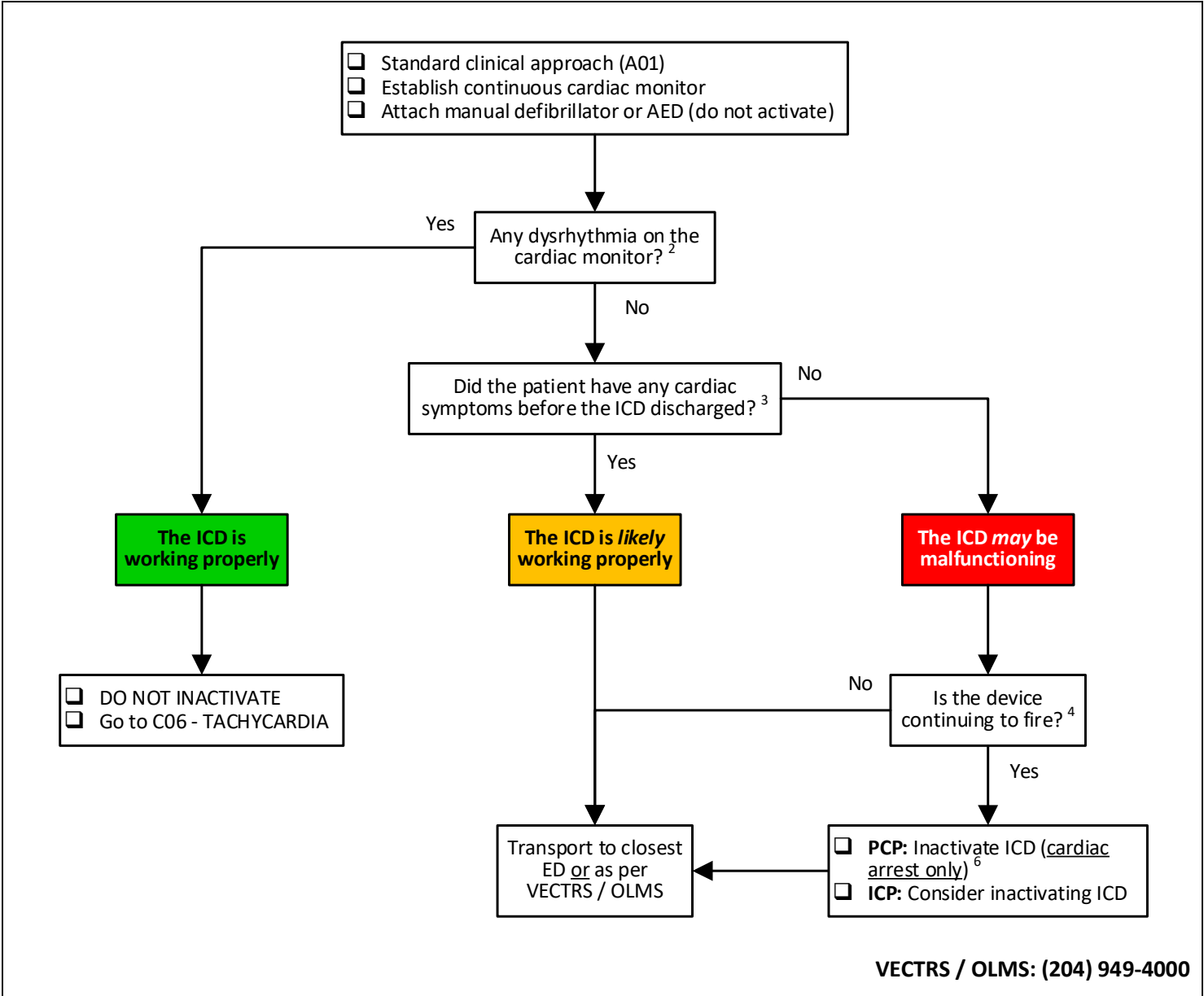
 Shared health Soins communs Manitoba	C09 - IMPLANTABLE CARDIOVERTER DEFIBRILLATOR		
	Version date: 2025-04-15	Effective date: 2025-04-30 (07:00)	
PCP = PCP - ACP	ICP = ICP & ACP	ACP = ACP only	None = EMR - ACP



INDICATIONS

- Any patient with implanted cardioverter defibrillator who reports that it is currently discharging or has recently discharged

WARNINGS

- Not applicable

NOTES

1. Implantable cardioverter-defibrillators (ICD) are common, but their operations can be confusing to the average health care practitioner.

Paramedics may call the Virtual Emergency Care & Transport Resource Service (VECTRS) and consult online medical support (OLMS) at any time for management advice and assistance with determining the most appropriate transport destination.

2. Witnessing any sustained or recurrent ventricular tachycardia (VT) or ventricular fibrillation (VF) tells you that the ICD is working properly and firing appropriately. The observation of any non-sustained tachydysrhythmia or complex ventricular ectopy also suggest that the device is operating correctly. **DO NOT INACTIVATE THE DEVICE.**

Note that any wide-complex tachycardia (WCT) should be assumed to be ventricular in origin, as it is extremely unlikely to be aberrant conduction from a site above the atrioventricular node in these patients.

3. A report by the patient of any cardiac symptoms before ICD discharge also suggests that the shock was appropriate and the device is performing as programmed. **DO NOT INACTIVATE THE DEVICE.** Pay particular attention to generalized symptoms such as palpitations, fainting or near-fainting, greying of vision and lightheadedness.
4. ICD malfunctions are quite rare. If a patient reports that their device has shocked them, assume that a malignant dysrhythmia has occurred.

However, if the ICD is repeatedly discharging without a preceding tachydysrhythmia, it may be misfiring and should be inactivated. As this removes an important safeguard for the patient, maintain continuous cardiac monitoring and stay ready for external defibrillation if necessary. ¹

Application of a *donut magnet* over top of an ICD (Figure 1) temporarily suppresses the device's monitoring and shocking functions, but the pacing function will continue to work. When these are deactivated, it may emit a constant tone or intermittent beep depending upon the device manufacturer. Removing the magnet will allow the ICD to resume its normal dysrhythmia monitoring and suppression functions.

5. Shocks from an ICD are painful and can be very distressing to the patient. Consider administration of appropriate analgesia as required.
6. Proper ICD assessment requires interrogation of the device. St. Boniface Hospital (SBH) has the required expertise and equipment for this. Depending on your location, VECTRS / OLMS *may* advise you to bypass a closer facilitate and transport directly to SBH.

CARDIAC ARREST WITH AN ICD

1. In the event of a cardiac arrest, the ICD will promptly deliver a pre-programmed cycle of multiple shocks over about 30 to 60 seconds. Visible chest muscle contractions indicate that the unit is working and delivering its shocks. Allow the cycle to complete before attempting external shocks.
2. Chest compressions can be safely performed during shock delivery by an ICD. You may note a slight tingling sensation and feel the muscles contract, but will not be harmed.
3. The cessation of visible muscle contractions indicate that the ICD has terminated the dysrhythmia or exhausted all of its shocks. If VF or pulseless VT persist, continue resuscitation by applying external shocks as per the appropriate care map (C01, C02).
4. The ICD does not need to be deactivated to perform external defibrillation with either an automated external defibrillator (AED) or manual device. Place the pads at least one inch away from the ICD's internal pulse generator to minimize the risk of damage.

However, if performing transcutaneous pacing, the ICD will need to be inactivated with a donut magnet.

FIGURE 1:

Application of a donut magnet over top of the ICD's pulse generator will deactivate the programmed dysrhythmia and monitoring functions but will not turn off the pacing function.

The ICD does not need to be deactivated for external defibrillation but does for transcutaneous pacing.



Most ICDs are designed to withstand damage from external pacing, but placing the defibrillation pads at least one inch away from the rhythm generator to reduce the risk.



LINKS

- A01 - Standard Clinical Approach
- C01 - Basic Cardiac Arrest & Post Resuscitation Care
- C02.1 - Advanced Cardiac Arrest (Adult)
- C06.1 - Tachycardia (Adult)

APPROVED BY

	
EMS Medical Director	EMS Associate Medical Director

VERSION CHANGES (refer to X03 for change tracking)

- Addition of advanced work scope for ACP
- Revised flow chart & notes for greater clarity & ease of use
- Addition of reference to C06.1 if ICD is functioning normally and patient may be experiencing tachydysrhythmia