

**Title:**

Echocardiogram Surveillance prior to Pacemaker Generator Exchange: A QI Project

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**Background:**

The CHI protocol per the electrophysiology department is to perform a screening echocardiogram routinely on all patients prior to pacemaker generator exchange. We believe that this protocol creates unnecessary echocardiograms.

Purpose of the study:

- To determine if unnecessary echocardiograms are being performed prior to pacemaker generator exchange.

Objectives:

- Create a protocol for determining which patients will benefit from echocardiograms prior to pacemaker generator exchange.

Goal:

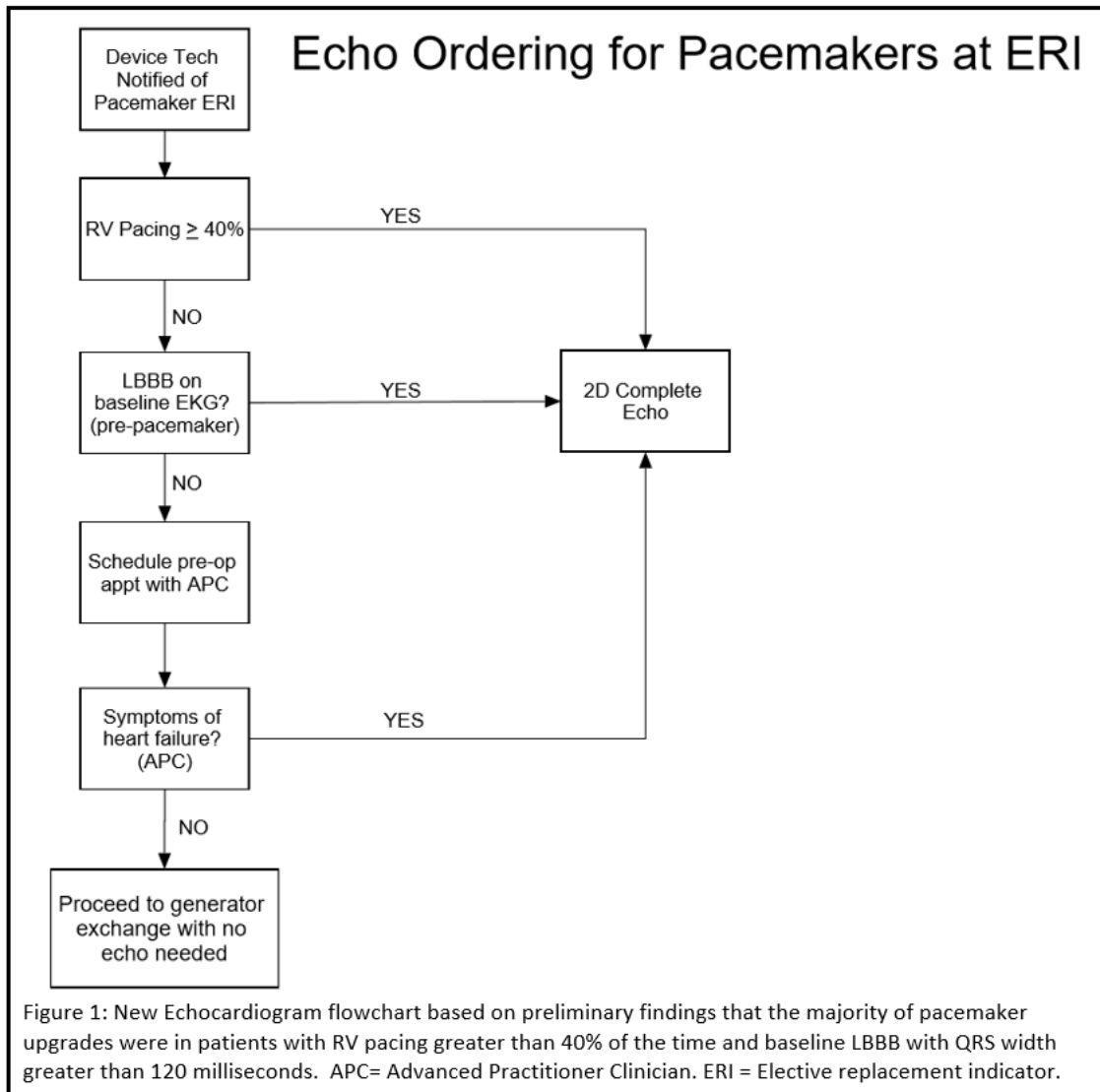
- To decrease the number of unnecessary screening echocardiograms by 30% yearly.

**Methods:**

We searched the Medtronic Paceart Optima database for all pacemakers at ERI that occurred in CHI facilities in Omaha, Nebraska during the timeframe of January 1, 2017 – December 31, 2017.

**Results:**

Patients with baseline LBBB and RV pacing greater than 40% were predictive of requiring upgrade of their pacemakers to either ICD or CRT devices. We then created a new screening protocol (Figure 1). Retrospective analysis using the new protocol revealed a 45% yearly reduction in screening echocardiograms. We have now begun implementing this new protocol and will collect prospective data in 2020.



**Conclusion:**

Performing echocardiograms on all patients with pacemakers at ERI is unnecessary. Patients with baseline LBBB and RV pacing greater than 40% will benefit the most from screening echocardiograms prior to generator exchange.