Kidney vs. Liver:
Where are We Really with Allocation in Kidney Transplantation?

Mark D. Stegall, MD
Chair, UNOS/OPTN
Kidney Allocation Review Subcommittee
Different Allocation Factors

Liver
- Wait list mortality is high
- MELD (Serum creatinine, Bilirubin, INR)
- Waiting time for tie-breakers

Kidney
- Sensitization more important
- Immunologic outcomes very different--HLA
- Spectrum of donor kidneys
- Spectrum of recipients
Liver vs. Kidney Similarities

- Allocate based on objective candidate factors
- Allow comparison of access to transplant for similar types of patients
- Ex MELD of 30
Thorough review of national kidney allocation system

Purpose
- Follow lead provided for liver & lung allocation
- Provide for open, inclusive input & participation
- Assess relevant factors pre-, peri-, & post-transplant
  - Are changes warranted?
  - If so, what are these changes, & what objectives are being sought?
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Process: Mass Mailing for Input

Broad solicitation of input & participation

- Request for public comment, focusing on the following questions:
  - What is the overall objective(s) of the kidney allocation system?
  - What are the benefits of the objective(s)?
  - What is already working with the existing kidney allocation system?
  - What makes it work?
  - How can we improve the existing system to move closer to achieving the overall objectives of the system?
Process: Focused Public Hearings

- Expert “testimony” & open discussion regarding specific issues in kidney allocation & opportunities for assessment and/or improvement

- Hearing topics included:
  - February 2005: Barriers to Access Issues, OPO Issues, Introduction to New Allocation Systems
  - April 2005: Specific Biologic Issues, General Committee Deliberations
  - May 2005: Kidney Allocation Systems of Other Countries, General Committee Deliberations
360° Review
Areas of Concern

- Inequity in Access to the Waiting List—outside allocation, but a persistent problem
- Donor Service Area performance—improvements will take pressure off allocation system
- Allocation System
Major Current Issues

- Allocation of scarce resource means that some candidates may never receive a transplant.
- Especially true for blood group O and B recipients (5 year wait) and for some areas of the US.
The Waiting List

- Candidates listed have doubled over the past ten years (now >60,000)
- Growth has been in candidates >50 years of age
Patients Entering Waiting List by Year: 1993 - 2003

Number of Patients

Year

1993 1995 1997 1999 2001 2003

< 18
18-34
35-49
50-64
65+

ASTS
American Society of Transplant Surgeons
Important Points

- Declining Transplant Rates of Patients with longer post-transplant life-expectancy
- Increase in the number of patients with shortened post-transplant life-expectancy
- Waiting times too long for all patients
- Wait list mortality high for seniors
Important Points to Consider

- Ex. 19 y/o 0-MM kidney allocated to a 69 y/o diabetic recipient
- 62 y/o blood group AB kidney allocated to a 25 y/o otherwise healthy recipient
- Waiting time of >5 years for a 68 year old diabetic
Three Sides to Allocation

Justice

Utility

Efficiency

American Society of Transplant Surgeons
Different Goals of Allocation

Liver—minimize wait-list mortality

Kidney

- **Utility**—post-transplant patient and graft survival
- **Justice**—equitable access to transplantation
- **Efficiency**—decrease wastage and cold ischemia time
A significantly different allocation system is likely

- Simple—as possible
- Patient driven
- Preserve patient autonomy
- Balance justice, utility, and efficiency
What Current Priorities to Keep?

**Retain High Priority**
- Previous living donors
- Children
- Sensitized patients

**Changed or Diminished Priority**
- Waiting time as the major “rank” factor
- 0-MM sharing for non-sensitized candidates
- Paybacks
- HLA matching

**Increased Emphasis**
- Net Benefit = patient survival with transplant vs dialysis
New Concepts: Net Benefit

- Benefit of transplant vs remaining on dialysis
- Endpoint patient survival
- Points = Patient survival years with transplant minus patient survival without transplant
- ex. 35 y/o diabetic:
  - 21 years – 5 years = 16
Comparison of Mortality in All Patients on Dialysis, Patients on Dialysis Awaiting Transplantation, and Recipients of a First Cadaveric Transplant

RA Wolfe, VB Ashby, EL Milford, AO Ojo, RE Ettenger, LYC Agodoa, PJ Held, FK Port

New England Journal of Medicine, 1999; 341 (23): 1725-30
New Concepts

- Incorporate “net benefit” for KP candidates
- A2 donors to B recipients nationwide
- “Acceptable mismatch”
Sensitized Patients

**Current**
- Local “ROP trays”
- Most crossmatches positive
- Inefficient
- Few patients transplanted

**Proposed**
- Identify “acceptable mismatches”
- Offer kidneys only with a high likelihood of a negative final crossmatch
Possible Schema

- **Pediatric system**
  - Likely to remain intact

- **ECD system for EC Recipients**
  - Primarily by waiting time
  - Allow sicker patients to have cardiac evaluation, etc near time of transplant
  - Allows for a list of patients who are likely to accept an ECD kidney
  - Shorter wait time for patients who cannot survive long waiting times
Standard Criteria Donors

- SCD Point System
  - Net Benefit Points
  - Sensitization Points
  - HLA points
  - Waiting time points
Standard Criteria Donors

- SCD Point System
  - Net Benefit Points 16
  - Sensitization Points 0
  - HLA points 4
  - Waiting time points 4

24
Goal of Kidney Allocation

To improve the lives of patients with ESRD by assuring the just and optimal use of deceased donor kidneys
Where are We Really with Allocation in Kidney Transplantation?

**Finished:**
- 360 Review
- “Straw Man” Draft of New System

**To Do:**
- Modeling using KPSAM
- Assess the “Straw Man” in detail
- More data
- Public Input
Proposed Timeline

**Summer/Fall 2005**
- Modeling by SRTR
- Open Hearing to bring interested constituencies together to consider actual proposal
- Further testing and refining

**Winter**
- Public comment
- KP Committee consideration

**3/06**
- Possible Presentation to OPTN/UNOS Board of Directors