

Getting to Know Your Tissues

Tommy Worrill MT(ASCP), CTBS (AATB)

Outline:

- Brief history on the tissue industry
- Review of different types of tissues
- How our body makes and incorporates bone
- Our choices for transplantation keep expanding

Some History with Tissue Transplantation

- One of the 1st recorded successful bone transplant
- One of the 1st successful human bone transplant
- Significance of Barth's theory
- 1st established tissue bank in the U.S.
- 1st civilian regional tissue bank in the U.S.
- AATB, CDC, FDA, Joint Commission

Types of Grafts

- Isografts
- Autografts
- Xenografts
- Allografts
- Alternatives or Substitutes

Autografts

- Skull Flaps
- Musculoskeletal Tissue (typically from the Ilium)
- Cartilage
- Parathyroid

Autologous, but not a graft:

- Fat

Xenographs

- Bovine
 - Pericardium
 - Vascular
- Porcine
 - Cardiovascular
 - Dermal

Allografts

- Musculoskeletal
- Soft Tissue
- Dermal
- Cartilage
- Vascular and Cardiovascular
- Cornea
- Dura Mater
- Nerves
- Reproductive

How Grafts are Incorporated

- Bone Formation:
 - Intramembranous and Endochondral
- Wolff's Law
- Osteogenesis, Osteoconduction, Osteoinduction
- Demineralized Bone Matrix

Alternatives to Grafts

- Coralline-derived
- Mechanical
- Synthetic
- More than minimally manipulated products
 - Bone Morphogenic Proteins (BMP)
 - Purified Collagens
 - Demineralized Bone Matrix with various carriers