



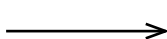
# Ti - LIFE TECHNOLOGY

## STUDY SUMMARY

PUBLISHED IN THE SPINE JOURNAL

3D-PRINTED TITANIUM CAGES WITHOUT BONE GRAFT OUTPERFORM  
PEEK CAGES WITH AUTOGRAFT IN AN ANIMAL MODEL\*

## STUDY DESIGN : SUMMARY OUTLINE



# 14

2 cages/sheep



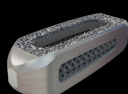
Autograft (standard for fusion)

No graft

**4 WEEKS**  
**CT Scan**

**8 WEEKS**  
**Microscopic tissue analysis\*\***

**EARLY STABILITY WITHOUT ANY BONEGRAFT**  
Significant osseous in-growth around the cage.



**FUSION THROUGH AND OUTSIDE THE CAGE**  
Osseous in-growth of native cancellous bone through the trabecular architecture of the cages.

No interaction with the surrounding native bone (smooth surface).



Minimal osseous in-growth

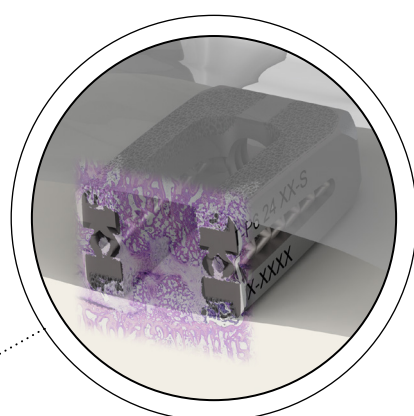
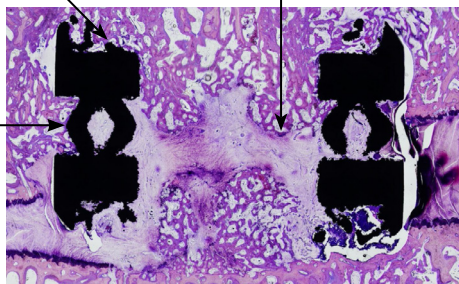
**\*\*MICROSCOPIC TISSUE ANALYSIS :**

Sliced sections of the extracted cage were analyzed.  
Surrounding tissues (bone and cartilage) are marked in pink.

### WITH Ti-LIFE TECHNOLOGY

Osseointegration at 8 weeks

Bone growth within the cage

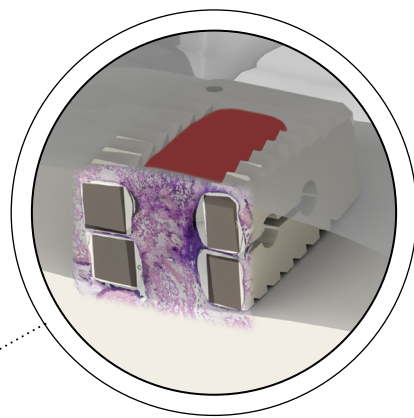
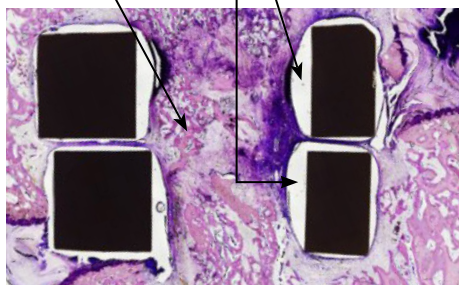


Ti-LIFE structure provides a scaffold for osteoblasts (bone building cells)

### WITHOUT Ti-LIFE TECHNOLOGY

Graft did not improve the bone growth within the cage

No interaction with adjacent bone



PEEK, with smooth surface, demonstrates no osseointegration with adjacent bone and a minimal osseous in-growth .

## RESULTS

Ti-LIFE cages without bone graft outperform PEEK cages with Bone Graft in terms of osseointegration.

## SELLING POINT

### TAKE AWAY

Ti-LIFE :

- **4 WEEKS : EARLY STABILITY**  
Less micromotion in a shorter time frame promoting early fusion
- **8 WEEKS : EARLY AND ROBUST OSSEOINTEGRATION**  
Faster recovery

Using Ti-LIFE cages could:

- reduce the risk of pseudarthrosis
- be advantageous, especially in situations such as tumor patients, where it may be ill advised to utilize local autograft.

These results will be validated on patients with the ongoing restrospective studies.

APR-2022-REF-TEC-Ti-LIFE-EN