

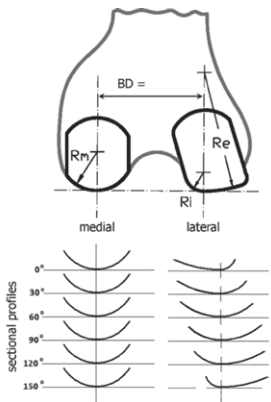
# Licensing Opportunity: Surface-Guided Total Knee Replacement

Total knee replacement is a very common and successful surgery, yet approximately 20% of patients are unhappy with the outcome. With osteoarthritis, the cartilage surfaces and supporting ligaments of the knee joint begin to deteriorate causing pain and disability. By replacing the knee with metal and plastic, you treat the pain, but often not the weakened supporting structures that are crucial for joint stability.

In 2012, the Orthopaedic Innovation Centre began work on a design concept known as a Surface-Guided Knee. The design works on the principle of passive motion in response to flexion of the knee under load. The geometry of the articulating surfaces are tailored to drive posterior rollback and external rotation of the lateral femur to meet the defined kinematic target. The result is knee motion engineered to mimic that of a healthy knee.

## Patents issued:

-  USA
-  Canada
-  China
-  Sweden
-  France
-  Germany
-  UK
-  Italy
-  Switzerland
-  Japan



Schematic sketch of the progressive change in lateral condyle surface which drives motion of the knee joint under flexion.



Implant after micropolishing



The industry's first Surface-Guided total knee replacement

## Direct Benefits

- » Natural knee motion
- » Kinematics by design target
- » Topology-guided lateral condyle
- » Deep flexion (up to 150)
- » Joint stability throughout flexion range
- » Easily adapted to existing knee systems
- » Patient-specific or incremental sizing

**We are looking for a licensing partner to commercialize this innovative design.**

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