

## Heart Deceased Donor Criteria

### Provincial Heart Working Group

Absolute Donor Exclusion Criteria for Heart Transplantation		
#	Factor	Criteria
1	Malignancy	<ul style="list-style-type: none"> <li>• Donors with active cancer (donors receiving chemotherapy or radiation therapy or palliative cancer care within the last 5 years); excluding skin and primary brain tumours and prostate cancers (see below).</li> <li>• Donors with active or past history of melanoma</li> </ul>
2	Age	<ul style="list-style-type: none"> <li>• DCC neonatal donors &lt; 36 weeks gestational age</li> <li>• Hearts are not considered from any donor &gt; 70 years of age</li> <li>• <i>See next page – Transplant Hospital Specific Criteria for DCC exclusions</i></li> </ul>
3	Weight	<ul style="list-style-type: none"> <li>• DCC neonatal donors &lt; 2kg</li> </ul>
4	Infection / Communicable Diseases	<ul style="list-style-type: none"> <li>• Positive HIV, HbsAg, HTLV-I/II test results</li> <li>• West Nile Virus (WNV PCR)</li> <li>• Rabies diagnosis or within the last 6 months bitten by an animal proven to have rabies</li> <li>• Endocarditis</li> <li>• Active encephalitis or meningitis of unknown etiology</li> <li>• Active disseminated tuberculosis</li> <li>• Viral Hemorrhagic Fever including Ebola or known exposure to person with Ebola</li> </ul>
5	Cardiac Abnormalities	<ul style="list-style-type: none"> <li>• Donors with pre-existing cardiac abnormalities:               <ul style="list-style-type: none"> <li>○ The presence of intractable ventricular arrhythmias</li> </ul> </li> </ul>

Relative Donor Exclusion Criteria for Heart Transplantation		
#	Factor	Criteria
1	Age	<ul style="list-style-type: none"> <li>• Donor hearts younger than 45 years will have sufficient reserves to withstand the rigors of heart transplant even in the settings of relative prolonged ischemic time, recipient comorbidities and multiple previous recipient operations with hemodynamically destabilizing bleeding</li> <li>• Hearts from donors between the ages of 45 to 55 years should probably be used when the projected ischemic time is &lt; 4 hours and the potential recipient does not have comorbidities or surgical issues where anything else less than a robust donor heart performance could prove fatal</li> <li>• Hearts from donors &gt; 55 with an estimated cold ischemic time &gt; 4 hours</li> <li>• The use of donor hearts &gt; 55 years should only be used if survival benefit in early HT survival due to transplantation of a heart with limited myocardial reserves</li> </ul>

## Relative Donor Exclusion Criteria for Heart Transplantation

#	Factor	Criteria
2	Drug Toxicities	<ul style="list-style-type: none"> <li>• Donors with a history of non-intravenous cocaine use may be used as long as cardiac function is normal and LVH is absent</li> <li>• Donor hearts from carbon monoxide poisoning may be used provided:                             <ul style="list-style-type: none"> <li>○ EKG and echocardiogram are normal;</li> <li>○ Minimal elevation in cardiac markers;</li> <li>○ Minimal inotropic requirements;</li> <li>○ Relatively short ischemic time;</li> <li>○ Favorable donor to recipient weight ratio;</li> <li>○ Recipient has normal pulmonary vascular resistance.</li> </ul> </li> </ul>
3	Pre-existing cardiac abnormalities	<ul style="list-style-type: none"> <li>• Donor hearts with hemodynamically abnormal aortic and mitral valves may be used with the valves undergoing a bench repair or replacement and subsequent transplantation of the heart</li> </ul>
4	Donor Weight	<ul style="list-style-type: none"> <li>• Donors whose body weight is no greater than 30% below that of the recipient is uniformly safe</li> <li>• Use of a female donor whose weight is more than 20% lower than that of a male recipient should be viewed with caution</li> </ul>
5	Ischemic Time	<ul style="list-style-type: none"> <li>• Should not be longer than 4 hours. Times longer than 4 hours should only be accepted with the following ideal situations:                             <ul style="list-style-type: none"> <li>○ Young donor age</li> <li>○ Normal cardiac function</li> <li>○ Absence of inotropic support</li> </ul> </li> </ul>
6	Risk Factors	<ul style="list-style-type: none"> <li>• Risk Factors for Coronary Artery Disease with Potential Impact on Transplant Outcomes:                             <ul style="list-style-type: none"> <li>○ Smoking</li> <li>○ Hypertension</li> <li>○ Diabetes</li> <li>○ Hyperlipidemia</li> <li>○ BMI &gt; 32</li> <li>○ Family history of cardiac disease</li> <li>○ Prior history of coronary artery disease</li> <li>○ Ischemia on electrocardiogram</li> <li>○ Anterolateral regional wall motion abnormalities on echocardiogram</li> <li>○ 2-dimensional echocardiographic assessment of ejection fraction of <math>\leq</math> 40%</li> <li>○ Marginal donors due to high dose inotropes and diffuse wall motion abnormalities should be assessed individually with aggressive onsite resuscitation of donor by procurement team</li> </ul> </li> </ul>
7	Cardiac Abnormalities	<ul style="list-style-type: none"> <li>• The need for excessive inotropic support (dopamine at a dose of 20<math>\mu</math>g/kg/min or similar doses of other adrenergic agents despite aggressive optimization of preload and afterload</li> <li>• Discreet wall motion abnormalities on echocardiogram or LVEF &lt; 40% despite the optimization of hemodynamics with inotropic support</li> <li>• The use of donor hearts with obstructive disease in any major coronary artery should be avoided. Donors who are over 50 or any donor with risk factors for coronary artery disease should have an angiogram completed as part of the donor suitability assessment</li> <li>• Donor hearts with LVH should not be used if there are associated EKG findings of LVH and LV wall thickness is &gt;14mm</li> </ul>

Relative Donor Exclusion Criteria for Heart Transplantation		
#	Factor	Criteria
8	Malignancy	<ul style="list-style-type: none"> <li>• Prostate Cancers may proceed under ExD if:               <ul style="list-style-type: none"> <li>○ No evidence of metastases</li> <li>○ Gleason 6 PSA under 10 under active surveillance</li> <li>○ If Gleason 7 or less and current PSA less than 2 treated by rad</li> <li>○ If Gleason 7 and PSA undetectable after prostatectomy</li> </ul> </li> <li>• Avoid Gleason 8 or greater and all PSA over 20. PSAs between 10-20 is controversial and should be discussed with a urologist.</li> </ul>
9	Infection/Communicable Diseases	<ul style="list-style-type: none"> <li>• Documented fungal sepsis</li> <li>• Severe untreated sepsis or sepsis with undermined etiology;</li> <li>• Sepsis due to Multi-drug resistant organism such as MRSA or CRE</li> <li>• Donors currently positive for COVID 19 should only be considered after consultation with TSP-ID</li> </ul>
10	Vaccine-Induced Thrombotic Thrombocytopenia (VITT)	<ul style="list-style-type: none"> <li>• Consult TSP-ID and CMO Transplant prior to proceeding if potential donor has a suspected diagnosis of vaccine-Induced thrombotic thrombocytopenia (VITT)</li> </ul>

**Transplant Hospital Specific Donor Exclusions**

*These transplant programs have established the following absolute exclusions for offers of exceptional distribution.*

<b>Transplant Hospital Specific Heart Donor Exclusions</b>	
<b>Site</b>	<b>Criteria</b>
Toronto General Hospital	<ul style="list-style-type: none"><li>• &gt;6 hours CIT (4 hours as the ideal time)</li><li>• DCC Donors</li><li>• MAID Donors</li><li>• Will not consider U.S. heart offers from donors &gt; 50 kg for status 1, status 2 or status 3 recipients</li></ul>
The University of Ottawa Heart Institute	<ul style="list-style-type: none"><li>• &gt;5 hours CIT</li><li>• DCC donors</li></ul>
The Hospital for Sick Children	<ul style="list-style-type: none"><li>• DCC hearts for paediatric recipients are only considered from donors at The Hospital for Sick Children who are &lt; 1 year of age</li></ul>
London Health Sciences Centre	<ul style="list-style-type: none"><li>• DCC donors</li></ul>

**U.S. Transplant Program Specific Donor Exclusions**

*The following criteria has been established exclusively for hearts offered to the U.S. from a death Determination by Circulatory Criteria (DCC) donor.*

<b>U.S. Transplant Program Specific Donor Exclusions</b>	
<b>Factor</b>	<b>Criteria</b>
DCC heart donor	<ul style="list-style-type: none"><li>• Hearts from donor &gt; 40 years old</li></ul>

**QUALITY ASSURANCE:**

The Provincial Heart Working Group will review and approve the Heart Deceased Donor Criteria annually as a means of quality assurance.