### LEAD MANAGEMENT CHECKLIST

#### Infection
- **At Generator Site:**
  - Erythema
  - Pain
  - Swelling
  - Warmth
  - Tenderness
  - Drainage
  - Skin Ulceration
  - Generator/Lead Erosion
- **Systemic:**
  - Chills
  - Fever (>38°C)
  - Malaise
  - Anorexia
  - Nausea
  - Sweating
  - Hypotension (systolic <90Hg)
- **Device Change Out or Upgrades:** Pacemaker to ICD/Bi-V
- **Possible Lead Malfunction**
  - Advisory Leads (leads with high risk of failure)
  - Change in Impedance (Shock or Pacing)
  - Poor Sensing (P/R waves)
  - High Thresholds (>5.0 Volts)

#### Chronic Pain
- **At Device or Lead insertion site**
- **Persistent pain not manageable by medical or surgical techniques**

#### Device Change Out or Upgrades: Pacemaker to ICD/Bi-V
- **Possible Venous Occlusion (Order Venogram)**
- **Potential Redundant RV Pacing Lead**
- **Capped/abandoned lead**

### CRH Device and Lead Management Follow-Up

#### DEVICE THERAPY GUIDELINES

**ICD Therapy**
- NYHA Class II, LVEF ≤30%
- NYHA Class III, IV, LVEF ≤35%

**CRT-D Therapy**
- NYHA Class III, IV
- LVEF ≤35%
- QRS ≥ 120ms

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