

Intermacs

# PreImplant

## PreImplant Status

### Demographics

**Height**

Enter the height of the patient at the time of implantation in inches or centimeters.

 in cmST=  Unknown Not Done**Weight**

Enter the weight of the patient at the time of implantation in the appropriate space, in pounds or kilograms.

 lbs kgST=  Unknown Not Done**Blood Type** O A B AB Unknown

### Medical Support Status

**Current Device Strategy at time of implant**

This should be determined in conjunction with the heart failure cardiologist and surgeon at the time of the implant.

This determination will be re-visited and recorded at 3 months, 6 months, and every 6 months thereafter.

 Bridge to Recovery Rescue Therapy Bridge to Transplant (patient currently listed for transplant) Possible Bridge to Transplant - Likely to be eligible Possible Bridge to Transplant - Moderate likelihood of becoming eligible Possible Bridge to Transplant - Unlikely to become eligible Destination Therapy (patient definitely not eligible for transplant) Other, specify**List Date for Transplant**ST=  Unknown**Current ICD device in place?** Yes No Unknown**Time since first cardiac diagnosis**

The length of time that the patient had any known cardiac diagnosis. For example, the time since the patient had a myocardial infarction, congenital heart disease was noted or the patient was noted to have heart failure.

 < 1 month 1 month - 1 year 1-2 years > 2 years Unknown**Number of cardiac hospitalizations in the last 12 months** 0-1 2-3

- 4 or more
- Unknown

**Cardiac diagnosis / Primary**

Select primary reason for cardiac dysfunction

- Cancer
- Congenital Heart Disease: Biventricular: CAVC/VSD/ASD
- Congenital Heart Disease: Biventricular: Congenitally Corrected Transposition (l-TGA) (CC-TGA)
- Congenital Heart Disease: Biventricular: Ebstein's Anomaly
- Congenital Heart Disease: Biventricular: Kawasaki Disease
- Congenital Heart Disease: Biventricular: Left Heart Valve/Structural Hypoplasia
- Congenital Heart Disease: Biventricular: TOF/TOF Variant
- Congenital Heart Disease: Biventricular: Transposition of the Great Arteries (d-TGA)
- Congenital Heart Disease: Biventricular: Truncus Arteriosus
- Congenital Heart Disease: Single Ventricle: Heterotaxy / Complex CAVC
- Congenital Heart Disease: Single Ventricle: Hypoplastic Left Heart
- Congenital Heart Disease: Single Ventricle: Other
- Congenital Heart Disease: Single Ventricle: Pulmonary Arteria with IVS
- Congenital Heart Disease: Single Ventricle: Pulmonary Arteria with IVS (RVDC)
- Congenital Heart Disease: Single Ventricle: Unspecified
- Coronary Artery Disease
- Dilated Myopathy: Adriamycin
- Dilated Myopathy: Alcoholic
- Dilated Myopathy: Familial
- Dilated Myopathy: Idiopathic
- Dilated Myopathy: Ischemic
- Dilated Myopathy: Myocarditis
- Dilated Myopathy: Other, Specify
- Dilated Myopathy: Post Partum
- Dilated Myopathy: Viral
- Hypertrophic Cardiomyopathy
- Restrictive Myopathy: Amyloidosis
- Restrictive Myopathy: Endocardial Fibrosis
- Restrictive Myopathy: Idiopathic
- Restrictive Myopathy: Other, specify
- Restrictive Myopathy: Sarcoidosis
- Restrictive Myopathy: Sec to Radiation/Chemotherapy
- Valvular Heart Disease
- Unknown
- None

**Dilated Myopathy: Other, Specify:****Restrictive Myopathy: Other, Specify:****Congenital Heart Disease: Single Ventricle: Other, Specify:****Cardiac diagnosis / Secondary**Secondary reasons for cardiac dysfunction.  
Check all that apply.

- Cancer
- Congenital Heart Disease: Biventricular: CAVC/VSD/ASD
- Congenital Heart Disease: Biventricular: Congenitally Corrected Transposition (l-TGA) (CC-TGA)
- Congenital Heart Disease: Biventricular: Ebstein's Anomaly
- Congenital Heart Disease: Biventricular: Kawasaki Disease

- Congenital Heart Disease: Biventricular: Left Heart Valve/Structural Hypoplasia
- Congenital Heart Disease: Biventricular: TOF/TOF Variant
- Congenital Heart Disease: Biventricular: Transposition of the Great Arteries (d-TGA)
- Congenital Heart Disease: Biventricular: Truncus Arteriosus
- Congenital Heart Disease: Single Ventricle: Heterotaxy / Complex CAVC
- Congenital Heart Disease: Single Ventricle: Hypoplastic Left Heart
- Congenital Heart Disease: Single Ventricle: Other
- Congenital Heart Disease: Single Ventricle: Pulmonary Artesia with IVS
- Congenital Heart Disease: Single Ventricle: Pulmonary Artesia with IVS (RVDC)
- Congenital Heart Disease: Single Ventricle: Unspecified
- Coronary Artery Disease
- Dilated Myopathy: Adriamycin
- Dilated Myopathy: Alcoholic
- Dilated Myopathy: Familial
- Dilated Myopathy: Idiopathic
- Dilated Myopathy: Ischemic
- Dilated Myopathy: Myocarditis
- Dilated Myopathy: Other, Specify
- Dilated Myopathy: Post Partum
- Dilated Myopathy: Viral
- Hypertrophic Cardiomyopathy
- Restrictive Myopathy: Amyloidosis
- Restrictive Myopathy: Endocardial Fibrosis
- Restrictive Myopathy: Idiopathic
- Restrictive Myopathy: Other, specify
- Restrictive Myopathy: Sarcoidosis
- Restrictive Myopathy: Sec to Radiation/Chemotherapy
- Valvular Heart Disease
- Unknown
- None

**Dilated Myopathy: Other, Specify:**

**Restrictive Myopathy: Other, Specify:**

**Congenital Heart Disease: Single Ventricle: Other, Specify:**

#### Known Cardiac biopsy

If the patient has had an endomyocardial or direct myocardial biopsy, select from the diagnoses listed in the drop down. If the patient has had more than one biopsy (within their lifetime), the one closest to implantation date should be listed it is okay to use cardiac biopsy removed during the implant operation. If no biopsy is known, select "no biopsy known".

- Other, specify
- No biopsy known
- Sarcoidosis
- Giant cell myocarditis
- Eosiniphilic myocarditis
- Other myocarditis
- Hemochromatosis
- Mitochondrial myopathy

#### Previous cardiac operation

Select all cardiac operations that the patient has had prior to MCS/D implantation.

- None
- CABG
- Aneurymectomy (DOR)
- Aortic Valve replacement / repair
- Mitral valve replacement / repair
- Triscuspid replacement /repair
- Congenital cardiac surgery
- LVAD

- RVAD
- TAH
- Previous heart transplant
- Previous ECMO
- Other, specify (INCLUDE ONLY OPERATIONS ACTUALLY PERFORMED ON HEART OR GREAT VESSELS)

### Congenital cardiac surgery

Check all that apply

- Congenitally Corrected Transposition Repair (double switch)
- Congenitally Corrected Transposition Repair (classic)
- PA Banding
- TOF/DORV/RVOTO Repair
- Ebstein's Anomaly Repair
- VSD Repair
- Norwood Stage I
- Glenn, Bi-directional
- Glenn, Classical
- Fontan Procedure
- d- Transposition of the Great Vessels Repair – arterial switch operation
- d- Transposition of the Great Vessels Repair – atrial switch (Senning/Mustard)
- Truncus Arteriosus Repair
- Complete AV Septal Defect Repair
- AP Shunt
- ASD Repair
- Damus Kaye Stansel (DKS)
- Other, specify

### Admitting Diagnosis or Planned Implant

- Heart failure
- Cardiac surgery
- Non-cardiac medical problem
- VAD Placement
- TAH Placement
- Other cardiology
- Acute MI
- Non-cardiac surgery
- Unknown

### Did this patient test positive for COVID-19 prior to admission?

- Yes
- No
- Unknown

### If yes, select all symptoms that apply:

- Cough
- Diarrhea
- Fever
- Anosmia (loss of sense of smell)
- Sore Throat
- Difficulty Breathing
- None
- Other, Specify

### If yes, select all interventions that apply:

- Intubation
- New Inotropes
- ECMO
- Dialysis
- RVAD
- None
- Other, Specify

**If yes, select all therapies the patient received (select all that apply):**

- Hydroxychloroquine
- Azithromycin
- Immunoglobulin
- Anti-viral therapy
- None
- Other, Specify

**Anti-viral therapy, specify:**

**Did this patient test positive for COVID-19 during this pre-implant admission?**

- Yes
- No
- Unknown

**If yes, select all symptoms that apply:**

- Cough
- Diarrhea
- Fever
- Anosmia (loss of sense of smell)
- Sore Throat
- Difficulty Breathing
- None
- Other, Specify

**If yes, select all interventions that apply:**

- Intubation
- New Inotropes
- ECMO
- Dialysis
- RVAD
- None
- Other, Specify

**If yes, select all therapies the patient received (select all that apply):**

- Hydroxychloroquine
- Azithromycin
- Immunoglobulin
- Anti-viral therapy
- None
- Other, Specify

**Anti-viral therapy, specify:**

**Clinical Events and Interventions this hospitalization (Pre-implant)**

Pertaining to this implant hospitalization select all events and interventions that occurred more than 48 hours before the implant.

**Note:** Please choose all clinical events and interventions up to 48 hours in this section. If you enter an event/intervention in this section do not duplicate it in the events/interventions within 48 hours question below.

- Cardiac arrest
- Dialysis
- Intubation
- Major MI
- Cardiac surgery, other
- Positive blood cultures
- Other surgical procedures
- Major Infections
- Unknown
- None

- IABP
- Ultrafiltration
- Ventilator
- Feeding tube
- ECMO
- CABG
- Aortic Valve replacement / repair
- Mitral valve replacement / repair
- Congenital cardiac surgery
- LVAD
- RVAD
- TAH
- Aneurysmectomy (DOR)

**Select Type of infection:**

- Bacterial
- Fungal
- Viral
- Protozoan
- Unknown

**Select Location of infection:**

- Blood
- Endocarditis, native
- Line Sepsis
- Mediastinum
- Pneumonia
- Urine
- Unknown
- Other

**Congenital cardiac surgery**

Check all that apply

- Congenitally Corrected Transposition Repair (double switch)
- Congenitally Corrected Transposition Repair (classic)
- PA Banding
- TOF/DORV/RVOTO Repair
- Ebstein's Anomaly Repair
- VSD Repair
- Norwood Stage I
- Glenn, Bi-directional
- Glenn, Classical
- Fontan Procedure
- d- Transposition of the Great Vessels Repair – arterial switch operation
- d- Transposition of the Great Vessels Repair – atrial switch (Senning/Mustard)
- Truncus Arteriosus Repair
- Complete AV Septal Defect Repair
- AP Shunt
- ASD Repair
- Damus Kaye Stansel (DKS)
- Other, specify

**IV inotrope therapy within 48 hours of implant**

If the patient has gone to the operating room for the purpose of the implant and is on intravenous inotropes of any sort, the answer should be Yes. If an agent is known to have been used but discontinued within 48 hours prior to arriving in the operating room, Yes should also be checked.

- Yes
- No
- Unknown

**If Yes, IV inotrope therapy agents:**

- Dobutamine
- Dopamine
- Milrinone
- Levosimendan
- Epinephrine
- Norepinephrine
- Isoproterenol
- Other, Specify
- Unknown

**Interventions within 48 hours of implant**

Select all interventions that occurred within the 48 hour time period prior to the implant.

- IABP
- Dialysis
- Ultrafiltration
- Ventilator
- Feeding tube
- ECMO
- None
- CABG
- Aortic Valve replacement / repair
- Mitral valve replacement / repair
- Congenital card surg
- LVAD
- RVAD
- TAH
- Aneurysmectomy (DOR)

**Congenital Cardiac Surgery  
Select all that Apply:**

- Congenitally Corrected Transposition Repair (double switch)
- Congenitally Corrected Transposition Repair (classic)
- PA Banding
- TOF/DORV/RVOTO Repair
- Ebstein's Anomaly Repair
- VSD Repair
- Norwood Stage I
- Glenn, Bi-directional
- Glenn, Classical
- Fontan Procedure
- d- Transposition of the Great Vessels Repair – arterial switch operation
- d- Transposition of the Great Vessels Repair – atrial switch (Senning/Mustard)
- Truncus Arteriosus Repair
- Complete AV Septal Defect Repair
- AP Shunt
- ASD Repair
- Damus Kaye Stansel (DKS)
- Other, specify

**Is this implant the primary MCSD (LVAD or TAH) for this patient?**

- Yes
- No

The INTERMACS® Patient Profiles are required at pre-implant and at all times when an implant occurs even if this is NOT the primary LVAD or TAH implant.

**INTERMACS® Patient Profile at time of implant**

Select one. These profiles will provide a general clinical description of the patients receiving primary LVAD or TAH implants. If there is significant clinical change between the

- 1 "Critical cardiogenic shock" describes a patient who is "crashing and burning", in which a patient has life-threatening hypotension and rapidly escalating inotropic pressor support (see the Site Users Guide, Section II. 2.4 Pre-Implant Form, INTERMACS Patient Profiles for more details)

initial decision to implant and the actual implant procedure, then the profile closest to the time of implant should be recorded. Patients admitted electively for implant should be described by the profile just prior to admission.

- 2 "Progressive decline" describes a patient who has been demonstrated "dependent" on inotropic support but nonetheless shows signs of continuing deterioration (see the Site Users Guide, Section II. 2.4 Pre-Implant Form, INTERMACS Patient Profiles for more details)
- 3 "Stable but inotrope dependent" describes a patient who is clinically stable on mild-moderate doses of intravenous inotropes (or has a temporary circulatory support device) after repeated documentation of failure to wean without symptoms (see the Site Users Guide, Section II. 2.4 Pre-Implant Form, INTERMACS Patient Profiles for more details)
- 4 "Resting symptoms" describes a patient who is at home on oral therapy but frequently has symptoms of congestion at rest or with ADL. (see the Site Users Guide, Section II. 2.4 Pre-Implant Form, INTERMACS Patient Profiles for more details)
- 5 "Exertion Intolerant" describes a patient who is comfortable at rest but unable to engage in any activity, living predominantly within the house or household (see the Site Users Guide, Section II. 2.4 Pre-Implant Form, INTERMACS Patient Profiles for more details)
- 6 "Exertion Limited" also describes a patient who is comfortable at rest without evidence of fluid overload, but who is able to do some mild activity (see the Site Users Guide, Section II. 2.4 Pre-Implant Form, INTERMACS Patient Profiles for more details)
- 7 "Advanced NYHA Class 3" describes a patient who is clinically stable with a reasonable level of comfortable activity, despite history of previous decompensation that is not recent (see the Site Users Guide, Section II. 2.4 Pre-Implant Form, INTERMACS Patient Profiles for more details)

## MODIFIERS of the INTERMACS® Patient Profiles

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### **A - Arrhythmia**

- Yes
- No
- Unknown

### **TCS –Temporary Circulatory Support**

- Yes
- No
- Unknown

### **FF – Frequent Flyer Home.**

- Yes
- No
- Unknown

### **FF – Frequent Flyer.**

- Yes
  - No
  - Unknown
-



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# PreImplant

## Hemodynamics

### General Hemodynamics

**Heart rate** beats per min

- ST=  Unknown  
 Not done

**Systolic blood pressure**

(millimeters of mercury) should be determined from auscultation or arterial line if necessary.

 mmHg

- ST=  Unknown  
 Not done

**Diastolic blood pressure**

(millimeters of mercury) should be determined from auscultation or arterial line if necessary

 mmHg

- ST=  Unknown  
 Not done

**Doppler Opening Pressure**

Record the pressure on the BP cuff at the time of sound on the Doppler as the cuff is released and this is the Doppler opening pressure which may correspond to the MAP.

- ST=  Unknown  
 Not done  
 Not applicable

**Peripheral edema**

- Yes  
 No  
 Unknown

**Ascites**

- Yes  
 No  
 Unknown

**ECG rhythm**

Cardiac rhythm

- Sinus  
 Atrial fibrillation  
 Atrial Flutter  
 Paced: Atrial pacing  
 Paced: Ventricular pacing  
 Paced: Atrial and ventricular pacing  
 Not done  
 Unknown  
 Other, specify

### Echo Findings

**Mitral regurgitation**

Mitral regurgitation should be recorded on a qualitative scale (if 'trivial' then assign as mild). Moderate-severe would be recorded as "severe".

- 0 (none)  
 1 (mild)  
 2 (moderate)  
 3 (severe)  
 Not Recorded or Not Documented

**Tricuspid regurgitation**

Tricuspid regurgitation should be recorded on a qualitative scale (if 'trivial' then assign as mild). Moderate-severe would be recorded as "severe".

- 0 (none)
- 1 (mild)
- 2 (moderate)
- 3 (severe)
- Not Recorded or Not Documented

**Aortic regurgitation**

Aortic regurgitation should be recorded on a qualitative scale (if 'trivial' then assign as mild). Moderate-severe would be recorded as "severe".

- 0 (none)
- 1 (mild)
- 2 (moderate)
- 3 (severe)
- Not Recorded or Not Documented

**LVEF**

Left ventricular ejection fraction

- > 50 (normal)
- 40-49 (mild)
- 30-39 (moderate)
- 20-29 (moderate/severe)
- < 20 (severe)
- Not Recorded or Not Documented
- Unknown

If a number or range is available, check the number range that best applies. For example, a reported ejection fraction of 30-35 would be entered as 30-40. Occasionally the LVEF may be described only as "left ventricular function" or "systolic function" in words. "Mild impairment, mildly reduced, or mild decrease" would all be characterized as "mild".

**LVEDD**

cm

ST=  Not Recorded or Not Documented

**RVEF**

- Normal
- Mild
- Moderate
- Severe
- Not Done
- Not Applicable
- Unknown

RV Function is generally NOT measured in numbers, as it is difficult to quantify. It may be described as "right ventricular function" or "right ventricular contractility". "Mild impairment, mildly reduced, or mild decrease" would all be characterized as "mild". Again, mild-moderate would be recorded as moderate, and moderate-severe would be recorded as "severe".

**Swan Hemodynamics****Pulmonary artery systolic pressure**

mmHg

ST=  Unknown  
 Not done

**Pulmonary artery diastolic pressure**

mmHg

ST=  Unknown  
 Not done

**Mean Pulmonary artery wedge pressure**

mmHg

ST=  Unknown  
 Not done

**Mean RA Pressure**

mmHg

ST=  Unknown  
 Not done

**Central venous pressure (CVP)** mmHg

ST=  Unknown  
 Not done

**Cardiac Index** L/min/M2 (by Swan)

ST=  Unknown  
 Not done

**Was Cardiac Index Measured by Fick or  
Thermodilution?**

Yes  
 No  
 Unknown

**Choose Method**

Fick  
 Thermodilution

**Cardiac output** L/min

ST=  Unknown  
 Not done

**Was Cardiac Output Measured by Fick  
or Thermodilution?**

Yes  
 No  
 Unknown

**Choose Method**

Fick  
 Thermodilution

Intermacs  
**PreImplant**  
**Laboratory**

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**Sodium**  mEq/L  
 mmol/L  
ST=  Unknown  
 Not done

---

**Potassium**  mEq/L  
 mmol/L  
ST=  Unknown  
 Not done

---

**Blood urea nitrogen**  mg/dL  
 mmol/L  
ST=  Unknown  
 Not done

---

**Creatinine**  mg/dL  
 umol/L  
ST=  Unknown  
 Not done

---

**SGPT/ALT**  
**(alanine aminotransferase/ALT)**  u/L  
ST=  Unknown  
 Not done

---

**SGOT/AST**  
**(aspartate aminotransferase/AST)**  u/L  
ST=  Unknown  
 Not done

---

**LDH**  units/L, U/L, ukat/L  
ST=  Unknown  
 Not done

---

**Total bilirubin**  mg/dL  
 umol/L  
ST=  Unknown  
 Not done

---

**Albumin**  g/dL  
 g/L

ST=  Unknown  
 Not done

**Pre-albumin** mg/dL mg/L

ST=  Unknown  
 Not done

**Total Cholesterol**

If value is outside given range, please see 'Status (ST=)'  
drop down field.  
If < 50 mg/dl, select from the 'Status (ST=)' drop down field.

 mg/dL mmol/L

ST=  < 50 mg/dL  
 Unknown  
 Not done

**Brain natriuretic peptide BNP**

If value is outside given range, please see 'status (ST=)'  
drop down field.

If > 7500 pg/mL, select from the 'Status (ST=)' drop down  
field.

 pg/mL ng/L

ST=  > 7500 pg/mL  
 Unknown  
 Not done

**NT pro brain natriuretic peptide Pro-BNP** pg/mL ng/L

ST=  Unknown  
 Not done

**White blood cell count** x10<sup>3</sup>/uL x10<sup>9</sup>/L

ST=  Unknown  
 Not done

**Hemoglobin** g/dL g/L mmol/L

ST=  Unknown  
 Not done

**Hemoglobin A1C** % mmol/mol**Estimated Average Glucose (eAG):** mg/dL mmol/L

ST=  Unknown  
 Not Done

**Platelets** x10<sup>3</sup>/uL

x10<sup>9</sup>/L

ST=  Unknown

Not done

**INR**

international units

ST=  Unknown

Not done

**Sensitivity CRP  
(C Reactive Protein)**

mg/L

ST=  Unknown

Not done

**Lupus Anticoagulant**

Positive

Negative

Unknown

**Uric acid**

mg/dL

umol/L

ST=  <1 mg/dL

Unknown

Not done

**Lymphocyte Count**

%

x10<sup>3</sup> cells/ $\mu$ L

x10<sup>9</sup> cells/liter

ST=  Unknown

Not done

<2%

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# PreImplant

## Concerns and Contraindications

Checking any of these contraindications/co-morbidities/concerns does not necessarily mean that a condition is a contraindication or concern for the patient. No specific thresholds are provided for these concerns or contraindications. They should represent the results of formal discussion with the medical and surgical transplant team prior to the decision for device implantation. If there are no contraindications or concerns specified then select No.

### Overall Status

Concerns/Contraindications	Is condition present?	Limitation for transplant listing?
Advanced age	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No
Frailty	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No
Patient does not want transplant	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No
Musculoskeletal limitation to ambulation	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No
Contraindication to immunosuppression	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No
Allosensitization	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No
Chronic Renal Disease	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No

### Cardiothoracic issues

Concerns/Contraindications	Is condition present?	Limitation for transplant listing?
Frequent ICD Shocks	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No
Pulmonary Disease	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No
Pulmonary Hypertension	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No
Recent Pulmonary Embolus	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No
History Of Atrial Arrhythmia	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No
Unfavorable Mediastinal Anatomy (includes sternotomies, sternal resection, radiation, flail chest, etc)	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No
Thoracic Aortic Disease	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No

### Nutritional/GI

Concerns/Contraindications	Is condition present?	Limitation for transplant listing?
Large BMI	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No
Severe Diabetes	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No
Malnutrition Cachexia	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No
History Of GI Ulcers	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No
History Of Hepatitis	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No
Liver Dysfunction	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No

### Vascular issues

Concerns/Contraindications	Is condition present?	Limitation for transplant listing?
Heparin Induced Thrombocytopenia	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No
Chronic Coagulopathy	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No
Major Stroke	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No
Other Cerebrovascular Disease	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No
Peripheral Vascular Disease	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No

## Oncology/infection issues

Concerns/Contraindications	Is condition present?	Limitation for transplant listing?
History Of Solid Organ Cancer	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No
History Of Lymphoma Leukemia	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No
History Of Bone Marrow Transplant BMT	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No
History Of HIV	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Unknown	<input type="radio"/> Yes <input type="radio"/> No
Chronic Infectious Concerns	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No

## Psychosocial issues

Concerns/Contraindications	Is condition present?	Limitation for transplant listing?
Limited Cognition/Understanding	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No
Limited Social Support	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No
Repeated Noncompliance	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No
History Of Illicit Drug Use	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No
History Of Alcohol Abuse	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No
Narcotic Dependence	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No
History Of Smoking	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No
Currently Smoking	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No
Severe Depression	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No
Other Major Psychiatric Diagnosis	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No
Other Comorbidity	<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No

## HIV History

### HIV Diagnosis Date

MM/DD/YYYY

ST=  Unknown Not Done

### Plasma HIV-1 RNA (Viral load)

Closest to implant

 copies/ml
ST=  Not Done

### CD4 T-Cell Count

Closest to implant

 cells/mm3
ST=  Not Done

### Erythrocyte Sedimentation Rate (ESR)



mm/hr
ST=  Not Done**C-Reactive Protein (CRP)**
 mg/L
ST=  Not Done**Antiretroviral Therapy**

Check all that apply

- Abacavir (ABC) / Ziagen
- Atripla (FTC/EDV/TDF)
- Atazanavir (ATV) / Reyataz
- Combivir (3TC/ZDV)
- Complera (FTC/RPV/TDF)
- Darunavir (DRV) / Prezista
- Delavirdine (DLV) / Rescriptor
- Didanosine (ddI) / Videx EC
- Dolutegravir / Tivicay
- Efavirenz (EFV) / Sustiva
- Emtricitabine (FTC) / Emtriva
- Enfuvirtide (T20) / Fuzeon
- Epzicom (3TC/ABC)
- Etravirine (ETR) / Intelence
- Fosamprenavir (FPV) / Lexiva
- Indinavir (IDV) / Crixivan
- Kaletra (LPV/r)
- Lamivudine (3TC) / Epivir
- Maraviroc (MVC) / Selzentry
- Nelfinavir (NFV) / Viracept
- Nevirapine (NVP) / Viramune / Viramune XR
- Raltegravir (RAL) / Isentress
- Rilpivirine (RPV) / Edurant
- Ritonavir (RTV) / Norvir
- Saquinavir (SQV) / Invirase
- Stavudine (d4T) / Zerit
- Stribild (FTC/EVG/COBI/TDF)
- Tenofovir Disoproxil Fumarate (TDF) / Viread
- Tipranavir (TPV) / Aptivus
- Trizivir (3TC/ZDV/ABC)
- Truvada (FTC/TDF)
- Zidovudine (ZDV) / Retrovir
- Unknown
- None

**Infection Prophylaxis**

Check all that apply

- Atovaquone
- Azithromycin
- Dapsone
- Fluconazole
- Pentamidine, aerosolized
- Trimethoprim-sulfamethoxazole (TMP-SMX)
- Unknown
- None

**History of Opportunistic Infection**

Check all that apply

- Cryptococcosis
- Cytomegalovirus (CMV)
- Epstein Barr virus (EBV)
- Esophageal candidiasis
- Histoplasmosis
- Kaposi's sarcoma
- Mycobacterium avium complex (MAC), disseminated
- Pneumocystis jiroveci (carinii) pneumonia (PCP)
- Toxoplasmosis
- Tuberculosis
- None

---

**History of Hepatitis B**

- Positive
- Negative
- ST=  Unknown
- Not Done

---

**History of Hepatitis C**

- Positive
  - Negative
  - ST=  Unknown
  - Not Done
-

## Intermacs PreImplant Medications

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**Currently using** - At the time of VAD placement.

**Known previous use within the past year** - Is intended to capture the adequacy of medical therapy prior to determining heart failure to be refractory. For instance, ACEI, beta blockers, and diuretics are considered standard necessary therapy for heart failure but may be stopped due to hypotension or renal failure during a hospitalization for severely decompensated heart failure. If patients are known to have received these agents within the past year, please check known previous use.

**No (not being used)** - If there is no reason to believe that they have taken those agents, and reasonable certainty that information is accurate, check No.

**Unknown** - If it is not known whether the patient has taken those agents within the previous year, check Unknown.

- Allopurinol**
- Currently using
  - Known previous use (within past year)
  - No
  - Unknown
- 

- Angiotensin receptor blocker drug**
- Currently using
  - Known previous use (within past year)
  - No
  - Unknown
- 

- Amiodarone**
- Currently using
  - Known previous use (within past year)
  - No
  - Unknown
- 

- ACE inhibitors**
- Currently using
  - Known previous use (within past year)
  - No
  - Unknown
- 

- Beta-blockers**
- Currently using
  - Known previous use (within past year)
  - No
  - Unknown
- 

- Aldosterone antagonist**
- Currently using
  - Known previous use (within past year)
  - No
  - Unknown
- 

- Warfarin (coumadin)**
- Currently using
  - Known previous use (within past year)
  - No
  - Unknown
- 

- Antiplatelet therapy drug**
- Currently using

- Known previous use (within past year)  
 No  
 Unknown

**Nesiritide**

- Yes  
 No  
 Unknown

**Nitric oxide**

Document Flolan here

- Yes  
 No  
 Unknown

**Loop diuretics**

- Yes  
 No  
 Unknown

**If yes, enter dosage**

Enter the total daily dose the patient received at home before hospitalization.

 mg/day
ST=  Unknown**Type of Loop Diuretic:**

- Furosemide  
 Torsemide  
 Bumetanide  
 Other

**Outpatient (prior to admission) inotrope infusion:**

- Yes  
 No  
 Unknown

**Cardiac Resynchronization Therapy (CRT)**

- Yes  
 No  
 Unknown

**Is patient on Metalozone/Thiazide?**

- Yes  
 No  
 Unknown

**If yes, then select (check one):**

- Regular  
 Intermittent

**Is patient on Phosphodiesterase inhibitors?**

Please enter only for the indication of Pulmonary Hypertension or Right Heart Failure

- Yes  
 No  
 Unknown

Intermacs

# PreImplant

## Quality Of Life

QOL surveys cannot be administered after the visit date

### EuroQol (EQ-5D)

**Did the patient complete a EuroQol form?**

- Yes
- No
- Unknown

**How was the test administered?**

- Self-administered
- Coordinator administered
- Family member administered

**Mobility:**

- I have no problems in walking about
- I have some problems in walking about
- I am confined to bed
- Unknown

**Self care:**

- I have no problems with self-care
- I have some problems washing or dressing myself
- I am unable to wash or dress myself
- Unknown

**Usual Activities (e.g. work, study, housework, family or leisure activities)**

- I have no problems with performing my usual activities
- I have some problems with performing my usual activities
- I am unable to perform my usual activities
- Unknown

**Pain/discomfort:**

- I have no pain or discomfort
- I have moderate pain or discomfort
- I have extreme pain or discomfort
- Unknown

**Anxiety/depression:**

- I am not anxious or depressed
- I am moderately anxious or depressed
- I am extremely anxious or depressed
- Unknown

**Patient Visual Analog Status (VAS):**

(0-100) 0=Worst, 100=Best

ST=  Unknown

**Which of the following best describes your \*one\* main activity?**

- Actively working
- Retired
- Keeping house
- Student
- Seeking work
- Too sick to work (disabled)

- Unknown  
 Other

**Is this \*one\* main activity considered:**

- Full time  
 Part time  
 Unknown

**How many of your close friends or relatives do you see in person, speak to on the telephone or contact via the internet at least once a month? (please count each person 1 time)**

ST=  Unknown

**Have you unintentionally lost more than 10 pounds in the last year?**

- Yes  
 No  
 Unknown

**Do you currently smoke cigarettes?**

- Yes  
 No  
 Unknown

**If Yes, How many cigarettes are you currently smoking, on average?**

- Half a pack or less per day  
 More than half to 1 pack per day  
 1 to 2 packs per day  
 2 or more packs per day

**Do you currently smoke e-cigarettes?**

- Yes  
 No  
 Unknown

**Please enter a number from 1 to 10 for the questions below:**

**How much stress related to your health issues do you feel you've been under during the past month?**

ST=  Unknown

(1-10) 1=No Stress, 10=Very Much Stress

**How well do you feel you've been coping with or handling your stress related to your health issues during the past month?**

ST=  Unknown

(1-10) 1=Coping very poorly, 10=Coping very well

**How confident are you that you can do the tasks and activities needed to manage your heart failure so as to reduce how much having heart failure affects your everyday life?**

ST=  Unknown

(1-10) 1=Not at all confident, 10=Totally confident

**How satisfied are you with the outcome of your therapy for heart failure during the past 3 months?**

ST=  Unknown

(1-10) 1=Not satisfied, 10=Very satisfied

**If No, Please select a reason why the EuroQol (EQ-5D) was not completed:**

- Too sick (ex., intubated/sedated, critically ill, on short-term VAD)
- Too tired
- Too stressed, anxious, and/or depressed
- Can't concentrate
- No time/too busy
- Too much trouble/don't want to be bothered/not interested
- Unwilling to complete instrument, no reason given
- Unable to read English and/or illiterate
- Administrative (check specific reason below)

**If Administrative: Select a specific reason:**

- Urgent/emergent implant, no time to administer QOL instruments
- Coordinator too busy or forgot to administer QOL instruments
- Unable to contact patient (ie., not hospitalized or no clinic visit) within the window for QOL instrument completion
- Other reason (describe)

## Kansas City Cardiomyopathy Questionnaire

**Did the patient complete a KCCQ form?**

- Yes
- No

**How was the test administered?**

- Self-administered
- Coordinator administered
- Family member administered

Heart Failure affects different people in different ways. Some feel shortness of breath while others feel fatigue. Please indicate how much you are limited by heart failure (shortness of breath or fatigue) in your ability to do the following activities over the past 2 weeks.

**Showering/Bathing**

- Extremely limited
- Quite a bit limited
- Moderately limited
- Slightly limited
- Not at all limited
- Limited for other reasons or did not do the activity
- Unknown

**Walking 1 block on level ground**

- Extremely limited
- Quite a bit limited
- Moderately limited
- Slightly limited
- Not at all limited
- Limited for other reasons or did not do the activity
- Unknown

**Hurrying or jogging  
(as if to catch a bus)**

- Extremely limited
- Quite a bit limited
- Moderately limited
- Slightly limited
- Not at all limited
- Limited for other reasons or did not do the activity
- Unknown

**Over the past 2 weeks, how many times**

- Every morning

**did you have swelling in your feet, ankles or legs when you woke up in the morning?**

- 3 or more times a week, but not every day
- 1-2 times a week
- Less than once a week
- Never over the past 2 weeks
- Unknown

**Over the past 2 weeks, on average, how many times has fatigue limited your ability to do what you want?**

- All of the time
- Several times per day
- At least once a day
- 3 or more times per week but not every day
- 1-2 times per week
- Less than once a week
- Never over the past 2 weeks
- Unknown

**Over the past 2 weeks, on average, how many times has shortness of breath limited your ability to do what you wanted?**

- All of the time
- Several times per day
- At least once a day
- 3 or more times per week but not every day
- 1-2 times per week
- Less than once a week
- Never over the past 2 weeks
- Unknown

**Over the past 2 weeks, on average, how many times have you been forced to sleep sitting up in a chair or with at least 3 pillows to prop you up because of shortness of breath?**

- Every night
- 3 or more times a week, but not every day
- 1-2 times a week
- Less than once a week
- Never over the past 2 weeks
- Unknown

**Over the past 2 weeks, how much has your heart failure limited your enjoyment of life?**

- It has extremely limited my enjoyment of life
- It has limited my enjoyment of life quite a bit
- It has moderately limited my enjoyment of life
- It has slightly limited my enjoyment of life
- It has not limited my enjoyment of life at all
- Unknown

**If you had to spend the rest of your life with your heart failure the way it is right now, how would you feel about this?**

- Not at all satisfied
- Mostly dissatisfied
- Somewhat satisfied
- Mostly satisfied
- Completely satisfied
- Unknown

**How much does your heart failure affect your lifestyle? Please indicate how your heart failure may have limited your participation in the following activities over the past 2 weeks?**

**Hobbies, recreational activities**

- Severely limited
- Limited quite a bit
- Moderately limited
- Slightly limited
- Did not limit at all
- Does not apply or did not do for other reasons
- Unknown



**Working or doing household chores**

- Severely limited
- Limited quite a bit
- Moderately limited
- Slightly limited
- Did not limit at all
- Does not apply or did not do for other reasons
- Unknown

**Visiting family or friends out of your home**

- Severely limited
- Limited quite a bit
- Moderately limited
- Slightly limited
- Did not limit at all
- Does not apply or did not do for other reasons
- Unknown

**If No, Please select a reason why the KCCQ was not completed:**

- Too sick (ex., intubated/sedated, critically ill, on short-term VAD)
- Too tired
- Too stressed, anxious, and/or depressed
- Can't concentrate
- No time / too busy
- Too much trouble / don't want to be bothered / not interested
- Unwilling to complete instrument, no reason given
- Unable to read English and/or illiterate
- Administrative (check specific reason below)

**If Administrative: Select a specific reason:**

- Urgent/emergent implant, no time to administer QOL instruments
- Coordinator too busy or forgot to administer QOL instruments
- Unable to contact patient (ie., not hospitalized or no clinic visit) within the window for QOL instrument completion
- Other reason (describe)

Intermacs

# PreImplant

## Exercise Function and Trailmaking Data

**6 minute walk** feet

- ST=  Not done: too sick  
 Not done: other  
 Unknown

This requires an inside hall for which distances (in FEET) should be measured, preferably as long as possible to avoid frequent turns. Patients are instructed to walk steadily to cover as much distance as possible during the 6 minutes. They are advised that they may stop if necessary during the 6 minutes. The staff member performing the test should walk behind the patient to avoid undue influence on the pace. The distance covered during the 6 minutes in feet will be recorded here. **NOTE: You may use the time from the first 15 feet of the 6minute walk for the Gait speed test listed below (please see instructions for the gait speed test below.)**

**Gait Speed (1st 15 foot walk)** seconds

- ST=  Not done: too sick  
 Not done: other  
 Unknown

Instructions: Record the time (seconds) required for the patient to walk the first 15 feet of the 6 minute walk. The "starting" line and the 15 foot line should be clearly marked. Record the time to the first footfall at 0 feet and ends with the first footfall at 15 feet in the nearest. 0.1 sec with a stopwatch. **NOTE: You may use the time from the first 15 feet of the 6 minute walk for the Gait speed test.**

**Peak VO2 Max** mL/kg/min

- ST=  Not done: too sick  
 Not done: other  
 Unknown

Maximum volume of oxygen the body can consume during exercise (mL/kg/min) is the ml/kg/min of oxygen consumed during symptom-limited exercise testing either on a bicycle or treadmill. The values recorded during the bicycle are usually 1-2 ml/min lower than for the treadmill, but it is assumed that most institutions will use only one instrument. If both are available, the bicycle is preferable as the mode easiest to standardize.

**R Value at peak** %

- ST=  Unknown  
 Not done

R Value at peak is the respiratory quotient of carbon dioxide production divided by oxygen consumption, and is used as an index of how vigorously the patient exercised. A value above 1.05 is generally considered to represent an adequate effort.

## Trailmaking

**Status:**

- Completed  
 Attempted but not completed  
 Not attempted  
 Completed but invalid (scores not entered)

**Time:** seconds

## Medical Condition

**NYHA Class**

New York Heart Association Class for heart failure

- Class I: No limitation of physical activity; physical activity does not cause fatigue, palpitation or shortness of breath.

- Class II: Slight limitation of physical activity; comfortable at rest, but ordinary physical activity results in fatigue, palpitations or shortness of breath.
- Class III: Marked limitation of physical activity; comfortable at rest, but less than ordinary activity causes fatigue, palpitation or shortness of breath.
- Class IV: Unable to carry on minimal physical activity without discomfort; symptoms may be present at rest.
- Unknown