Celebrating 15 years of successful conservative and post-surgical treatment of PCL injuries, albrecht is relaunching its Jack PCL with a new face.

PCL - the challenge
PCL tears were traditionally treated with reconstructive surgery. Surgeons observe an elongation of up to 50% following surgery, resulting in compromised stability. Main cause for the elongation is gravity, pulling the tibia into a posterior drawer position. The only way to ensure a stable healing of the PCL was full immobilisation of the knee. Resulting problems were muscle degradation and ROM deficits.

Jack PCL - the solution
In the 90s Prof. Jakob, one of the foremost experts in the field of knee surgery, ventured to develop a dynamic brace for the rehabilitation of PCL injuries, which allowed for mobilisation while also ensuring the stability of the PCL.

Optimisations
- smaller hinges
- aluminium upper thigh shells
- optimised pivot point
- better optics for higher compliance
- siliconised pads
- limitation in extension and flexion as standard option
- improved tibia shell

New sizing system
Modual system guarantees best fit.

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The initial apparatus built for post-surgery rehabilitation was an external fixation. Results improved, but patients were reluctant to accept the fairly invasive solution.

To get rid of the femur nails, an upper shell was constructed, but demand remained for a bracing solution.

The subsequent brace prototype was developed with albrecht. An anterior cable increased the load on the tibia in flexion. It was soon noted that the force resulting in flexion compressed the calf leading to thrombosis and poor patient compliance.

To remedy the situation, the anterior force application was disengaged from the axis of rotation by constructing a spring-based dynamic system.

As a result, the translation force on the tibia remains constant allowing for full ROM.

The medical relevance of the Jack PCL was examined in a clinical study which was published in *Bone & Joint*. The study shows that the Jack PCL can be used to treat PCL ruptures conservatively.