

Summary of Ongoing Research Requiring Specimens as of 2023-10-30

HEARTS

Hearts will be offered out (including for heart valves) and if declined, hearts will be offered for research in accordance with the following offering algorithm:

1. Development of a Platform for Ex Vivo Heart Perfusion (**Dr Billia**)
2. Biomechanics of the Thoracic Aorta (**Dr Chung**)

Researcher	Dr Billia
Name of Study	Development of a Platform for Ex Vivo Heart Perfusion
Specimen	Heart, blood
Inclusions	<ul style="list-style-type: none"> - Adult NDD/DNC or DCD/DCC donors (18 to 65 years of age) - Site ≤ 2 hour drive to UHN - UHN recovery team involved in the case
Exclusions	- None
Consent	- Requires TGLN research consent
Other Considerations	<ul style="list-style-type: none"> - Recovery of blood by UHN cardiac/lung transplant retrieval team - For NDD/DNC cases: 1.5 to 2 L of blood prior to cross-clamp in the OR - For DCD/DCC cases: 1.5 to 2 L of blood pre flush

Researcher	Dr Chung
Name of Study	Biomechanics of the Thoracic Aorta
Specimen	Aortic tissue
Inclusions	- Adult NDD/DNC or DCD/DCC donors (> 18 years of age)
Exclusions	- Any indication of cardiac disease or disease of the aorta
Consent	<ul style="list-style-type: none"> - Requires TGLN research consent - Note: aorta is listed on TGLN's consent form next to Heart for Valves and Pericardium
Other Considerations	- When TGH accepts a heart for transplant or for research and there is consent for research use of the aorta, TGLN-CSC offers aortic tissue for research to TGH MOTC, who coordinates with Dr Chung

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PANCREASES

If the pancreas & pancreas for islets are declined for transplant in Ontario & nationally, pancreas will be offered for research in accordance with the following offering algorithm:

1. Ex-Vivo Perfusion of Human Pancreases (Dr. Reichman)
2. In Situ Investigation of Human Islet & Exocrine Function & Disease (Dr Gaisano)
3. Edmonton research program (IsletCore)

For #1 and #2, TGLN-CSC will offer the pancreas for research to TGH-MOTC who will coordinate with Dr Reichman and/or Dr. Gaisano. This includes providing the diabetic status (not diabetic, type-1, type-2, unknown), to Dr Gaisano.

Researcher	Dr Reichman
Name of Study	Normothermic Ex-Vivo Perfusion of Human Pancreases
Specimen	Pancreas for Islets
Inclusions	NDD/DNC or DCD/DCC donors (>5 years of age) WIT < 2 hrs UHN abdominal recovery team is involved in the case
Exclusions	Acute pancreatitis, active cancer, type 1 diabetes
Consent	Requires TGLN research consent
Other Considerations	TGLN-CSC will offer pancreas for research to TGH-MOTC who coordinates with Dr Reichman, this includes providing the diabetic status (not diabetic, type-1, type-2, unknown)

Researcher	Dr Gaisano
Name of Study	In Situ Investigation of Human Islet and Exocrine Function & Disease
Specimen	Pancreas for Islets
Inclusions	NDD/DNC or DCD/DCC donors (10-65 years of age) UHN abdominal recovery team is involved in the case
Exclusions	BMI > 30 if NOT diabetic HBV/HCV/HIV positive
Consent	Requires TGLN research consent
Other Considerations	TGLN-CSC will offer pancreas for research to TGH-MOTC who coordinates with Dr Gaisano, this includes providing donor's diabetic status (not diabetic, type-1, type-2, unknown)

Researcher	IsletCore, Alberta Diabetes Institute
Name of Study	Islets for Diabetic Research
Specimen	Pancreas for Islets
Inclusions	NDD/DNC or DCD/DCC donors of any age Any weight, or HbA1c values, with or without diabetes Positive serology for CMV and EBV are acceptable High risk behavior or incomplete medical/social history may be acceptable as exceptional release
Exclusions	Positive serology for HIV, HTLV, HepB surface antigen, HepB core total, HCV and WNV Visual signs of malignancy upon recovery
Consent	Requires TGLN research consent
Other Considerations	CSC/SRC to complete Donor Information Worksheet. Include worksheet, HLA Typing Report, redacted serology results and recovery sheet into a sealed envelope & place in cooler with pancreas

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LIVERS

If TGH or HSC has accepted a liver for transplant, liver tissue for research will be offered in accordance with the following algorithm:

Adult donors:

1. UHN Liver Cell Isolation study (Dr McGilvray)
2. Defining and Targeting Autoimmune Liver Disease study (Dr MacParland)

Pediatric donors:

1. Defining and Targeting Autoimmune Liver Disease study (Dr MacParland)
2. UHN Liver Cell Isolation study (Dr McGilvray)

Researcher	Dr Selzner
Name of Study	Ex Vivo Liver Perfusion: Assessment and Repair of Liver Grafts
Specimen	Liver, blood sample
Inclusions	Adult NDD/DNC or DCD/DCC donors UHN abdominal recovery team involved in recovery
Exclusions	None
Consent	Requires TGLN research consent
Other Considerations	For NDD/DNC donors, the TGH kidney recovery team will also draw 600cc of blood just before cross clamping. Refer to research profile for offering details

Researcher	Dr MacParland
Name of Study	Defining and Targeting Autoimmune Liver Disease
Specimen	Liver tissue
Inclusions	NDD/DNC or DCD/DCC donors of any age Liver accepted for transplant at HSC/UHN
Exclusions	None
Consent	Requires TGLN research consent
Other Considerations	Refer to research profile for offering details Liver tissue will be recovered from liver graft at time of backbench preparation for transplant

Researcher	Dr McGilvray
Name of Study	UHN Liver Cell Isolation Study
Specimen	Liver Tissue
Inclusions	NDD/DNC or DCD/DCC donors of any age Liver accepted for transplant at UHN
Exclusions	None
Consent	Requires TGLN research consent
Other Considerations	Refer to research profile for offering details Liver tissue will be recovered from liver graft at time of backbench preparation for transplant

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LUNGS

Researcher	Dr Cypel
Name of Study	Ex Vivo Assessment and Repair of Rejected Donor Lungs
Specimen	Lungs
Inclusions	NDD/DNC or DCD/DCC donors of any age UHN lung recovery team involved in recovery
Exclusions	Site must be within driving distance of UHN SRC must be present
Consent	Requires TGLN research consent
Other Considerations	Refer to research profile for offering details

Researcher	Dr Keshavjee
Name of Study	Toronto Lung Transplant Bio-Banking Project
Specimen	Bronchio Alveolar Lavage Fluid (BALF), blood sample
Inclusions	Any donor considered for lung transplant
Exclusions	None
Consent Considerations	Requires TGLN research consent Note: "Bronchio alveolar lavage fluid for future research" should be specifically indicated in consent for research section Suggested script provided in profile
Other Considerations	For NDD/DNC cases: Extra Green top tube (x1) by OTDC on call to OR. Donor BALF (10-ml) during bronchoscopy in recovery OR by transplant fellow For DCD/DCC cases: No blood draw. Donor BALF (10 ml) will be done by the transplant fellow in the OR post arrest & flush prior to clamping trachea

Researcher	Dr Haykal
Name of Study	Sentinel Flaps for the Assessment of Acute Rejection Following Lung Transplantation
Specimen	Skin flap, spleen specimen, blood
Inclusions	Adult NDD/DNC double lung, local donors whose recipient has consented to participate in this research
Exclusions	Bilateral non-palpable radial pulse, bilateral forearm tattoos or scars, cannulated radial artery/ cephalic vein preventing recovery
Consent Considerations	Requires TGLN research consent Note: "Spleen Specimen" and "Skin Specimen" should be specifically indicated in consent for research section Suggested script provided in profile
Other Considerations	50mL of donor blood & spleen sample in OR by the TLTP surgical fellows Skin flap in OR by plastic surgery team

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LUNGS (*continued*)

Researcher	Dr Goligher
Name of Study	"DIASPORA" (Diaphragm Structure and Pathobiology in Patients Being Bridged to Lung Transplant)
Specimen	Diaphragm tissue
Inclusions	Adult NDD/DNC donors (18-80 years of age) Donor's single or double lung(s) are accepted for transplant into a UHN recipient
Exclusions	Donors with neuromuscular disorder and/or thoracic cage deformity
Consent	Requires TGLN research consent Note: "Diaphragm Specimen" should be specifically indicated in consent for research section Suggested script provided in profile
Other Considerations	Refer to research profile for offering and recovery details

KIDNEYS

Researcher	Dr Sener
Name of Study	Human Kidneys as a Source of Ex Vivo Organ Transplant: Protection and Repair
Specimen	Kidney(s), blood
Inclusions	Adult NDD/DNC, DCD/DCC, ECD, or ECD/DCD/DCC donors (>18 years of age) LHSC MOT involved in recovery
Exclusions	HIV or Hep B+/C+ donors
Consent	Requires TGLN research consent
Other Considerations	1 L of blood prior to cross-clamp (NDD/DNC) or post flush and during venting (DCD/DCC) by LHSC MOT Abdominal recovery team

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ABDOMINAL NORMOTHERMIC REGIONAL PERFUSION (A-NRP)

Researcher	TGLN A-NRP Working Group (Research Co-chairs Dr Marat Slessarev and Beth Paltser)
Name of Study	Abdominal Normothermic Regional Perfusion (A-NRP) High Fidelity Simulations (MEDICAL EDUCATION)
Specimen	Blood
Inclusions	Potential adult NDD/DNC referrals not suitable for organ donation (>18 years of age) At LHSC (University and Victoria sites)
Exclusions	None
Consent	Requires TGLN consent for medical education
Other Considerations	Known positive serology (e.g. HIV, Hep B, Hep C, syphilis) or comorbidities may be reviewed prior to excluding

COMING SOON (Upon completion [High Fidelity Simulations \(MEDICAL EDUCATION\)](#) pre-study initiative)

Researcher	TGLN A-NRP Working Group (Research Co-chairs Dr Marat Slessarev and Beth Paltser)
Name of Study	Abdominal Normothermic Regional Perfusion (A-NRP) Pilot Study: "CONCLUDE" (Confirming cessation of Intracranial Circulation during abdominal regional perfusion)
Specimen	Blood
Inclusions	Adult DCD/DCC donors (>18 years of age) At LHSC (University and Victoria sites) or UHN (TWH site)
Exclusions	None
Consent	Requires TGLN research consent
Other Considerations	TBD