

# OPPORTUNISTIC SCREENING AT PRE-ASSESSMENT CLINICS FOR UPGRADE/DOWNGRADE OF CARDIAC DEVICES

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# AIMS AND OBJECTIVES

- Aims:

To explore the issues of current practices surrounding routine elective replacement interval (ERI) and box change procedures

- Objectives:

To ascertain the benefits of Opportunistic Screening to maximise the potential for therapeutic device therapy.



# BACKGROUND

- Conventional right ventricular pacing can induce left ventricular deterioration<sup>1</sup>
- Bi-ventricular pacing has been proven beneficial for improving pacing-induced left ventricular dyssynchrony<sup>2,3</sup>
- Current 2013 ESC guidelines recommend upgrading existing cardiac devices to bi-ventricular devices where appropriate<sup>4</sup>
- NICE 2014 changed criteria in the UK for ICD implants to include non-ischaemic cardiomyopathies
- Growing consensus of opinion that assessment for downgrade of CRT-D to CRT-P or appropriateness of continued ICD therapy should be performed prior to box change<sup>5</sup>



# WHAT WE WANTED TO CHANGE

- Two PPM patients attended for routine box change
- Known to heart failure team with moderate – severe LVSD
- Within 1 year of box change had hospital admissions with heart failure, high right ventricular pacing
- Additional procedure risks infection and complications
- Upgraded to CRT-P
  
- One elderly patient, poor historian attended to ICD box change
- Had admission under respiratory with DNAR status and not for ventilation
- No family present – sent home
- OP clinic discussion with family, GP and community matron input on appropriateness of ICD
- Continued with box change
- Discussion should have happened before initial admission for box change



# REFERRAL PATHWAY

## THEN

- Cardiac Physiologists placed on waiting list for box change when identified elective replacement interval
- No structured clinical assessment prior to box change.
- Box changed by registrar
- Direct from listing to labs.

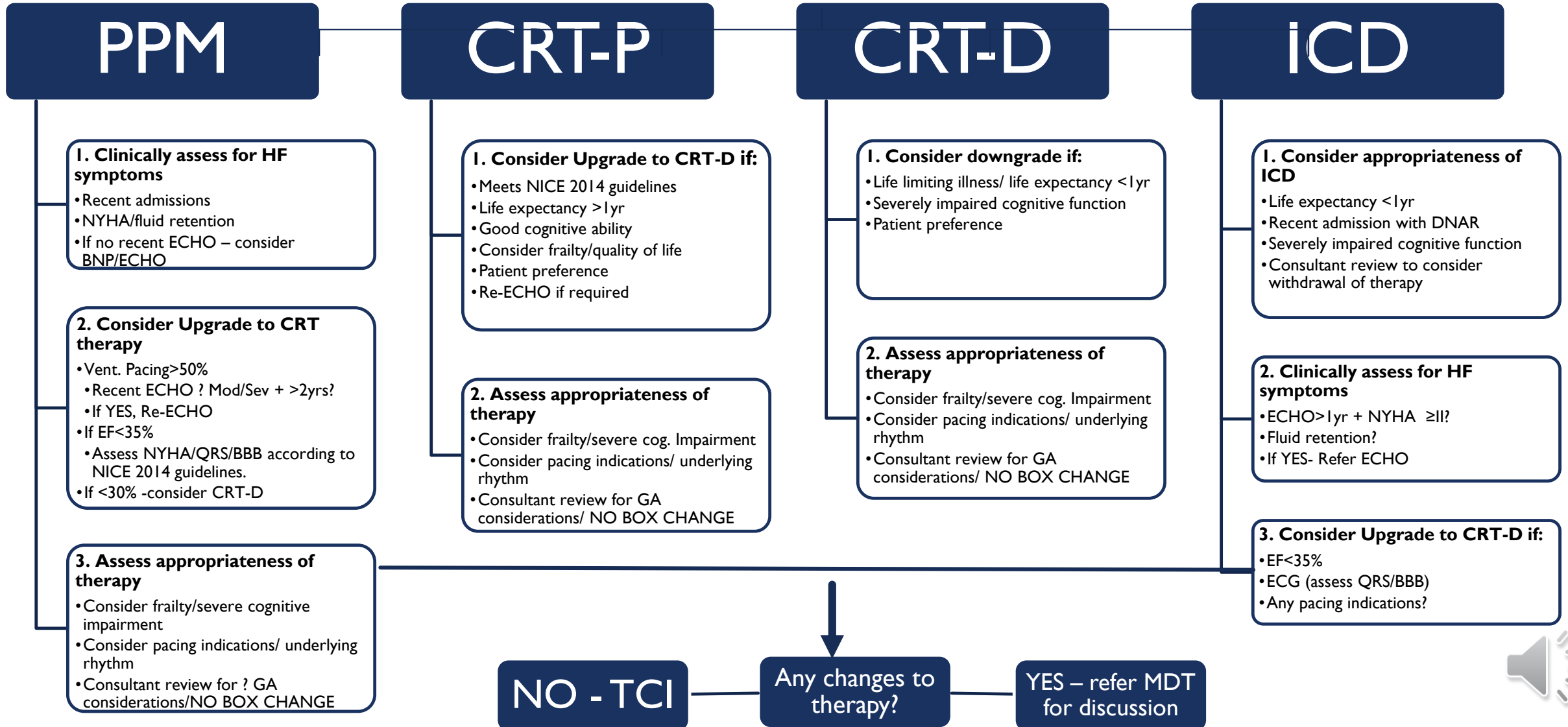
## NOW

- Consideration of appropriateness of device using a structured care pathway.
- Cardiac Physiologist places on waiting list
- Attendance at Pre-Admission clinic prior to box change procedure.
- Discussion at Multi-disciplinary team meeting if needed
- If required listed for change in device therapy (downgrade or upgrade)
- Or box changed as previously



# BOX CHANGE PATHWAY

Box change required – refer to PAC



# METHODS :AUDIT OF RESULTS

- 74 patients prospectively identified between Oct 2015-Jan 2017
- Data retrieved from Trust electronic records
- Manual input onto Microsoft Excel Database



## RESULTS

78% WERE REFERRED FOR OPPORTUNISTIC SCREENING AT PAC WITH NO PRIOR CLINICAL ASSESSMENT FOR APPROPRIATENESS OF DEVICE THERAPY

### 74 patients identified for inclusion

- **58 (78%) were referred for box change & seen at PAC with no prior clinical assessment for appropriateness of device therapy:**
  - 93% listed routinely for box change
  - 5% identified as eligible for upgrades at PAC
  - 5% considered for therapy downgrades at PAC
- **16 (22%) were referred following Cardiology Assessment of which:**
  - 18% listed routinely
  - 86% were identified for device therapy upgrades
  - None required therapy downgrades

74 Identified	Listed routinely for ERI	Eligible for Device Upgrade	Considered for therapy downgrade
58 Referred to PAC box change assessment with no clinical review	54 (93%)	3 (5%) – Identified at PAC	3 (5%) – Identified at PAC
16 Referred for box change with Cardiology clinical assessment prior to PAC	2 (18%)	14 (86%)	0 (0%)





# RESULTS CONT..

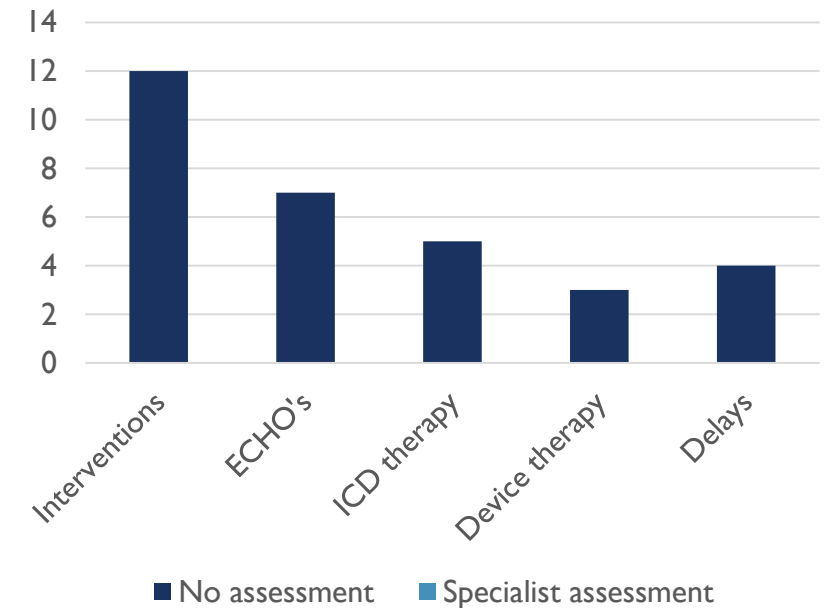
## 56 patients listed routinely for device ERI recommendations

- Interventions at PAC

21% required additional interventions of these

- 13% required ECHO's to assess LV function
- 9% required Consultant/MDT review for appropriateness of ICD therapy (inc. downgrades)
- 5% required Consultant/MDT review for appropriateness of device therapy
- 7% had their procedures delayed for additional assessments

Number of patient Interventions required from PAC



# WHAT CHANGED THIS YEAR

- 87 year old attended box change PAC for CRT-D box change
- Original indication severe LVSD and primary prevention ICD
- Biventricular pacing 100%
- No ICD therapies delivered since implant
- Attended PAC with a preferred care and DNAR community documentation
- Patient preference to not have defibrillator
- Frail otherwise well. No heart failure admissions
- MDT discussion Options:
  - Do nothing – let battery deplete and leave
  - Box change to CRT-D
  - Box change to CRT-P

Outcome: Discussion with GP, patient and family: at box change agreed to down grade device to CRT-P



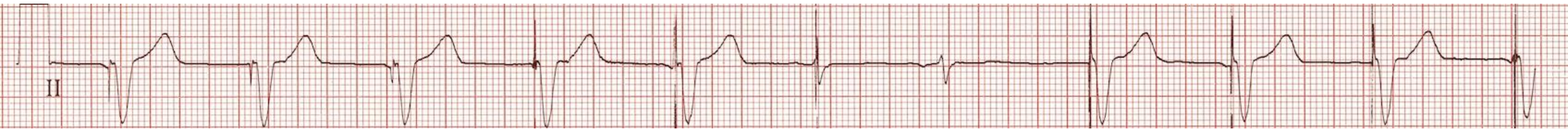
# CONCLUSION

- Majority of patients listed for box change procedures are referred routinely without any structured clinical assessments.
- Opportunistic screening following routine referrals can help to maximise beneficial therapy upgrades
- Early assessment can prevent unnecessary delays to care by avoiding issues on day of procedure, reduces inappropriate procedures (ie: box change when change in device needed) and improved patient experience
- Larger comparison studies required to further support the benefits of this intervention.
- Pre-admission clinics offer the opportunity to review the patient's management



# ANY QUESTIONS?

# WHAT HAPPENS IN YOUR AREA?



## References:

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