

## Medical Applications of Donated Tissues for Transplantation

The tables below illustrate what tissues can be donated and how donated tissue is applied.

### CARDIOVASCULAR (Heart) Tissue

Donor Tissue	Transplanted Tissue	Typical Applications	Recipient Benefits
Heart Valves (Controls one-way blood flow in the heart.)	Aortic and Pulmonary Heart Valve	Replace damaged heart valves.	Rare long-term anticoagulant therapy may be necessary. Almost no rejection. Allows a child to grow into the graft (almost no second surgery for size needed). Graft does not calcify
Veins (Any blood vessel that carries blood toward the heart from the body's cells, tissues, and organs.)	Saphenous Vein, Femoral Vein	CABG, below knee vascularization	Vascularization (increased blood flow) and prevents amputation

### CONNECTIVE (Heart) Tissue

Donor Tissue	Transplanted Tissue	Typical Applications	Recipient Benefits
Tendon (A band of tough, fibrous, inelastic tissue that connects muscle to bone. Tendons are mainly made up of collagen.)	Patellar Tendon	Replace ACL, and PCL tendons	Returns mobility and restores independence in daily living activities
	Tibialis Tendon	ACL reconstruction	Returns mobility and restores independence in daily living activities
	Achilles' Tendon	Replace PCL, used as rotator cuff, replace Achilles' tendon	Returns mobility and restores independence in daily living activities
Cartilage (A strong, flexible connective tissue that is found throughout the body, including joints.)	Cartilage	Repair congenital and traumatic facial deformity; resurface knee joint	Restores normal facial appearance. mobility and decreases pain
Fascia Lata (A band of fibrous connective tissue covering, separating, or binding together muscles, organs, and other soft structures of the body.)	Fascia Lata	Used as tendon to repair injury and repair bladder incontinence	Returns mobility, restores independence in daily living activities.

MTF is a non-profit service organization dedicated to providing quality tissue through a commitment to excellence in education, research, recovery and care for recipients, donors and their families.

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Rotator Cuff (A set of muscles and tendons that secures the arm to the shoulder and permits rotation of the arm.)	Rotator Cuff	Shoulder repair.	Restores independence in activities of daily living, returns mobility, and decreases joint pain of the hip, knee, joint, and wrist
Hamstring (The tendons at the rear hollow of the knee.)	Hamstring	ACL Repair	Restores mobility

## EYE Tissue

Donor Tissue	Transplanted Tissue	Typical Applications	Recipient Benefits
Eye	Sclera	Repair eyelid, reinforce wall of eye.	Prevents blindness, restores vision
	Cornea	Replace diseased or damaged cornea.	Prevents blindness, restores vision

## MUSCULOSKELETAL Tissue

Donor Tissue	Transplanted Tissue	Typical Applications	Recipient Benefits
Humerus (The long bone in the arm that extends from the shoulder to the elbow.)	Whole Proximal, Distal, Shaft	Reconstruction related to trauma, tumors, degenerative diseases, and fractures	Prevents amputation, accelerates, promotes and allows healing
	Humeral Head	Total hip revision.	Restores mobility, reduces pain
	Dowels, Spacers	Spinal fusion	Prevents collapse of bone, reduces pain, reduces chance of nerve damage
Femur (Also known as the thigh bone which is the largest and strongest bone in the body.)	Whole, Proximal, Distal, Shaft	Reconstruction related to trauma, tumors, degenerative diseases, fractures, and cartilage reconstruction	Prevents amputation, accelerates, promotes and allows healing
	Femoral Head	Reconstruction of damaged acetabulum, supplement for small defects	Restores mobility
	Dowels, Spacers	Spinal fusion	Prevents collapse of bone, reduces pain, reduces chance of nerve damage
	Cancellous	Filling defects, augments prosthetic device implant	Accelerates, promotes and allows healing
	Demineralized Powder	Filling defects, augments prosthetic device implant	Accelerates, promotes and allows healing
	Cortical Spacers	Spinal fusion	Prevents collapse of bone, reduces pain, reduces chance of nerve damage

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	Whole Proximal, Distal, Shaft	Reconstruction related to trauma, tumors, degenerative diseases, and fractures	Prevents amputation, accelerates, promotes and allows healing
Tibia (The inner and largest of two bones in the lower leg that goes from the knee to the ankle.)	Cortical Strut	Augments large grafts and prosthetic implants	Restores mobility and promotes healing
	Cortical Spacers	Spinal fusion	Prevents the collapse of bone in the spine, reduces pain and reduces chance of nerve damage
	Meniscus	Joint surgery	Relieve pain, maintain joint space, and absorbs shock
Patella (Also known as the knee cap.)	Patella Wedg3	Spinal fusion	Prevents further collapse of bone in the spine, reduces pain, reduces the chance of nerve damage
Fibula (The outer and most narrow of two bones in the lower leg that goes from the knee to the ankle.)	Fibular Shaft	Repair of traumatic bone loss.	Restores mobility, promotes healing
Iliac (The uppermost and widest of the three bones that make up the pelvis.)	Iliac Crest Wedge, Ilium Strip	Spinal fusion	Prevents further collapse of bone in the spine, reduces pain, reduces the chance of nerve damage
	Cortical Cancellous	Filling defects, augments prosthetic device implant	Accelerates, promotes and allows healing
Acetabulum (The cup-shaped cavity where the ball of the hip joint rests.)	Acetabulum	Acetabular reconstruction.	Restores mobility
Rib	Rib	Mandible repair, augments as a strut graft	Restores normal facial appearance

## OTHER Tissue

Donor Tissue	Transplanted Tissue	Typical Applications	Recipient Benefits
Pericardium (A membrane sac that encloses the heart.)	Pericardium	Neurosurgery (used as an alternative to using dura matter)	Protective covering replacement
Skin	Skin, Collagen	Grafts for burn victims, incontinence, and facial reconstruction	Promotes healing and natural barrier to infection. Treats urinary incontinence and facial scarring

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