

Choice of Spacer Material for O.W. Osteotomy



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Choices

- Bone- autograft / allograft
- Bone cement- obsolete
- Synthetics- HA; TCP +/- Growth factors etc



Choices


- 'Fresh air'



- 8-14mm gap – 50 of 51 healed Kolb et al. Stuttgart, JBJS[Am] 2009
- 5-20mm gap – all 53 healed Staubli & Jacob, Lucerne *Int Orthop* '09

Why?

- Structural support
 - Required if old / no fixation device
 - TCP – ‘as strong as cancellous bone vs. compression’
 - TCP wedges may help
Takeuchi et al, Yokohama, *Knee* 2009
 - Not required with ‘angular-stable’ fixation



Why?

- Osseo-genesis – only autograft
- Osseo-induction
- Osseo-conduction

β TCP- absorbs and biocompatible and osteoconductive
Gaasbeek et al, Nijmegen, *Biomaterials* 2005

Why?

- ‘Angle guide’
- Obscures Xray and looks nice!



Why?

- Carrier of ‘magic’ chemicals
 - rhFGF-2 in gel injected into OW HTO without graft enhanced healing
Kawaguchi et al, Tokyo, *J Orthop Res* 2007
 - Platelet gel and platelet gel + bone marrow stromal cells improved healing of freeze-dried allograft
Dallari et al, Rizzoli, *JBJS[Am]* 2007
 - PRP **did not** help healing with a HA / TCP wedge
Aryee et al, Munich *Biomaterials* 2008

What I do

- No synthetic substitute
 - Not needed for structural support
 - Not osseogenic
 - ‘In the way’: healing occurs despite it
 - Healing quicker / better without HA / TCP
Aryee et al, Munich *Biomaterials* 2008
 - ? Infection- foreign body
- In the future? – as a ‘carrier’



What I do

- Use a good fixation device
- Up to 10mm gap
 - ‘nothing’
- Over 10mm gap / high risk
 - iliac crest autograft

-best osteoinductor / conductor
-osseogenesis
-carrier of ‘magic’ chemicals
-don’t need structural support with modern implants

