



Delegation Protocol Number: 288

Delegation Protocol Title:

MRI Cardiac Implantable Electronic Device Programming - Adult - Inpatient/Ambulatory/Emergency Department

Delegation Protocol Applies To:

Wisconsin N. Illinois
UW Health MRI departments

Target Patient Population:

Any adult patient scheduled for an MRI who has a cardiac implantable electronic device (CIED).

Delegation Protocol Champion:

Ryan Kipp, MD - Department of Medicine, Cardiovascular Medicine

Delegation Protocol Workgroup Members:

Shannon Schauff, RN - Cardiovascular Device Clinic

Delegation Protocol Reviewer(s):

Scott Reeder, MD, PhD - Department of Radiology
Karl Vigen, PhD - Department of Radiology
Kelly Bybee, BSN, CRN - Department of Radiology

Responsible Department:

Department of Medicine, Cardiovascular Medicine

Purpose Statement:

To delegate authority from the Electrophysiology provider to Registered Nurses (RNs) in the Cardiac Electrophysiology (EP)/Device Clinic to reprogram pacemakers and implantable cardioverter-defibrillators (ICDs) prior to MRI to reduce potential magnetic resonance (MR) complications.

Who May Carry Out This Protocol:

RNs

Guidelines for Implementation:

1. This delegation protocol is initiated when the RN receives an InBasket notification that a patient with a CIED is scheduled for an MRI.
2. If the patient is not a patient of the UW Health Device Clinic, the nurse will contact the patient's cardiology clinic to obtain the patient's clinical background. Nurse will determine the following information:
 - Last date of MRI (if any)
 - Last date of chest x-ray read by EP Provider
 - Last date of CIED intervention

3. The RN may place the order in Step #5 if:
 - 3.1. The patient has had a previous MRI without any device interventions since that time AND
 - 3.2. The patient has had a chest x-ray performed and reviewed by an EP Provider after the last device intervention
4. If the patient does not meet the criteria, the RN will enter in a chest x-ray order and have it reviewed by an EP provider before the MRI is performed. The provider will notify device clinic results of chest x-ray either by InBasket message or verbally.
5. If the criteria in Step #3 is met, the RN will use order CARD0015 to reprogram the device based on Table 1.
6. For all ICDs, RN will also deactivate all detections and therapies.
7. Upon conclusion of MRI, the RN will return the device to original program.
8. When orders are placed, the Authorizing Provider will be:
 - 8.1. The patient’s EP MD if followed by the UW Health Device Clinic. If primary EP MD is OOO, the consult EP MD will be used.
 - 8.2. The consult EP MD if the patient is not followed in the UW Health Device Clinic

Table 1

Patient setting/burden	Program
Cumulative Right Atrial (RA) and/or Right Ventricular (RV) pacing burden of $\geq 1\%$ or history of complete heart block, 2:1 AV conduction	DOO 20 beats above sinus rate (lowest rate 80 ppm)
Cumulative RA and RV pacing burden $< 1\%$	ODO
Atrial only pacing CIED if cumulative RA pacing burden is $\geq 1\%$	AOO 20 beats above sinus rate (lowest rate 80 ppm)
Atrial only pacing CIED if cumulative RA pacing burden is $< 1\%$	OAO (off)
Ventricular only pacing CIED if cumulative RV pacing burden is $\geq 5\%$	VOO 20 above intrinsic (lowest rate 80 ppm)
Ventricular only pacing CIED if cumulative RV pacing burden is $< 5\%$	OVO (off)
Bi-ventricular pacemaker/ defibrillator	DOO 20 above intrinsic (lowest rate 80 ppm)
Current underlying rhythm is $< 50\text{bpm}$	DOO/AOO/VOO 20 beat above (lowest rate 80 ppm)

Order Mode:

Cosign Required, Protocol/Policy

Reference(s):

1. Nazarian S, Hansford R, Rahsepar AA, et al. Safety of Magnetic Resonance Imaging in Patients with Cardiac Devices. N Engl J Med. 2017;377(26):2555–2564. doi:10.1056/NEJMoa1604267

UWHealth

Collateral Documents/Tool(s):

1. Cardiology Device Procedures Delegation Protocol - Adult - OP [5128] Smart Set

Approved By:

UW Health Ambulatory Protocol Committee: October 2022

UW Health Clinical Knowledge Management Council: October 2022

UWHC Medical Board: November 2022

UW Health Chief Clinical Officer: November 2022

UWHealth

Cardiology Device Procedures Delegation Protocol - Adult - OP [5128]

If you receive a duplicate order warning, click no and select the corresponding statistical charge.

[Management and Ordering of Cardiac Implantable Electronic Devices Delegation Protocol](#)

[MRI Cardiac Implantable Electronic Device Programming Delegation Protocol](#)

URL: <https://uconnect.wisc.edu/clinical/cckm-tools/content/delegationpractice-protocols/ambulatory-delegation-protocols/name-172320-en.cckm>

URL: <https://uconnect.wisc.edu/clinical/cckm-tools/content/?path=/content/delegationpractice-protocols/inpatient-delegation-protocols/name-191751-en.cckm>

Documentation

Progress Note [670006]

SBAR CARDIOLOGY DEVICE PROCEDURES DELEGATION PROTOCOL - ADULT - OP

SBAR CARDIOLOGY DEVICE PROCEDURES DELEGATION PROTOCOL - ADULT - OP

Procedures

Cardiology Device Charges [215129]

Pacemaker Single w/ Reprogram (93279) [93279] Normal, No Print, Routine, Qty-1

Pacemaker Dual w/ Reprogram (93280) [93280] Normal, No Print, Routine, Qty-1

Pacemaker Multi Lead w/ Reprogram (93281) [93281] Normal, No Print, Routine, Qty-1

Pacemaker Single/Dual/Multi w/o Reprogram (93288) [93288] Normal, No Print, Routine, Qty-1

ICD Eval Single w/ Reprogram (93282) [93282] Normal, No Print, Routine, Qty-1

ICD Dual Eval w/ Reprogram (93283) [93283] Normal, No Print, Routine, Qty-1

ICD Multi Lead w/ Reprogram (93284) [93284] Normal, No Print, Routine, Qty-1

ICD Eval Single/Dual/Multi w/o Reprogram (93289) [93289] Normal, No Print, Routine, Qty-1

Interrogation Eval Remote </90 D 1/2/MLT LEAD PM (93294) [93294] Normal, No Print, Routine, Qty-1

Interrogation Eval Remote </90 D 1/2/MLT LD DFB (93295) [93295] Normal, No Print, Routine, Qty-1

Programing Eval Implantable in person S-ICD (93260) [93260] Normal, No Print, Routine, Qty-1

Interrogation Eval in person S-ICD (93261) [93261] Normal, No Print, Routine, Qty-1

Loop Recorder Interrogation (93291) [93291] Normal, No Print, Routine, Qty-1

Remote Loop Recorder Reprogramming (0650T) [0650T] Normal, No Print, Routine, Qty-1

Cardiology Device Charges [140173]

Pre/Post Procedure ICD Device Eval (93287) [93287] Normal, No Print, Routine, Qty-1

ICD Eval Single w/ Reprogram (93282) [93282] Normal, No Print, Routine, Qty-1

Effective 4/15/2022 Contact: CCKM@uwhealth.org for previous versions.

ICD Dual Eval w/ Reprogram (93283) [93283]

Normal, No Print, Routine, Qty-1

ICD Multi Lead Program (93284) [93284]

Normal, No Print, Routine, Qty-1

UWHealth

Effective 4/15/2022 Contact: CCKM@uwhealth.org for previous versions.

<input type="checkbox"/> ICD Eval Single/Dual/Multi w/o Reprogram (93289) [93289]	Normal, No Print, Routine, Qty-1
<input type="checkbox"/> Pre/Post Procedure Pacemaker Device Eval (93286) [93286]	Normal, No Print, Routine, Qty-1
<input type="checkbox"/> Pacemaker Single Lead/Leadless w/ Reprogram (93279) [93279]	Normal, No Print, Routine, Qty-1
<input type="checkbox"/> Pacemaker Dual Lead w/ Reprogram (93280) [93280]	Normal, No Print, Routine, Qty-1
<input type="checkbox"/> Pacemaker Muli Lead Program (93281) [93281]	Normal, No Print, Routine, Qty-1
<input type="checkbox"/> Pacemaker Single/Dual/Multi Lead/Leadless w/o Reprogram (93288) [93288]	Normal, No Print, Routine, Qty-1
<input type="checkbox"/> Pacemaker Antitachycardia (93724) [93724]	Normal, No Print, Routine, Qty-1
<input type="checkbox"/> Interr Implant Cardio Monitor (Optivol) (93290) [93290]	Normal, No Print, Routine, Qty-1
<input type="checkbox"/> Remote Implant Cardio Monitor per 30 days (93297) [93297]	Normal, No Print, Routine, Qty-1
<input type="checkbox"/> Loop Recorder Program (93285) [93285]	Normal, No Print, Routine, Qty-1
<input type="checkbox"/> Loop Recorder Interrogation (93291) [93291]	Normal, No Print, Routine, Qty-1
<input type="checkbox"/> Remote Loop Recorder per 30 days (93298) [93298]	Normal, No Print, Routine, Qty-1
<input type="checkbox"/> HB-STAT ICM/LOOP REMOTE PER 30 DAYS [HBZ0832]	Normal, No Print, Routine, Qty-1
<input type="checkbox"/> Remote Loop Recorder Reprogramming (0650T) [0650T]	Normal, No Print, Routine, Qty-1
<input type="checkbox"/> Remote Pace/ICD per 90 days (93296) [93296]	Normal, No Print, Routine, Qty-1
<input type="checkbox"/> HB-STAT PACEMKR/ICD REMOTE PER 90 DAYS [HBZ0831]	Normal, No Print, Routine, Qty-1
<input type="checkbox"/> Programing Eval Implantable in person S-ICD (93260) [93260]	Normal, No Print, Routine, Qty-1
<input type="checkbox"/> Interrogation Eval in person S-ICD (93261) [93261]	Normal, No Print, Routine, Qty-1

Implantable Cardiac Device Orders

Implantable Cardiac Device Orders [147590]

<input type="checkbox"/> Pacemaker/ICD/Loop Recorder [CARD0015]	■ Status: Future, Expires: 12/15/2023, Normal, Routine, Qty-1
<input type="checkbox"/> Remote Device Check [CARD0016]	■ Status: Future, Expires: 12/15/2023, Normal, Routine, Qty-1
<input type="checkbox"/> Pre-op Device Check [CARD0017]	■ Status: Future, Expires: 12/15/2023, Normal, Routine, Qty-1
<input type="checkbox"/> ECG - 12 Lead [EKG0008]	■ Status: Future, Expires: 12/15/2023, Normal, Routine
<input type="checkbox"/> Transthoracic Resting Echocardiogram [ECH0003]	

Implantable Cardiac Device Orders [337501]

Effective 4/15/2022 Contact: CCKM@uwhealth.org for previous versions.

- Status: Future, Expires: 12/15/2023, Normal,
- Pacemaker/ICD/Loop Recorder [CARD0015]
- Remote Device Check [CARD0016]
- Pre-op Device Check [CARD0017]
- ECG - 12 Lead [EKG0008]

Routine

- Status: Future, Expires: 12/15/2023, Normal, Routine, Qty-1
- Status: Future, Expires: 12/15/2023, Normal, Routine, Qty-1
- Status: Future, Expires: 12/15/2023, Normal, Routine, Qty-1
- Status: Future, Expires: 12/15/2023, Normal, Routine



Transthoracic Resting Echocardiogram [ECH0003]

Status: Future, Expires: 12/15/2023, Normal, Routine, @LASTBP(1)@

Transesophageal Echocardiogram [ECH0008]

Status: Future, Expires: 12/15/2023, Normal, Routine, @LASTBP(1)@

Diagnosis

Diagnosis [138074]

Cardiac pacemaker in situ [V45.01.ICD-9-CM]
Automatic implantable cardioverter-defibrillator in situ [1008356]

Cardiac pacemaker in situ
Diagnosis

Syncope [159881]
 Heart block [151101]

Syncope and collapse

Conduction disorder, unspecified

AV block, 1st degree [186700]

First degree atrioventricular block

AV block, 2nd degree [186702]

Other second degree atrioventricular block

AV block, 3rd degree [340004]

Atrioventricular block, complete

AF (atrial fibrillation) [172556]

Atrial fibrillation

Atrial flutter [427.32.ICD-9-CM]

Atrial flutter

Ventricular tachycardia [161125]

Paroxysmal ventricular tachycardia

Cardiac arrest [427.5.ICD-9-CM]

Cardiac arrest

Cryptogenic stroke [459966]

Unspecified cerebral artery occlusion with cerebral infarction

Level of Service

Nurse Visit - No Charge (Single Response) [2340]

Nurse Only-No Charge 09211

LOS Code