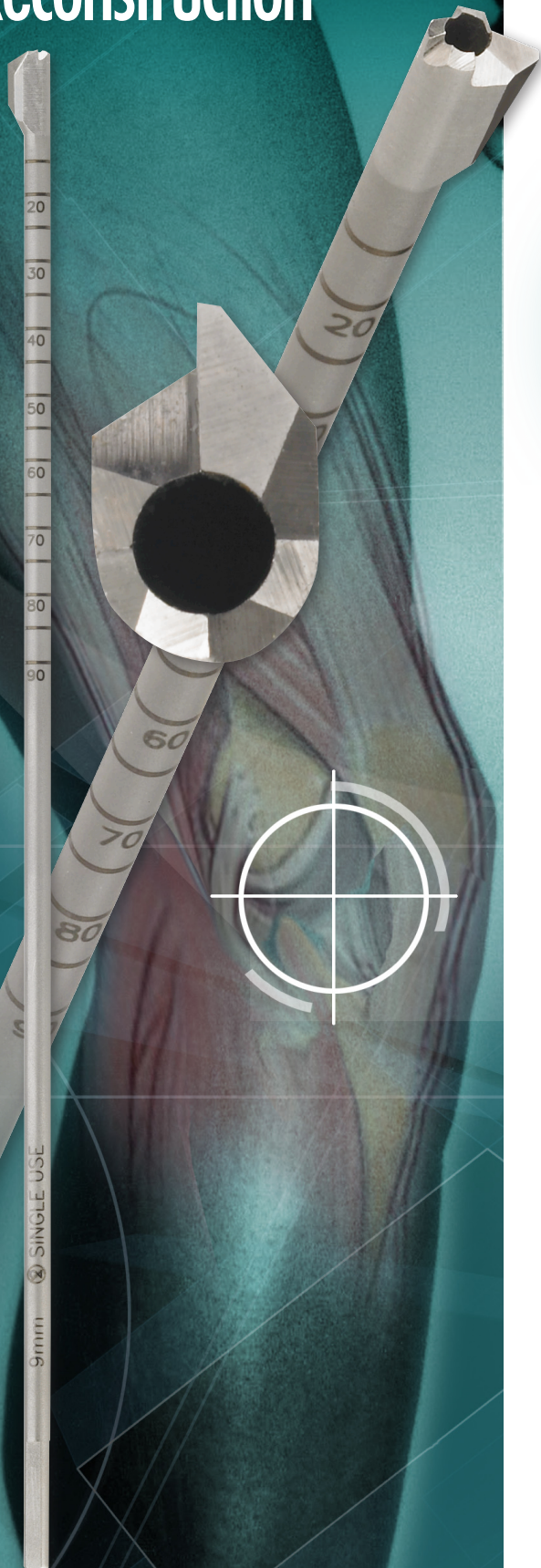


The Sentinel™ Drill Bit For Anatomic ACL Reconstruction



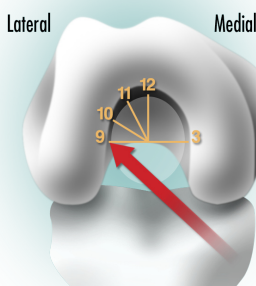
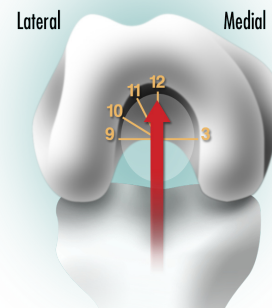
In anatomic ACL reconstructions (single or double bundle), many surgeons are placing their femoral tunnels at a 9/3 o'clock position rather than the "traditional" 12 o'clock position.

Traditional Transtibial Single Bundle ACL:

Femoral tunnel placed at 12 o'clock in notch

Why: Provides good anterior-posterior (AP) tibial stability.

Weakness: Limited rotational stability.



The Anatomic Single Bundle ACL

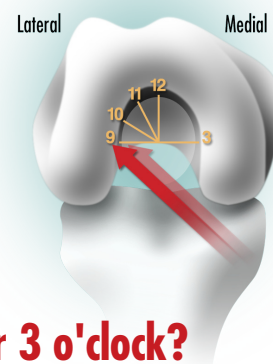
Femoral tunnel placed as low as 9/3 o'clock in notch – based on patient anatomy

Why: Maintains AP tibial stability and provides greater rotational stability.

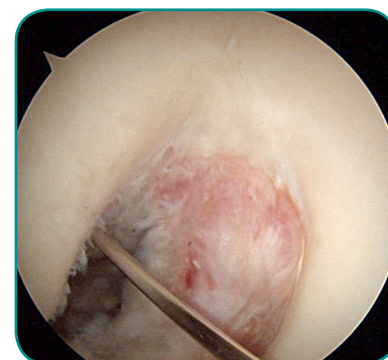
The Anatomic Double Bundle ACL

Two femoral tunnels placed as low as 9/3 o'clock in notch – based on patient anatomy

Why: Maintains AP and rotational tibial stability as near to pre-rupture status as possible.



How do we move from 12 to 9 or 3 o'clock?



Anteromedial Portal Approach:

Drill femoral tunnel through the AM portal, can always get low enough.

Transtibial Approach:

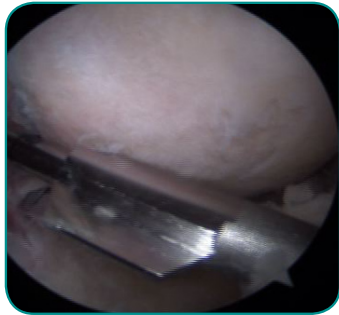
Make the tibial tunnel more medial. However, sometimes you can't get low enough in the clock face with some knees.

How can the Sentinel Drill bit help to move to an anatomic approach?

Medial Portal Approach:

- Protection of the Medial Femoral Condyle (MFC)
- Protection of the PCL
- Portal placement
- Visualization

Problem: The more medial the AM portal the better for visualization and the easier it is to access the anatomic position for the femoral tunnel. The difficulty is that you come closer to the MFC and PCL when advancing the drill bit. The articular cartilage and PCL can easily be damaged if extreme care is not taken



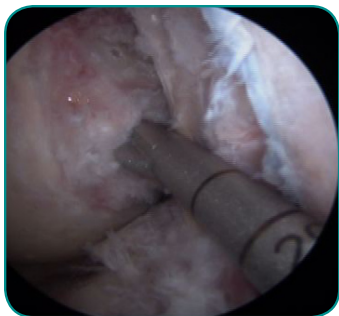
Sentinel drill bit sliding across the medial femoral condyle.



Multi-fluted drill bit going past medial femoral condyle.

Sentinel Solution: The single flute of the Sentinel can be positioned away from the MFC and PCL to avoid damage. This allows for a more medial portal for better visualization and femoral tunnel placement.

Problem: When drilling the femoral tunnel with a standard multi-fluted drill bit, you can not see behind the drill bit to ensure the back wall is intact. This is critical in a medial portal approach as some surgeons will not use a Bullseye® guide.



Sentinel Solution: The single flute of the Sentinel Drill allows for visualization behind the drill bit, this can ensure the surgeon that they will not have a backwall blow-out while drilling

Transtibial Approach:

- Protection of the PCL
- Protection of the posterior aspect of the tibial tunnel
- Visualization

Problem: Once the guidepin for the femoral tunnel has been drilled it will sit at the posterior aspect of the tibial tunnel. If a large drill bit is brought over the guide pin it can damage the tibial plateau.

Sentinel Solution: Position the single flute of the Sentinel anterior, this allows the drill-bit to advance over the pin without damage to the tibial plateau.



Sentinel drill bit exiting the tibial plateau.

Problem: Multi-fluted drill bits can damage the PCL when attempting to drill the femoral tunnel.

Sentinel Solution: The single flute of the Sentinel Drill can be oriented away from the PCL to avoid damage.

The Sentinel Drill also provides visualization behind the drill bit as described for a medial portal approach

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