Preserving the Option of Organ Donation in the Intensive Care Unit

LifeSource Symposium
October 6, 2011

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Director, Surgical Critical Care
Cedars-Sinai Medical Center
Goals for this presentation

- Emphasize the importance of organ donation for both recipients and donors
- Identify the role of critical care providers in organ donation and discuss how their involvement improves outcomes
- Recognized donor hospital best practices
Preserve the Option of Donation

• Over 42% of the adult U.S. population is registered to be an organ donor

• More than 75% of families consent when approached optimally

• There are psychological and grieving benefits for the families of donors
The Logic of Honoring Donor Designation

Transitive Property:
If A=B and B=C, then A=C

A – Donor designation
B – Advance directive
C – Hospital obligation

If Donor designation = Advance directive
and Advance directive = Hospital obligation

then Donor designation = Hospital obligation
Hospital Requirements

- Centers for Medicare/Medicaid Services & American College of Surgeons
  - Notification process
  - Declaration of brain death
  - Organ procurement organization (OPO) relationship
  - Performance Improvement (PI) program
  - Patient/family opportunity to donate
Goals of the Organ Donation Breakthrough Collaborative

- 3.75 organs transplanted per donor (OTPD)
- 10% donors after cardiac death (DCD)
- Increase conversion rate up to 75%
- Increase donations by 1,900/year
- Increase transplants by 6,000/year

Conversion rate = # actual donors / # eligible donors
# Impact of Timely Referral on Conversion Rates

<table>
<thead>
<tr>
<th>Timely Referral*</th>
<th>Eligible Deaths</th>
<th>Eligible Donors</th>
<th>Conversion Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>20109</td>
<td>14167</td>
<td>70.5%</td>
</tr>
<tr>
<td>No</td>
<td>3619</td>
<td>2080</td>
<td>57.5%</td>
</tr>
<tr>
<td>Total</td>
<td>23728</td>
<td>16247</td>
<td>68.5%</td>
</tr>
</tbody>
</table>

*Based on OPO's definition of timely referral

OPTN data January 2008-June 2010
# Impact of Effective Request on Conversion Rates

<table>
<thead>
<tr>
<th>Effective Request*</th>
<th>Eligible Deaths</th>
<th>Eligible Donors</th>
<th>Conversion Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>18947</td>
<td>14334</td>
<td>75.7%</td>
</tr>
<tr>
<td>No</td>
<td>3998</td>
<td>1870</td>
<td>46.8%</td>
</tr>
<tr>
<td>Total</td>
<td>23728</td>
<td>16247</td>
<td>68.5%</td>
</tr>
</tbody>
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*Based on OPO's definition of effective request

OPTN data January 2008-June 2010
# A Multidisciplinary Organ Donor Council and Performance Improvement Initiative Can Improve Donation Outcomes

ALLEN P. KONG, M.D.,* CRISTOBAL BARRIOS, M.D.,* ALI SALIM, M.D.,† LYNN WILLIS, M.H.A.,* MARIANNE E. CINAT, M.D.,* MATTHEW O. DOLICH, M.D.,* MICHAEL E. LEKAWA, M.D.,* DARREN J. MALINOSKI, M.D.*

From the *University of California, Irvine, Medical Center, Orange, California; and † Cedars-Sinai Medical Center, Los Angeles, California

<table>
<thead>
<tr>
<th></th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of referrals</td>
<td>96</td>
<td>139 (p&lt;0.01 vs. 2006)</td>
<td>143 (p&lt;0.01 vs. 2006)</td>
</tr>
<tr>
<td>Timely notification rate</td>
<td>64%</td>
<td>83% (p&lt;0.01 vs. 2006)</td>
<td>83% (p&lt;0.01 vs. 2006)</td>
</tr>
<tr>
<td>DCD rate</td>
<td>0%</td>
<td></td>
<td>11% (p=0.07)</td>
</tr>
</tbody>
</table>

THE AMERICAN SURGEON October 2010
A Multidisciplinary Organ Donor Council and Performance Improvement Initiative Can Improve Donation Outcomes

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**UC Irvine**

![Bar chart showing OTPED values for UC Irvine over years 2007, 2008, and 2009.]

- 2007: 1.8 (p=0.45 vs. 2007)
- 2008: 2.18
- 2009: 2.54 (p=0.20 vs. 2007)

**Southern California Region**

![Bar chart showing OTPED values for Southern California Region over years 2007, 2008, and 2009.]

- 2007: 2.09
- 2008: 1.97
- 2009: 2.04

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- **OTPED** = effectiveness of an organ donation program
- Considers conversion rate & donor management
Aggressive Organ Donor Management Significantly Increases the Number of Organs Available for Transplantation

Ali Salim, MD; George C. Velmahos, MD, PhD, FACS; Carlos Brown, MD; Howard Belzberg, MD; and Demetrios Demetriades, MD, PhD, FACS

<table>
<thead>
<tr>
<th>Category</th>
<th>Current</th>
<th>Previous</th>
<th>Change</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Referrals for donation</td>
<td>341</td>
<td>357</td>
<td>+ 5%</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Potential donors</td>
<td>214</td>
<td>255</td>
<td>+ 19%</td>
<td></td>
</tr>
<tr>
<td>Actual donors</td>
<td>57</td>
<td>104</td>
<td>+82%</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Family Decline (%)</td>
<td>109 (51%)</td>
<td>106 (42%)</td>
<td>- 9%</td>
<td>&lt;0.05</td>
</tr>
<tr>
<td>Donors lost due to cardiovascular collapse</td>
<td>39</td>
<td>5</td>
<td>- 87%</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Medically unsuitable</td>
<td>9</td>
<td>40</td>
<td>+ 344%</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Organs recovered</td>
<td>217</td>
<td>370</td>
<td>+ 71%</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

_J Trauma. 2005;58:991–994._
How Can I Adopt this at My Institution?

“Aggressive Donor Management”
“Devastating Brain Injury Guidelines”

or

CBIGs: Catastrophic Brain Injury Guidelines
Devastating Brain Injury Pathway

GOAL
To maintain hemodynamic stability in patients with devastating brain injuries
Benefit to Patients/Families

- Hemodynamic Stability
  - Apnea test/Confirmatory Test
  - Locate family
  - Time to grieve/decide on next steps
  - Some patients clinically improve and survive
  - Preserves option of donation if chosen ***

- Donors and their families want to donate
  - 75% families consent, 42% adults registered
  - Grieving data
Exploring the psychological effects of deceased organ donation on the families of the organ donors

• 98% would choose donation again

• 92% identified positive aspects to the donation process/experience

• Majority agreed that donation was comforting
  – Associated with less depression
Trauma Center Processes

• Trauma Surgeon on Organ Donor Council
  – Increase in the number of donors per 1000 trauma admissions

• Presence of Catastrophic Brain Injury Guidelines
  – Increase in the number of donors per 1000 trauma admissions
  – Higher conversion rate

-Pacific Coast Surgical Association, 2011
Good Patient Care is Good Donor Care

• Donor Management Goals met at consent improve outcomes
  – 90% increase in the chance of achieving 4 organs transplanted per donor
  – 50% decrease in the chance of developing recipient renal delayed graft function

-Pacific Coast Surgical Association, 2011
-Western Trauma Association, 2011
Donor Hospitals Partnering with OPO’s to Maximize the Gift

- Increases in the number of Donor Management Goals met from consent to 12-18 hours later are associated with more organs transplanted per donor

-Western Trauma Association, 2011
Summary

• Donation is good for our patients and their families
• The majority of people want to donate
• By maintaining normal critical care practices, we can improve donation outcomes
• Don’t forget:
  \[ A = B = C \]
THANK YOU

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