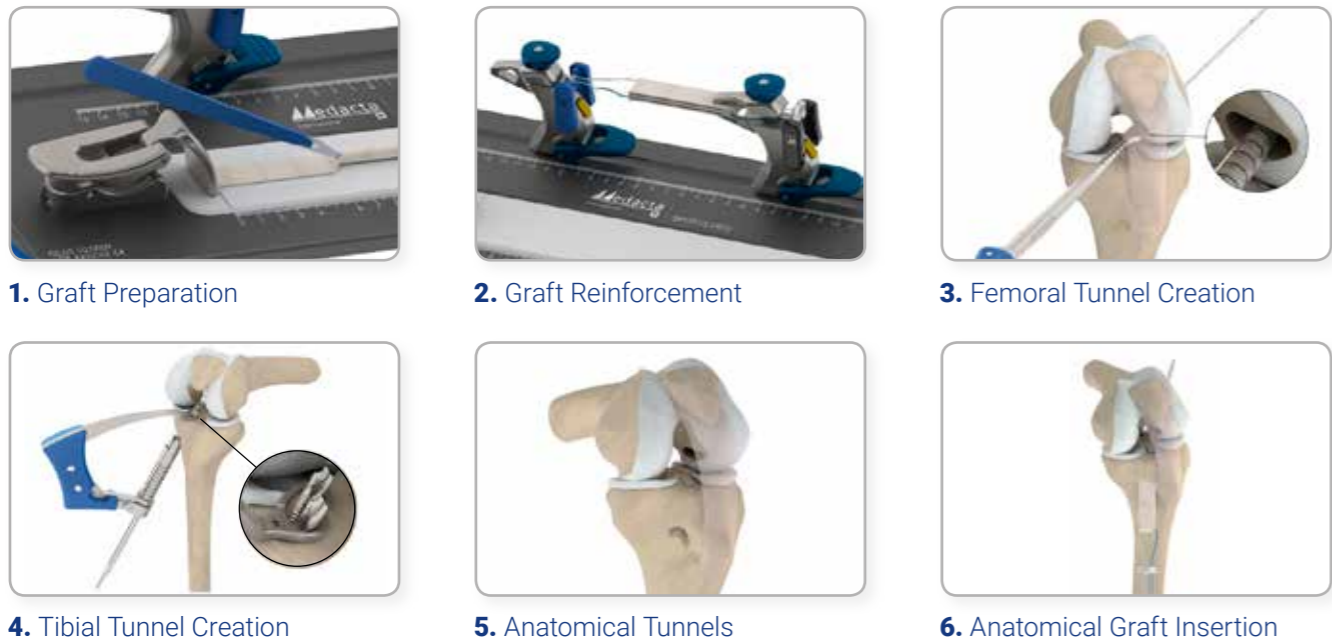


DEDICATED INSTRUMENTS



DEDICATED SURGICAL TECHNIQUE



Images 2 and 6 by courtesy of Prof. Dr. Christian Fink, Gelenkpunkt, Innsbruck - Austria

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M-ARS ACL Leaflet
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INTRODUCTION

ANATOMY

The main function of the ACL is restraint of anteroposterior translation of the tibia relative to the femur. It also acts as a secondary restraint to tibial rotation and valgus or varus stress.

EPIDEMIOLOGY

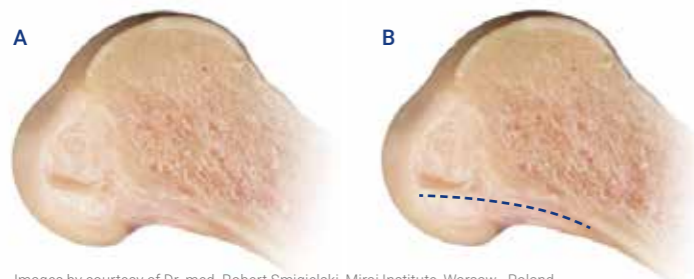
The mechanisms of injury is typically a sudden deceleration or rotational maneuver with a force that sends the tibia one way and femur another (typically because the foot is planted and the body spins). The incidence of ACL is considered a common orthopedic injury with an annual incidence of 68.6 on 100.000 population- in US^[1] and 77.4 on 100.000 population in Australia.^[2]

TREATMENT

Anterior cruciate ligament (ACL) reconstruction has evolved considerably over the past 30 years. This has largely been due to a better understanding of ACL anatomy and in particular a precise description of the femoral and tibial insertions of its two bundles.^[3]



Based on anatomical studies^[4,5,6,7,8,11,13] and thanks to the experiences learned in previous years^[3], there is a better understanding of the anatomy and biomechanics of the ACL. It has been documented that the ACL is neither round nor double round but it is flat (ribbon-like) with a specific C-shape tibial insertion.



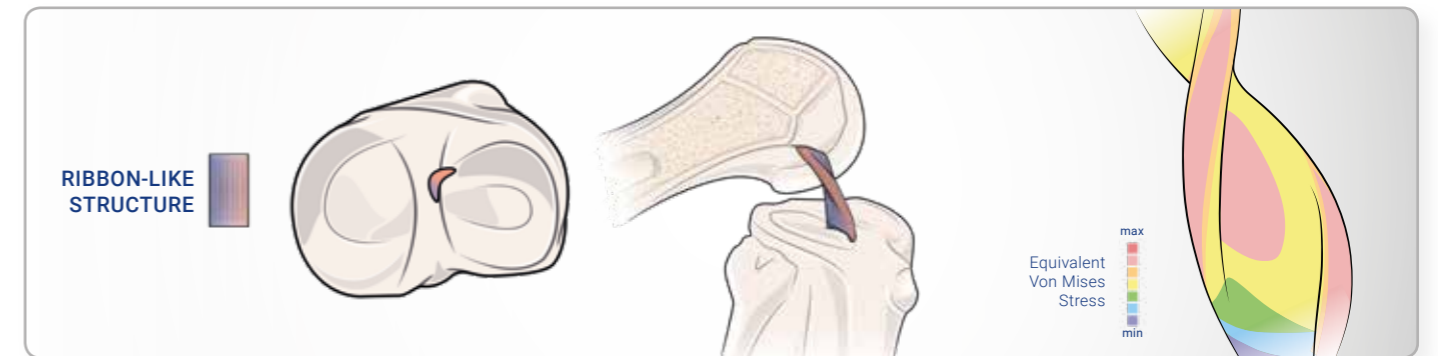
The actual trend in ACL reconstruction is to be more anatomical respecting ACL bone insertion and kinematics of the native ACL.^[9,10,12]

(A) Cadaveric dissection of the right lateral femoral condyle. Notice the femoral insertion of ribbon-like ACL fibres are in line with posterior femoral cortex (marked with black dotted line (B)).

Images by courtesy of Dr. med. Robert Smigielski, Mirai Institute, Warsaw - Poland

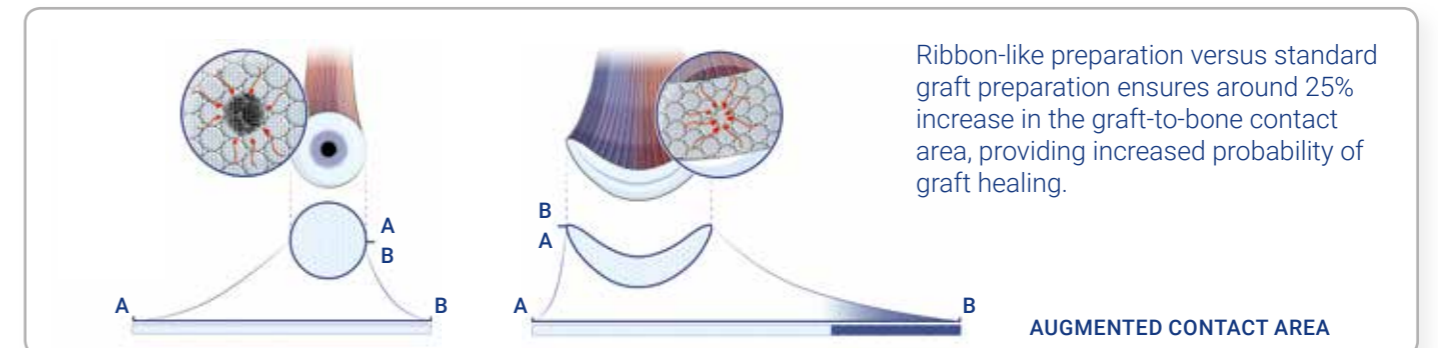
INNOVATIVE SINGLE BUNDLE WITH MORE NATURAL STRESS DISTRIBUTION

The ribbon-like structure of the graft does reproduce the anatomy and can reproduce the kinematics of the two bundles of the native ACL.



IMPROVED HEALING

Lower necrosis risk, due to the reduced distance to bone of the ligament internal fibers: the graft's healing process is estimated to be shorter and safer.



Ribbon-like preparation versus standard graft preparation ensures around 25% increase in the graft-to-bone contact area, providing increased probability of graft healing.

AUGMENTED CONTACT AREA

WHY M-ARS ACL?



M-ARS ACL is an original concept to successfully mimic the native anatomical ACL in ACL reconstruction with:

- **INNOVATIVE SINGLE BUNDLE WITH MORE NATURAL STRESS DISTRIBUTION**
- **UNEXPECTEDLY IMPROVED HEALING**
- **DEDICATED IMPLANTS**
- **DEDICATED INSTRUMENTS**
- **DEDICATED SURGICAL TECHNIQUE**

DEDICATED IMPLANTS

The Tibial Pull Suture Plate (PSP) is a C-shaped extra cortical fixation device which is fixed in correspondence to the tibial tunnel, with its body sunk into the tibial tunnel and its edges seated on the tibial cortex, ensuring the correct orientation and tension of the graft.



Images by courtesy of Prof. Dr. Christian Fink, Gelenkpunkt, Innsbruck - Austria