OSTEO-BIOLOGICS
THE BASICS

Medtronic

CATEGORIZATION OF BONE GRAFT SUBSTITUTES

ALLOGRAFTS

Cadaveric bone and tissue

- GRAFTON
- DBX
- ACCELL
- ALLOMATRIX
- OSTEOSET DBM

GROWTH FACTORS

rh-BMP , PDGF etc..

- INFUSE
- OP-1*
- AUGMENT

CERAMICS

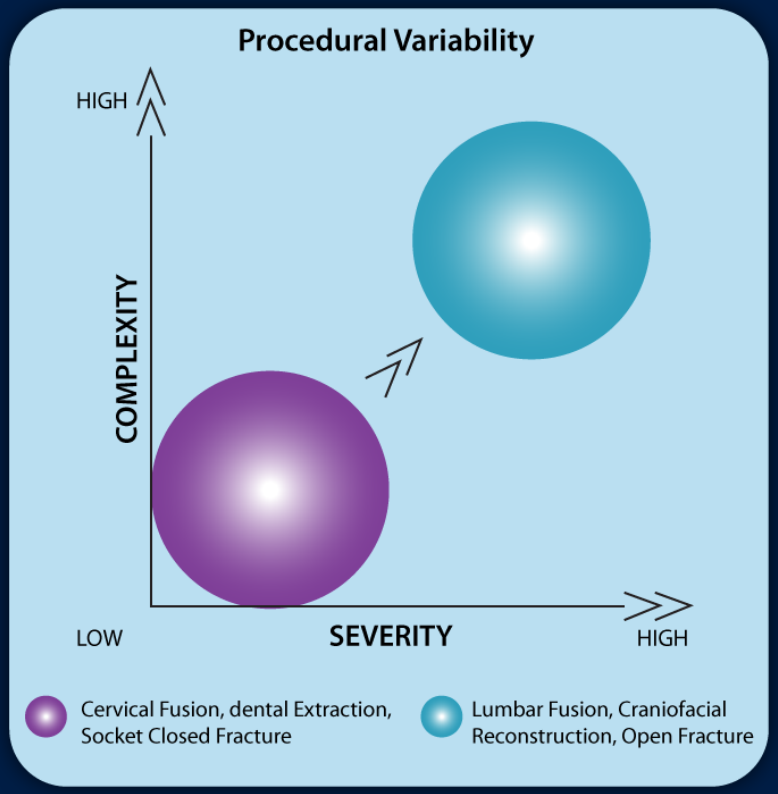
Synthetically Produced

- MASTERGRAFT
- VITOSS
- OSTEOSET
- CHRONOS
- HEALOS
- ProOSTEON
- ACTIFUSE*

* = Pulled from Canadian Market.

Medtronic

DECISION FACTORS



Bone grafting is one of several factors that are critical to skeletal healing…

1. Conditions at the bone graft site
2. Systemic patient health variables
3. Surgical technique
4. Bone graft capacity
   - Volume?
   - Ease of use and handling?
   - Osteoconductive capacity?
   - Osteoinductive capacity?

! Important

As the number of comorbidities and complexity/severity of the case increase, the healing environment gets more challenging.

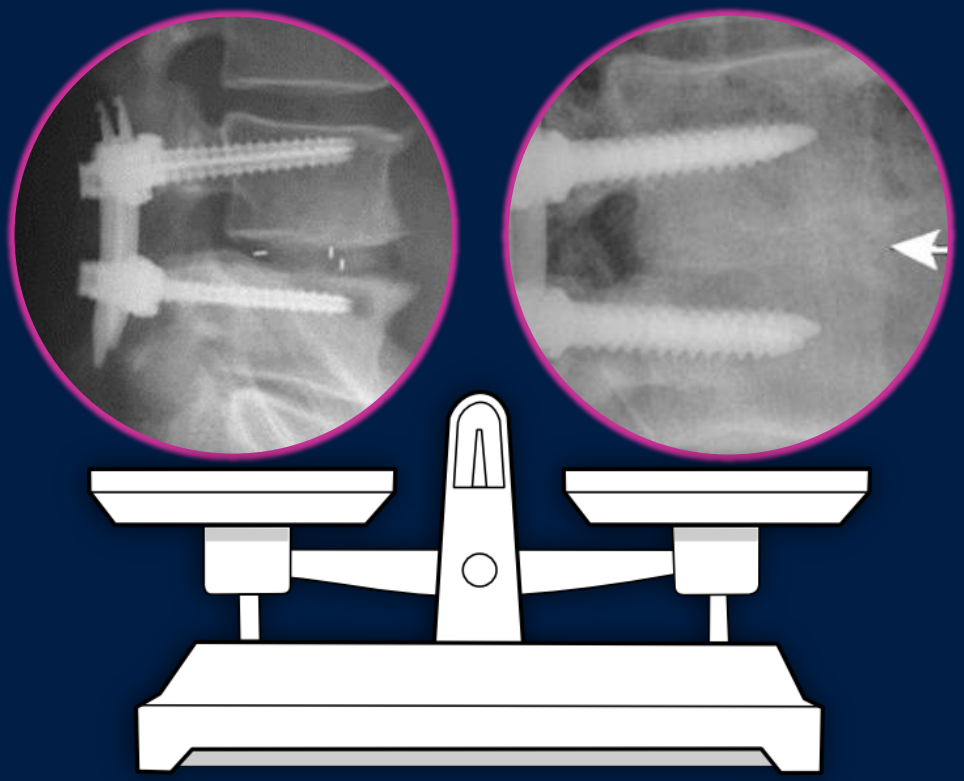
Medtronic

THE BALANCING ACT

Balancing Stabilization and Biological Activity

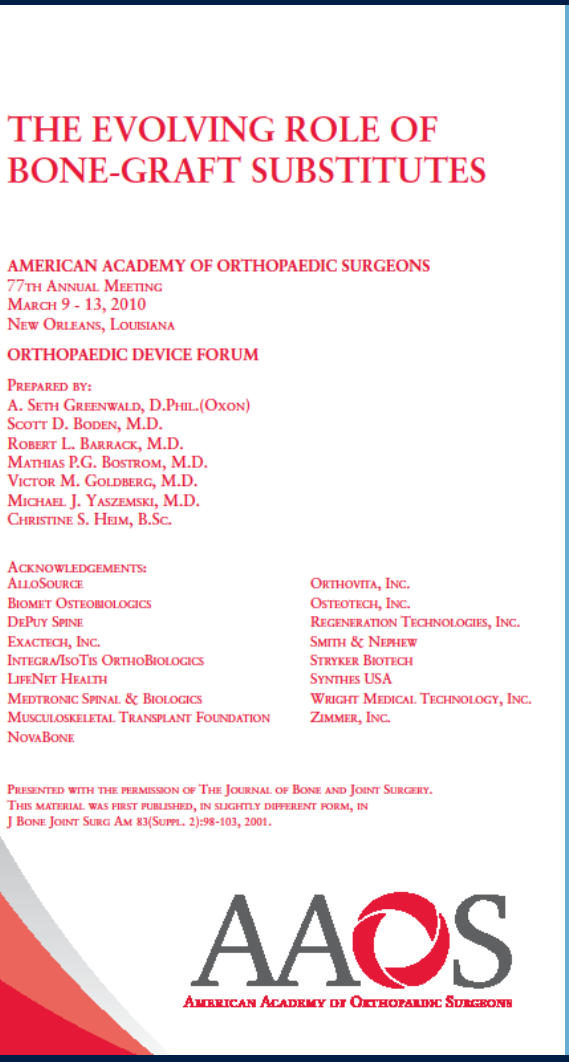
- Absence of new bone formation may lead to eventual instrumentation failure

Mechanical Stabilization
(Temporary)



New Bone Formation
(Permanent)

REALITY CHECK



THE EVOLVING ROLE OF BONE-GRAFT SUBSTITUTES

AMERICAN ACADEMY OF ORTHOPAEDIC SURGEONS
77th Annual Meeting
March 9 - 13, 2010
New Orleans, Louisiana

ORTHOPAEDIC DEVICE FORUM

Prepared by:
A. Seth Greenwald, D.Phil.(Oxon)
Scott D. Boden, M.D.
Robert L. Barrack, M.D.
Mathias P.G. Bostrom, M.D.
Victor M. Goldberg, M.D.
Michael J. Yaszemski, M.D.
Christine S. Heim, B.Sc.

Acknowledgements:
AlloSource
Biomet Osteobiologics
DePuy Spine
Exactech, Inc.
Integra/IsoTis OrthoBiologics
LifeNet Health
Medtronic Spinal & Biologics
Musculoskeletal Transplant Foundation
NovaBone
Orthovita, Inc.
Osteotech, Inc.
Regeneration Technologies, Inc.
Smith & Nephew
Stryker Biotech
Synthes USA
Wright Medical Technology, Inc.
Zimmer, Inc.

Presented with the permission of The Journal of Bone and Joint Surgery.
This material was first published, in slightly different form, in
J Bone Joint Surg Am 83(Suppl. 2):98-103, 2001.

AAOS
American Academy of Orthopaedic Surgeons

200+ bone grafting products available from 50+ different companies today.

What to use when?

It's reasonable to assume not all bone grafting options perform the same.

Medtronic

THANK YOU

Medtronic