Prometheus
Donor Service Area

- Geographic area defined by CMS
- Organ Procurement Organization
- Acute care and critical access hospitals
- Transplant Centers
- Local Communities
- Donor Families
Organ Procurement Organizations

- 58 in the U.S.
- 2 in Wisconsin
- Wisconsin Donor Network
  OPO for SE Wisconsin
  - 12 counties
  - 50 hospitals
  - 3 transplant centers
- Work collaboratively with Tissue and Eye Banks
Organ Procurement Organization (OPO) Roles and Responsibilities

- Evaluate medical suitability of potential donors
- Offer families option of donation
- Provide comprehensive family support services
- Manage clinical needs of donors
- Participate in surgical recoveries
- Increase awareness through education
- Foster collaborative relationships with Medical Examiners and funeral homes
- Establish and maintain partnerships with donor hospitals
OPO Team Members

- **Medical Director**: Consults on donor cases
- **Administrator on Call**: Provides oversight and guidance to teams
- **Clinical Services**: Donor management, allocation and OR priorities
- **Family Services**: Authorization, family support and aftercare
- **Hospital Services**: Donor hospital relationships
- **Public and Community Outreach**: Donor awareness and education
Donor Hospital Roles and Responsibilities

- Collaboration and support of senior leadership
- Memos of Understanding to outline working relationships
- Policies and protocols to support the process
- Resources for donor evaluation and management
- Timely referrals
- Ongoing collaborative process improvement initiatives
Transplant Center Responsibilities

• Working relationship with OPO
• Shared accountability for meeting all established policies and guidelines
• Collaborative process for evaluating donation and transplantation outcomes
• Venues for process improvement, such as Medical Advisory Committee
• Certified personnel for donor recoveries
The Donation Process

- Referral of Potential Donors
- Discussion of Donation Options
- Donor Management and Evaluation
- Allocation of Organs
- Organ Recovery
Hospital Referrals to the OPO

- Every acute care and critical access hospital has policies to guide hospital staff in the timely referral process
- Hospitals required to refer all imminent deaths
- Referral Trigger examples include:
  - Glasgow Coma Score trigger
  - Cardiac Death
  - Discussions of withdraw of care
  - Prior to terminal extubation
When do I Refer a Patient?  
(clinical triggers)

VENTILATED PATIENT:
• Call within 1 hour of any clinical trigger:
  – Any discussion concerning end of life options  
    (comfort care measures, no escalation of care, or withdrawal of Life 
    Sustaining Therapies)
  – Non-survivable Brain Injury
  – Glasgow Coma Scale $\leq 4$ or absence of 2 or more Cranial Nerve Reflexes*
  – First Indication of Brain Death
  – Family initiates discussion regarding donation

* Cranial Nerve Reflexes = pupillary reaction, gag reflex, cough reflex, corneal reflex, 
  oculoocephalic reflex, doll’s eyes, response to pain and spontaneous breathing

ALL PATIENTS:
• Call immediately at cardiac time of death, even if the patient was 
  referred for an above trigger.
Things To Remember

• Call even if you think the patient is too sick to be a donor.
  • Criteria is ever changing.
  • Many listed recipients are so ill they only have 24 hours to live without a new organ and so almost anything is considered.
  • Every death must be referred.
Things to Remember

• Call even if you feel sure the family will say no or if the patient has an Advanced Directive.
  • People are full of surprises – do not assume.
  • Statistically consent rates are higher when procurement staff and hospital staff approach together.
Things To Remember

• Call even if the patient has already died.
  • They are still possible tissue donors.
  • Every death must be referred!
Evaluation Process

• OPO coordinator onsite at hospital
• Review medical records, labs and other data
• Discuss plans for declaration of death
• Huddle with health care team
• Identify family dynamics
• Discuss family needs
The Authorization Process

• Provide support and ongoing resources to families
• Treat families with respect and sensitivity
• Honor first person authorizations
• Collaborate with the healthcare team
• Provide excellent family care, with sensitivity and respect as hallmarks of our commitment
Families in Traumatic Grief

When experiencing a sudden and often world-shattering event . . .

Families deserve to be:

- Treated with compassion and dignity
- Given room for their grief
- Allowed to process their feelings in their own way
Commitment To Excellent Family Care

- Donor programs establish training programs for OPO team members who work with families
- For some OPOs, Designated Requestor programs have been established
- Designated Requestors likewise receive ongoing training from their OPO team
Preparation for Authorization Discussion

- Determine donor designation
- Ensure legal next-of-kin is identified
- Collaborate with other services as needed, such as the chaplain and social work team
- Gain understanding of family dynamics
- Develop plan that best meets family needs
- Ensure emotional needs are addressed
What is First Person Authorization?

- Allows an individual to designate to be a donor through a document of gift they make during their lifetime

- Official documents of gift include:
  - Donor Registry or Driver’s License
  - Advance Directive or Living Will
  - Any other legal documents established by state law

- Wisconsin Organ and Tissue Registry
  - YesIWillWisconsin.org
  - DMV
Organ Donation Process

• RN makes referral to answering service.
• Procurement coordinator calls back to further discuss medical history and neurologic/medical status.
• Procurement coordinator comes on site to evaluate the chart and form a plan with key staff.
• When and if appropriate, family will be approach by WDN or requestor trained by WDN.
• Procurement coordinator stays on site for duration of donation process (12-24+ hours).
Donor Management Highlights

- Collaborative approach designed to ensure the viability of the organs
- Cooperation in developing treatment objectives with Medical Director
- Shared responsibility for clinical interventions and donor management orders with MDs, RNs, and RT
- Extensive testing and evaluation of function
Organ Donation

- Always occurs in ICU
- All patients have a severe or traumatic brain injury
- All patients are on a ventilator

If only it were this easy…!
Two Forms of Organ Donation

Donation after Brain Death
- Manifest a non-survivable neurologic injury
- Irreversible loss of all functions of the brain, including the brain stem
- Declared brain dead through hospital policy

DCD: Donation after Circulatory Death
- Patient suffers non-survivable injury, does not meet brain death criteria
- Family makes decision to withdraw life-sustaining therapy
- Organ donation can occur after declaration of death
### Types of Organ Donors

**Devastating Brain Injury / Ventilator Dependent**

<table>
<thead>
<tr>
<th>Donation after Brain Death</th>
<th>Donation after Circulatory Death</th>
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<tbody>
<tr>
<td>Exams <em>is</em> c/w brain death – death determined by neuro criteria</td>
<td>Exam <em>not</em> c/w brain death</td>
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<tr>
<td><strong>WDN discussion with family</strong></td>
<td><strong>Family decides to W/D LSTs</strong></td>
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<tr>
<td><strong>Family/Patient consents to donation</strong></td>
<td><strong>WDN discussion with family</strong></td>
</tr>
<tr>
<td><strong>Patient supported during organ evaluation and allocation under direction of WDN</strong></td>
<td><strong>Family/Patient consents to donation</strong></td>
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<tr>
<td><strong>Surgical recovery – heart continues to function during the recovery of organs</strong></td>
<td><strong>Patient evaluated as potential DCD candidate by WDN</strong></td>
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<td><strong>Pt’s management continues under hospital team</strong></td>
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<td><strong>Withdrawal of LSTs in ICU/OR</strong></td>
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<td><strong>Pronouncement of death in OR</strong></td>
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<td><strong>Surgical recovery</strong></td>
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Causes of Brain Death

- Anoxia: respiratory diseases, drowning, poisoning, drug overdose
- Ischemia: stroke (ischemic or hemorrhagic), cardiac arrest, increased ICP due to swelling from traumatic injury (GSW, falls, MVC)
- Permanent and irreversible
Brain Death Declaration

• Clinical Exam assesses all neurologic responses, includes an apnea test
• Confirmatory Exam may include:
  • EEG
  • Doppler flow study
  • Cerebral Angiography
  • Nuclear flow study
Brain Death
Donation after Circulatory Death - DCD

DCD refers to a donation protocol for patients who have sustained a traumatic brain injury but cannot be declared dead based on the definition of brain death.

- The Purpose
  
  “To provide the patient and their families with the option of donation consistent with their wishes AFTER the decision to withdraw mechanical support has been made.”

These patients are declared dead only AFTER cessation of cardiac and respiratory function when withdrawn from life support.

Typically recover liver and kidneys

Prior to the introduction of brain death laws, this was the way in which all organs were recovered for transplant, and was a common practice prior to the 1980s.
Donor Management

- Hypotension: support with Dopamine which causes least systemic complications
- Diabetes Insipidus: replace with fluids and colloids, treat with DDAVP
- Supplement electrolytes
- Maintain ventilator and correct blood gases
- Monitor blood products as needed
Evaluation of Organs

- Extensive labs
- Heart (echo, cardiac cath)
- Lungs (bronchoscopy, ABGs)
- Liver (enzymes)
- Kidneys/pancreas (labs, UOP, UA serologies)
Heart Function Evaluation

Transthoracic Echocardiogram (TTE)
Transesophageal Echocardiogram (TEE)
Cardiac Catheterization
Lung Evaluation

- Oxygen Challenge
- Ventilator management
- Bronchoscopy
- Identify lung malignancies
- Removal of secretions in areas of the lungs thru either washings, brushings or biopsies
- Document pulmonary anatomy
Additional Diagnostic Testing: Abdominal CT Scan
Lab Work

- Urinalysis
- CBC with differential
- LFTS
- ABGs
- Cardiac enzymes
- CMP/BMP
- Amylase/lipase/glucose
- Blood cultures
- Sputum gram stain
- Urine culture
- Toxicology screen
- Coagulation Studies
- ABO
- Serologies
Tissue Typing

- Blood specimens for HLA typing obtained
- OPOs collaborate with labs to facilitate testing
- Recipients for organs undergo cross-matches; may be prospective or retrospective
Allocation Processes:
Collaboration With United Network for Organ Sharing
Organ Allocation Highlights

• Allocated according to UNOS policies

• Wait list generated is based on ABO, height, weight and age

• OPO staff utilizes DonorNet and UNET

• Many safety provisions are in place
Organ Allocation

• Once all required data is available, Match Run lists are generated in UNET
• OPO representative communicates with UNOS and local transplant teams to offer organs
• Collaborative process with transplant programs regarding organ acceptance for potential recipients
• OPOs must confirm surgeons credentials prior to organ recovery
Once Organs are Accepted

- Setting OR time after all organs accepted
- Transplant centers contact their recipients
- Arranging out of state transportation
- All centers need to be at the recovery and ready to begin at the same time
- Unexpected delays!!
Preparing the OR

- **Preliminary Huddle**: Make contact, begin planning for recovery, OR staff needs
- **Pre-recovery Huddle**: Review worksheets, plans, and logistics, confirm OR time
- **Pre-OR Huddle**: Immediately prior to commencement of recovery process
The Surgical Recovery- Teamwork

- Scrub nurse/technician
- Circulating nurse
- Anesthesiologist
- OPO staff
  - Organ Procurement Coordinator
  - Recovery Services Coordinator
- Transplant Team
  - Surgeon
  - Surgical Assistant
The Organ Recovery

• When allocation is complete, recovery teams travel to donor hospital

• OPO coordinates all logistical aspects of the recovery

• On-site review of all relevant documentation is done by OPO and recovery teams
Surgical Recovery

- Customary prep and drape
- Incision from sternal notch to pubis
- Cannula placement
- Dissection of organs and vessels
Organ Recovery

- Takes place in OR (typical incision allows for open casket viewing)

- Preservation times:
  - heart 4-6h
  - lung 4-6h
  - liver 12h
  - pancreas 12h
  - kidney 18-72h (pump)
OR Priorities for the OPO Team

• Maintain stability, in collaboration with anesthesia
• Collaborate with donor hospital staff in all aspects
• Prepare back table and flush solutions
• Support recovery teams for clinical needs
• Communicate with OPO allocation staff and Transplant Center colleagues
• Moment of Honor: take time to honor the donor and the gift
Post Cross-clamp

• Dissection completed
• Organs taken to back tables; anatomy recorded
• Biopsies may be done
• Organs packaged and labeled, including all UNOS required documentation
OPO Post Recovery Activities

- Coordinate transition to tissue donation, when indicated
- Assist in preparing decedent to go to morgue
- Assist in room clean up and thank OR staff
- Monitor kidneys on the pump
- Finalize biopsy results and communication
Benefits of Tissue Transplantation
Tissue Donation

- Takes place in asystolic patients (any hospital unit where death could occur or through Medical Examiner, Coroner, Funeral Home)
- Recovery can take place up to 24 hours after asystole.
- 8-12 hours for corneas
- NOK approached by Designated Requestor with the donation organization
- 1 tissue donor can help up to 65+ people!
Tissue for Donation

• Skin
• Heart valves
• Vessels (saphenous and femoral)
• Tendons and ligaments
• Bone
• Corneas
Tissue Uses

- Skin: burns, bladder and reconstructive plastic surgery
- Heart valves: valve replacement
- Vessels: heart bypass surgery
- Tendons/ligaments: sports injuries
- Bone: bone tumors or amputation, fusions of the spine, etc…
- Corneas: restore sight
Tissue Donation Process

- Initial referral call to answering service
- Screening info needed: name, age, sex, cause of death, brief admission course, brief medical history
- Designated requestor approaches NOK
- WTB is told of consent and they in turn discuss further medical history with NOK
- Recovery is scheduled and patient is sent to morgue
- Tissues start being transplanted a few months after the recovery takes place and continue to be transplanted for up to 5 years.
Tissues that can be transplanted:
- bone, skin, soft tissues, veins, heart valves, eyes

**Cornea / Eye**
- Corneas & lens transplantation to restore sight
- Entire eye can also be donated for medical research

**Heart Valve**
- When the heart is not suitable for transplant, the heart valves can be used for replacement of congenital defects, viral diseases or other abnormalities

**Mandible**
- Hemi or whole mandible used for reconstructive surgery due to cancer or trauma such as vehicular accident, etc.

**Femur**
- Total or partial femur replacement
- Proximal or distal sections can be used for total hip revisions
- Spinal fusions in neck or back
- Mechanical support or fill defects in repair of injured bones

**Iliac Crest / Ilium**
- Most crucial for bone transplantation
- Extensively used for fusions of the vertebrae
- Fusions & repair of broken bones and elsewhere in the body for mechanical support or fill defects
- Mandible repair or replacement

**Humerus**
- Total or partial replacement of humerus due to injury, cancer, etc.
- Proximal humerus can also be used for total hip revisions
- Proximal or distal sections can be used for total hip revisions
- Spinal fusions in neck or back
- Mechanical support or fill defects in repair of injured bones

**Skin**
- Is used on burns and other traumatic injuries as well as on diabetic and "non-healing" wounds as a biological dressing
- It is superior at sealing wounds against bacterial invasion

**Fascia Lata**
- Repair dural lining of the brain
- Hiatal hernia repair
- Rotator cuff replacement
- Eardrum replacement
- Spina bifida repair in children
- Urinary bladder sling suspension for incontinence

**Veins**
- Saphenous and femoral veins are used in many surgical procedures to repair and aid in revascularization and prevent amputation

**Patellar Tendon**
- Patellar tendon repair or replacement
- Anterior cruciate ligament (inside joint of knee repair)

**Organs that can be transplanted:**
- heart, lungs, kidneys, pancreas, liver, intestines
Follow up Activities

• Thank you to key staff involved in the process regarding outcomes

• Hospital follow up to obtain feedback and quality improvement ideas

• On-going support services to the family

• Facilitate payment of all donor related expenses incurred at the donor hospital
Donor Family Aftercare

- Resources/keepsakes given at hospital or sent home
- Memorial ceremonies
- Donor family/recipient write and possibly meet
- Letters of update on recipients
- Family Service Coordinators contact family with information and to offer support

Donor family receives a Comfort Shawl at the 2010 US Transplant Games held in Madison, WI
Thank You…

In honor of those who in death gave life to others, and with heartfelt gratitude to those who cared enough to walk the path of grief with them.

Donor, Brian Baudo
September 18, 1980 - October 20, 2003