



**The Neff  
Femorotibial  
Nail Surgical  
Technique for Knee  
Arthrodesis**



**A solid approach to knee arthrodesis**

# 1 Open the Tibial Canal

Open canal with 8mm twist drill. (Centered as accurately as possible for IM canal.) Remove debris. Insert IM Rod into the canal using a mallet. Fit the Alignment Rod with the Resection Guide and Arm. Mallet 2 Holding Pins into the holes in the anterior portion of the cutting guide for stability. Remove the IM Alignment Rod.



# 2 Resect the Tibia

Resect the tibia with the Oscillating Saw through the guide. Remove pins and guide. Using the osteotome and mallet, remove the cut tibia.



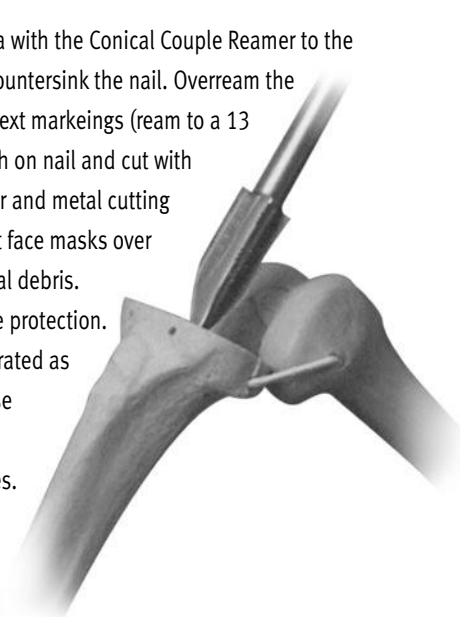
# 3 Ream the Tibia

Progressively ream the tibial canal in .5mm increments starting with a 9mm flexible reamer. You may overream by .5mm. Measure length of canal with ruler on top of tibia via c-arm. Remove guide wire.



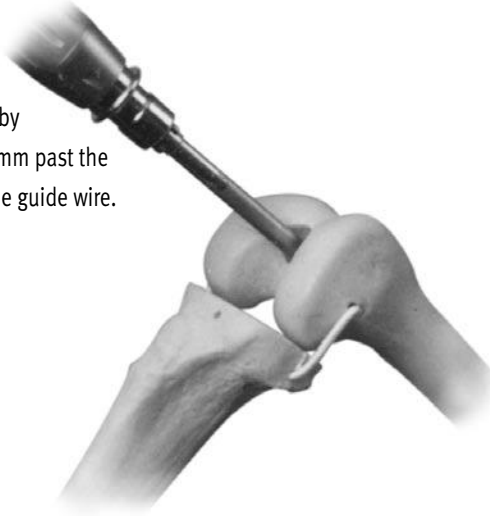
# 4 Cut the Tibial Nail

Ream the proximal tibia with the Conical Couple Reamer to the appropriate depth to countersink the nail. Overream the conical reamer to the next markings (ream to a 13 for 11 nail). Mark length on nail and cut with cebotome or ultrapower and metal cutting wheel. Place space suit face masks over the nail to capture metal debris. The staff must wear eye protection. The nail should be hydrated as the titanium sparks. Use diamond cutting bur to remove any sharp edges.



## 5 Ream the Femoral Canal

Open the cortex with the 8mm cortical reamer. Clean out the canal. Ream the femur in .5mm increments until chatter is felt and then overream by .5mm. Ream 20-30mm past the isthmus. Remove the guide wire.



## 6 Measure the Femoral Canal

Insert femoral gauge into femur to assess length via markings on stem. Remove femoral gauge and place Alignment guide into canal.



## 7 Resect the Femur

Assemble cutting guide and remove the IM Alignment Guide. Make cuts into the femur with the Oscillating Saw. Remove guide and use an Osteotome and Mallet to remove the bone.



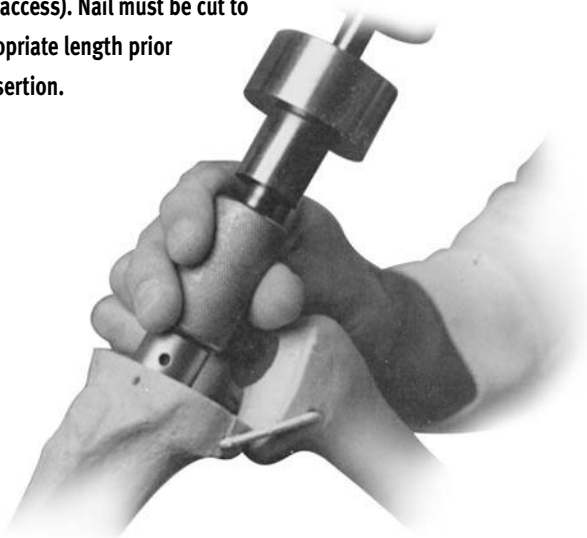
## 8 Cut the Femoral Nail

Ream the distal femur with the Conical Couple Reamer to the appropriate depth. Mark length on nail and cut with cebotome or ultrapower and metal cutting wheel. Place space suit face mask over the nail to capture metal debris. The staff must wear eye protection. The nail should be hydrated as the titanium sparks. Use diamond cutting bur to remove any sharp edges.



## 9 Insert the Tibial Nail

Assemble the Driver/Extractor onto the tibia nail and insert the nail into the prepared tibia (**position two set screw holes anteriorly for easy access**). **Nail must be cut to appropriate length prior to insertion.**



## 10 Assemble the Driver/Extractor

Place the nail into the tibia with the Metal Plate on the proximal thread to keep the nail from collapsing into the bone. Align nail so two of the screw holes are anterior.



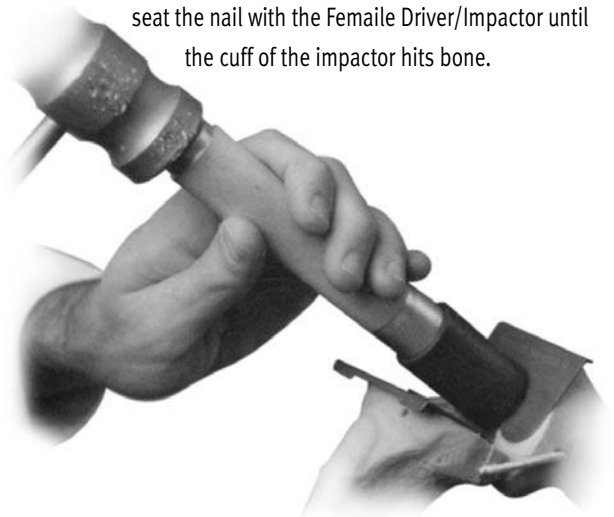
## 11 Assemble the Driver/Extractor

Assemble the Driver/Extractor onto the femoral nail and insert the nail into the prepared femur. **Nail must be cut to appropriate length prior to insertion.**



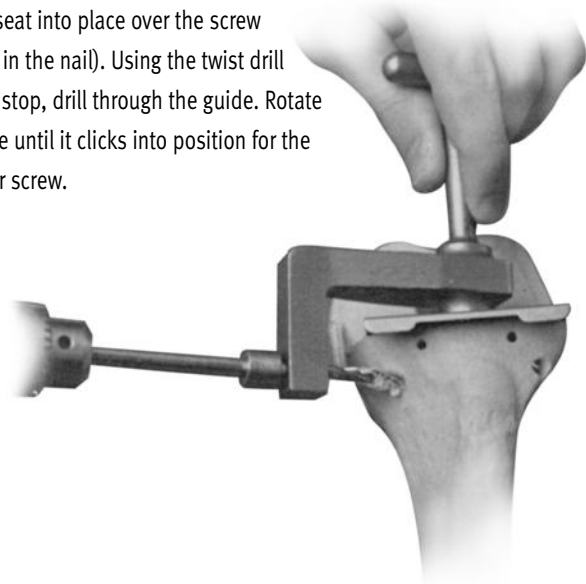
## 12 Seat the Femoral Nail

Place the Retainer Plate on the distal thread of the femoral nail and seat the nail with the Female Driver/Impactor until the cuff of the impactor hits bone.



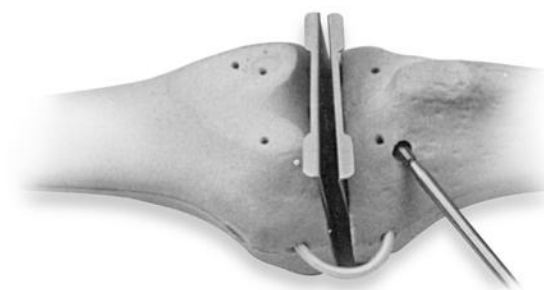
# 13 Drill the Tibia

Place the Tibial Drill Guide into the nail and allow the instrument to catch into position (there is a small trinkle ball inside the guide that will seat into place over the screw hole in the nail). Using the twist drill with stop, drill through the guide. Rotate guide until it clicks into position for the other screw.



# 14 Assemble the Nails

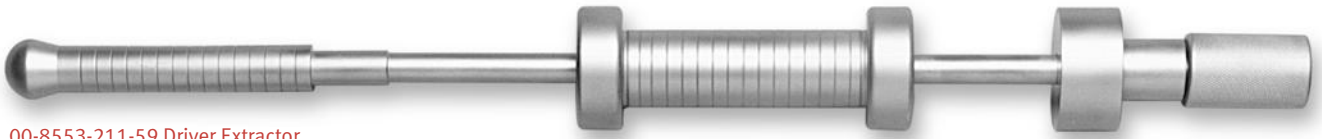
Place the Tibia in flexion and position the screws slightly into the holes just superficially prior to fully seating them. This allows the ease in seeing into the nail to confirm that they are in the proper drill channel. Place the leg in extension and push the two nails together and impact them together by hitting on the bottom of the patient's foot after padding it. Position the screwdriver into the set screw and completely seat the screws into the notches in the femoral nail. Remove the plates and impact the nails again. The patient should be weight-bearing as soon as possible to further seat the nail.



## Ordering Information

| Catalog Number     | Description                    |
|--------------------|--------------------------------|
| <b>Implants</b>    |                                |
| 32-8553-311-11     | Femoral Nail 11mm dia x 340mm  |
| 32-8553-311-13     | Femoral Nail 13mm dia x 340mm  |
| 32-8553-311-15     | Femoral Nail 15mm dia x 340mm  |
| 32-8553-311-17     | Femoral Nail 17mm dia x 340mm  |
| 32-8553-311-59     | Tibial Nail 9mm dia x 370mm    |
| 32-8553-311-61     | Tibial Nail 11mm dia x 370mm   |
| 32-8553-311-63     | Tibial Nail 13mm dia x 370mm   |
| 32-8553-311-65     | Tibial Nail 15mm dia x 370mm   |
| <b>Instruments</b> |                                |
| 00-2305-024-00     | Screwdriver                    |
| 00-8543-001-02     | Separator                      |
| 00-8543-007-04     | Tibial Adaptor (for 8553-404)  |
| 00-8543-007-05     | Femoral Adaptor (for 8553-404) |
| 00-8553-211-41     | Femoral Gauge, 11mm            |
| 00-8553-211-43     | Femoral Gauge, 13mm            |

| Catalog Number              | Description                       |
|-----------------------------|-----------------------------------|
| <b>Instruments</b>          |                                   |
| 00-8553-211-45              | Femoral Gauge, 15mm               |
| 00-8553-211-47              | Femoral Gauge, 17mm               |
| 00-8553-211-59              | Driver/Extractor                  |
| 00-8553-211-76              | Tibial Adaptor (for 8553-211-59)  |
| 00-8553-211-77              | Femoral Adaptor (for 8553-211-59) |
| 00-8553-211-83              | Tibial Drill Guide Assembly       |
| 00-8553-403-00              | Retainer Plates (2)               |
| 00-8553-404-00              | Driver/Impactor Handle            |
| 00-8553-405-00              | Cutting Guide Assembly            |
| 00-8553-406-00              | Twist Drill w/Stop, 1/4in.        |
| 00-8553-407-00              | Conical Couple Reamer             |
| <b>Optional Instruments</b> |                                   |
| 00-5061-063-00              | Holding Pins (4)                  |
| 00-5789-043-00              | Holding Pin Pliers                |



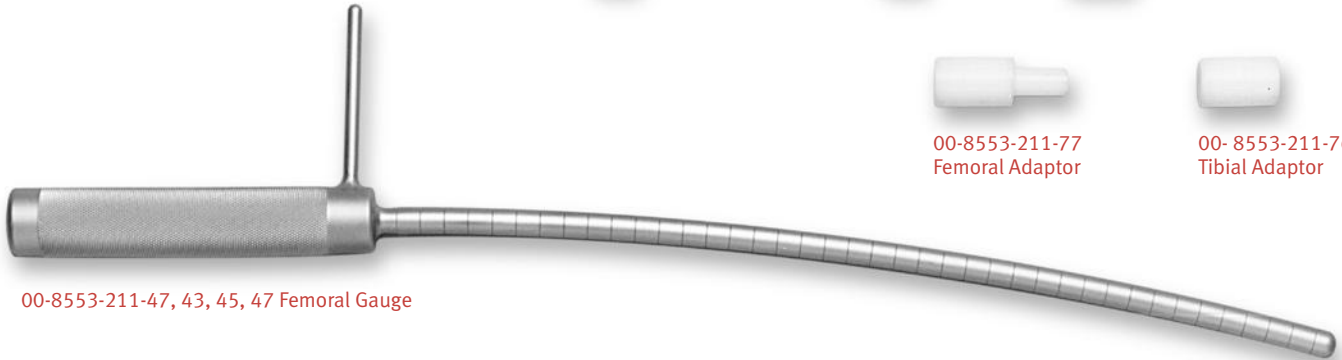
00-8553-211-59 Driver Extractor



00-8553-211-77  
Femoral Adaptor



00-8553-211-76  
Tibial Adaptor



00-8553-211-47, 43, 45, 47 Femoral Gauge



00-8553-407-00 Conical Couple Reamer



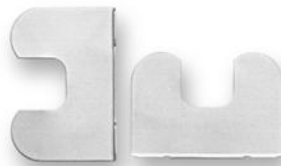
00-8543-506-04  
Tibial Adaptor



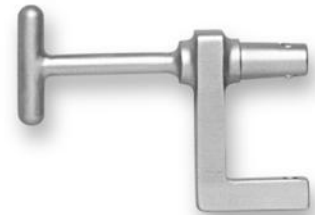
00-8553-404-00  
Driver/Impactor Handle  
w/Femoral Adaptor (8543-01-01)



00-8543-001-02 Separator



00-8553-403-00 Retainer Plate



00-8553-211-83  
Tibial Drill Guide Assembly



00-8553-405-00 Cutting Guide Assembly



00-8553-406-00 Twist Drill w/Stop

Please refer to package insert for complete product information, including contraindications, warnings, precautions, and adverse effects.

Contact your Zimmer representative or visit us at [www.zimmer.com](http://www.zimmer.com)

