

Supplementary information 2 (SI2)

Title: Starting up a Cementless Oxford Medial Unicompartmental Knee Arthroplasty Practice - A Prospective Cohort Study of 200 Knees

Journal: Archives of Orthopaedic and Trauma Surgery

Radiographic overview

Preoperative Radiographic Alignment

Blue lines serve as visual guides; green lines represent actual measurements.

Anterior-Posterior View (APV)

Femorotibial Angle (FTA)

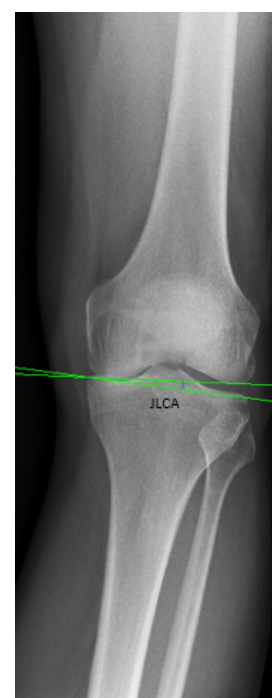
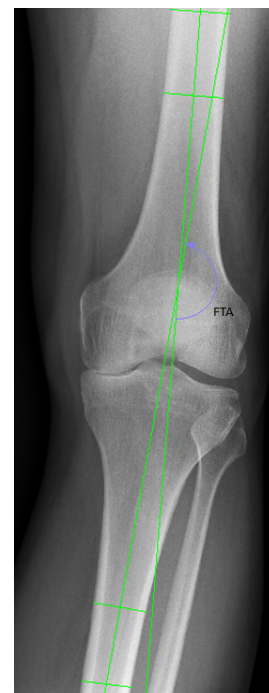
- Measured as the angle between the anatomical axes of the femur and tibia.
- Each axis is constructed by connecting two mid-diaphyseal points along the femoral and tibial shafts. Lines are drawn through the midpoints on each bone.

Medial Proximal Tibial Angle (MPTA)

- Defined as the angle between the anatomical axis of the tibia and the tibial plateau.
- The tibial axis is drawn using two mid-diaphyseal points.
- The tibia plateau line is drawn between the deepest points of the medial and lateral tibial condyles.

Joint Line Convergence Angle (JLCA)

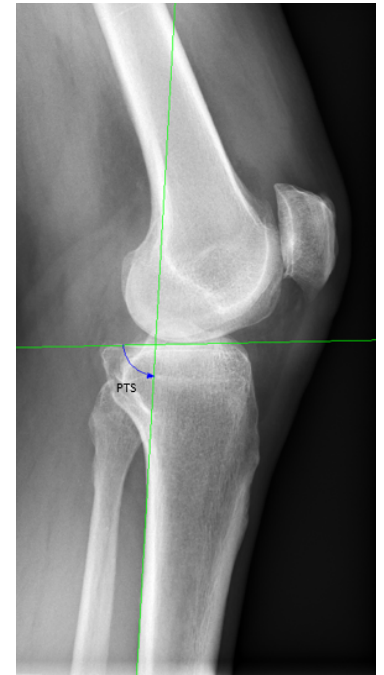
- Measured as the angle formed between two tangential lines drawn along the distal medial and lateral femoral condyles and the tibial plateau.



Lateral View

Posterior Tibial Slope (PTS)

- Measured as the angle between the tibial plateau and the longitudinal axis of the tibia.
- The tibial axis is drawn along the posterior cortex, while a second line is drawn along the slope of the tibial plateau.



Bone-on-Bone Contact

- Evaluated on the AP view to confirm complete loss of medial joint space.
- This finding served as an inclusion criterion for the Oxford Partial Knee Replacement, indicating advanced osteoarthritis of the medial compartment.

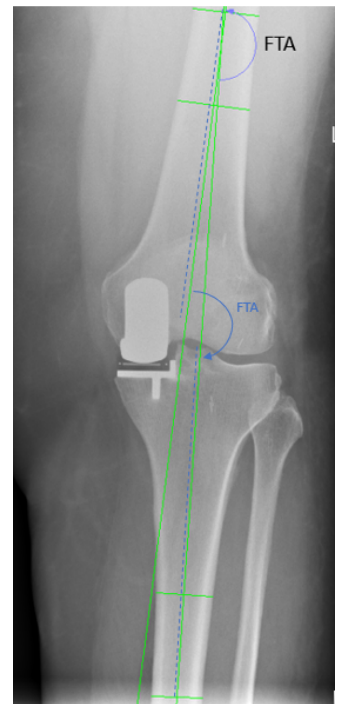


Postoperative Radiographic Alignment

Anterior-Posterior View (AP)

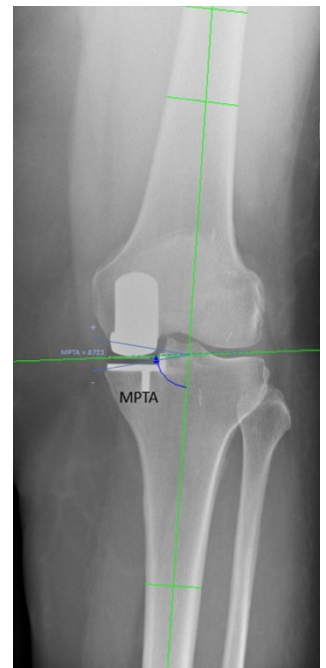
Femorotibial Angle (FTA)

- As previously described, used to evaluate postoperative correction of the axis.
- The anatomical axes of femur and tibia are constructed by connecting two mid-diaphyseal points located approximately at one-third and two-thirds of the visible shaft length for each bone.



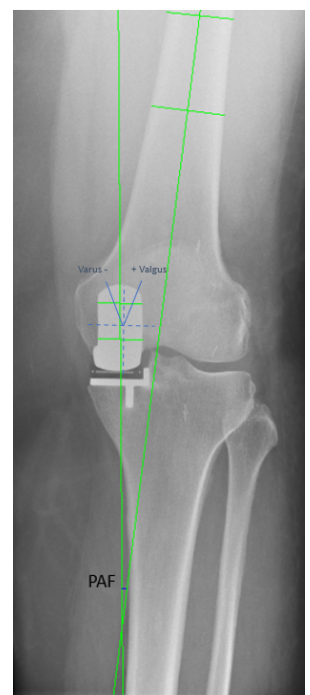
Medial Proximal Tibial Angle (MPTA)

- Assesses the coronal orientation of the tibial component relative to the tibial anatomical axis.
- The tibial axis is defined as above.
- The articular surface of the tibial component is represented by a line drawn along the superior edge of the baseplate.



Femoral Component Varus/Valgus Angle (PAF)

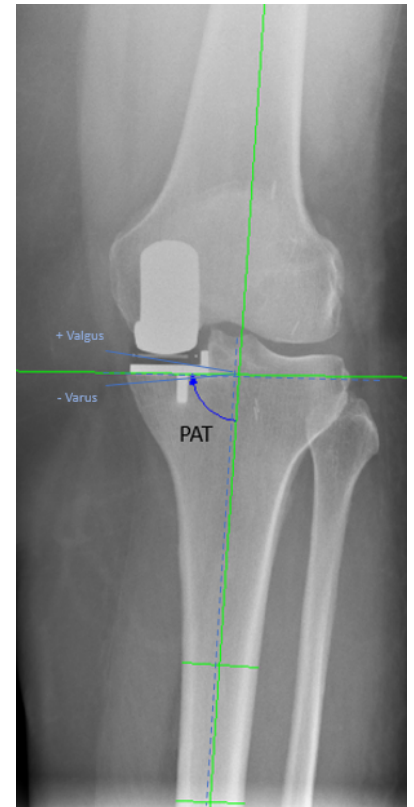
- Describes the coronal alignment of the femoral component relative to the femoral anatomical axis.
- The femoral axis is drawn as described above.
- A secondary axis for the femoral component is established by connecting two midpoints along the component's body, typically at its proximal and distal regions.
- The angle is measured between the anatomical femoral axis and the axis of the femoral component, reflecting the degree of varus or valgus alignment of the femoral component. .



Tibial Component Varus/Valgus Angle (PAT)

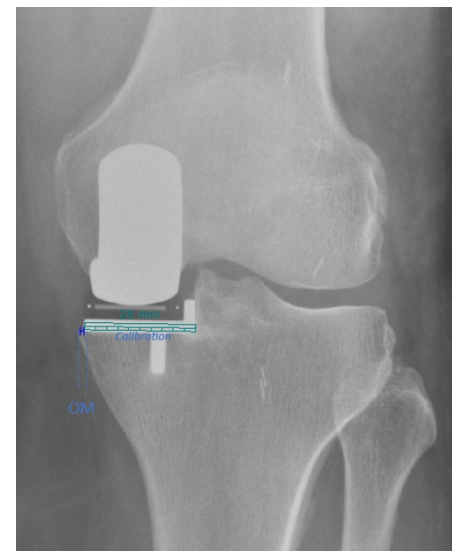
Describes the coronal alignment of the tibial component relative to the tibial anatomical axis.

- The tibial axis is drawn as described above.
- The tibial component's orientation is represented by a line along its inferior surface.
- The angle is measured between the anatomical tibial axis and the axis of the tibial component, reflecting varus or valgus alignment of the tibial component.



Medial Tibial Overhang/Underhang (OM)

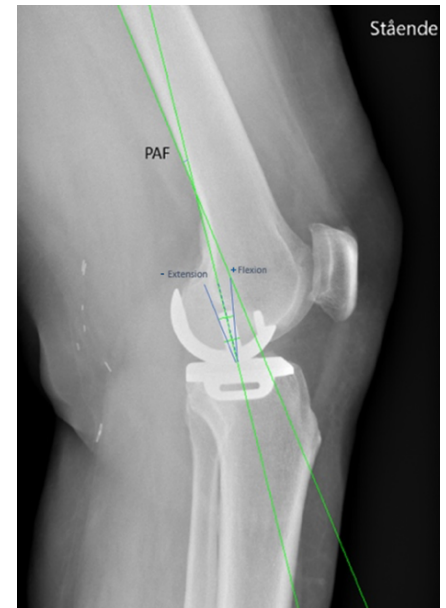
- Measures the horizontal offset between the medial edge of the tibial component and the cortical margin of the proximal tibia.
- Measured in millimeters using a perpendicular line from the medial edge of the component to the tibial cortex.



Lateral View

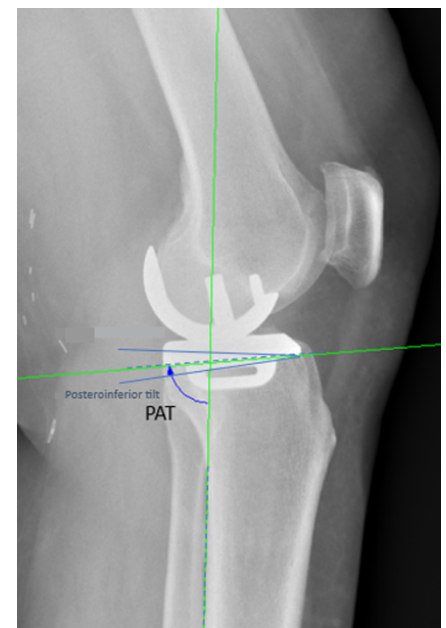
Femoral Component Flexion/Extension Angle (PAF)

- Assesses the lateral alignment of the femoral component relative to the femoral shaft.
- The femoral axis is defined by drawing a line along the posterior cortex of the femoral shaft.
- The orientation of the femoral component is defined by drawing a central axis through the component's body, created by connecting the midpoints of two transverse lines—typically one at the proximal and one at the distal end of the femoral component.
- The angle between these two lines reflects flexion or extension of the femoral implant.



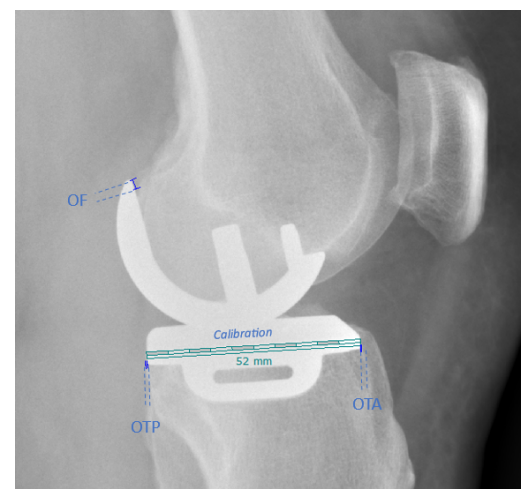
Posterior Tibial Slope (PAT)

- Measured as the angle between the surface of the tibial component and the longitudinal axis of the tibia in the lateral plane.
- The tibial axis is drawn along the posterior cortex of the tibial shaft.
- A second line is drawn along the horizontal surface of the tibial component.



Component Overhang/underhang Measurements - Femoral Posterior Overhang (OF), Anterior Tibial underhang (OAT), and Posterior Tibial Overhang (OTP) are each measured in millimeters.

- Defined as the distance between the edge of the component and the edge of the adjacent bone surface.
- A positive value indicates overhang; a negative value indicates underhang.



Radiographic measurements overview:

