HOPE with The VitaSmart

HYPOTHERMIC OXYGENATED MACHINE PERFUSION
What is the need for machine perfusion?

- Shortage of suitable donors
- Increased use of extended criteria donors (ECD) and donation after circulatory death (DCD) livers
- Conventional static cold storage does not provide optimal preservation of ECD and DCD liver grafts
  - Early graft dysfunction
  - More (biliary) complications
  - Re-transplantation
  - Underutilization of the current donor pool
- Potential for
  - enabling graft repair
  - Reconditioning
  - Immunomodulation

- Desire to extend preservation times for logistic reasons

![Graph showing recurrence free survival (months)]
Organ Preservation: Hypothermic Oxygenated Perfusion (HOPE)

Hypothermic Oxygenated Perfusion Pros

• Provides oxygen and reestablishes electron flow, complex I-V function and recharges energy (ATP)
• Reestablishes TCA-cycle function with metabolism of detrimental molecules (e.g., Succinate, NADH)
• Upregulate cellular defense mechanisms
• Enables assessment of graft function and injury (mitochondrial markers, TCA cycle)
• Generally, less complex, easier to use, less costly as compared to Normothermic devices

Bridge to Life’s Belzer MPS Solution and VitaSmart Machine Perfusion System (Commercially Available in Europe) are Substantially Improving Organ Transplant Outcomes with a Value Proposition for Ease of Use and Cost Effectiveness
The VitaSmart™ Machine Perfusion System is intended to be used for hypothermic oxygenated machine perfusion (HOPE) of livers and kidneys for preservation and eventual transplantation into a recipient

- **Adds vital oxygen** to the donor organ
- Better **protects organs against ischemic reperfusion injury**, leading to improved clinical outcomes
- **Pressure control** protects organ from barotrauma
- **Easy learning curve** for clinical staff without the need for constant monitoring
HYPOTHERMIC OXYGENATED TRANSPLANT TIMELINE

Donor (organ) acceptance | Organ Procurement | Organ Transport (SSC) | Organ Arrival to recipient centre | Back Table Preparation | Organ Cannulation | Start Perfusion | Organ Implantation

Pre transport organ perfusion (if applicable) | Team & Machine Arrival in recipient centre (if applicable) | Preparation of Device during Back Table | Perfusion Circuit Priming | Observe Perfusion Parameter
Safety and efficacy of Hypothermic Oxygenated machine Perfusion (HOPE) and static cold storage (SCS) for liver transplant (LT)

Multi-center, randomized, open label, pivotal trial
- Donor eligibility: Limited and higher risk criteria for donation after circulatory death (DCD) and donation after brain death (DBD) livers
- **15 enrolling sites, 244 patients** (170 at interim analysis), 0.8 subjects/site/month
- Recipients followed for one-year post-transplant

Endpoints
- **Primary Efficacy: Early Allograft Disfunction (EAD) (non-inferiority design)**
- Primary Safety: Subject and graft survival at 6 months
- Other: Model for early allograft function (MEAF) score, subject and graft survival at 30 days/1-year, primary nonfunction (PNF), rejection, adverse events (AEs)/serious adverse events (SAEs), hospital length of stay (LOS), duration on dialysis, ischemic cholangiopathy
Objective:
• Demonstrate safety & efficacy of ex situ, end ischemic, portal venous HOPE of extended criteria DBD and DCD livers

Methods:
• Multicenter, randomized, controlled trial comparing clinical outcomes for patients undergoing transplant of livers after HOPE using the Bridge to Life VitaSmart system versus SCS alone (clinicaltrials.gov: Nct05045794)

Main Findings:
• Initial 61 patients included (25% target enrollment)
• No device related SAEs
• Early allograft dysfunction (EAD; 1st endpoint): HOPE = 7/32 (22%), SCS = 10/29 (35%)
• Hospital length of stay (LOS; median days): HOPE = 9.5, SCS = 11.4
• Graft survival: HOPE = 100%, SCS = 97%; Patient survival: HOPE & SCS = 100%

Conclusion:
• Early trial results reveal promising outcomes with HOPE compared to SCS alone, including device safety, lower risk of EAD and shorter hospital LOS

Demographic

<table>
<thead>
<tr>
<th></th>
<th>HOPE</th>
<th>SCS</th>
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</thead>
<tbody>
<tr>
<td>Donor age (mean yrs ± SD)</td>
<td>49 ± 15</td>
<td>49 ± 14</td>
</tr>
<tr>
<td>DCD (#, %)</td>
<td>6 (19%)</td>
<td>6 (21%)</td>
</tr>
<tr>
<td>Recipient age (mean yrs ± SD)</td>
<td>56 ± 10</td>
<td>54 ± 12</td>
</tr>
<tr>
<td>MELD (mean ± SD)</td>
<td>21 ± 12</td>
<td>18 ± 9</td>
</tr>
<tr>
<td>Cold Ischemia Time (mean min ± SD)</td>
<td>282 ± 65</td>
<td>369 ± 143</td>
</tr>
<tr>
<td>HOPE Time (mean min ± SD)</td>
<td>123 ± 32</td>
<td>n/a</td>
</tr>
<tr>
<td>Total Cold Time (mean min ± SD)</td>
<td>405 ± 76</td>
<td>369 ± 143</td>
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</tbody>
</table>

Source: American Association for the Study of Liver Diseases
Bridge to HOPE Trial Timeline

Aug 2020 - Jan 2022
Study Start-up

- Aug 2020
- Study Start-up

Jan 2022
First Subject Randomized

- Jan 2022
- First Subject Randomized

Sep 2021
IDE Approval

- Sep 2021
- IDE Approval

Dec 2021
First VitaSmart Installed

- Dec 2021
- First VitaSmart Installed

Jan 2022 - Nov 2023
Subject Recruitment (24 mo)

- Jan 2022
- Nov 2023
- Subject Recruitment (24 mo)

Dec 2022
50% Randomized

- Dec 2022
- 50% Randomized

Nov 2023
Last Subject Randomized

- Nov 2023
- Last Subject Randomized

Nov 2024
Last Subject Completed

- Nov 2024
- Last Subject Completed

Dec 2024
PMA Approval

- Dec 2024
- PMA Approval

Apr 2024 - Dec 2024
PMA Review (8 mo)

- Apr 2024
- Dec 2024
- PMA Review (8 mo)

Dec 2023 - March 2024
Study Reporting for PMA

- Dec 2023
- March 2024
- Study Reporting for PMA

Feb 2025
Final Study Report Completed

Bridge to HOPE trial on track for 2025 Q1 commercial launch