Analyze That: Ongoing Policy Efforts for Deceased Donor Intervention

SANDY FENG, MD, PHD PROFESSOR OF SURGERY UNIVERSITY OF CALIFORNIA SAN FRANCISCO

ASTS WINTER SYMPOSIUM
MIAMI BEACH, FL
JANUARY 28, 2017

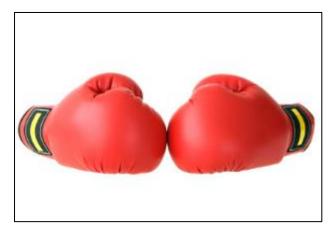
NO CONFLICTS TO DISCLOSE

NO DISCUSSION OF OFF-LABEL USE OF ANY MEDICATIONS

The Problem

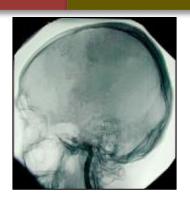






- Demographics of the U.S. population project
 - Increased demand for transplantable organs
 - Decreased quality and low to modest increase of organs suitable for transplantation

The Rationale







- Brain death is physiologic, cellular, and molecular catastrophe that compromises organ viability and function
- The injury sustained in the donor is compounded by cold storage followed by ischemia / reperfusion injury in the recipient
- Organs procured from older, less healthy (diabetes, hypertension, obese) donors are especially vulnerable.

Conceptualizing Research to Improve Organ Quality



Brain death

Organ

Reperfusion

Recipient

Mitigate injury ?Repair injury

Donor

Mitigate injury ?Repair injury

Accelerate recovery from injury

Examples of randomized trials in kidney transplantation

- Dopamine
- Hypothermia
- Machine Perfusion

- Furosemide
- IGF-1
- **α**-ICAM-1
- Erythropoietin
- Pentoxyfilline
- YSPSL (rPSGL-lg)
- Thymoglobulin

Conceptualizing Research to Improve Organ Quality

Brain death

Reperfusion



Organ

Mitigate injury ?Repair injury

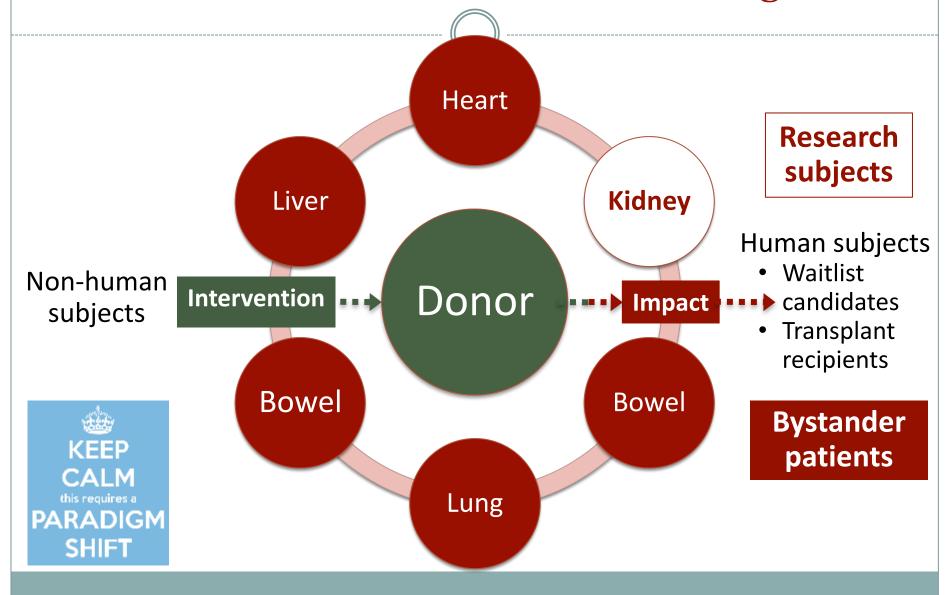
Recipient

Accelerate recovery from injury

- Dopamine
- Hypothermia
- Machine Perfusion

- Furosemide
- IGF-1
- **α**-ICAM-1
- Erythropoietin
- Pentoxyfilline
- YSPSL (rPSGL-lg)
- Thymoglobulin

Research in Deceased Donors: A Paradigm Shift



Ethical and oversight constructs



VOLUNTARINESS AND TRANSPARENCY

DIGNITY

MAXIMIZING THE GIFT

Authorization ???

Living Human Subjects

AUTONOMY

BENEFICIENCE

JUSTICE

Informed Consent IRBs

PUBLIC TRUST

Courtesy of A. Glazier

Authorization / Consent Issues, by Stage

Intervention

Transplant

Outcomes

- Authorization for research
 - Scientific merit
 - Risk assessment
 - Ethical treatment of the donor

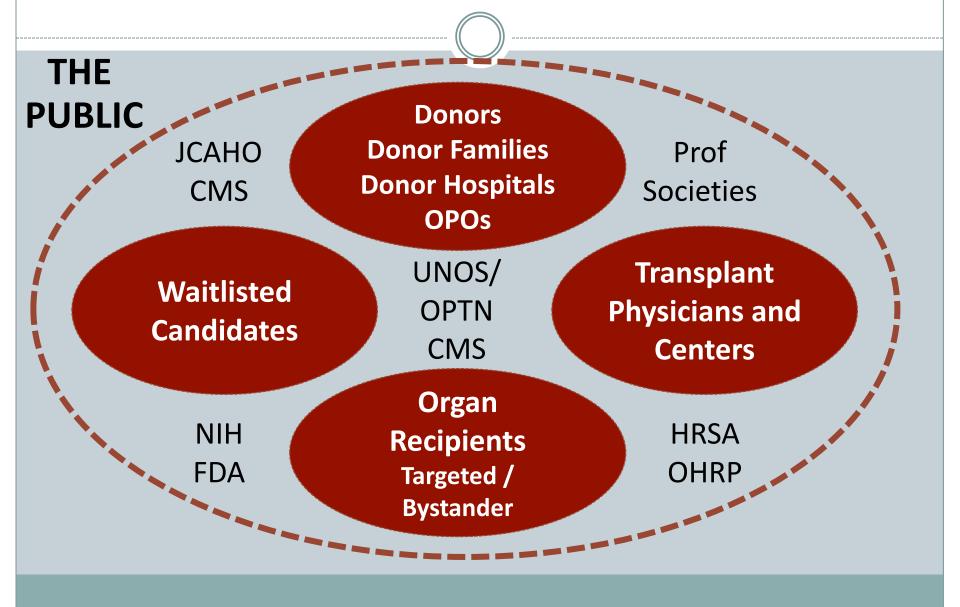
Informed consent to accept organ

Is this a consent for clinical care or for research?

Is the transplant itself research?

- Informed consent to participate in research
 - Data submission
 - Specimen collection
- Other study procedures

Stakeholders



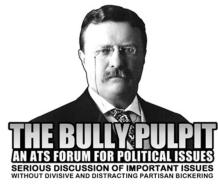
Minireview

doi: 10.1111/j.1600-6143.2010.03100.x

Donor Intervention and Organ Preservation: Where Is the Science and What Are the Obstacles?

S. Feng

The organ shortage is widely acknowledged as the most critical factor hindering the full realization of success for solid organ transplantation. Innovation in the areas of donor management and organ preservation offers the most realistic hope to improve both the quality and size of the current organ supply. Although the basic science dissecting the complex processes of brain death and ischemia/reperfusion injury is replete with exciting discoveries, the clinical science investigating donor management and organ preservation is sparse in contrast. This review will survey the current landscape of trials to mitigate organ injury through interventions administered to donors in vivo or organs ex vivo. Consideration will then be given to the scientific, logistical and ethical obstacles that impede the transformation of laboratory breakthroughs into innovative treatments that simultaneously improve organ quality and supply.





Step 2: Find Reinforcements

HAPPINESS IS



...a partner in crime.





Timeline of Efforts

AJT 2/10



Engage Scientific
Studies Committee

Form group to write paper with Ethics & Standards/ Quality Committees

Share and Revise
Working Document
AST, AOPO, SCCM, ASBH

AJT 2/13

7/10

7/11

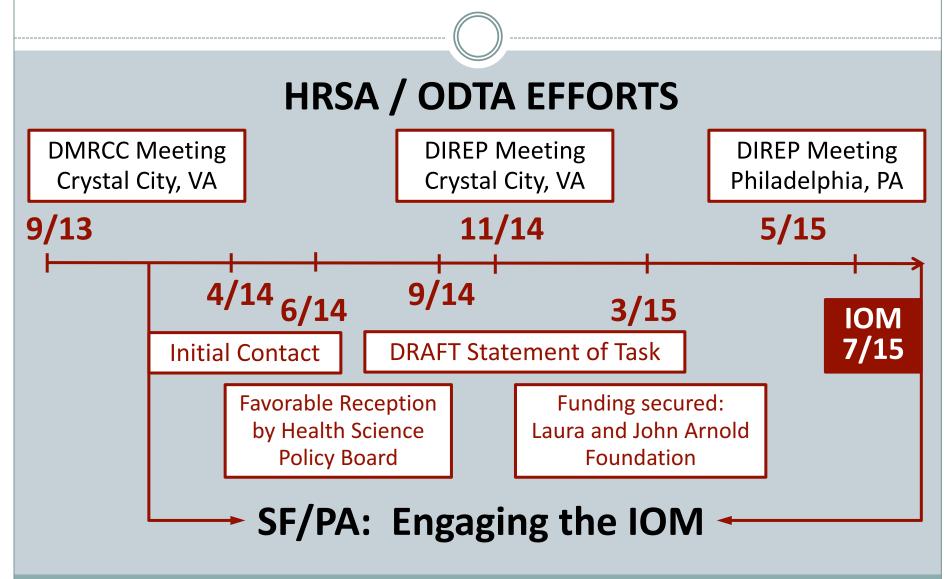
7/12

Discussions with Key Stakeholders

1st F2F Meeting ATC 2011 ASTS, AOPO, ODRC 2nd F2F Meeting: ATC 2012 ASTS, AST, AOPO, SCCM, ODRC, and HRSA ODTA

ACOT 8/12

More Recent Timeline



Why the IOM?

- IOM reports are respected by the public and healthcare professionals as independent, objective, and evidence-based.
 - Critically important, especially if issues involve ethics and controversy
- Prior IOM reports have had a proven transformative impact organ transplantation.
 - 1997: Non-Heart-Beating Organ Transplantation:
 Medical and Ethical Issues in Procurement
 - 2000: Non-Heart-Beating Organ Transplantation:
 Practice and Protocols



2006: Organ Donation: Opportunities for Action

ENATION

INFORMING

ADVISING . . .

CHANGING THE WORLD

OUR VISION . . . OUR VALUES

THE NATIONAL ACADEMIES"

Advisers to the Nation on Science, Engineering, and Medicine

The nation turns to the National Academies—National Academy of Sciences, National Academy of Engineering, Institute of Medicine, and National Research Council for independent, objective advice on issues that affect people's lives worldwide.

www.national-academies.org

Ensuring Independent, biective Advice

ENDURING INFLUENCE

WE VALUE . . .

INDEPENDENCE we are able to examine reference or regard to pol

are not part of the federal

OBJECTIVITY . . . Our r ing views and avoiding co ability to provide impartial

INTEGRITY . . . Every of meticulous study proces match the evidence and review by anonymous ex thus safeguarding the cre

TRUTH . . . We base al recommendations on the

EVIDENCE . . . We belie solutions. Our only agend staying true to the evidence

EXPERTISE . . . We mot minds to produce consist convening activities.

Ways We Answer the Nation's **Most Pressing Health Questions**

National Academy of Sciences National Academy of Engineering Institute of Medicine

THE NATIONAL ACADEMIES

Advisers to the Nation on Science, Engineering, and Medicine

National Research Council









ABOUT THE INSTITUTE OF MEDICINE

Advising the Nation. Improving Health.











HEALTH AND MEDICINE DIVISION

Activity

Issues in

Type: Consensus

Topics: Biomedical a

Board: Board on He

Activity Descr

The Committee on Iss operational issues rele study, the concept exc cardiopulmonary criter opportunities for clinics

donated organs availal and thus potentially af organ donor intervention

As of March 2016, the previously undertaken

For more information

Upcoming Meetings for this Activity

Conference Call for the Committee on Issues in Organ Donor Intervention Research

January 31, 2017 (1:30 PM Eastern)

☎ OPEN MEETING

☐ AGENDA ☐ ☐ REGISTER

Conference Call for the Committee on Issues in Organ Donor Intervention Research

February 13, 2017 (2:00 PM Eastern)

쓸 OPEN MEETING

☐ AGENDA ☐ ☐ REGISTER

opportunities for clinical research involving deceased donors that alms to increase the quality and quantity of

Previous Meetings for this Activity

Committee on Issues in Organ Donor Intervention Research: Public Workshop

December 14, 2016 (8:30 AM Eastern)

VIEW AGENDA

First Meeting of the Committee on Issues in Organ Donor Intervention Research

September 29, 2016 (11:30 AM Eastern)

○ VIEW AGENDA

he Study of Liver

ector ector

plant Surgeons plantation urement

vices Administration undation

Blood Institute
and Infectious

es and Digestive and

- National Kidney Foundation
- OneLegacy Foundation

Summary

- Population demographics impose severe limits on both the quantity and quality of suitable organs for transplantation
- Research is the <u>ONLY</u> approach that can mitigate the injury that results from brain death and reperfusion
 - Improve the function organs that are utilized
 - Recruit additional organs for transplantation
- Heretofore, ethical, regulatory, and logistical challenges have stymied innovative in research deceased donors.
- Substantial efforts to resolve these quandaries by partnering with multiple stakeholders and engaging the IOM may yield the necessary guidance to advance discovery.

Acknowledgments

- Peter Abt
- Alex Glazier
- Kate Heffernan
- Claus Niemann
- Darren Malinoski
- James Rodrigue

- ASTS
- ACOT
- AST
- AOPO
- AASLD
- HRSA
- NIAID/NIDDK/NHLBI
- Sam Mar and the Laura and John Arnold Foundation
- Institute of Medicine