The Alliance Conversation Series

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Extended Criteria Donors

Figure 61. Overall liver transplants

![Graph showing overall liver transplants from 2008 to 2020. The number of transplants increases steadily over the years.](image)

Figure 1. New adult candidates added to the liver transplant waiting list

![Graph showing the number of new adult candidates added to the liver transplant waiting list from 2008 to 2020. The number increases steadily over the years.](image)
Extended Criteria Donors

Rationale

Figure 24. Overall pretransplant mortality rates among adults waitlisted for liver transplant

Figure 33. Pretransplant mortality rates among adults waitlisted for liver transplant in 2019 by DSA

OPTN/SRTR 2019 Annual Data Report
Liver Transplants
Rationale
Liver Transplants
OPTN Data
DCD Livers
Underutilized Resource

Figure 28. Variation in percentage of DCD donors from all donors, 2019

Figure 52. Rates of livers recovered for transplant and not transplanted by DCD status
Liver Transplants

MCA

DBD  DCD  LDLT

Years: 1999-2012

Counts:
- DBD 24, 27, 31, 32, 36, 35, 35, 53, 53, 45, 49, 51
- DCD 7, 10, 10, 17, 8, 10, 15, 9, 10, 4
- LDLT 12, 58, 13, 33, 1, 8, 1, 0, 1, 4

Legend:
- DBD: Dark Blue
- DCD: Orange
- LDLT: Light Gray

Years:
- 1999
- 2000
- 2001
- 2002
- 2003
- 2004
- 2005
- 2006
- 2007
- 2008
- 2009
- 2010
- 2011
- 2012

Statistics:
- DCD: 7, 10, 10, 17, 8, 10, 15, 9, 10, 4
- LDLT: 12, 58, 13, 33, 1, 8, 1, 0, 1, 4

Note: LDLT cases vary and may not be consistent across years.
WHERE

DO

YOU

WANT

TO

GO?
Strategies to Increase Organ Utilization

- Change organ acceptance criteria
- Change local culture / champion
- Develop processes that optimize team preparedness
- Develop / strengthen relationships with OPOs and outside donor surgeons
- Build upon own and other transplant programs experiences
Strategies to Increase Organ Utilization

- Broaden acceptance criteria for kidneys
  - Acute kidney injury (AKI) donor kidneys
    - Donors on RRT
    - AKI and high KDPI
    - DCD and AKI
  - High KDPI
  - Pediatric-en bloc
  - Long CIT
  - Questionable biopsies
Selection criteria
Donors with AKI

- No maximum creatinine
- Accept AKI kidneys
  - Donors on RRT
  - DCD donors
  - High KDPI donors
  - Elevated admitting creatinine
  - History of hypertension or diabetes mellitus
  - HCV antibody positive
  - A2 to B

- Exclusion criteria
  - Biopsy with > 10% cortical necrosis
  - Biopsy with more than mild chronic changes
Selection criteria
Dual adult kidneys

- Not well defined
- Factors to consider
  - Ultra high KDPI >95%
  - Biopsy showing moderate chronic changes
  - Remuzzi* score >4
  - Donor age >70, especially small sized donor
  - Combination of factors

* Remuzzi, G et al. JASN 1999
Selection criteria
Pediatric en-bloc kidneys

- < 8 kg: higher risk
- 8-12 kg: en-bloc
- 12-15 kg:
  - En-bloc preferred
  - consider as single kidneys in 2 small recipients
- 15-20 kg:
  - consider as single kidneys in small recipients
  - En-bloc if offered and the first recipient on the list is not small
- >20 kg: single kidneys in 2 recipients
Strategies to Increase Organ Utilization

- Broaden acceptance criteria for livers
  - Older donors
  - Organ dysfunction at procurement
  - Degree of steatosis
  - DCD donors
  - Post cross-clamp livers
  - High BMI donors
  - PHS increased risk

- Broaden the capture area
  - Organ imports
Strategies to Increase Organ Utilization
Champions

- Vision / Belief
- Enthusiasm
- Technical aptitude
- Dedication
- Self-confidence
- Persuasion skills
Program Culture Change

- Surgeons
- Hepatologists / nephrologists
- Referring providers
- Anesthesiologists
- Intensivists and ICU nurses
- OR staff
- Surgical pathologists
- Administrators
Program Culture Change

- Transplant outcomes closely monitored and reviewed
  - M&M
  - QAPI Program – all members of the team
  - Monthly organ offer review conference
    ✓ Potential missed opportunities
    ✓ All members of the transplant team are invited
    ✓ Honesty and transparency
    ✓ No blame
Building Relationships
OPOs

- Creating new / solidifying existing relationships
  - Common goal
  - Available, helpful and timely
  - Offering feedback on outcomes of organs that we accepted
  - Providing personal contact information to OPO staff
  - Encouraging communication
    - ✓ pre-procurement interest calls when there is low local center interest
Building Relationships
Procuring Surgeons

- Building trust in each other – learning DCD procurement
  - The young teaching the old
  - Two staff surgeons
  - Staff surgeon and transplant fellow
  - Transplant fellow and surgical resident
  - Transplant fellow and mid-level practitioner
Building Relationships
Procuring Surgeons

- Professional reputation
- Mutual trust
- Relationship needs to be nurtured
- Communications is key - feedback
- Speak the same language
Procurement Coordinators

- In-house during office hours
- Sit-down rounds
- Organ selection conferences
- Waitlist review
- M&M
- QAPI meetings
- Organ offer reviews / DNAZ organ reviews
Our Process

Organ Procurement Organization

- Procurement Coordinator
- Mid-level Provider
- Donor Surgeon
- Transplant Fellow / Resident
- Recipient Surgeon
- Hepatologist / Nephrologist
- Pathologist
- OR Control Desk
- Transportation
Transplant Program Behavior
Liver Transplant

Figure B10. Offer acceptance: Overall
Figure B11. Offer acceptance: PHS increased infectious risk
Figure B12. Offer acceptance: DCD Donor
Figure B13. Offer acceptance: HCV+ Donor
Figure B14. Offer acceptance: Offer number > 50
Figure B15. Offer acceptance: Donor more than 500 miles away
## C. Transplant Information

**Table C4D. Deceased donor transplant characteristics**

Transplants performed between 01/01/2019 and 12/31/2019

<table>
<thead>
<tr>
<th>Transplant Characteristic</th>
<th>Percentage in each category</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Center (N=167)</td>
</tr>
<tr>
<td></td>
<td>Region (N=1,341)</td>
</tr>
<tr>
<td></td>
<td>U.S. (N=8,372)</td>
</tr>
<tr>
<td><strong>Cold Ischemic Time (Hours): Local (%)</strong></td>
<td></td>
</tr>
<tr>
<td>Deceased: 0-5 hr</td>
<td>82.5</td>
</tr>
<tr>
<td>Deceased: 6-10 hr</td>
<td>17.5</td>
</tr>
<tr>
<td>Deceased: 11-15 hr</td>
<td>0.0</td>
</tr>
<tr>
<td>Deceased: 16-20 hr</td>
<td>0.0</td>
</tr>
<tr>
<td>Deceased: 21+ hr</td>
<td>0.0</td>
</tr>
<tr>
<td>Not Reported</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Cold Ischemic Time (Hours): Shared (%)</strong></td>
<td></td>
</tr>
<tr>
<td>Deceased: 0-5 hr</td>
<td>47.3</td>
</tr>
<tr>
<td>Deceased: 6-10 hr</td>
<td>50.0</td>
</tr>
<tr>
<td>Deceased: 11-15 hr</td>
<td>2.7</td>
</tr>
<tr>
<td>Deceased: 16-20 hr</td>
<td>0.0</td>
</tr>
<tr>
<td>Deceased: 21+ hr</td>
<td>0.0</td>
</tr>
<tr>
<td>Not Reported</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Procedure Type (%)</strong></td>
<td></td>
</tr>
<tr>
<td>Liver alone</td>
<td>88.6</td>
</tr>
<tr>
<td>Liver and another organ</td>
<td>11.4</td>
</tr>
<tr>
<td><strong>Sharing (%)</strong></td>
<td></td>
</tr>
<tr>
<td>Local</td>
<td>34.1</td>
</tr>
<tr>
<td>Shared</td>
<td>65.9</td>
</tr>
<tr>
<td><strong>Median Time in Hospital After Transplant</strong></td>
<td>5.5 Days</td>
</tr>
</tbody>
</table>

* Multiple organ transplants are excluded from this statistic.
Outcomes – MCA
Liver Transplant

OPTN - Graft Survival
Outcomes – MCA
Liver Transplant

OPTN - Patient Survival
Outcomes – MCA
Liver Transplant

Waitlist Mortality

Figure B7. Observed and expected rates of patient mortality after listing: 07/01/2018 - 03/12/2020

Figure B8. HR estimate of patient mortality after listing

Figure B9. Observed adult (18+) and pediatric (<18) rates of patient mortality after listing: 07/01/2018 - 03/12/2020
Outcomes – MCA
Kidney Transplant

Figure B1D. Observed and expected deceased donor transplant rates: 07/01/2018 - 03/12/2020

Figure B2D. Deceased donor transplant rate ratio estimate

Figure B3D. Observed adult (18+) and pediatric (<18) deceased donor transplant rates: 07/01/2018 - 03/12/2020
### B. Waiting List Information

**Table B10. Time to transplant for waiting list candidates***
Candidates registered on the waiting list between 07/01/2014 and 12/31/2019

<table>
<thead>
<tr>
<th>Percentile</th>
<th>Center</th>
<th>Months to Transplant**</th>
<th>U.S.</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Center</td>
<td>OPO/DSA</td>
<td>Region</td>
</tr>
<tr>
<td>5th</td>
<td>0.5</td>
<td>0.5</td>
<td>1.2</td>
</tr>
<tr>
<td>10th</td>
<td>1.1</td>
<td>1.3</td>
<td>3.5</td>
</tr>
<tr>
<td>25th</td>
<td>4.3</td>
<td>4.7</td>
<td>14.2</td>
</tr>
<tr>
<td>50th (median time to transplant)</td>
<td>15.5</td>
<td>18.5</td>
<td>Not Observed</td>
</tr>
<tr>
<td>75th</td>
<td>Not Observed</td>
<td>Not Observed</td>
<td>Not Observed</td>
</tr>
</tbody>
</table>
Outcomes – MCA
Kidney Transplant

Figure B10. Offer acceptance: Overall

Figure B11. Offer acceptance: Low-KDRI

Figure B12. Offer acceptance: Medium-KDRI

Figure B13. Offer acceptance: High-KDRI

Figure B14. Offer acceptance: Offer number > 100
Outcomes – MCA
Kidney Transplant

Transplants performed between 07/01/2019 and 06/30/2020

<table>
<thead>
<tr>
<th>Transplant Characteristic</th>
<th>Percentage in each category</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Center (N=384)</td>
</tr>
<tr>
<td>Cold Ischemic Time (Hours): Local (%)</td>
<td></td>
</tr>
<tr>
<td>Deceased: 0-11 hr</td>
<td>28.9</td>
</tr>
<tr>
<td>Deceased: 12-21 hr</td>
<td>49.8</td>
</tr>
<tr>
<td>Deceased: 22-31 hr</td>
<td>21.3</td>
</tr>
<tr>
<td>Deceased: 32-41 hr</td>
<td>0.0</td>
</tr>
<tr>
<td>Deceased: 42+ hr</td>
<td>0.0</td>
</tr>
<tr>
<td>Not Reported</td>
<td>0.0</td>
</tr>
<tr>
<td>Cold Ischemic Time (Hours): Shared (%)</td>
<td></td>
</tr>
<tr>
<td>Deceased: 0-11 hr</td>
<td>8.7</td>
</tr>
<tr>
<td>Deceased: 12-21 hr</td>
<td>34.7</td>
</tr>
<tr>
<td>Deceased: 22-31 hr</td>
<td>55.5</td>
</tr>
<tr>
<td>Deceased: 32-41 hr</td>
<td>1.2</td>
</tr>
<tr>
<td>Deceased: 42+ hr</td>
<td>0.0</td>
</tr>
<tr>
<td>Not Reported</td>
<td>0.0</td>
</tr>
<tr>
<td>Procedure Type (%)</td>
<td></td>
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<tr>
<td>Kidney alone</td>
<td>92.4</td>
</tr>
<tr>
<td>Kidney and another organ</td>
<td>7.6</td>
</tr>
<tr>
<td>Dialysis in First Week After Transplant (%)</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>54.9</td>
</tr>
<tr>
<td>No</td>
<td>45.1</td>
</tr>
<tr>
<td>Not Reported</td>
<td>0.0</td>
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<tr>
<td>Sharing (%)</td>
<td></td>
</tr>
<tr>
<td>Local</td>
<td>54.9</td>
</tr>
<tr>
<td>Shared</td>
<td>45.1</td>
</tr>
<tr>
<td>Median Time in Hospital After Transplant*</td>
<td>2.5 Days</td>
</tr>
</tbody>
</table>

* Multiple organ transplants are excluded from this statistic.
Outcomes – MCA
Kidney Transplant
OPTN– Graft Survival

Figure C3D. Adult (18+) 1-year deceased donor graft failure HR estimate

Figure C4D. Adult (18+) 1-year deceased donor graft failure HR program comparison

Figure C5D. Adult (18+) 3-year deceased donor graft failure HR estimate

Figure C6D. Adult (18+) 3-year deceased donor graft failure HR program comparison
Outcomes – MCA
Kidney Transplant
OPTN – Patient Survival
Transplant Volumes – All Organs
MCA

Chart Title
Questions & Discussion