



## **Biofunctionality of MBCP ceramic granules (TricOs™) plus fibrin sealant (Tisseel®) versus MBCP ceramic granules as a filler of large periprosthetic bone defects: an investigative ovine study**

Submitted by [claire.leroy](#) on Tue, 04/28/2015 - 11:10

**Titre** Biofunctionality of MBCP ceramic granules (TricOs™) plus fibrin sealant (Tisseel®) versus MBCP ceramic granules as a filler of large periprosthetic bone defects: an investigative ovine study

**Type de publication** Article de revue

**Auteur** Goyenvalle, E. [1], Aguado, Eric [2], Pilet, P. [3], Daculsi, Guy [4]

**Editeur** Springer Verlag

**Type** Article scientifique dans une revue à comité de lecture

**Année** 2010

**Langue** Anglais

**Date** Juin 2010

**Numéro** 6

**Pagination** 1949-1958

**Volume** 21

**Titre de la revue** Journal of Materials Science: Materials in Medicine

**ISSN** 0957-4530

**Résumé en anglais** We aimed to quantify bone colonization toward an untreated titanium implant with primary stability following filling of the defect with micromacroporous biphasic calcium phosphate (MBCP) granules (TricOs) or MBCP granules mixed with fibrin sealant (Tisseel). Medial arthrotomy was performed on the knees of 20 sheep to create a bone defect (16 mm deep; 10 mm diameter), followed by anchorage of a titanium screw. Defects were filled with TricOs or TricOs-Tisseel granules, a perforated MBCP washer, a titanium washer and titanium screw. Sheep were euthanized at 3, 6, 12 and 26 weeks. From Week 12 onwards, the percentage of bone in contact with the 8 mm anchorage part of the screw increased in both groups, confirming its primary stability. At 26 weeks, whereas bone colonization was similar in both groups, biodegradation of ceramic was more rapid in the TricOs-Tisseel group ( $P = 0.0422$ ). The centripetal nature of bone colonization was evident. Bone contact with the titanium implant surface was negligible. In conclusion, the use of a model that reproduces a large metaphyseal bone defect around a titanium implant with primary stability, filled with a mixture of either TricOs ceramic granules or TricOs granules mixed with Tisseel fibrin sealant, suggests that the addition of fibrin to TricOs enhances bone filling surgical technology.

**URL de la notice** <http://okina.univ-angers.fr/publications/ua10452> [5]

**DOI** 10.1007/s10856-010-4043-3 [6]

Lien vers le document <http://link.springer.com/10.1007/s10856-010-4043-3> [7]

Titre abrégé J Mater Sci: Mater Med

---

### **Liens**

[1] [http://okina.univ-angers.fr/publications?f\[author\]=18414](http://okina.univ-angers.fr/publications?f[author]=18414)

[2] [http://okina.univ-angers.fr/publications?f\[author\]=4564](http://okina.univ-angers.fr/publications?f[author]=4564)

[3] [http://okina.univ-angers.fr/publications?f\[author\]=18435](http://okina.univ-angers.fr/publications?f[author]=18435)

[4] [http://okina.univ-angers.fr/publications?f\[author\]=18307](http://okina.univ-angers.fr/publications?f[author]=18307)

[5] <http://okina.univ-angers.fr/publications/ua10452>

[6] <http://dx.doi.org/10.1007/s10856-010-4043-3>

[7] <http://link.springer.com/10.1007/s10856-010-4043-3>

Publié sur *Okina* (<http://okina.univ-angers.fr>)