

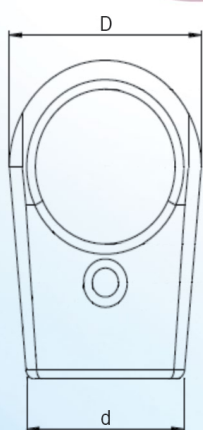


## ***T-Lock*** OSTEOTRANS

Bioactive and resorbable tendon anchor

# T-Lock OSTEOTRANS – Strength meets efficiency

**The problem with knees:** injuries to the knee joint, most seriously ruptures of the cruciate ligaments are on the increase. The key issue for reconstructions is the method of fixation for the transplant. A small but refined innovation from Richard Wolf opens up new perspectives for efficiency and strength.



## A safe haven – New anchor for tendon reconstruction

The **T-Lock Osteotrans tendon anchor** is a unique implant for reconstructive orthopedic surgery and sports medicine. The main area of application is femoral fixation of tendon transplants in the reconstruction of cruciate ligaments.

The bioactive and resorbable implant features excellent material properties. It guarantees a high level of pull-out strength for the transplant if fixation is carried out near the joint with anatomical precision.

## I. Transplant-implant dissection



- o Removal of semitendinosus tendon, removal of residual muscle tissue and joining of the two ends of the tendon. Suturing with non-resorbable strength 2 sutures over a length of approximately 20 mm. Place a stay-suture in the tendon loop at the other end of the double tendon and determine the diameter of the 4-way transplant.



- o Selection of the T-lock in accordance with the determined transplant diameter and passing the transplant through the large hole of the implant. A four-way transplant is created.

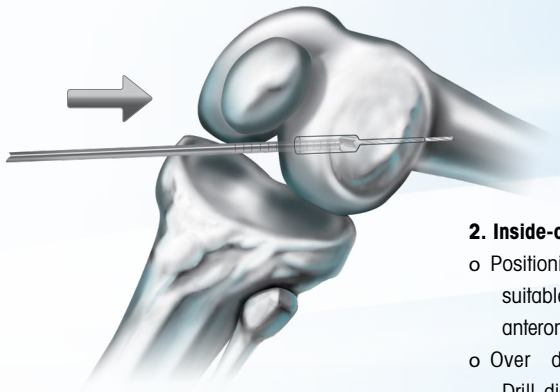


- o Fixation of the tendon loop through the small hole of the implant with non-resorbable fibers (polyester strength 2). Suturing the distal end of the transplant with resorbable threads.

| Determination of size<br>T-Lock OSTEOTRANS |                                     |             |
|--------------------------------------------|-------------------------------------|-------------|
| Ø Transplant                               | T-Lock                              | Product no. |
| 5 mm                                       | Size 5, d/D 6/8 mm, b/B 3/4 mm      | OLRA-5      |
| 6 mm                                       | Size 6, d/D 7/9 mm, b/B 3.5/4.5 mm  | OLRA-6      |
| 7 mm                                       | Size 7, d/D 8/10 mm, b/B 4/5 mm     | OLRA-7      |
| 8 mm                                       | Size 8, d/D 9/11 mm, b/B 4.5/5.5 mm | OLRA-8      |
| 9 mm                                       | Size 9, d/D 10/12 mm, b/B 5/6 mm    | OLRA-9      |

# Femoral fixation in single-bundle ACL reconstruction

## II. Preparation of the femoral bore channel

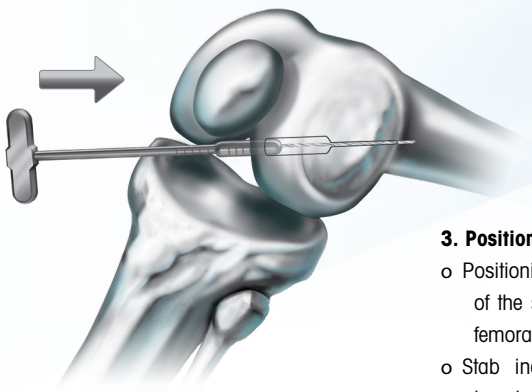


### 2. Inside-out drilling

- o Positioning of the target drill wire with suitable target instrument through the anteromedial portal.
- o Over drilling with cannulated drill. Drill diameter is the same as the transplant diameter.

| Size of target drill wire |                     |             |
|---------------------------|---------------------|-------------|
| <i>T-Lock</i>             | Ø Target drill wire | Product no. |
| Size 5-9                  | 2.5 mm              | 89960.1125  |

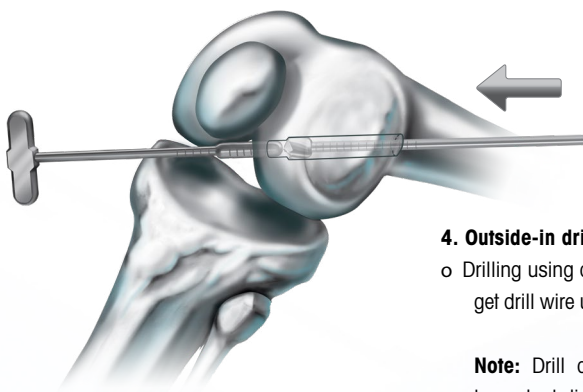
| Size determination of cannulated drill |         |             |
|----------------------------------------|---------|-------------|
| <i>T-Lock</i>                          | Ø Drill | Product no. |
| Size 5                                 | 5 mm    | 89960.1050  |
| Size 6                                 | 6 mm    | 89960.1060  |
| Size 7                                 | 7 mm    | 89960.1070  |
| Size 8                                 | 8 mm    | 89960.1080  |
| Size 9                                 | 9 mm    | 89960.1090  |



### 3. Positioning of the impactor

- o Positioning of the cannulated impactor of the same diameter 10 mm deep in the femoral channel.
- o Stab incision via the femorally drilled target drill.

| Size determination of cannulated impactor |            |             |
|-------------------------------------------|------------|-------------|
| <i>T-Lock</i>                             | Ø Impactor | Product no. |
| Size 5                                    | 5 mm       | 8866.0011   |
| Size 6                                    | 6 mm       | 8866.001    |
| Size 7                                    | 7 mm       | 8866.003    |
| Size 8                                    | 8 mm       | 8866.005    |
| Size 9                                    | 9 mm       | 8866.007    |



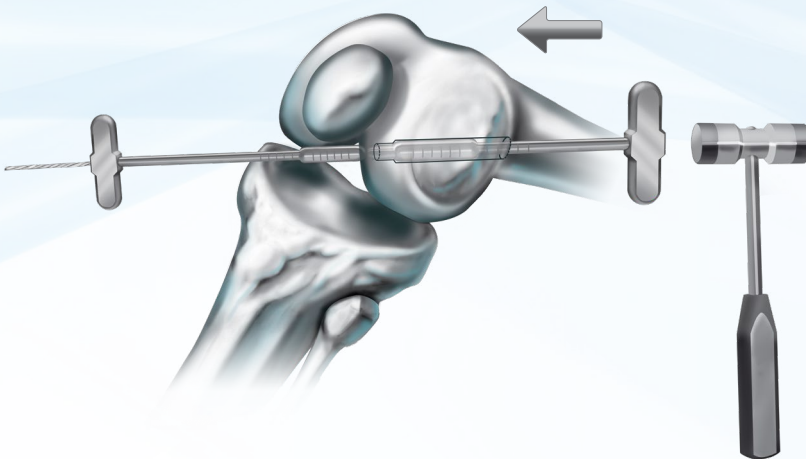
### 4. Outside-in drilling

- o Drilling using a cannulated drill via the target drill wire until the impactor is reached.

**Note:** Drill diameter 4 mm more than transplant diameter.

| Size determination of cannulated drill |         |             |
|----------------------------------------|---------|-------------|
| <i>T-Lock</i>                          | Ø Drill | Product no. |
| Size 5                                 | 9 mm    | 89960.1090  |
| Size 6                                 | 10 mm   | 89960.1010  |
| Size 7                                 | 11 mm   | 89960.1011  |
| Size 8                                 | 12 mm   | 89960.1012  |
| Size 9                                 | 13 mm   | 89960.1013  |





**Size determination of  
cannulated stage impactor**

| <i>T-Lock</i> | Ø Stage<br>impactor | Product no. |
|---------------|---------------------|-------------|
| Size 5        | 9 mm                | 8866.015    |
| Size 6        | 10 mm               | 8866.016    |
| Size 7        | 11 mm               | 8866.017    |
| Size 8        | 12 mm               | 8866.018    |
| Size 9        | 12 mm               | 8866.018    |

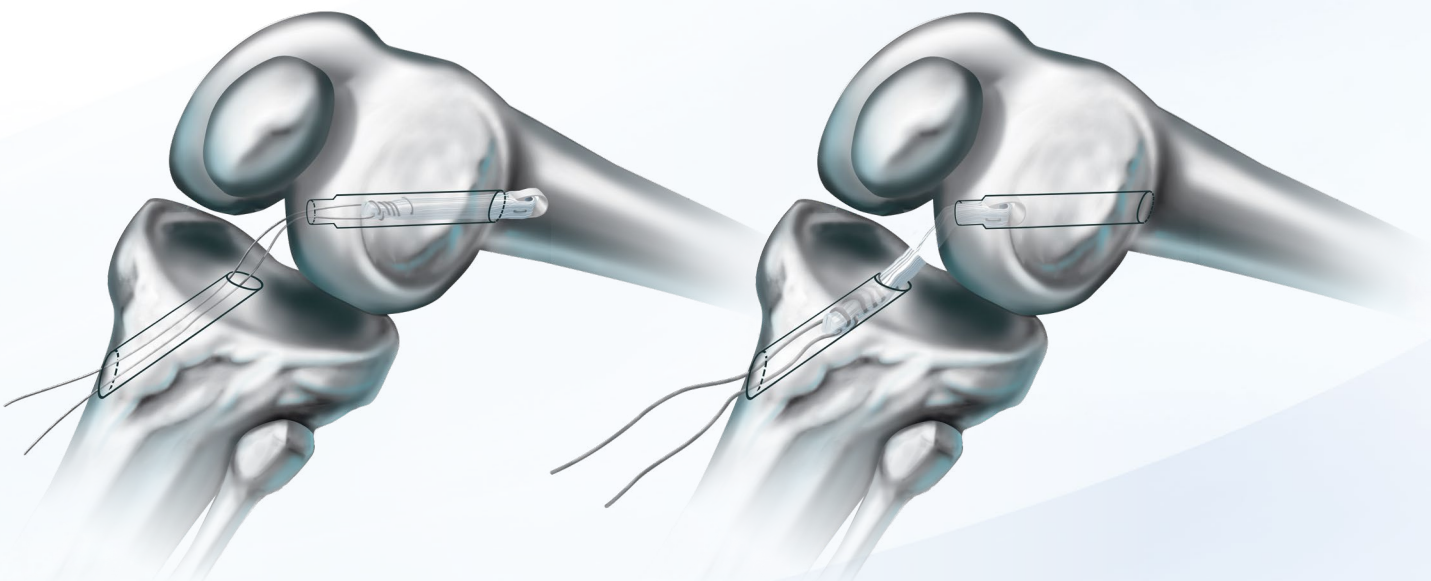
#### 5. Impacting the drill channel

- o Impacting a stage impactor from outside via the drill hole wire until the top of the stage impactor is visible in the joint. The impactor positioned in the drill channel is knocked back in this process.

**Note:** A bottle-neck shaped femoral channel is created.

### III. Transplant infeed

- o Drawing the transplant into the femoral channel from proximally to distally until the T-Lock Osteotrans tendon anchor is pressed in close to the joint.
- o Conditioning of the transplant by moving the knee many times from maximum extension to flexion with vigorous distal traction.



# *T-Lock* OSTEOTRANS

You and your patient benefit like this

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## **Maximum stability**

- o Very high pull-out strength 1300 N

## **Maximum speed**

- o Easy, time-saving transplant and implant dissection

## **Maximum conservation**

- o Only the semitendinosus tendon has to be removed to prepare a 4-way transplant for the ACL / PCL reconstruction

## **Conforms to current state of the art**

- o Fixation close to the joint
- o Ideal for single-bundle and twin-bundle reconstruction of the cruciate ligaments

## **Similar to bone**

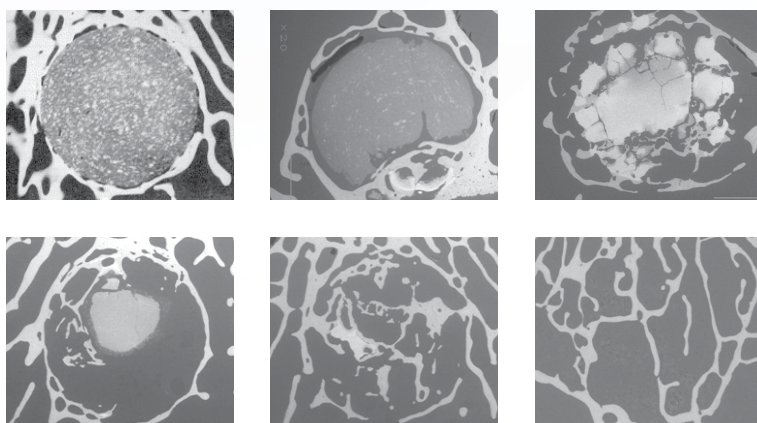
- o Made of Osteotrans, bioresorbable composite material with high mechanical strength

# *T-Lock* OSTEOTRANS

## Bioactive in action

Osteotrans – brings back the bone:

**Remodeling process – from implant to bone:**



**Innovative, new composite material:**

The special composition gives Osteotrans its bioactivity and good resorbability.

- o 70 % PLLA (poly-L-lactide)
- o 30 % uHA (unsintered hydroxylapatite as microparticles)
- o Outstanding material properties generated through special manufacturing process.
- o Controlled bioactivity – osteoconductive. The uHA particles are broken down directly by osteoclasts and hence conduct the surrounding bony structures into the surface of the implant.
- o No encapsulation of the implant by connective tissue structures
- o No osteolyses
- o Long-term bioresorption
- o Bone formation through remodeling process