



# Caso Problema

**Autores: Dr. Hernandez Emilio, Dr. Maletti Pablo.**

# Historia

- **Paciente de sexo femenino.**
- **70 años.**
- **Antecedente:**
  - **Varo severo bilateral**
  - **HTA**
  - **IMC 32**

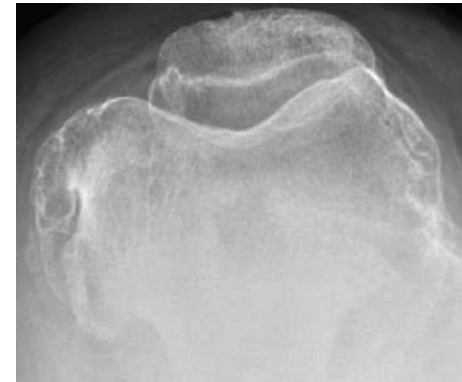
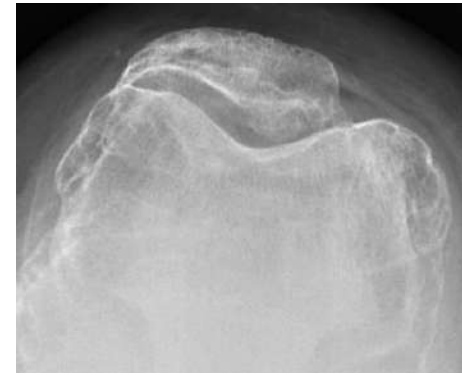
# Exámen Físico

- **Dolor e impotencia funcional grado IV en MMII.**
- **Gran dificultad para caminar.**
- **Rodilla derecha: ROM 10°-70°**
- **Rodilla izquierda: ROM 10°-90°**



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# Radiografías



# ¿Conducta?

- **RTR Bilateral en 1 tiempo**
- **RTR Bilateral en 2 tiempos**
- **Uso de Vástagos**
- **Manejo del defecto óseo con: suplemento de metal**

**Injerto óseo autólogo**

**suplementación con cemento**



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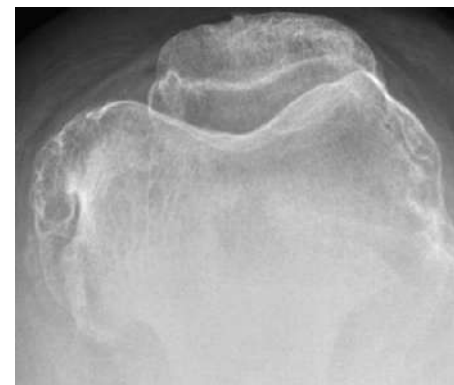


**STOP**



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# Radiografías





# Intra Op

Liberación del LCM profundo y  
cápsula posteromedial en tibia







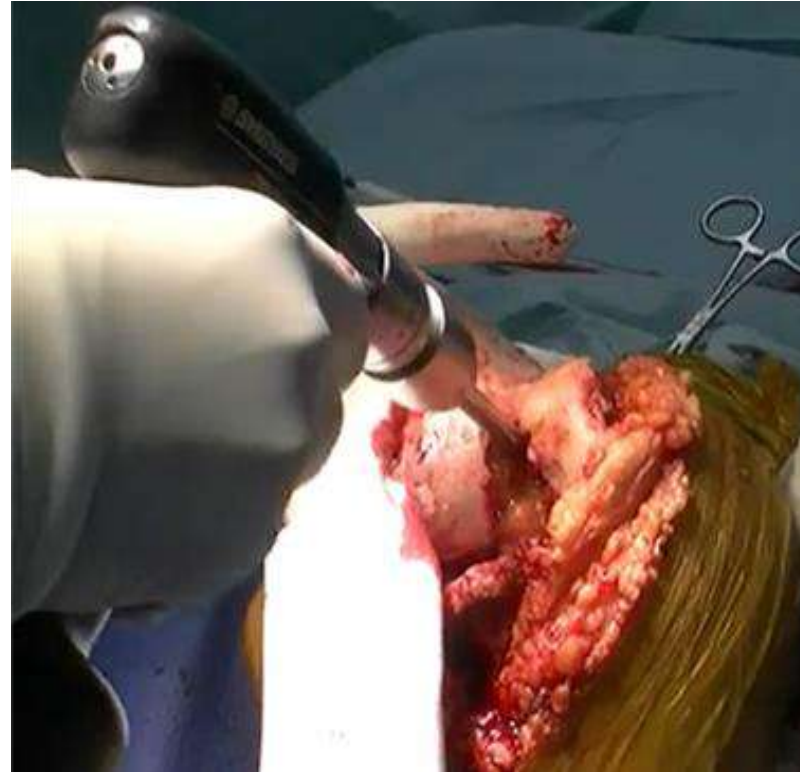
# Intra Op

Resección de osteofitos  
femorales



# Intra Op tiempo femoral

Corte fémur distal con guía endomedular





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# Intra Op tiempo tibial

Resección de osteofitos  
tibiales

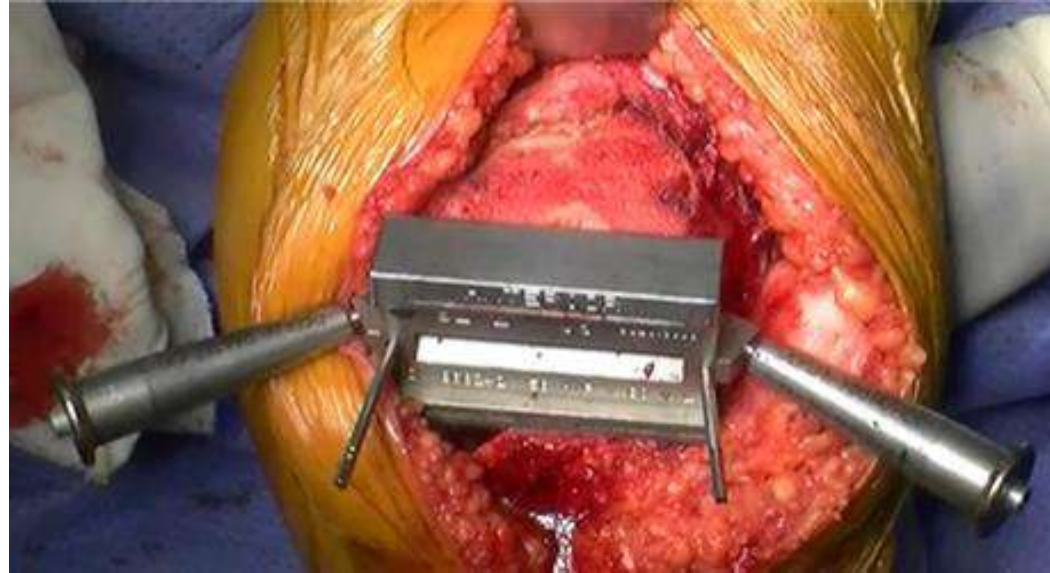


# Balance del Espacio de extensión y Control del Eje



# Intra Op tiempo femoral

Corte femoral anterior  
Signo del Piano de Cola

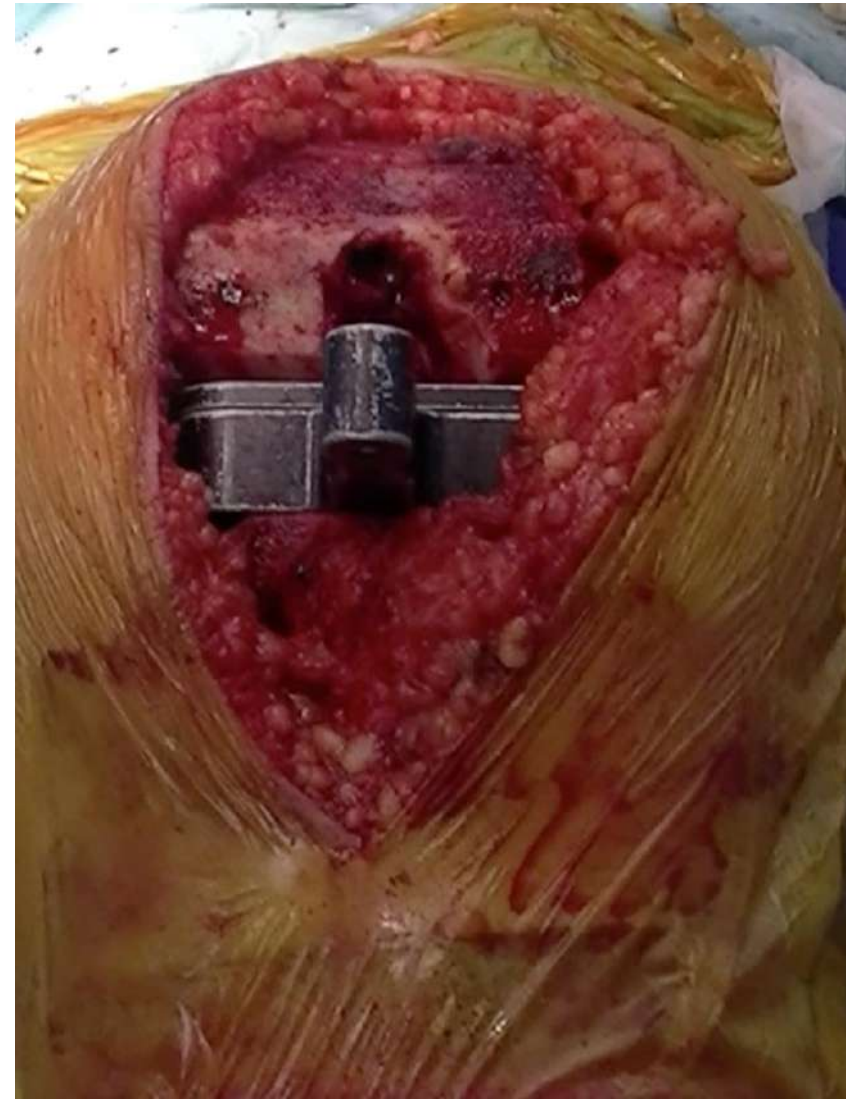


Resección de osteofitos posteriores



# Intra Op tiempo tibial

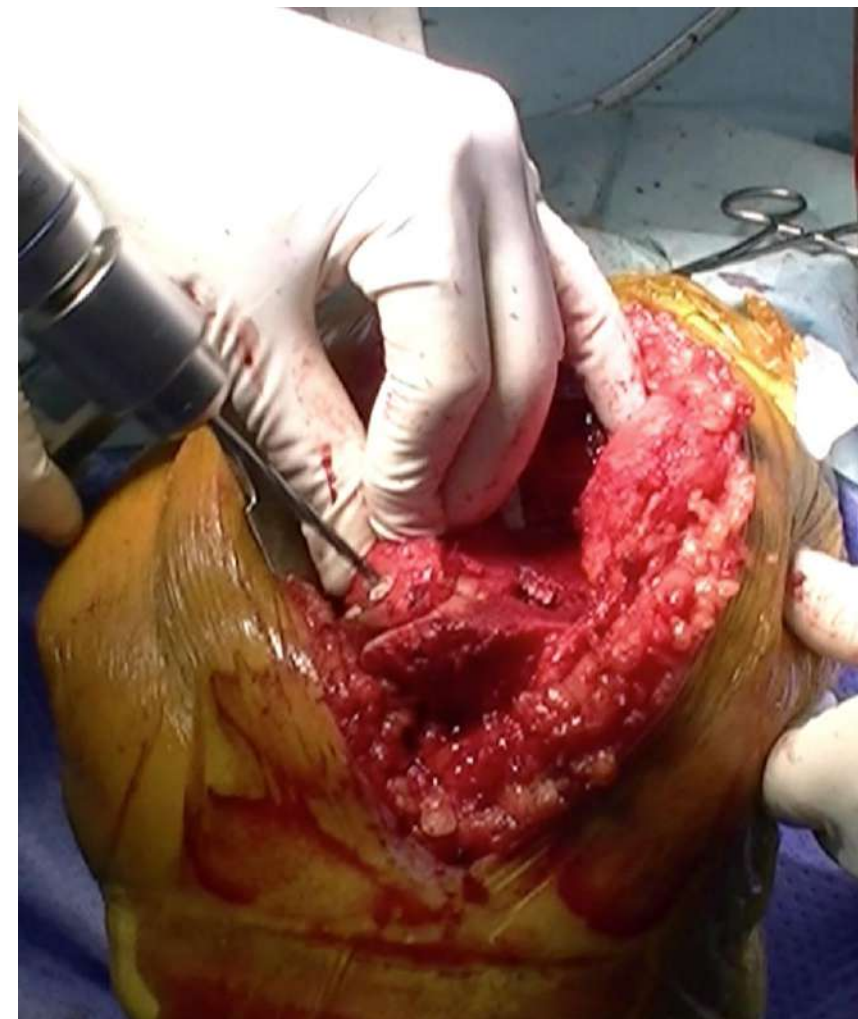
Balance del espacio de flexión



Evaluación del defecto óseo  
Región postero-medial del  
platillo tibial



Preparación del lecho receptor y colocación de injerto óseo





Infiltración peri-articular  
con cocktail de Ranawat

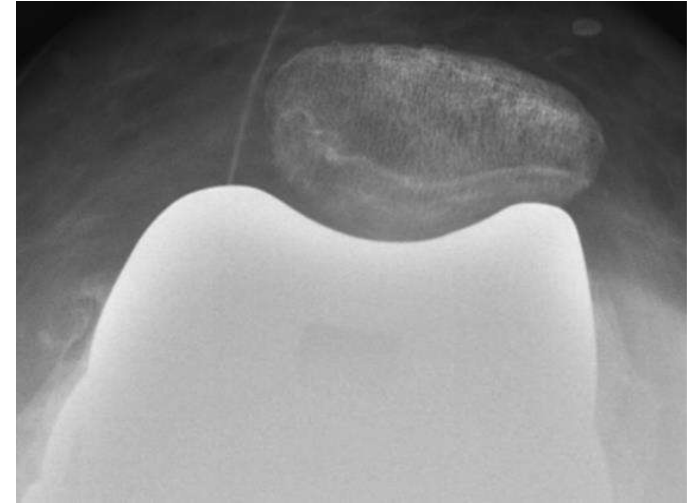


# Intra Op

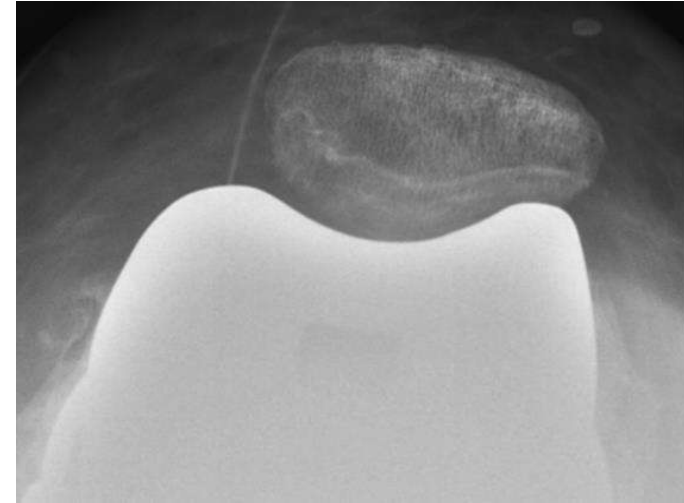


Cementado Tibial y Femoral

# Rxs Post Op Inmediata



# Rxs Post Op



# Rxs Post Op



# ¿Qué le hice y Por Qué?

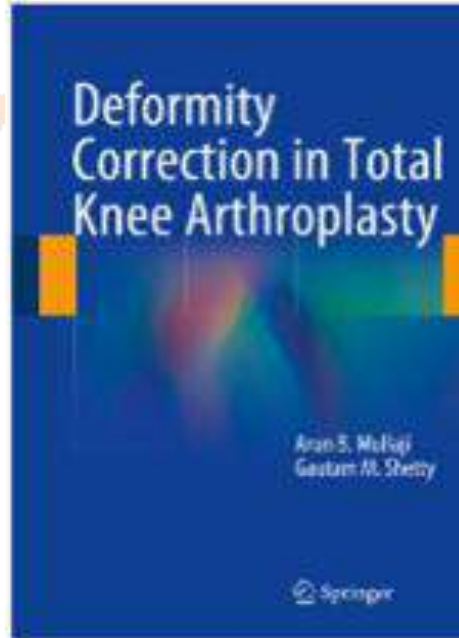
- **RTR + reconstrucción con injerto óseo autólogo según técnica de Insall:**
- **La suplementación con cemento se utiliza en defectos menores a 5 mm**
- **Suplementos de metal: se utilizan cuando el defecto óseo involucra también la región anterior del platillo medial o en casos de mala calidad ósea (NOA, uso corticoides, IRC)**
- **Tallo tibial indicado para aumentar la superficie de fijación y para protección del injerto**



# Literatura Pertinente



Medial tibial bone defects may be significant even after the tibial cut has been performed. Bone defects are dealt with based on their size and position (Fig. 3.9). Usually, uncontained medial tibial bone defects less than 10 mm deep are filled with bone cement, whereas defects  $\geq 10$  mm are filled with autologous bone graft (typically using bone from the notch cut). The bone defect should be first gently fashioned into a step-cut defect using a saw and then the bone block shaped to match the defect. The graft is usually punched into position or fixed into place using 2-mm K-wires or cancellous screw if the size of the graft is large (Fig. 3.9). These should be directed parallel to the tibial surface to avoid the peg or stem of the tibial component. A tibial stem extender is usually used in cases with large medial bone defects of  $>10$  mm (Fig. 3.9). Rarely,



## Coronal Plane Deformities

Front Matter

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### Varus Deformity

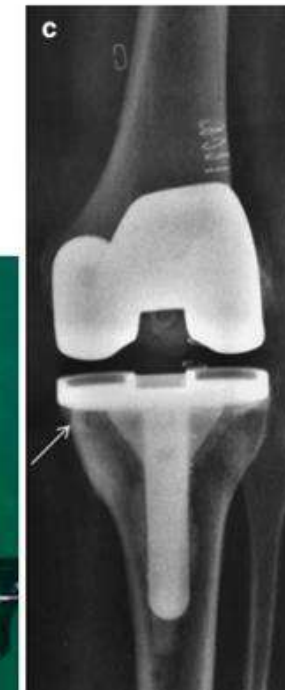
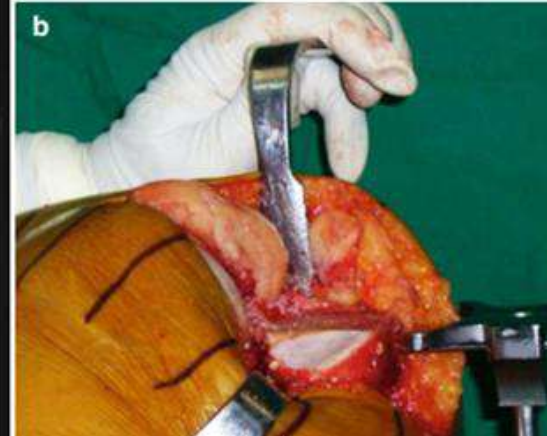
Arun B. Mullaji, Gautam M. Shetty

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### Valgus Deformity

Arun B. Mullaji, Gautam M. Shetty

Pages 59-71



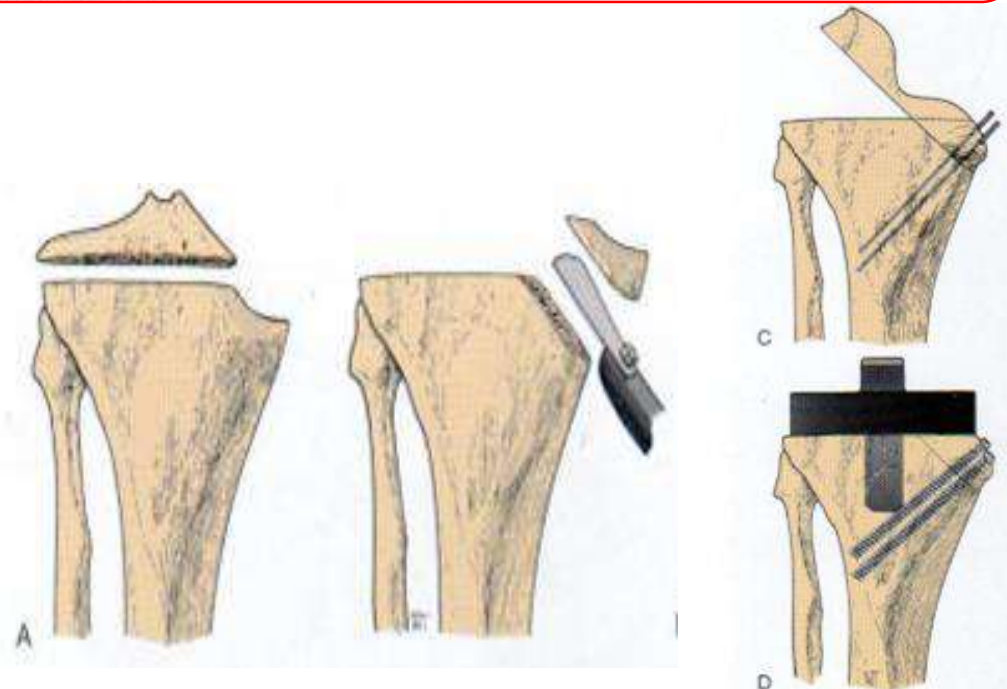


*Insall & Scott*

# RODILLA



**Figura 74-103.** Técnica de injerto de hueso. *A*, La tibia se reseca al nivel habitual, dejando un defecto medial. El hueso esclerótico en la base del defecto se elimina con una sierra, exponiendo el hueso trabecular. *B*, El injerto de hueso se obtiene de la resección femoral distal. *C*, El cóndilo femoral se aplica al defecto temporalmente con alambres de Kirschner. El injerto se reseca a nivel del corte tibial. *D*, Los alambres de Kirschner se sustituyen por tornillos, y el componente tibial está en su sitio. (De Behrens JC, Walker PS, Shoji H. «Variation in strength and structure of cancellous bone at the knee». *J Biomech* 7:201, 1974.)



# Management of Bone Loss in Primary and Revision Knee Replacement Surgery

Matteo Fosco<sup>1</sup>, Rida Ben Ayad<sup>1</sup>, Luca Amendola<sup>1</sup>,  
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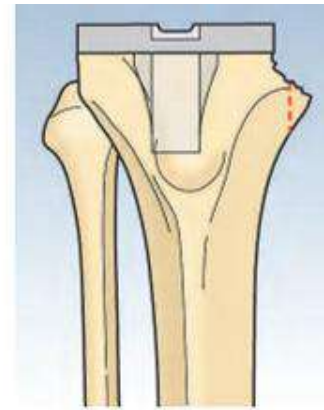
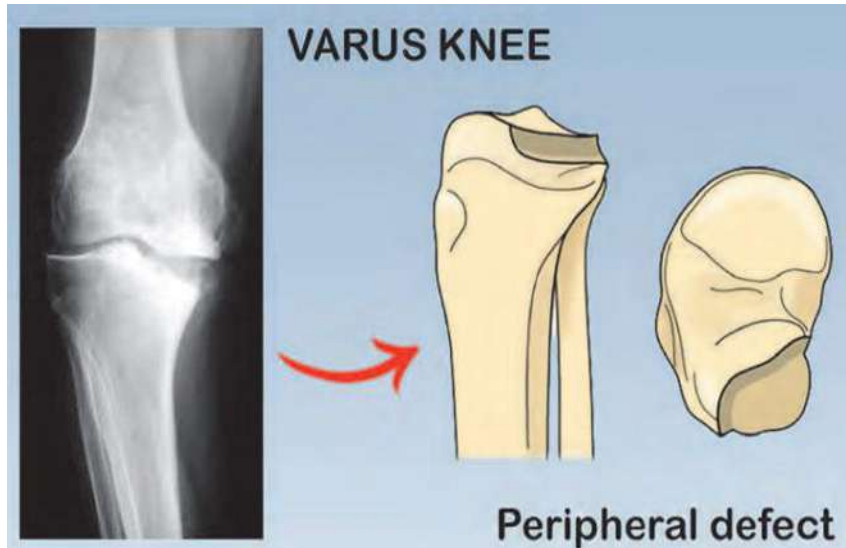


Fig. 2. Translating tibial component could be a viable option for very small defect; this technique should not be used in angular deformity due to abnormal concentration of load forces.



Fig. 3. Cement filling could be used with or without screws (modified from Brooks et al., 1984).

### 4.3.1 Autologous bone grafting

In primary TKA, the resected femoral condyles or tibial plateau sometimes can be used as a source of autograft for tibial defects; morcelized bone obtained from the tibia and femoral resections can be used as autograft in contained defects.

Its use have been advocated by various authors (Dorr et al., 1986; Scuderi et al., 1989), constituting a viable option due to excellent osteoinductive, osteoconductive and osteogenic properties (Fig. 4).

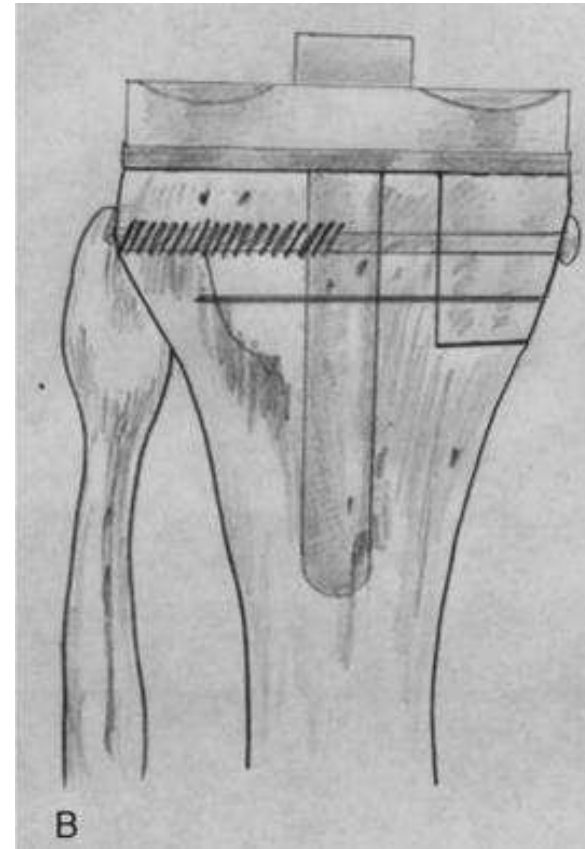
## Total Knee Arthroplasty for Profound Varus Deformity

Technique and Radiological Results in 173 Knees with Varus of  
More Than 20°

Arun B. Mullaji, FRCS Ed, MCh Orth, MS Orth, D Orth, DNB Orth,  
Vinod Padmanabhan, MS Orth, and Gaurav Jindal, MS Orth

#### 4. Managing uncontained bone defects.

- a. Less than 5 mm deep. Bone cement was used to fill the defect after drilling 2-mm holes in the sclerotic floor of the defect.
- b. More than 5 mm deep. Bone graft was used. First, a step-cut defect was created after removing all sclerotic avascular bone. The floor of the defect was gently sloped laterally. Autologous bone from the intercondylar bone resection or posterior medial condylar bone was fashioned to fill the defect. It was transfixed with a 2-mm Kirschner wire aimed in a horizontal direction parallel to the cut surface of the tibia such that it avoided pegs or the stem of the tibial tray. Larger grafts were fixed with a cancellous screw (Fig. 1B).
- c. Metal step wedges. These were used in cases where the recipient bony surface was avascular (as with intra-articular stress fractures, in patients who have had avascular necrosis secondary to cortisone injections).
- d. Tibial stem extender. This was 30 mm long and was used when bone grafting was done for defects more than 1 cm deep and which involved a greater proportion of the upper surface, and when the bone was osteoporotic.





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## Total knee arthroplasty in the varus knee: tips and tricks

Roberto Rossi<sup>1,2</sup> · Umberto Cottino<sup>1</sup> · Matteo Bruzzone<sup>1</sup> · Federico Dettoni<sup>1</sup> · Davide Edoardo Bonasia<sup>1</sup> · Federica Rosso<sup>1</sup>

Received: 21 July 2018 / Accepted: 13 August 2018  
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Type of deformity	Description
Intra-articular (IA)	<ol style="list-style-type: none"><li>1. Reducible<ul style="list-style-type: none"><li>• AMOA with ACL intact</li><li>• PMOA with deficient ACL</li></ul></li><li>2. Fixed<ul style="list-style-type: none"><li>• Without lateral instability</li><li>• With lateral instability</li></ul></li></ol>
Metaphyseal (M, within 5 cm of joint line) at femoral (F) or tibial (T) level	<ul style="list-style-type: none"><li>• Wear extending to the metaphyseal region</li><li>• Changes to joint line obliquity and metaphyseal anatomy</li></ul>
Diaphyseal (D, >5 cm away from joint line)	<ul style="list-style-type: none"><li>• DT: Diaphyseal tibial level</li><li>• DF: Diaphyseal femoral level</li><li>• DTF: Diaphyseal tibial and femoral level</li></ul>

Uncontained defects of the medial tibial plateau have to be addressed using the same procedure used in revision: cement fill, bone grafting, or wedges. If the defect is less than 5 mm deep, it is possible to manage it using bone cement only, when the defect is bigger, it has to be filled using cement reinforced with screws, bone grafts (using a step-cut technique) usually derived by the notch osteotomy, or metal augments and wedges according to surgeon's attitude.