

**Cardiac Implantable Electrical Device Clinic
(CIED)**

Foothills Medical Centre:

Pacemaker Referrals

Ph 403-944-1188

Fax 403-270-0718

South Health Campus:

Implanted Loop Recorder Referrals

Phone 403-956-2608

ICD Referrals

Ph 403-944-2316

Fax 403-270-0718

Fax 403-956-2646

Patient Name		
RHRN	DOB	
HCN	Gender	
Address	Province	
City/Town	Postal Code	
Phone - Home	Work	
Next of Kin		
Phone - Home	Work	
Patient location	<input type="checkbox"/> Home	<input type="checkbox"/> Other

Referral date: Referral type: <input type="checkbox"/> Consult <input type="checkbox"/> Pacemaker +/- CRT <input type="checkbox"/> ICD +/- CRT <input type="checkbox"/> Implanted loop recorder <i>(please send referral to South Health Campus)</i>	Referring Physician: Ph _____ Fax _____ Family Physician: Ph _____ Fax _____ <input type="checkbox"/> does not currently have a Family Physician
Arrhythmia Details Arrhythmia type (check all that apply) <input type="checkbox"/> Heart Block <input type="checkbox"/> 1 st degree <input type="checkbox"/> 2 nd degree type 1 <input type="checkbox"/> 2 nd degree type 2 <input type="checkbox"/> 3 rd degree <input type="checkbox"/> Sinus Node Disease <input type="checkbox"/> Atrial Fibrillation/Flutter <input type="checkbox"/> Ventricular Fibrillation (VF) <input type="checkbox"/> Ventricular Tachycardia (VT) <input type="checkbox"/> Other: _____	Current Antithrombotic Therapy (check all that apply) <input type="checkbox"/> None <input type="checkbox"/> Aspirin <input type="checkbox"/> Warfarin <input type="checkbox"/> Ticagrelor / Clopidogrel <input type="checkbox"/> DOAC (e.g. dabigatran, apixaban, rivaroxaban, edoxaban)
Patient Medical History (check all that apply) <input type="checkbox"/> Cardiac Arrest <input type="checkbox"/> Cardiomyopathy <input type="checkbox"/> Dilated <input type="checkbox"/> Hypertrophic <input type="checkbox"/> Ischemic <input type="checkbox"/> Congenital Heart Disease Type: _____ <input type="checkbox"/> Congestive Heart Failure (CHF) <input type="checkbox"/> Coronary Artery Disease (CAD) <input type="checkbox"/> Family history of sudden death <input type="checkbox"/> Inherited Arrhythmia Syndrome <input type="checkbox"/> Brugada <input type="checkbox"/> Long QT <input type="checkbox"/> LV Dysfunction <input type="checkbox"/> Stroke or Transient Ischemic Attack <input type="checkbox"/> Syncope <input type="checkbox"/> Valvular Heart Disease <input type="checkbox"/> Other: _____	Documentation <i>Provide documented proof of arrhythmia if available</i> <input type="checkbox"/> ECGs (with documented arrhythmia) <input type="checkbox"/> Patient History <input type="checkbox"/> Allergies <input type="checkbox"/> Current Medication List
	Cardiac Testing (please attach full copies of all results) <input type="checkbox"/> Echo <input type="checkbox"/> ETT <input type="checkbox"/> Cardiac MRI <input type="checkbox"/> Muga Scan <input type="checkbox"/> Holter / event rec. <input type="checkbox"/> MPI
	Notes

Decision support tool for *new referrals for Implantable Cardioverter Defibrillator (ICD) implant*

Note: If patient has **intractable ventricular arrhythmias** or **active sepsis** then referral is *not appropriate*

- ICD therapies and implantation is *consistent with the patient's goals of care*: patient would want resuscitated in the event of a cardiac arrest: Yes No
- An ICD is *expected to increase the patient's life expectancy* substantially, taking into account their comorbidities and degree of frailty: Yes No

If **Yes** to both, *proceed with referral*

If **No** to either, *referral is unlikely to be appropriate. Only refer if substantial changes occur*

Primary Prevention ICD

(Patient has not experienced cardiac arrest or sustained ventricular dysrhythmias)

- LV ejection fraction $\leq 35\%$: Yes No
- Patient has been on **target doses of optimal medical therapy** for at least 3 months: Yes No
If not, explain why:
 Higher doses not tolerated
 Other:
- In patients with ischemic heart disease (IHD), revascularization has been considered \pm completed: Yes No
- In patients with IHD, it has been >3 months after revascularization, or >40 days after MI¹: Yes No

Yes to all

No to any

Address above factors, wait appropriate time, reassess LVEF if needed

Secondary Prevention ICD

- Cardiac arrest (VT/VF)
- Sustained VT² in the presence of significant structural heart disease
- Sustained VT² >48 hr post-MI or revascularization
- Inducible sustained VT in the presence of syncope / structural heart disease

Reversible cause³?

No

Yes

Treat cause, *referral is unlikely to be appropriate*

Other high-risk conditions

(In presence of specific risk markers)

- Hypertrophic cardiomyopathy
- Infiltrative cardiomyopathy
- Channelopathies (e.g. Brugada, long-QT syndrome)
- Arrhythmogenic right ventricular cardiomyopathy
- Certain congenital heart disease
- Patient awaiting cardiac transplant
- Patient has left ventricular assist device
- Other: specify:

Proceed with referral

(Final assessment of ICD appropriateness will be a *shared decision* with patient, family & healthcare providers)

Abbreviations: ICD: implantable cardioverter defibrillator; IHD: ischemic heart disease; LVEF: left ventricular ejection fraction; MI: myocardial infarction; VF: ventricular fibrillation; VT: ventricular tachycardia.

1: If there is a **pacing indication** <3 months after revascularization or <40 days post-MI, before achieving optimal medical therapy, and *LVEF is unlikely to recover to $>35\%$* (e.g. high burden of scar on MRI +/- incomplete revascularization), an *ICD should be considered*.

2: Sustained VT: ventricular rhythm >100 bpm for >30 s, or requiring termination due to hemodynamic instability.

3: Reversible cause: may include coronary artery anomalies, ischemia, MI within 48 hr, reversible hypokalemia, reversible hypomagnesemia, acquired QT prolongation (e.g. due to drugs). If the cause is reversible, but likely to recur then consideration of *ICD may be reasonable*.