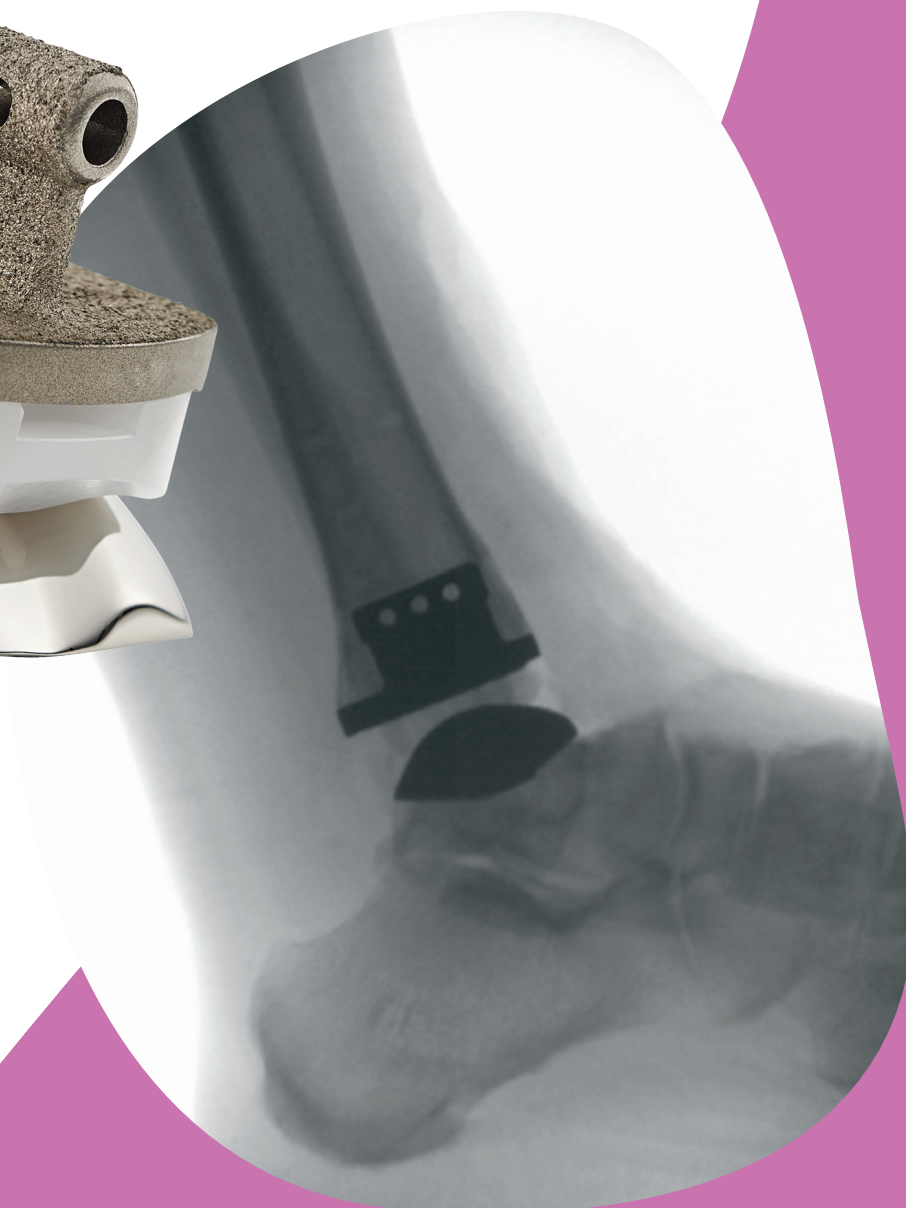


Smith+Nephew

SALTO TALARIS[◇]
Total Ankle Prosthesis

Fluoroscopy Reference Guide



Fluoroscopy reference

1.



After gaining exposure to the joint, visualize the level of the tibial plafond.

2.



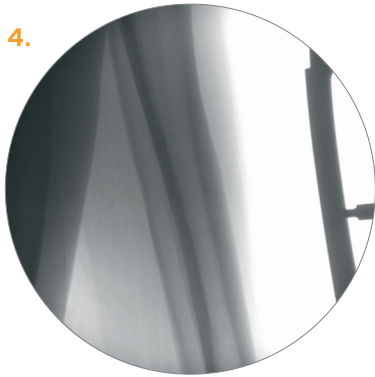
Exostectomy level of the distal tibia.

3.



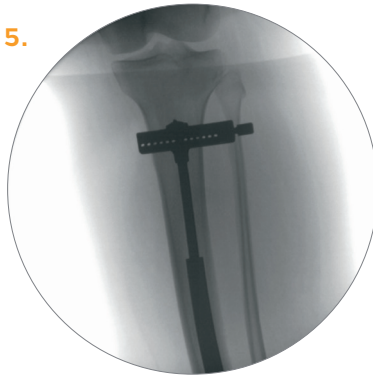
The distal flange of the tibial alignment guide should rest at the level of the exostectomy, elevated slightly off the tibial shaft for smooth translation during the height adjustment.

4.



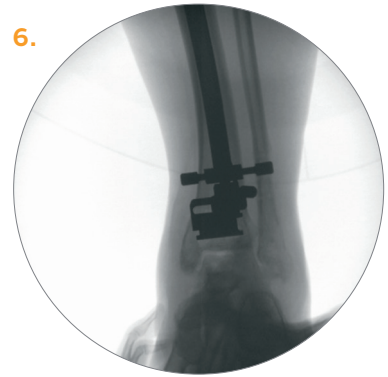
Sagittal plane: The proximal flange of the guide is adjusted parallel to the anterior tibial crest.

5.



Frontal plane: The axis of the tibial resection guide should be made parallel to the tibia's mechanical axis. Adjustments for tibial varus/valgus can be made by choosing the proper hole of the proximal pin guide.

6.



Height adjustment: From the initial reference position, adjust the tibial alignment guide 9 mm proximally. If no deformity is present, the distal end of the guide should be parallel to the joint to prevent a varus/valgus cut. The distal end of the guide may not be parallel if correcting for deformity. Move to sizing and rotation.

7.



Proximal pins in the cut block extend to posterior cortex to protect from the sweep of the saw blade.

8.



Preparing the posterior talar cut: The talar pin setting guide is positioned on the tibial alignment guide. Confirm pin placement at the base of the talar neck (end of anterior talus articular surface) before drilling. Drilling is performed (at the base of the talar neck), while maintaining the foot in neutral flexion, with no rotation, varus or valgus.

9.



A 75mm cutting guide pin is inserted. Talar pin should be inserted as if it would exit the posterior facet of the talus.

10.



Setting the talar resection guide and talar pins: The posterior talar dome resection guide is placed onto the talar pin; the two paddles should rest on the two edges of the talar dome underneath any remaining distal tibial bone.

11.



Four 75mm pins are inserted through the guide and bicortically after drilling with the drill.

12.



Verify pins are properly positioned: The pins must exit posteriorly at the inferior part of the joint surface. After making the posterior talar resection, remove any remaining posterior distal tibial bone. Completely prepare the joint space for tibial base size evaluation.

13.



Lateral view

Tibio-Talar resection.

Anterior view

14.



Confirm that the tibial plate is in contact with both the Anterior and Posterior distal tibial surface. Verify posterior position by assessing the laser line placement of the trial tibial base relative to the anterior tibial cortex.

15.



Anterior talar chamfer: The inferior surface of the anterior chamfer guide should rest congruently on the apex of the posterior talar cut. The guide must be flush posteriorly. It is not uncommon to have normal anterior talar anatomy or an osteophyte create a space between the bone and the guide anteriorly. A rongeur can be used to sculpt the anterior surface of the talus to ensure proper positioning of the guide.

16.



With the guide positioned flush and posterior, secure in place by drilling for pin placement. Take a lateral fluoroscopy shot to confirm flush posterior contact. If satisfied with the position of the guide, place the position spacer in the oblong window.

With a bump under the Achilles to prevent a false anterior drawer, reconfirm guide position by dorsiflexing the ankle. The laser line of the position spacer should “disappear” behind the anterior distal cortex. Load the foot and re-check the guide’s position with respect to rotation. Place the reaming guide in position and ream the anterior chamfer surface.

17.



Following use of the reamer, finish the resection at the medial and lateral margins by removing the ‘dog ears’ with a rongeur. Respect the apex created by the anterior and posterior chamfer cuts. It is not necessary to remove any additional anterior talar bone.

18.



The medial-lateral position of the guide should be determined by placing the wing of the bushing just inside the lateral margin of the talus. This bushing can be removed to assess the position of the apex created by the prepared surfaces. The apex should be visible through the center of the hole in the guide.

Position the lateral resection guide congruent to the 2 prepared surfaces. Assess rotation by evaluating the handle of the guide relative to the 2nd or 3rd ray. It is imperative to confirm both the flush posterior positioning and rotation prior to drilling with the bell saw.

19.



The lateral talar resection guide position is secured with the fixation plug driven completely in. Complete the lateral facet cut. Respect the angle of the guide's lateral cut surface to prevent an over-resection. The guide's handle can be removed to improve access. This completes the talar preparation.

20.



Placing the trial talar implant: The trial implant is impacted with the talar component impactor. Confirm talar position is squarely under the mechanical axis of the tibia.

21.



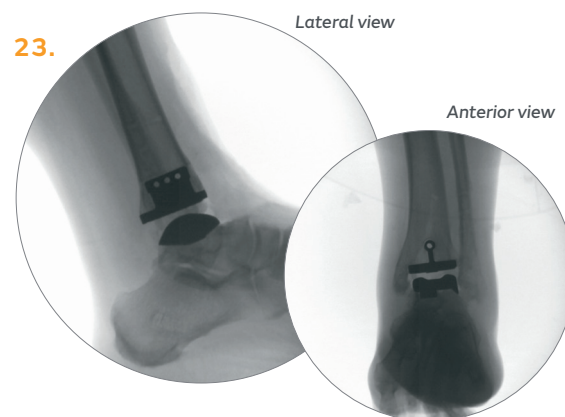
The trial tibial base is selected to conform to the planned tibial implant size. At this point, different trial sizes can be chosen if necessary to provide improved tibial or talar coverage. Keep in mind the size of the tibial component must be equal to or greater than the talus. The trial insert is secured on the trial tibial base forming a monoblock. The tibial base is then inserted between the trial talar implant and the tibia. The highly polished trial tibial base rests flush against the resected distal tibia. The plastic insert perfectly conforms to the talar surface. The relationship of the highly polished surface coupled with the conforming plastic insert allows the talar position to drive the tibial alignment when the foot is loaded and ranged through motion. If the tibial trial is displaced anteriorly during the trialing, the talus is too anterior. The tibial trial naturally finds its optimal position in the frontal and sagittal planes as well as in the rotational plane. Ensure tibial plate is flush with the distal tibia prior to drilling.

22.



Preparation of the tibial implant begins using the 3mm drill bit while loading the foot. The two inferior holes are drilled, then the trial tibial base is held by a 75mm pin in the distal hole. The tibial keel path is drilled.

23.



Lateral view

Anterior view

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31354 V1 05/22