Living Donor Liver Transplant Program: What’s New at UPMC
Champion Program

Time to shift the Paradigm

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Thomas E Starzl Transplant Institute, University of Pittsburgh Medical Center
Liver transplantation: one of the miracles of modern medicine

Liver transplant is now established as the only definitive treatment for **end-stage liver disease (ESLD)**

Survival following liver transplant

- 1 year survival: 87 – 93%
- 5 year survival: > 75%
UPMC

• No Conflict of Interest
• No Disclosers
Introduction: Time to shift the Paradigm

- Disparity between the number of available organs and transplant candidates continue to grow
- In Asia, this problem: successfully addressed by living donor liver transplantation (LDLT)
- In the western countries: Number of LDLT has not increased
- Demand for organs continue to increase
- The importance to increase the existing donor pool is paramount
Burden of the Problem- Wait list Mortality

SRTR :

- The overall wait list mortality in US- 17% (10-28%), not including the patients who were removed due to being too sick (9.8%)
- Only 35.9% get transplanted
- MELD < 15 - 60% patients/ 9800 patients
- There is substantial mortality on the transplant wait list
- Trend towards higher mortality among patients with low MELD
- (12% in MELD ≤ 18)
Current Status of Liver Transplant in the United States - Background

- Deceased Donor TX
- Living Donor TX
- Waiting List

Charts and graphs showing trends in liver transplant cases from 2006 to 2018.
The State of Living-Donor Liver Transplant in the United States

UNDERUTILIZED: ONLY 401 LIVING-DONOR LIVER TRANSPLANTS PERFORMED IN THE ENTIRE U.S. IN 2018. THIS ACCOUNTED FOR 4.8% OF THE TOTAL NUMBER OF TRANSPLANTS.
Patients in our local area are waiting longer and are sicker by the time they receive a transplant. Waitlist mortality of 25%.
Consequences of Wait List and Limited Resources

What does this mean for the individual patient needing a liver transplant?

1. About a **15-25%** chance of never making it to transplant
2. **Longer waiting times** before receiving a transplant
   - A more debilitated state by the time a transplant is performed
   - A longer and more difficult recovery time post-transplant
3. **Not all patients** that could benefit are listed or offered transplant
Advantages and Disadvantages of LDLT

**Advantages**
- Decrease waitlist mortality
- Decreased waiting time
- Transplant prior to recipient becoming critically ill
- Elective, non-emergent
- Minimal cold ischemia
- Immunologic advantage
- Adds to cadaver pool
- Financial benefit

**Disadvantages**
- Short-term risks to donor
- Long-term risks to donor
- Increased incidence of biliary and vascular complications
- Decreased hepatic reserve
**Results**

<table>
<thead>
<tr>
<th></th>
<th>Living Donor N=222</th>
<th>Deceased donor N=625</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median LOS</td>
<td>11 days</td>
<td>14 days</td>
<td>0.03</td>
</tr>
<tr>
<td>No intraop Transfusion</td>
<td>48%</td>
<td>22%</td>
<td>0.01</td>
</tr>
<tr>
<td>3 month reop</td>
<td>29%</td>
<td>29%</td>
<td>0.80</td>
</tr>
<tr>
<td>1 year survival</td>
<td>91%</td>
<td>86%</td>
<td>0.02</td>
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</table>
LDLT

• Adult-to-adult living donor liver transplantation remains an important yet underutilized gift of life

LDLT provides a

• Substantial transplant patient survival benefit not achievable with DDLT even at low recipient MELD score
• Documented a 44% reduction in mortality compared with the matched cohort undergoing DDLT
• Life saving surgery for anyone on the list who otherwise might not have an opportunity to get a Transplant
• LDLT provides sustained mortality benefit to transplant recipients at Low MELD scores (<15)
Barriers to Living-Donor Liver Transplant

Obstacles and Challenges:

• Lack of education
• Lack of awareness
• Identifying the right candidate
• Gap in the knowledge
• Preconceived notions
• Lack of eligible donors
• Difficulty to broach the subject
• Bridge the gap through education and awareness campaign
Live-donor liver transplant (LDLT) is an important alternative for waitlisted recipients but many recipients do not have identified live donors.

We developed an innovative educational program with the primary goal of helping recipients overcome the challenge of finding a potential living-liver donor.

This program has multiple components and is named:

The Living Donor Champion Program
Methods

• This quality improvement study was launched in June of 2017

• The Champion is the recipient’s primary advocate in identifying a living donor using the program’s multi-pronged strategy and resources

• The recipient and their Champion complete a structured educational program
Living Donor Champion Program

What is a living donor Champion?

A person who **champions** in finding a donor for the recipient

A Champion can be a:

- Friend
- Family member (spouse, sibling, child, cousin)
- Co-worker
- Anyone who is willing to take the lead and help the recipient identify a living donor
- Anyone in their support group who advocates for their health with conviction
<table>
<thead>
<tr>
<th>Goals</th>
<th>Goals</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Help the recipient in identifying a living donor</td>
<td>• Understand role of the <strong>Living Donor Champion</strong></td>
</tr>
<tr>
<td>• Offer support by taking on the responsibility of finding a donor</td>
<td>• Provide resources to the Champion to partner in the search for a living donor</td>
</tr>
<tr>
<td>• Allowing the patient to focus on his/her health</td>
<td>• They go through training multiple times</td>
</tr>
<tr>
<td>• Providing guidance and inspiration through this difficult journey</td>
<td>• They champion recipients through the entire process from finding the donor to getting them to transplant</td>
</tr>
<tr>
<td>• Champion’s Role is Pivotal in this Journey</td>
<td>• Close follow up to ensure progress</td>
</tr>
</tbody>
</table>
Conceptual Framework of the Living Donor Champion Program

**Share the story**
Social settings: Recreational sports leagues
Church groups
Other community-based gatherings
Book clubs

**Social media**
Facebook
Twitter
Instagram
Other social networks

**Word of mouth**

Identify and appoint a Champion
someone to provide emotional support and advocacy to the Recipient
## Living Donor Champion Program

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<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Workshops</td>
<td>7</td>
</tr>
<tr>
<td>Town Halls</td>
<td>3</td>
</tr>
<tr>
<td>Number of Families</td>
<td>140</td>
</tr>
<tr>
<td>Social Media Reach</td>
<td>45 posts</td>
</tr>
<tr>
<td>Total Engagement</td>
<td>77,151</td>
</tr>
<tr>
<td>Total Reach</td>
<td>1,480,666</td>
</tr>
<tr>
<td>Total Impressions</td>
<td>2,643,970</td>
</tr>
<tr>
<td>Website views in 2 Years</td>
<td>16,994</td>
</tr>
<tr>
<td>Donate Life America Living Donor Facebook page</td>
<td>72,828</td>
</tr>
<tr>
<td>Number of people who downloaded our Tool Kit</td>
<td>1044</td>
</tr>
<tr>
<td>Champion Support</td>
<td>Coordinators, Ambassadors and MD’s for individual session</td>
</tr>
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Components of UPMC Living Donor Champion Program and the resources

The program consists of a series of structured Exercises:

- Champion Toolkit (Online and Printed Materials)
- Champion Workshops (Virtual Video conference or in person)
- Online champion website
- Living Donor Information Sessions
- Champion Support Group on Facebook

- Champion Ambassador
- Living donor education and informational sessions
- Through webinar and outreach: Both Group and Individual sessions
- Other: Public Education efforts
- Printed Education Materials through brochures
- Champion website
## Resources for the Champions

### Champion Tool Kit

- The living donation process
- The role of a Champion
- How to use social media to find a living donor
- Additional resources Champions can use to identify a living donor

### Other

- Workplace
- Alumni association
- Book clubs
- Recreational sports leagues
- Church groups
- Other community-based gatherings
- Word of Mouth
- Social Media: FB, Twitter/ Instagram
- E blasts and Newsletters
- Individual mandated sessions
- Group education sessions
- Living Donor Ambassador: One on one support

### Webinar in Partnership with Advocacy Groups

- UNOS
- Donate Life
- CORE
- CLA
Living-Donor Liver Transplant
Patient Resources - Educational Brochure and Video Series

Living-Donor Liver Transplants:
Another choice – and a better chance – at living.

UPMC Living-Donor Champion Program
All UPMC, we understand the challenges facing patients on the liver transplant waiting list. The UPMC Living Donor Champion Program recognizes and celebrates those living donors who have given the gift of life to a loved one. To join our Living Donor Champion Program, visit UPMC.com/livingdonor or call 1-800-999-UPMC (8762).

Understanding the Liver Transplant Waiting List
95 percent of the patients on the liver transplant waiting list are eligible for a living-donor liver transplant.

If you have been diagnosed with a liver disease, a liver transplant may be your only hope.
Total Number of Donor Registrations

- 2012: 112 registrations
- 2013: 52 registrations
- 2014: 113 registrations
- 2015: 166 registrations
- 2016: 309 registrations
- 2017: 314 registrations
- 2018: 358 registrations
- 2019: 309 registrations

Registrations
No. of Donor Evaluations in UPMC

- 2012: 53
- 2013: 24
- 2014: 35
- 2015: 47
- 2016: 76
- 2017: 114
- 2018: 107
- 2019 (as of Aug): 111
Adult Living-Donor Liver Transplants in UPMC

- 2012: 11
- 2013: 15
- 2014: 15
- 2015: 19
- 2016: 28
- 2017: 60
- 2018: 56
- 2019 (as of Oct): 59

Median before 2017 = vs after 2017 $p=0.04$
Transplants in UPMC

- 2012: Deceased 50, Living 11
- 2013: Deceased 48, Living 15
- 2014: Deceased 49, Living 15
- 2015: Deceased 50, Living 19
- 2016: Deceased 61, Living 28
- 2017: Deceased 60, Living 52
- 2018: Deceased 55, Living 56
- 2019 (as of Oct): Deceased 43, Living 59

Legend:
- Blue: Deceased
- Orange: Living
Overall Transplant Rate at UPMC has Increased Because of Living Donors

Figure A2. Transplant rates
07/01/2016 - 06/30/2018

<table>
<thead>
<tr>
<th>Rate per 100 Person Years</th>
<th>Total transplant rate</th>
<th>Deceased donor transplant rate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Observed</td>
<td>Expected</td>
</tr>
<tr>
<td></td>
<td>87.5</td>
<td>57.5</td>
</tr>
<tr>
<td></td>
<td>46.5</td>
<td>55.6</td>
</tr>
</tbody>
</table>

Figure A2. Transplant rates
01/01/2015 - 12/31/2015

<table>
<thead>
<tr>
<th>Rate per 100 Person Years</th>
<th>Total transplant rate (1)</th>
<th>Deceased donor transplant rate (2)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Observed</td>
<td>Expected</td>
</tr>
<tr>
<td></td>
<td>44.8</td>
<td>53.4</td>
</tr>
<tr>
<td></td>
<td>32.3</td>
<td>51.0</td>
</tr>
</tbody>
</table>

(1) Not significantly different (p=0.154)
(2) Statistically lower (p<0.01)
UPMC Living Donors: Quick Summary

Donor Relationship since June 2017
- Biological/Related: 43%
- Non Biological and/or unrelated: 57%

Donor Relationship from 2009 to June 2017
- Biological/Related: 76%
- Non Biological and/or unrelated: 24%

From 2017 to 10/11/2019
- Live: 47%
- Deceased: 53%

Live vs. Deceased Donors
Living-Donor Liver Transplant Program at UPMC

How Living Donor Champion Program Impacted our Liver Transplants

• Increase in Transplant Rate at the appropriate time
• No major change in the Deceased Donor Program in terms of numbers
• Reduction in wait list mortality
• Increased accessibility to Transplant with better outcomes
• Reduction in Readmissions
• Reduction in cost and health care utilization during the time on the wait list
• Reduction in LOS Post Transplant
• Accessibility to Transplant who otherwise might not have had an opportunity for Transplant (Novel indications)