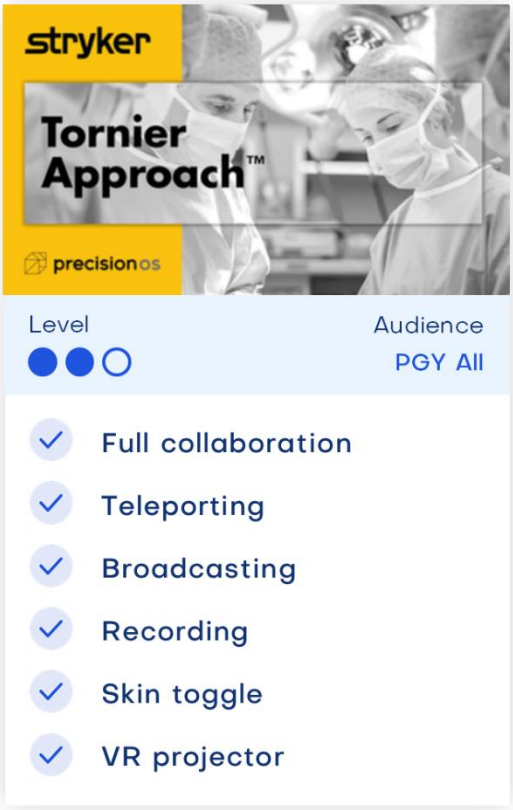


Learning objectives:

1. Properly position a patient for extreme lateral interbody fusion (XLIF) procedures.
2. Perform XALIF and XLIF surgical approaches for: disc access, removal and placement of the interbody fusion cages with intraoperative fluoroscopy.
3. Summarize X-Fixation's adapted posterior fixation technique from the lateral position for insertion of pedicle screws.

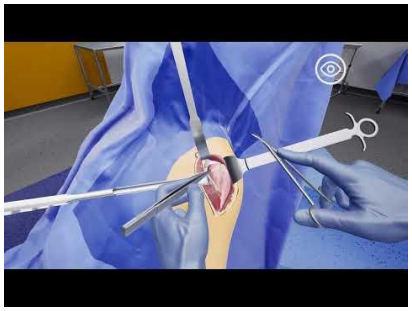
Deltopectoral approach and Glenoid exposure

Deltopectoral approach up to and including resecting the humeral head. Retractor placement and dissection for glenoid exposure in total shoulder or trauma surgery.

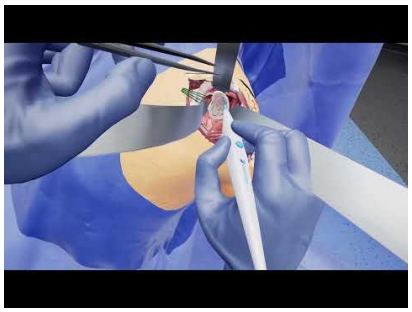


App Walkthrough Videos:

Case 1: Deltopectoral Approach



Case 2: Glenoid Exposure

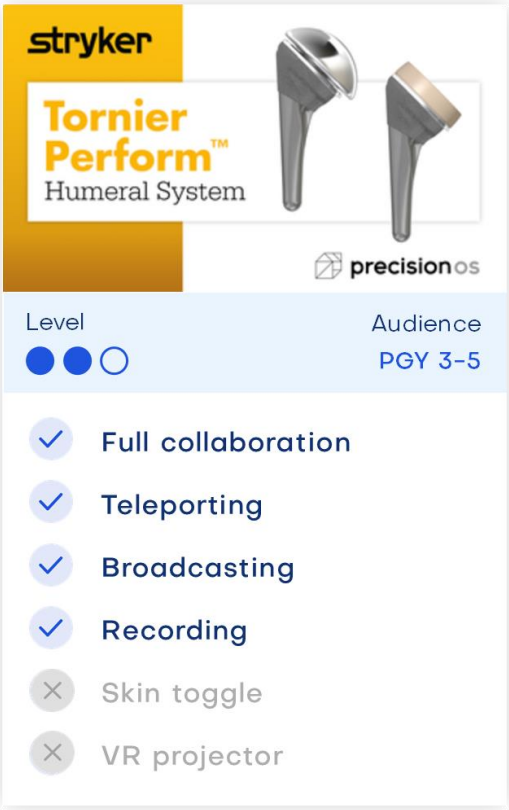


Learning objectives:

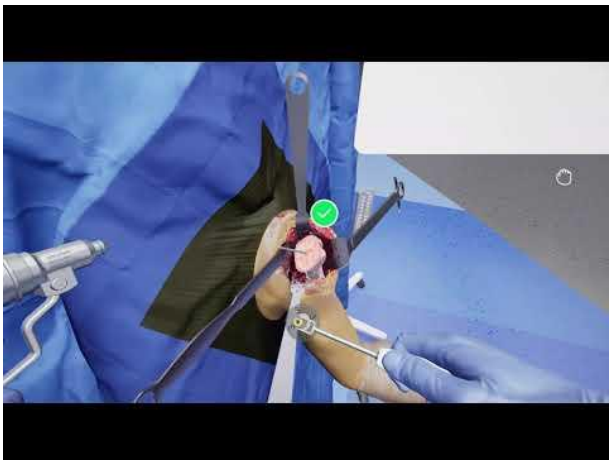
1. Perform the deltopectoral surgical approach and obtain optimum glenoid exposure.
2. Position retractors appropriately for adequate exposure throughout the case.

Humerus Preparation and Stem Implant (Anatomic & Reverse)

Humerus preparation for both anatomic and reverse procedures in total shoulder arthroplasty.



App Walkthrough Video:

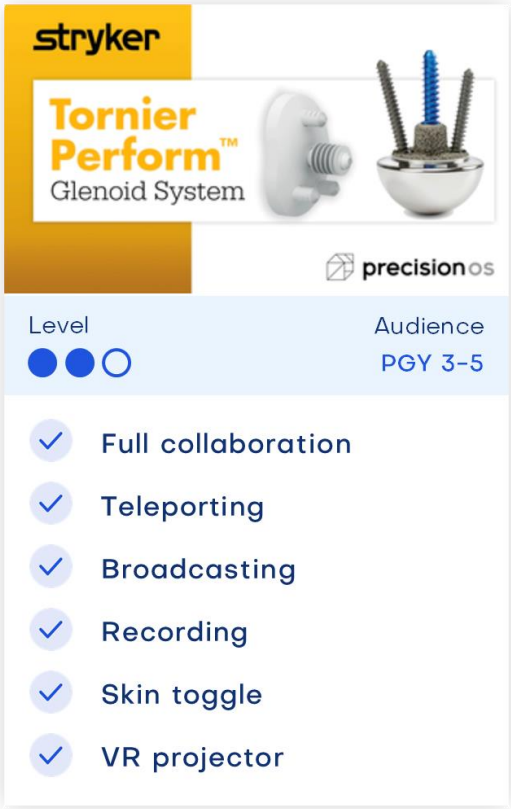


Learning objectives:

1. Describe operative set up and equipment requirements for performing a shoulder replacement.
2. Perform the humeral side of a shoulder replacement with attention to bony resection and implant insertion techniques.

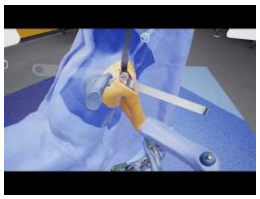
Glenoid Preparation: Anatomic

Glenoid preparation for a variety of procedures in total shoulder arthroplasty.

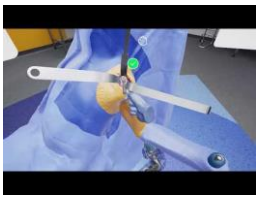


App Walkthrough Videos:

Case 1: Anatomic



Case 2: Reverse



Case 3: Reverse full-wedge

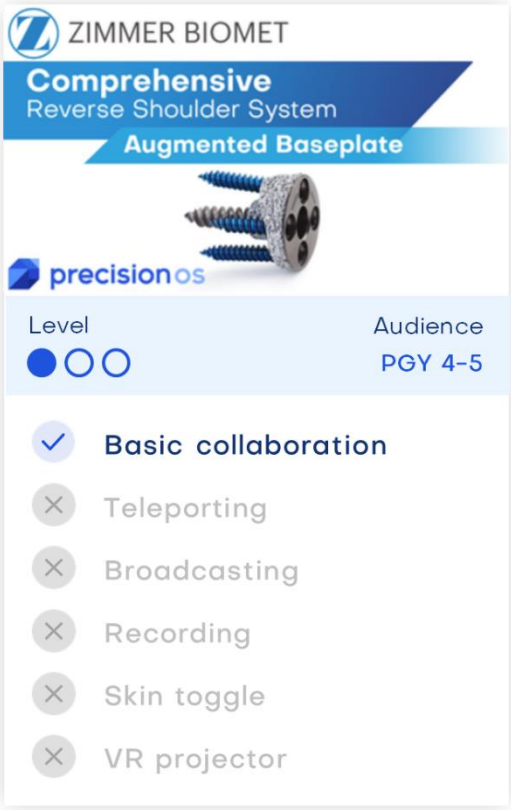
Case 4: Reverse half-wedge

Learning objectives:

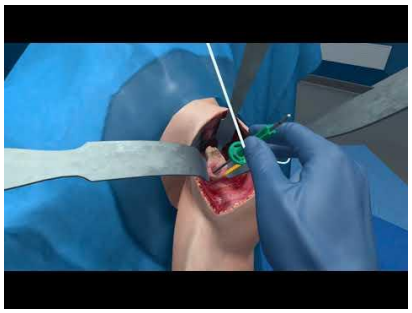
1. List the necessary steps to prepare an anatomic, reverse, or augmented reverse glenoid in total shoulder arthroplasty.
2. Utilize a variety of surgical instruments to prepare and size the glenoid for an anatomic, reverse, or augmented reversed implant.

Reverse Shoulder: Normal Glenoid

Surgical exposure for Reverse total shoulder arthroplasty for a variety of glenoid pathologies.



App Walkthrough Video:



Case 1: Glenoid Exposure

Case 2: Normal glenoid

Case 3: Walch B1 Glenoid

Case 4: Walch B2 Glenoid

Case 5: Walch B3 Glenoid

Case 6: Favard E0 Glenoid

Case 7: Favard E1 Glenoid

Case 8: Favard E2 Glenoid

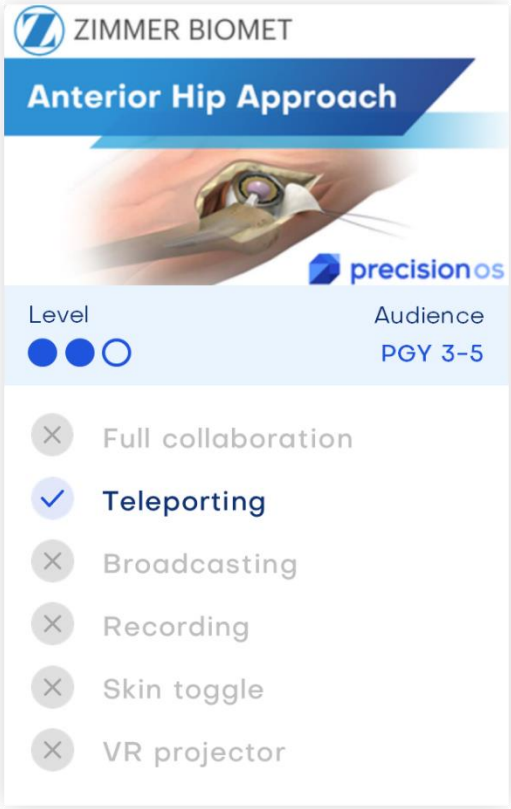
Case 9: Favard E3 Glenoid

Learning objectives:

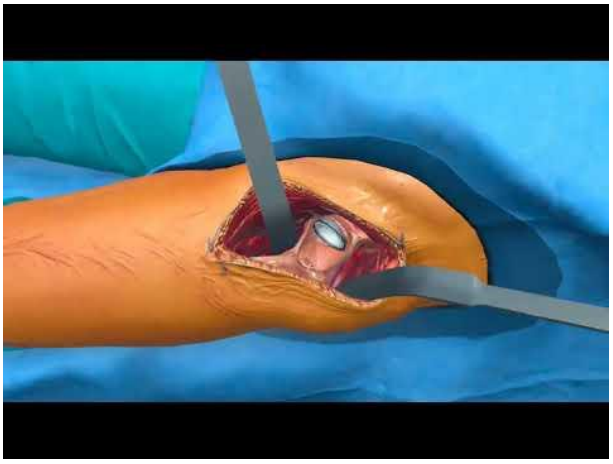
1. Perform the steps to achieve glenoid exposure for trauma or elective shoulder surgery.
2. Install a baseplate upon a variety of glenoid pathologies.

Direct Anterior Hip Approach

Total hip arthroplasty using a direct anterior approach.



App Walkthrough Video:

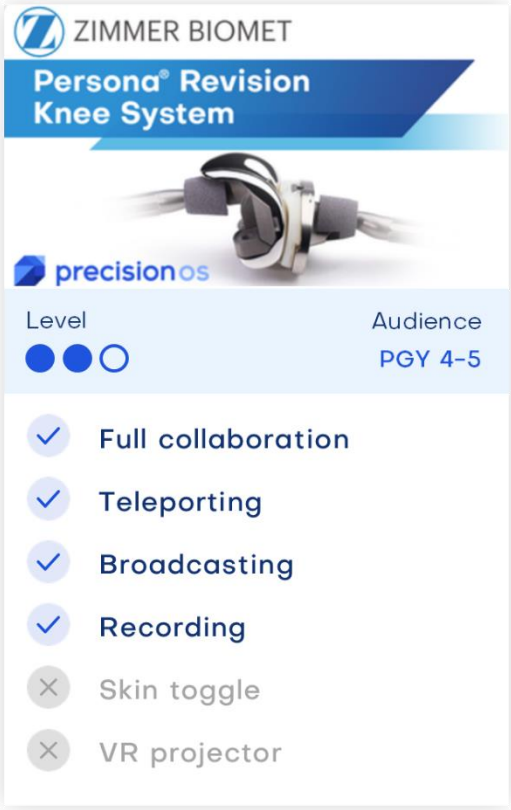


Learning objectives:

1. Perform an anterior hip approach, and recognize intervals, structures at risk, and the proper use of retractors to obtain adequate acetabular exposure.
2. Describe standard total hip arthroplasty through an anterior hip approach.

Revision Knee: Tibial central cone & revision femur

Nine cases revising tibial and femoral bone cuts, balancing flexion and extension and implant sizing.



App Walkthrough Videos:

Tibia	Femur
	

Case 1: Tibial central cone & revision femur

Case 2: Tibial offset & revision femur

Case 3: Medial tibial augment & revision femur

Case 4: Tibial central cone & femoral offset cone

Case 5: Tibial offset & femoral offset

Case 6: Tibial augment & femoral offset

Case 7: Tibial central cone & femoral augment

Case 8: Tibial offset & medial femoral augment

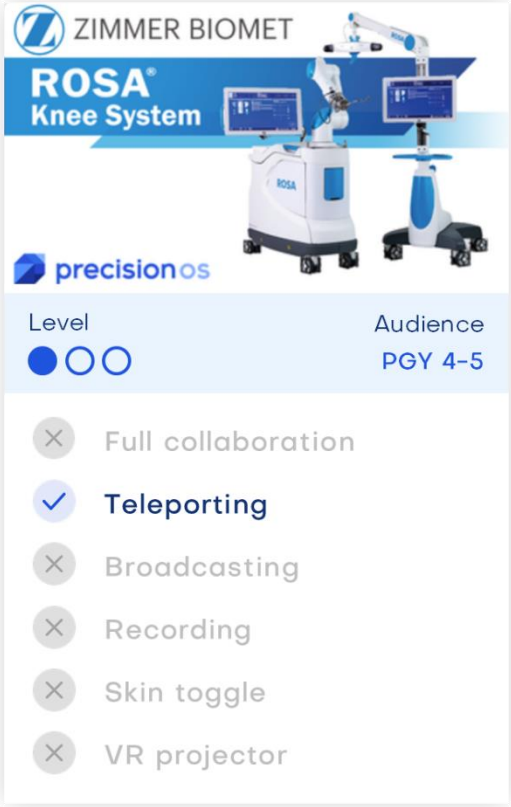
Case 9: Medial tibial augment & medial femoral augment

Learning objectives:

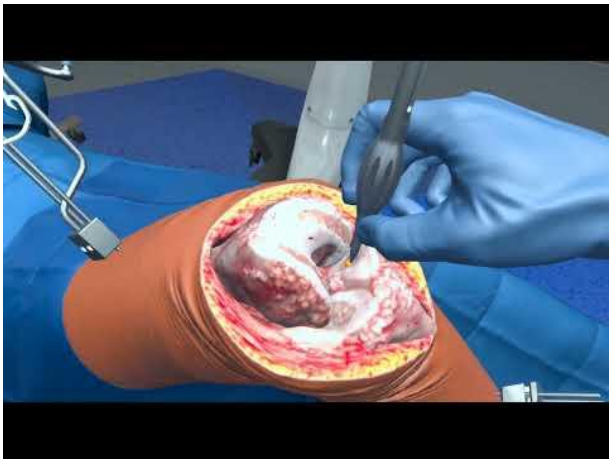
1. Perform a revision total knee arthroplasty for a failed primary total knee for a variety of different pathologies.
2. Restate the direct sequences of key steps in revision knee arthroplasty.

Robotic total knee

Robotically assisted total knee arthroplasty.



App Walkthrough Video:

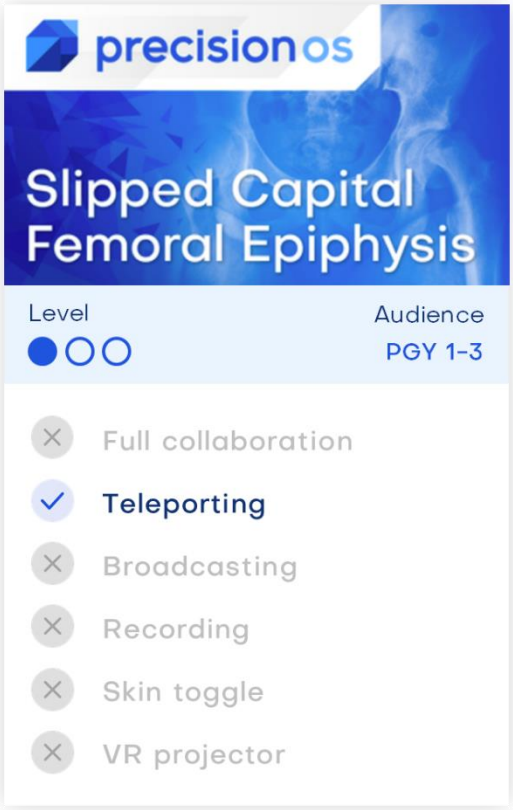


Learning objectives:

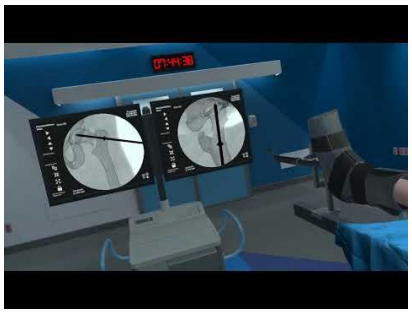
1. Perform a TKA using robotic assistance for a primary, varus, degenerative knee.
2. Describe varus and valgus alignment, range of motion, degrees of resection, rotation measurements through the epicondylar axis, and flexion and extension balancing.

Slipped Capital Femoral Epiphysis: Moderate

Develop C-Arm skills to understand starting points and screw placement for three different scenarios.



App Walkthrough Video:



Case 1: Mild

Case 2: Moderate

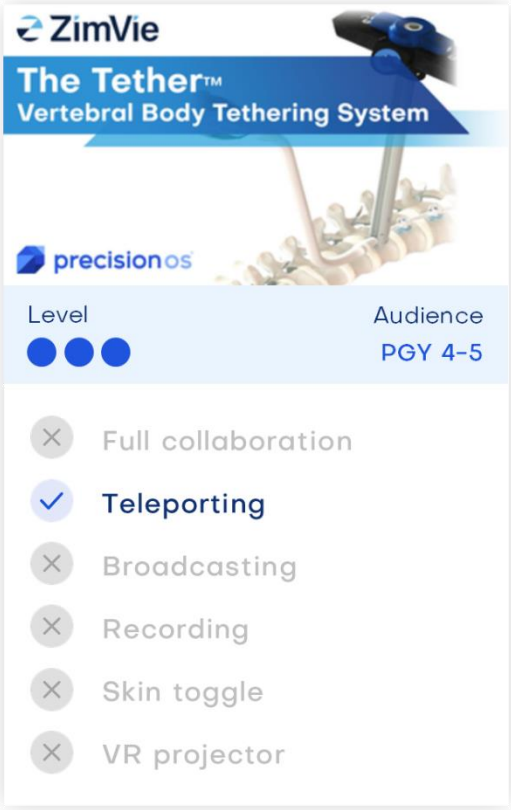
Case 3: Severe

Learning objectives:

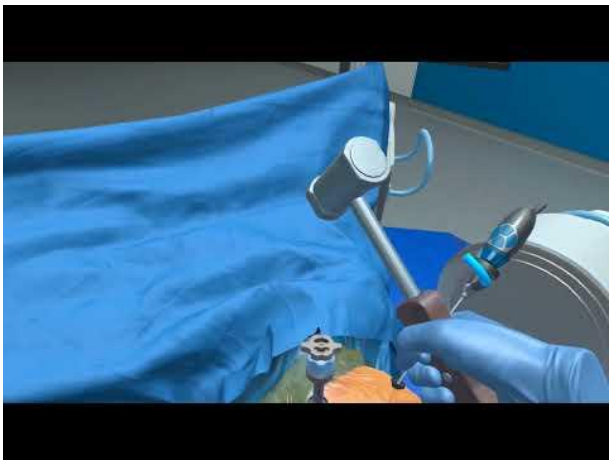
1. Describe operative set up and equipment requirements for in situ pinning of a SCFE of various severities.
2. Perform a SCFE percutaneous in situ fixation with a single cannulated screw, perpendicular to the physis with at least 5 threads across the physis.

Vertebral Body Tethering

Deformity correction of adolescent idiopathic scoliosis including using the C-Arm to correctly place vertebral screws.



App Walkthrough Video:



Learning objectives:

1. Recognize patient positioning and local spinal anatomy for the safe insertion of screws and tethers.
2. Perform a spinal tethering procedure for a Lenke 1 curve.