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# Ontario's Referral and Listing Criteria for Heart Valve Transplantation

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Version 1.0

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# Heart Valve Transplantation Referral & Listing Criteria

The Heart Valve Transplantation Referral & Listing Criteria includes the referral and listing criteria for aortic valves and pulmonary valves. Please note that the criteria for each valve type is different.

## Aortic Valve Transplantation Referral & Listing Criteria

### PATIENT REFERRAL CRITERIA:

The patient referral criteria are guidelines which a Medical Practitioner would utilize to refer a patient to a cardiac surgeon for assessment. The criteria identified below are the agreed upon conditions for which a patient should be referred for consultation or referred for an aortic valve transplant assessment.

- 1) **Congenital Heart Defects:** Referral for aortic valve transplantation may be considered for patients who have congenital heart defects that affect the vessels or valves of the heart. These defects include the following:
  - Complex Tetralogy of Fallot
  - Pulmonary atresia with ventricular septal defect
  - Truncus arteriosus
  - Transposition of great arteries
  - Double-outlet right ventricle
- 2) **Aortic Stenosis:** Referral for aortic valve transplantation may be considered for patients who have aortic stenosis.
- 3) **Aortic Regurgitation:** Referral for aortic valve transplantation may be considered for patients who have aortic regurgitation.
- 4) **Endocarditis/infective endocarditis (IE):** Referral for aortic valve transplantation may be considered for patients with known, unknown, or suspicion of endocarditis or infective endocarditis. Patients with the following forms of endocarditis may be considered for heart valve transplantation:
  - IE with root abscess
  - Bivalve endocarditis (includes endocarditis of mitral valve and/or tricuspid valve)
  - Aortic valve endocarditis with aortic annular abscess
  - Prosthetic valve endocarditis
  - IE that is resistant to antibiotic treatment
- 5) **Prosthetic Valve Failure:** Referral for aortic valve transplantation may be considered for patients who have prosthetic valve failure.

## PATIENT LISTING INDICATIONS:

Each patient is assessed individually for their suitability for aortic valve transplantation by the transplant surgeon. Eligibility for aortic valve transplantation should be determined on medical and surgical grounds. Criteria for eligibility should be transparent and made available to patients and the public. Eligibility should not be based on social status, gender, race, age alone or personal or public appeal.

The criteria identified below are the agreed upon conditions for which a patient may be eligible to be waitlisted for aortic valve transplantation in Ontario.

- 1) **General:** Listing for aortic valve transplantation may be considered for patients if the following requirements are met:
  - Therapeutic options, other than aortic valve transplantation, have been exhausted; and,
  - Absence of obvious contraindication for transplant.
- 2) **Re-transplant:** Patients with the following reasons for reoperation may be considered for aortic valve transplantation:
  - Homograft failure, stenosis (with or without calcification), valve insufficiency, and/or compression
  - False aneurysm (distal or proximal anastomosis)
  - Stenosis proximal anastomosis
  - Prosthetic complications, where applicable
- 3) **Endocarditis/infective endocarditis:** Patients with definite infective endocarditis as confirmed with the Duke Criteria may be considered for aortic valve transplantation.
- 4) **Aortic Regurgitation:** The following selected patients with aortic regurgitation may be considered for aortic valve transplantation:
  - Symptomatic aortic regurgitation generally indicates surgery.
  - Asymptomatic aortic regurgitation patients may have impaired LV function (EF<50%), as well as LV enlargement with LV end-diastolic diameter >70 mm or LV end-systolic diameter >50 mm.
- 5) **Aortic Stenosis:** The following selected patients with aortic stenosis may be considered for aortic valve transplantation:
  - Symptomatic aortic stenosis generally indicates surgery.
  - Asymptomatic aortic stenosis patients may have an LV ejection fraction <50%, or have symptoms fall below baseline blood pressure when performing an exercise test (if performed) related to aortic stenosis, or demonstrate one of the following conditions:
    - Peak velocity >5.5 m/s;
    - Severe valve calcification and peak velocity progression >0.3m/s per year;
    - Markedly unexplainable elevation of neurohormones (>3fold age- and sex-corrected normal range);
    - Severe pulmonary hypertension.

## ABSOLUTE LISTING CONTRAINDICATIONS:

The following are conditions relating to the aortic valve transplant candidate that constitute absolute contraindications to aortic valve transplantation. As such, they prevent a transplant from being done until the condition is resolved.

- 1) **Consent:** Patients who do not want a transplant, or who are unable to give informed consent and no substitute decision maker is available are not candidates for transplantation.

## RELATIVE LISTING CONTRAINDICATIONS:

No relative patient listing indications.

# Pulmonary Valve Transplantation Referral & Listing Criteria

## PATIENT REFERRAL CRITERIA:

The patient referral criteria are guidelines which a Medical Practitioner would utilize to refer a patient to a cardiac surgeon for assessment. The criteria identified below are the agreed upon conditions for which a patient should be referred for consultation or referred for a pulmonary valve transplant assessment.

- 1) **Elective Surgery:** Referral for pulmonary valve transplantation may be considered for elective patients.
- 2) **Congenital Heart Defects:** Referral for pulmonary valve transplantation may be considered for patients who have congenital heart defects that affect the vessels or valves of the heart. These congenital defects include right-sided congenital heart diseases and the following:
  - Tetralogy of Fallot
  - Pulmonary atresia
  - Truncus arteriosus
  - Transposition of great arteries
  - Double-outlet right ventricle
  - Bicuspid aortic valve
- 3) **Pulmonary Valve or Pulmonary Artery Stenosis:** Referral for pulmonary valve transplantation may be considered for patients who have pulmonary valve stenosis or branch pulmonary artery stenosis.
- 4) **Valve Regurgitation:** Referral may be considered for patients who have regurgitation of the pulmonary, tricuspid, and/or aortic valves.
- 5) **Endocarditis/infective endocarditis (IE):** Referral for pulmonary valve transplantation may be considered for patients with known, unknown, or suspicion of endocarditis or infective endocarditis.
- 6) **Pseudoaneurysm:** Referral for pulmonary valve transplantation may be considered for patients with pseudoaneurysms.
- 7) **Single valve pathology:** Referral for pulmonary valve transplantation may be considered for patients who have single valve pathology.
- 8) **Rheumatic Valvular Disease:** Referral for pulmonary valve transplantation may be considered for patients who have rheumatic valvular disease.

- 9) **Pulmonary Valve or Right Ventricular Outflow Tract (RVOT) replacement:** Referral for pulmonary valve transplantation may be considered for patients who require or are referred for a pulmonary valve or RVOT replacement.

**PATIENT LISTING INDICATIONS:**

Each patient is assessed individually for their suitability for pulmonary valve transplantation by the transplant surgeon. Eligibility for pulmonary valve transplantation should be determined on medical and surgical grounds. Criteria for eligibility should be transparent and made available to patients and the public. Eligibility should not be based on social status, gender, race, age alone or personal or public appeal.

The criteria identified below are the agreed upon conditions for which a patient may be eligible to be waitlisted for pulmonary valve transplantation in Ontario.

- 1) **General:** Listing for pulmonary valve transplantation may be considered for patients if the following requirements are met:
  - Therapeutic options, other than pulmonary valve transplantation, have been exhausted; and,
  - Absence of obvious contraindication for transplant.
  
- 2) **Re-transplant:** Patients with the following reasons for reoperation may be considered for pulmonary valve transplantation:
  - Homograft failure, stenosis (with or without calcification), valve insufficiency, and/or compression
  - False aneurysm (distal or proximal anastomosis)
  - Stenosis proximal anastomosis
  - Prosthetic complications, where applicable
  
- 3) **Coronary Heart Disease (CHD):** Selected CHD patients may be considered for pulmonary valve transplantation.

**ABSOLUTE LISTING CONTRAINDICATIONS:**

The following are conditions relating to the pulmonary valve transplant candidate that constitute absolute contraindications to pulmonary valve transplantation. As such, they prevent a transplant from being done until the condition is resolved.

- 1) **Consent:** Patients who do not want a transplant, or who are unable to give informed consent and no substitute decision maker is available are not candidates for transplantation.
  
- 2) **Ross Procedure:** The following are absolute contraindications for the Ross procedure:
  - Primary pulmonary valve disease
  - Primary pulmonary valve disease as a result of connective tissue disorder (ex. Marfan syndrome)

**RELATIVE LISTING CONTRAINDICATIONS:**

No relative patient listing indications.

**Version Control:**

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