

# Cardiology – Developments across the Specialty

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Prof David Burke  
Dr Deirdre Waterhouse  
Niamh Dillane

Prof Jonathan Lyne  
Prof Kevin Walsh  
Rebecca McDonnell

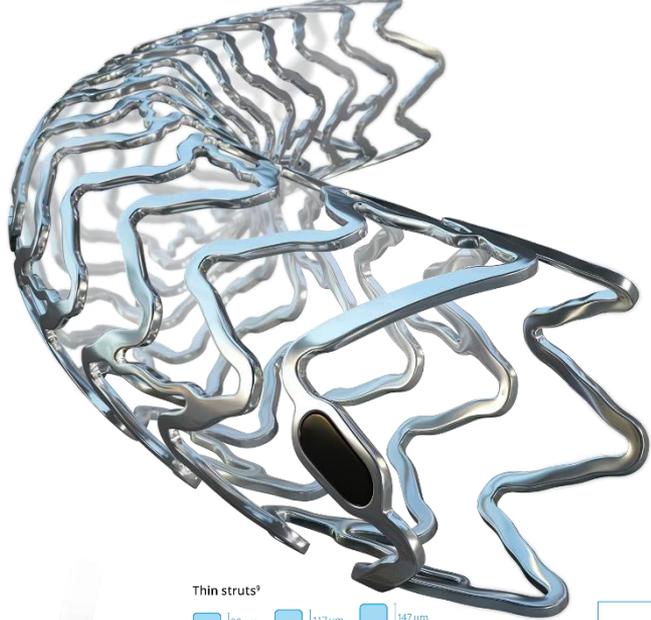
**Beacon Hospital Annual GP Study Day, 24<sup>th</sup> January, 2026**

- 55 year old man
- Cycling enthusiast. 'Weekend warrior'.
- Good insight in terms of fitness wearable 'metrics'.
- No exertional symptoms. No chest discomfort / shortness of breath
- Elevated LDL, smoker in 20's, Father MI in 60's.
  
- Notes a gradual trend in resting HR and HRV
- Wants to get himself checked out



LAD





Thin struts<sup>9</sup>



**BIOmag**<sup>™</sup> Proprietary magnesium alloy

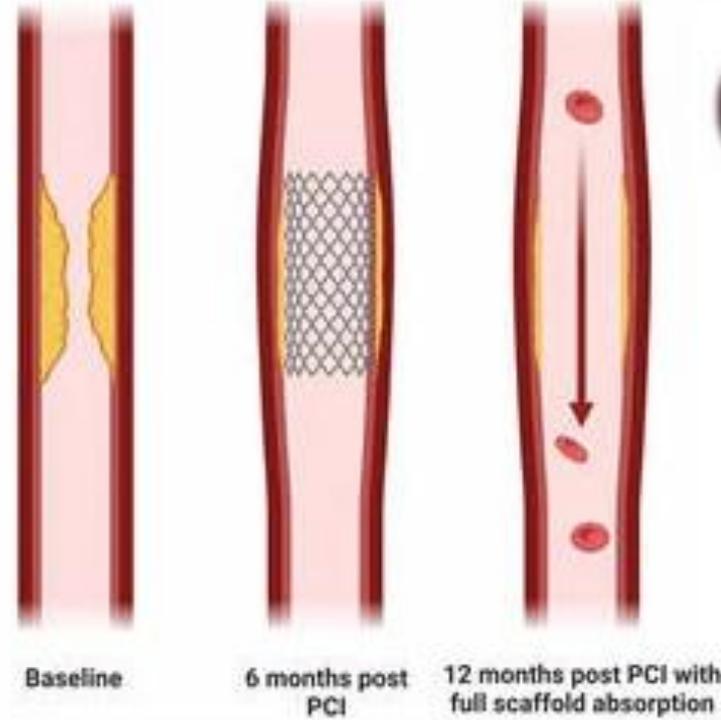


**BIOlute**<sup>™</sup> Resorbable coating

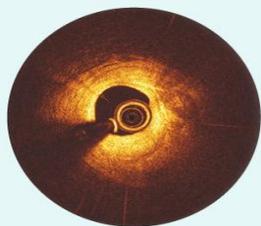


New Tantalum marker concept<sup>4</sup> for better visibility<sup>5</sup>

Proven Orsiro<sup>™</sup> Mission<sup>™</sup> DES delivery system<sup>6</sup>

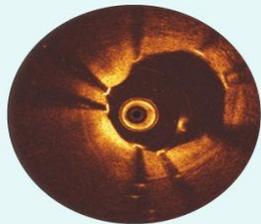


Pre-procedure



Initial diagnostic

Post Implantation



Immediately after implantation, struts are well apposed to the vessel wall.

6-month follow-up



While the Magnesium resorption process continues, endothelialization progresses.

12-month follow-up



The Magnesium resorption is completed. No struts appear in OCT.

# Ongoing Projects

- Medical devices
- 'Fitness wearables'
  - Push into 'health'
  - Arrhythmia detection
  - Prevention
  - Continuous monitoring



# Electrophysiology – 2025 Key Takeaways

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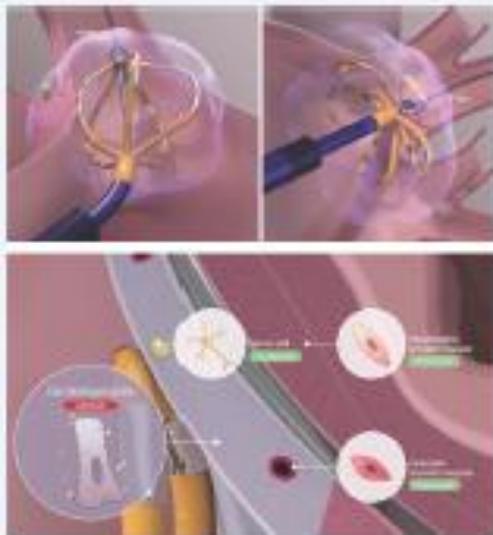
- PFA Mainstream
- LBBAP as CRT
- Leadless expansion
- Metabolic strategies integrated – GLP-1 Receptor Agonists

Prof Jonathan Lyne  
Consultant Cardiologist (Electrophysiology)  
Director of Electrophysiology & Pacing  
[Jonathan.lyne@healthmail.ie](mailto:Jonathan.lyne@healthmail.ie)

# PFA Mainstream

## CENTRAL ILLUSTRATION PFA for Paroxysmal AF

### PFA Catheter & Mechanism of Ablation



### Safety

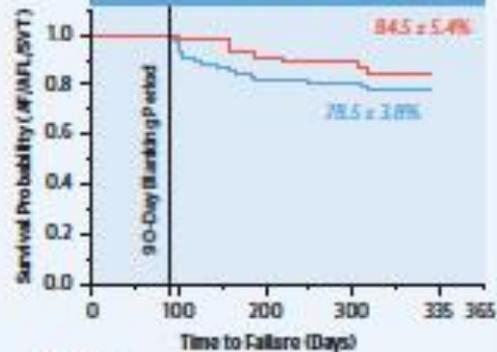
- Esophageal Damage 0%
- Esophageal Dysmotility 0%
- Atrioesophageal Fistula 0%
- Pulmonary Vein Stenosis 0%
- Phrenic Nerve Injury 0%
- Stroke 0%
- Transient Ischemic Attack 0.9%
- Pericardial Effusion 0.8%
- Vascular injury 1.7%
- Death 0%

### Efficacy

#### Durability of PV Isolation (Invasive Remapping)

PFA Waveform	Per PV Basis		Per Pt Basis	
	No. %	Durable	No. %	Durable
All	429	84.8%	100	64.5%
PFA-DW	173	96.0%	44	84.7%

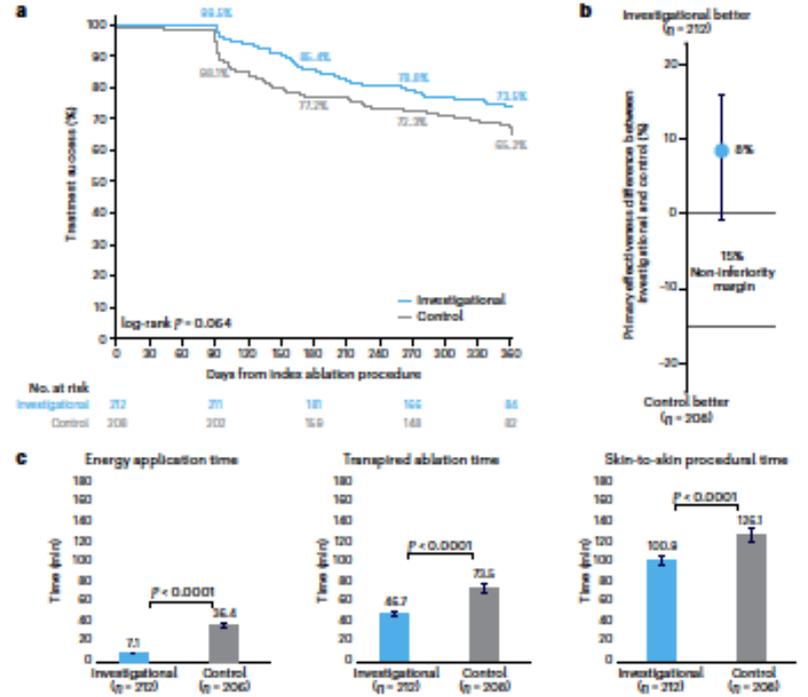
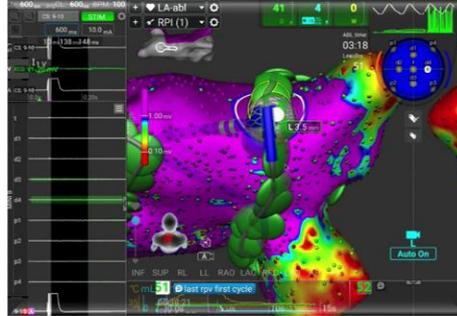
#### Freedom from AF, AFL or AT



No. at Risk

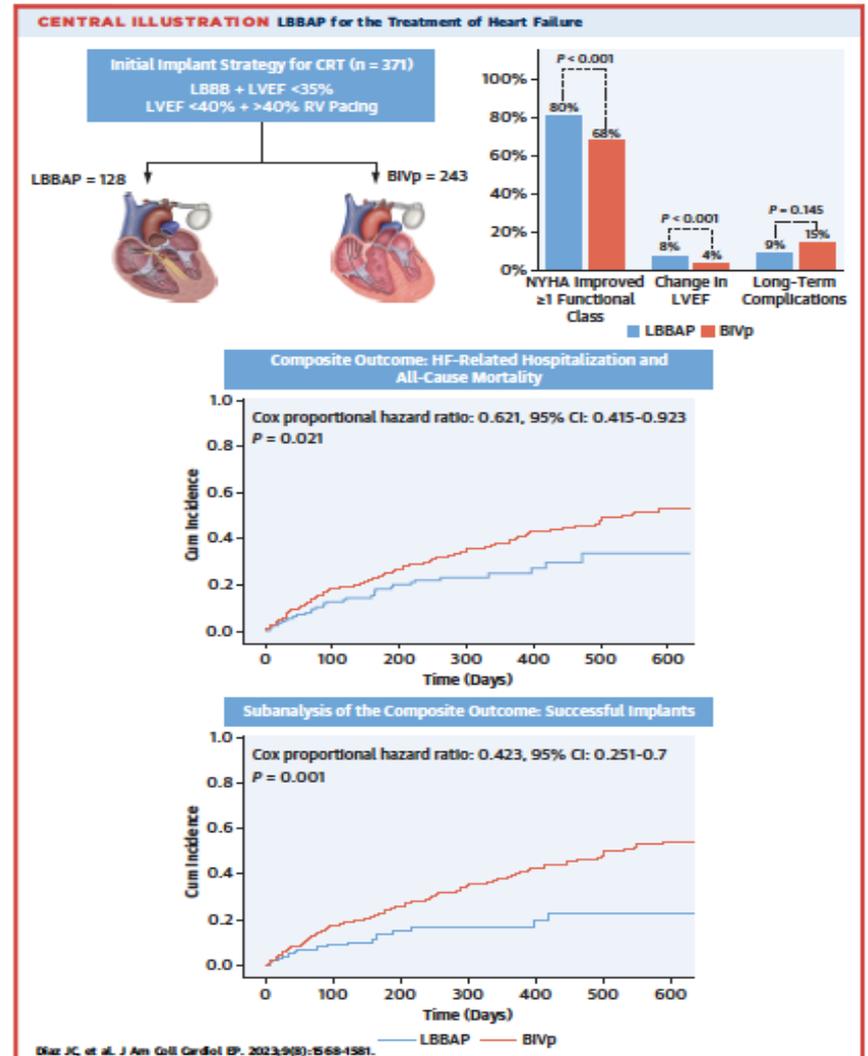
	114	97	89	81
— Entire Cohort	114	97	89	81
— PFA-DW	46	43	40	36

# Dual-energy lattice-tip ablation system for persistent atrial fibrillation: a randomized trial

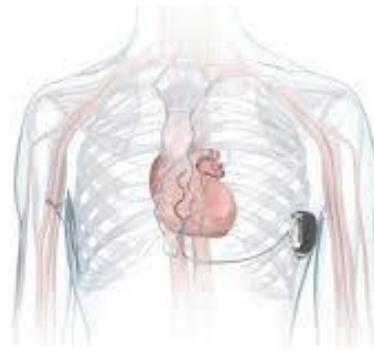


# CSP for all: LBBAP Goes Mainstream

- I-CLAS Trial: LBBAP = CRT Alternative
- Improved LV/HF metrics



# Leadless Pacing and ICD



The AVEIR DR™ Dual-chamber Leadless Pacemaker System is an investigational device limited by Federal (U.S) local law and for investigational use only.

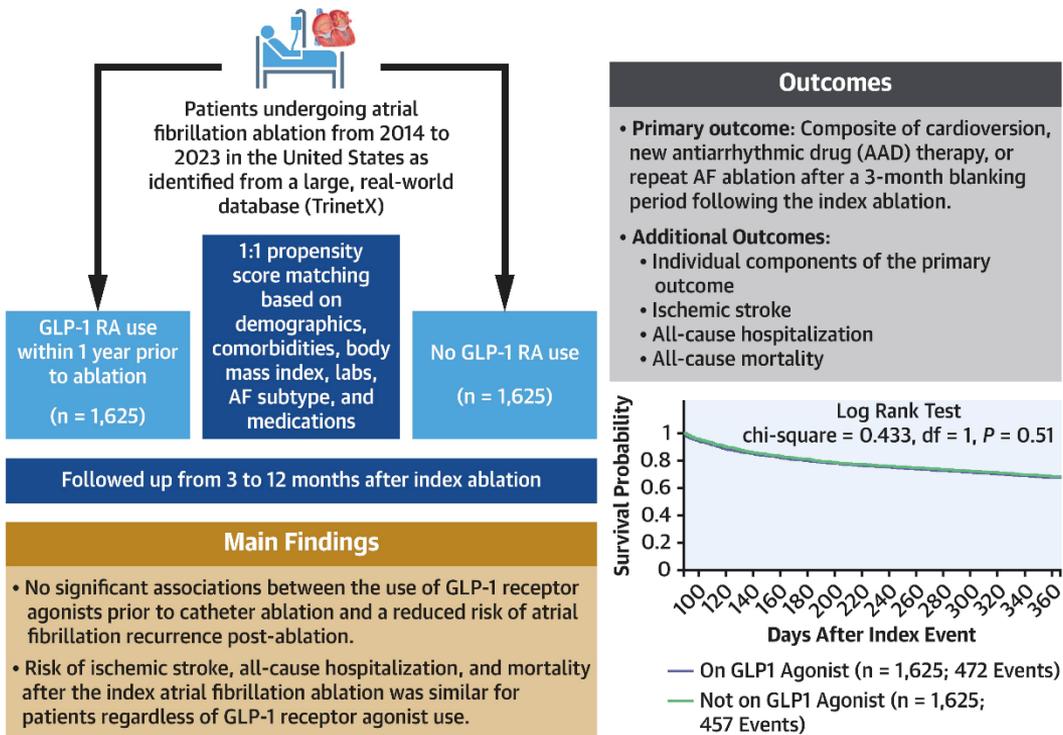
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# GLP-1 Receptor Agonists

- Cardiovascular: Reduced BP, MI, Stroke, Mortality
- Renal: Slows CKD progression
- Liver: treats metabolic dysfunction– associated dysfunction
  
- AF - reduces AF hospitalization

# GLP-1: No benefit post AF ablation

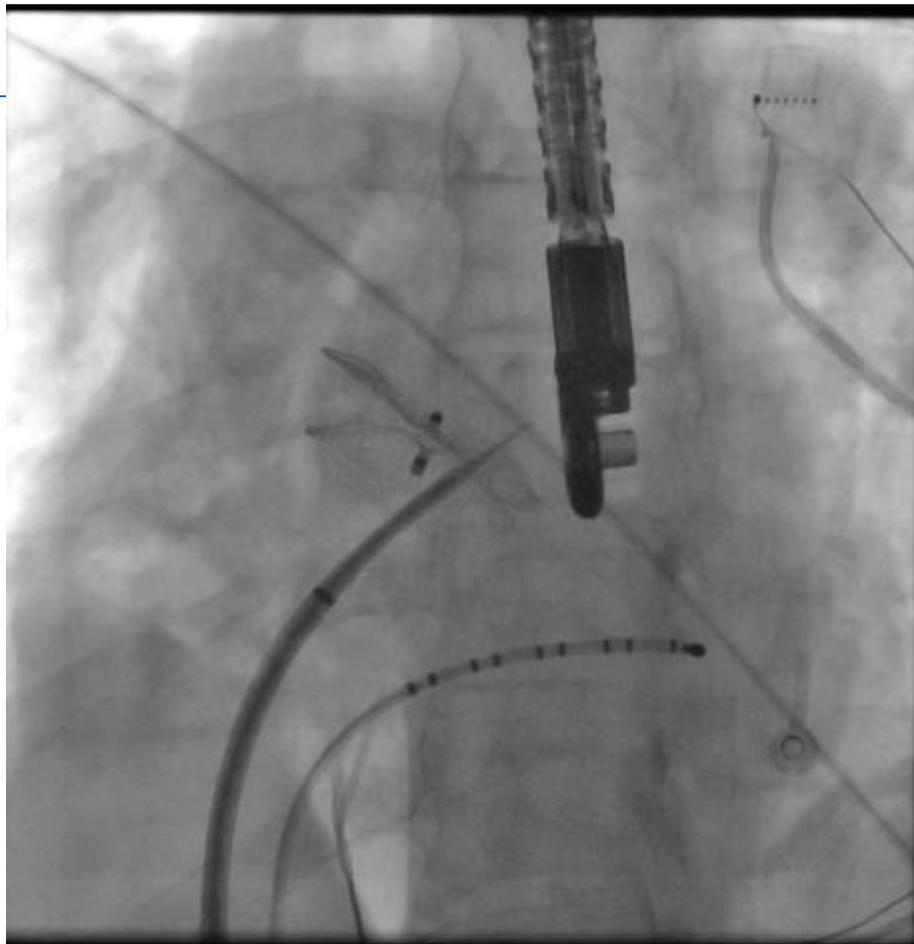
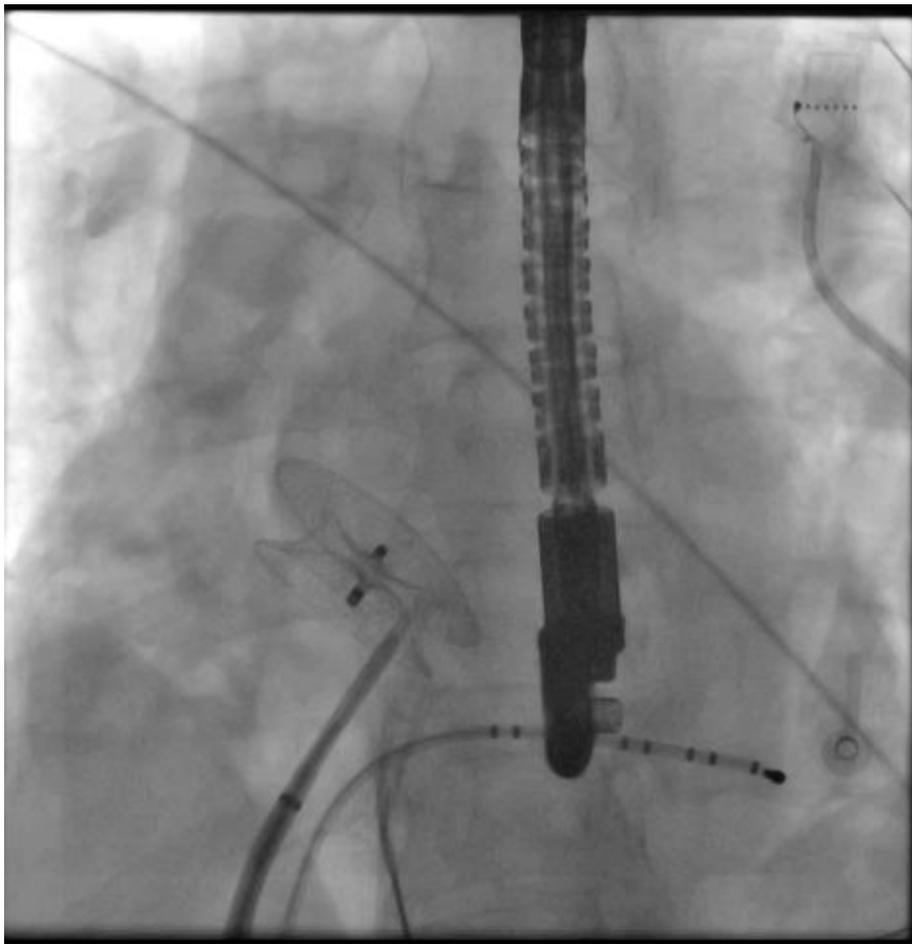
## CENTRAL ILLUSTRATION: Effects of Glucagon-Like Peptide-1 Receptor Agonists on AF Recurrence After CA

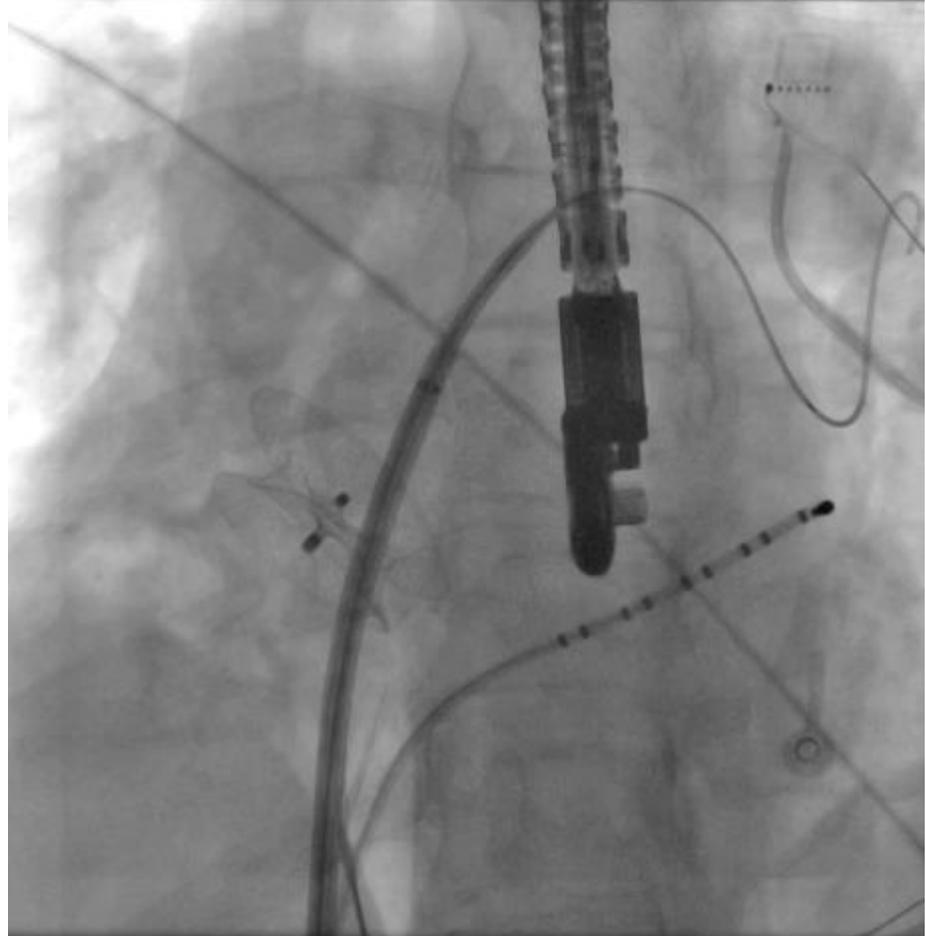
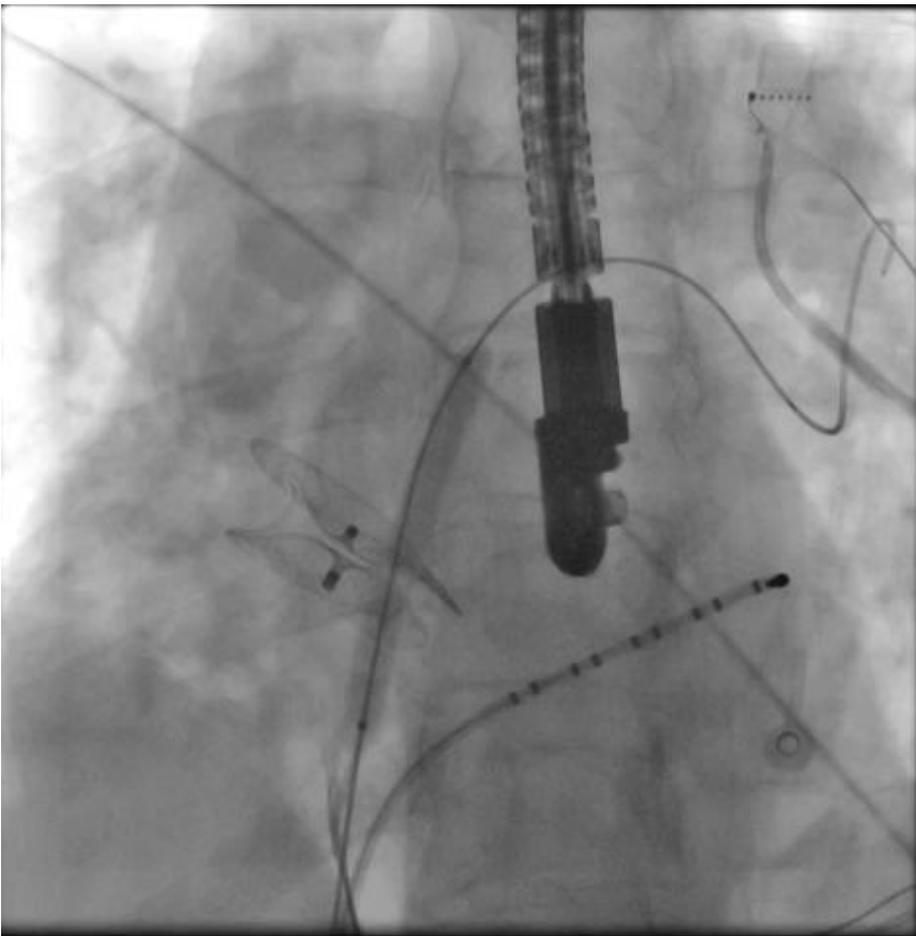


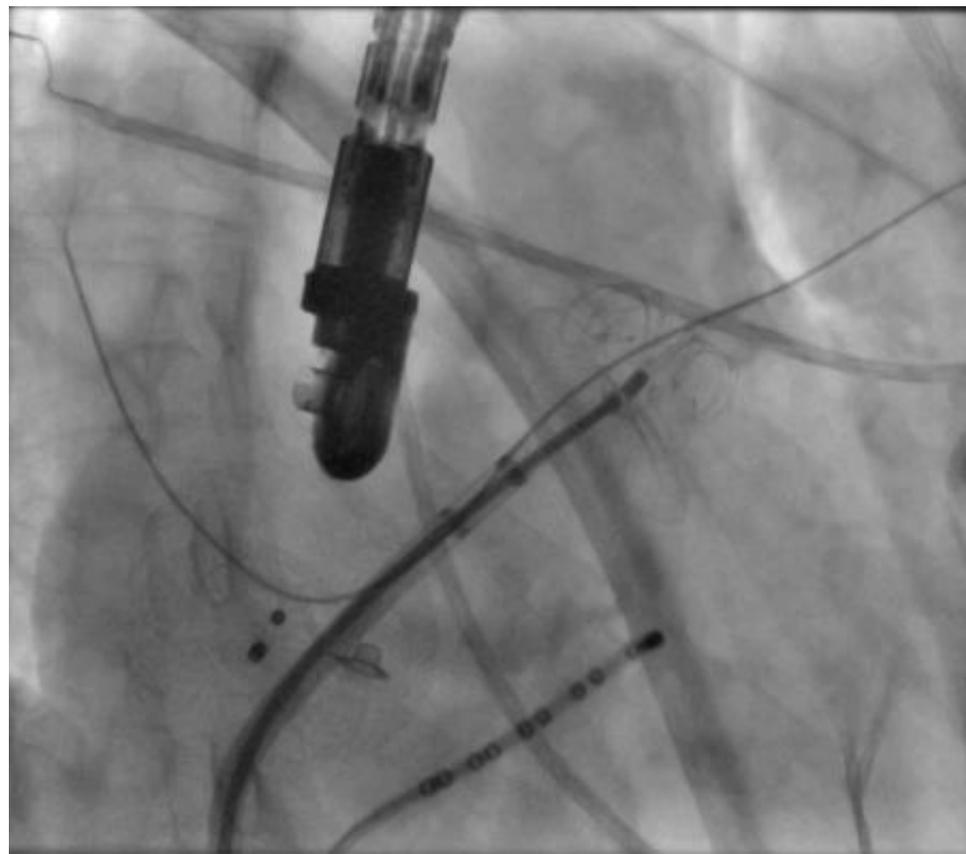
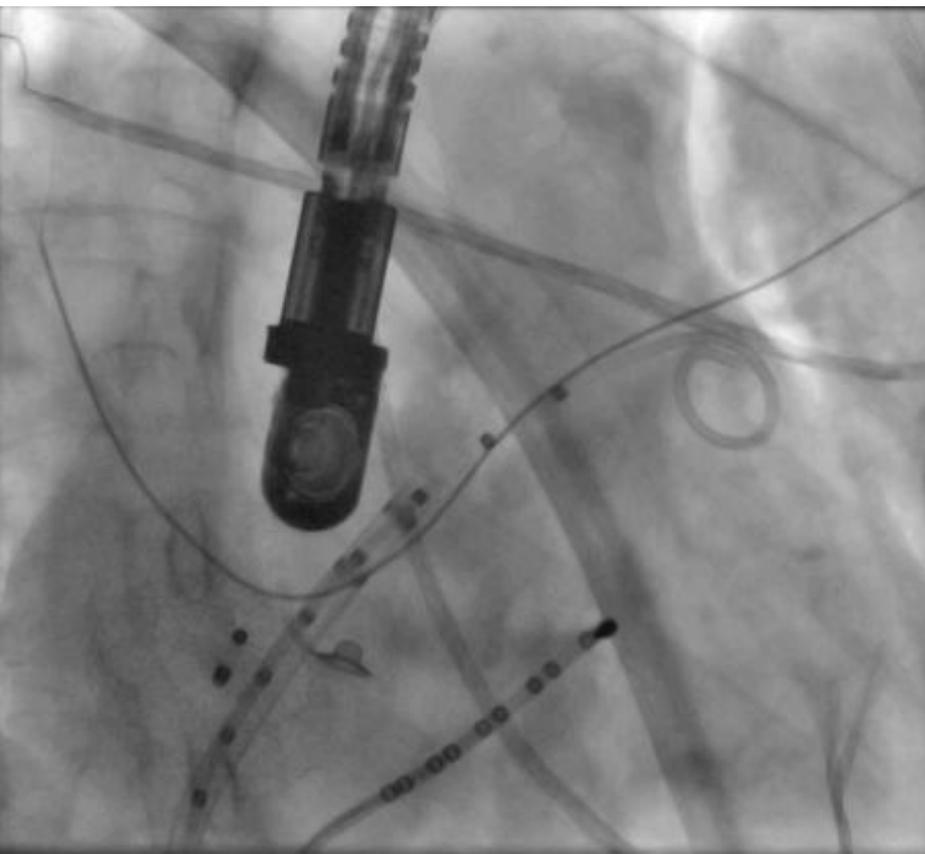
# You can always get back in!

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Kevin P Walsh  
UCD Full Clinical Professor,  
Consultant Cardiologist (Congenital Heart Disease)  
Beacon Hospital



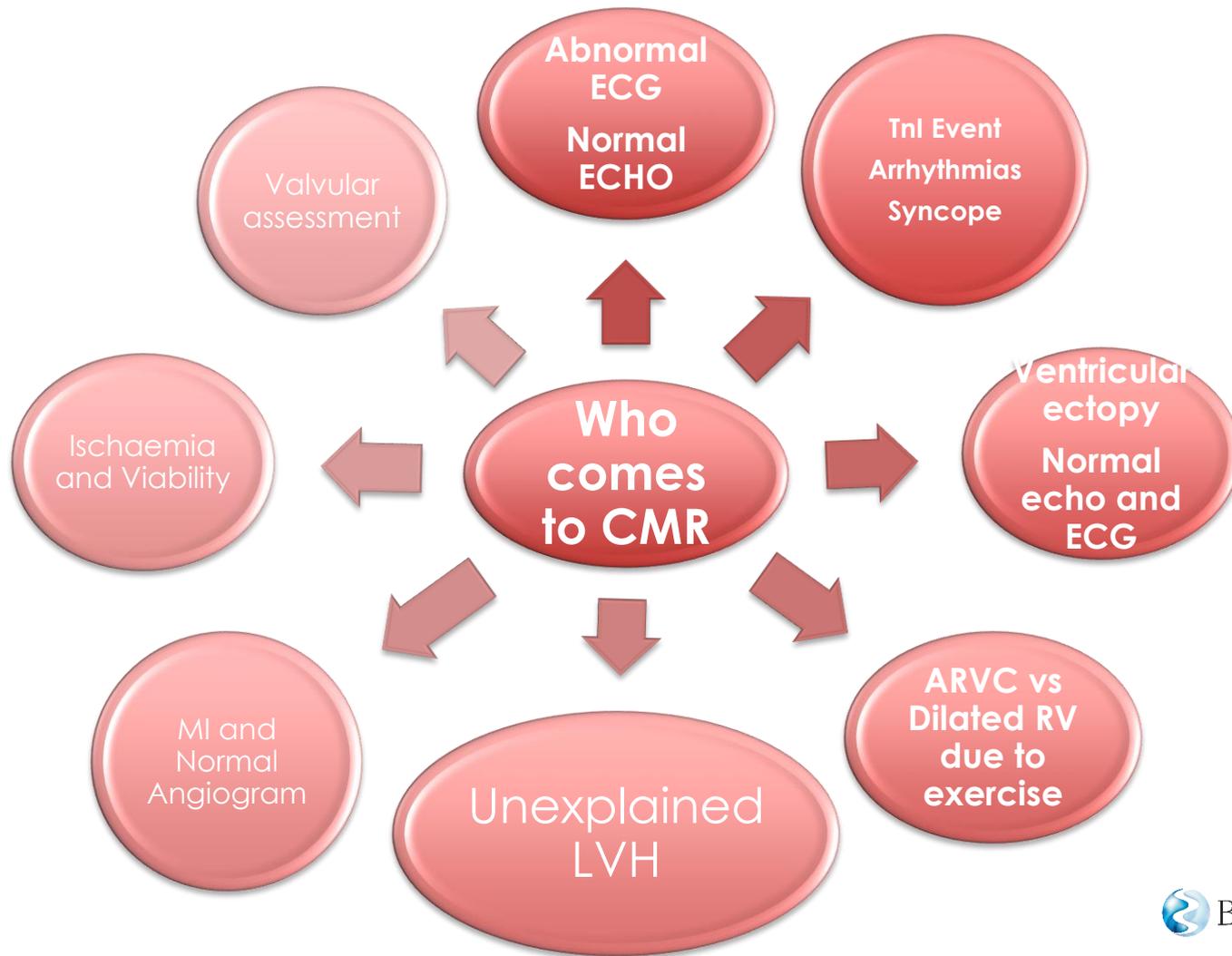


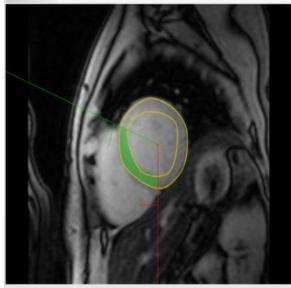
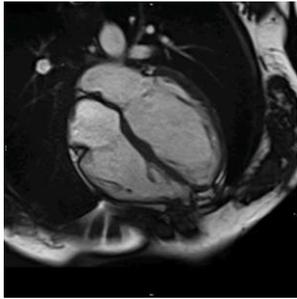


# CMR in Daily Clinical Practice

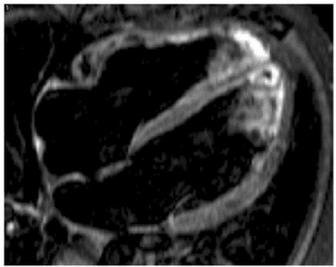
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Dr Deirdre Waterhouse  
Consultant Cardiologist (Imaging & Heart Failure)  
Beacon Hospital  
Centre for Cardiovascular Magnetic Resonance

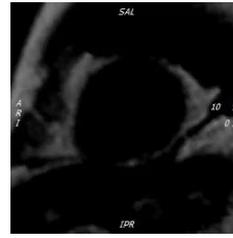
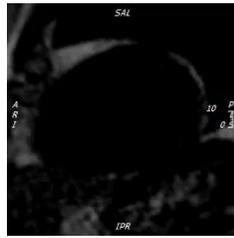




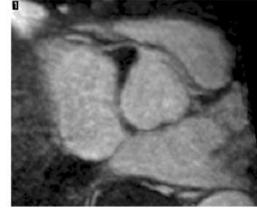
**T2\* Iron**



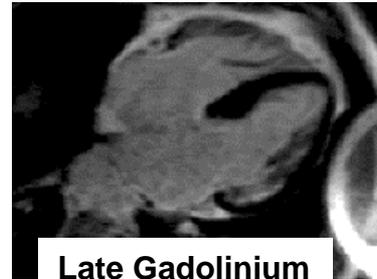
**STIRS**



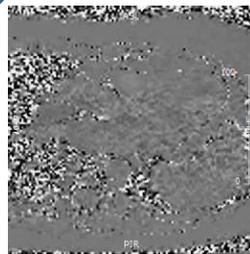
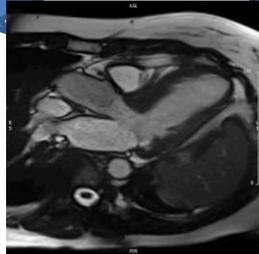
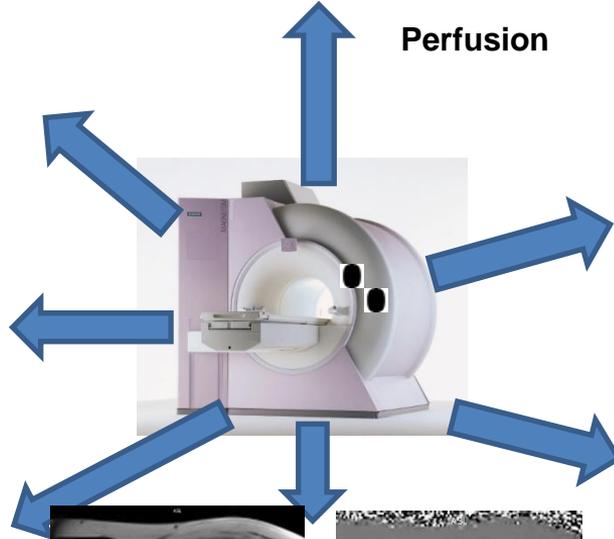
**Perfusion**



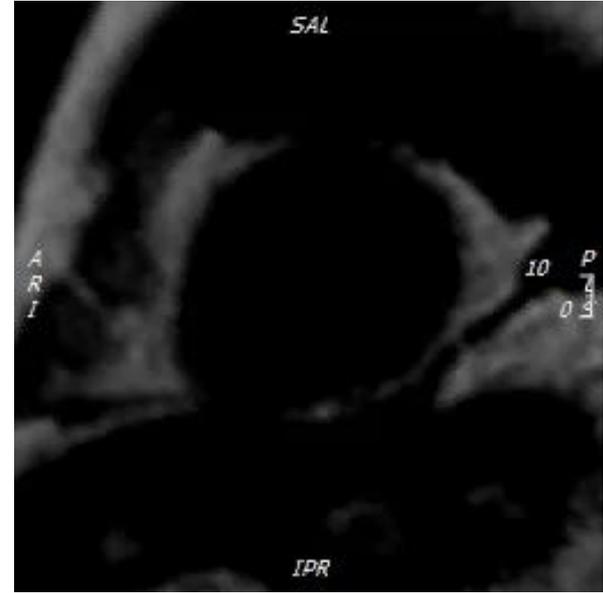
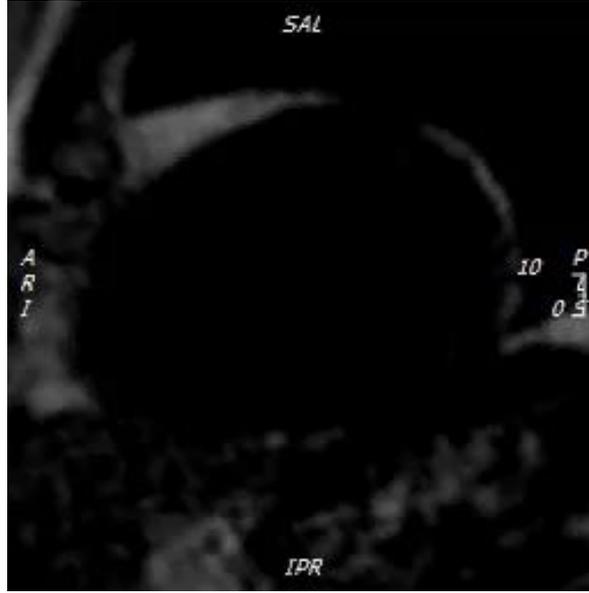
**Proximal Coronaries**



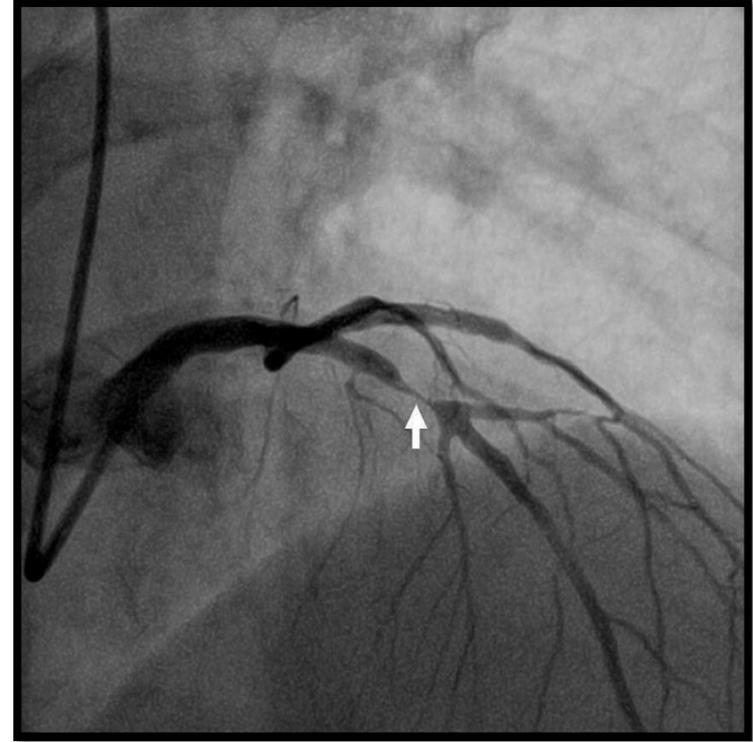
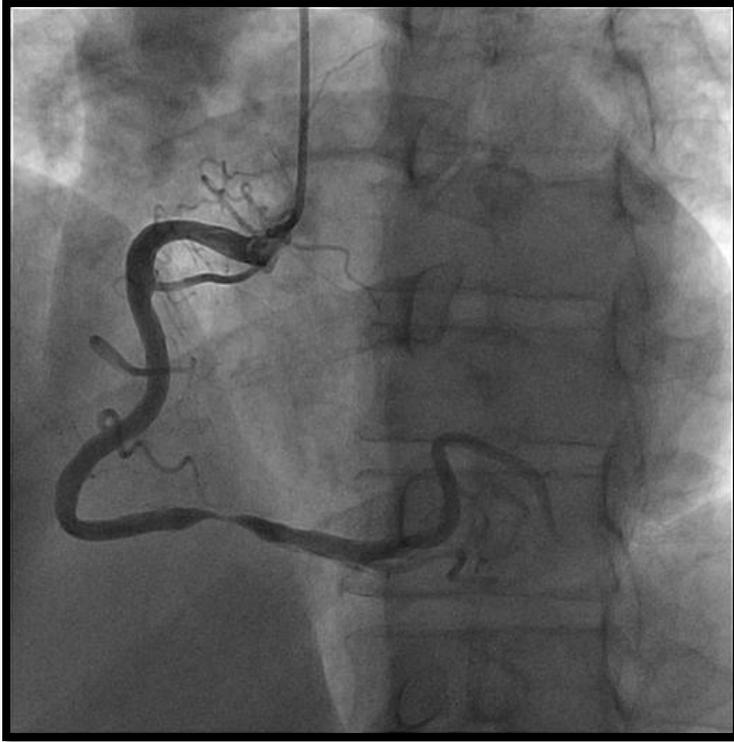
**Late Gadolinium**

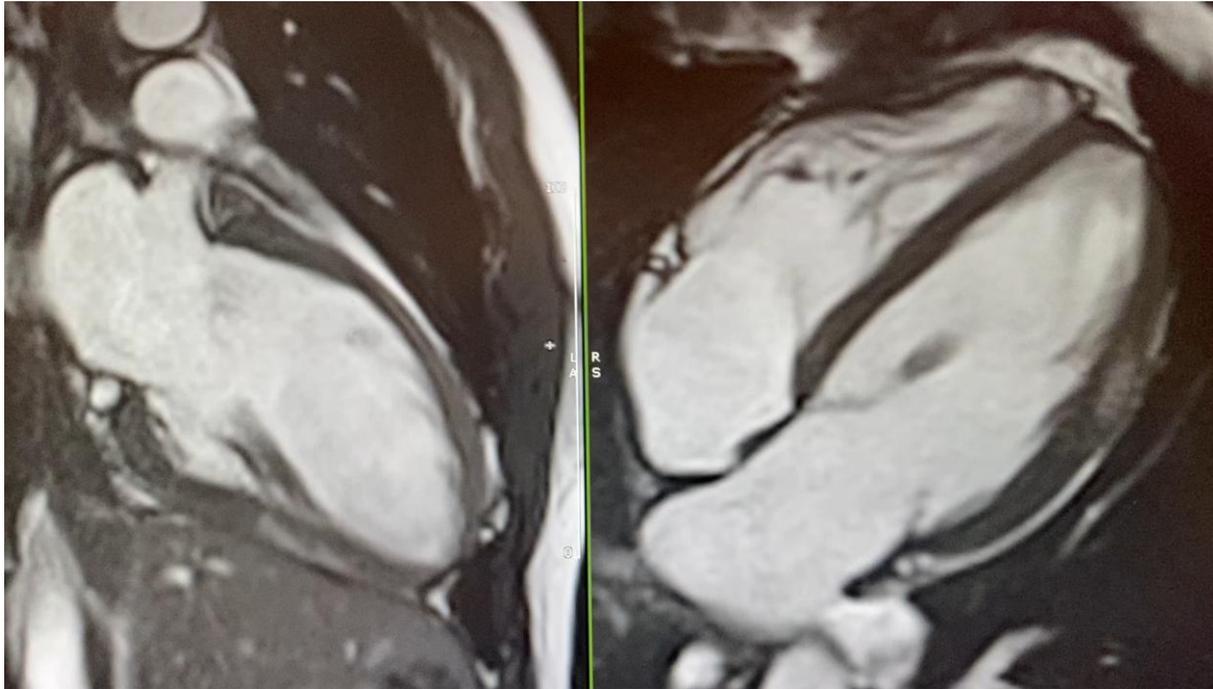


**Flow Mapping**

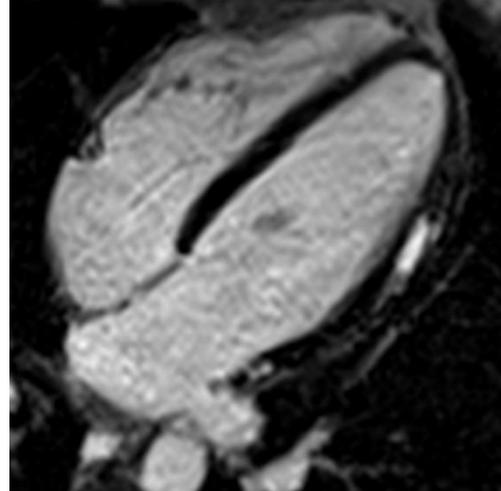
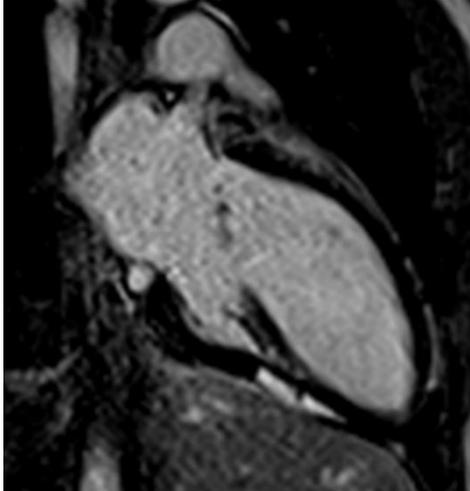
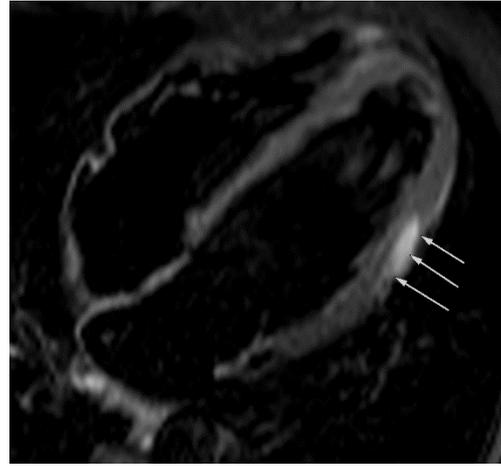
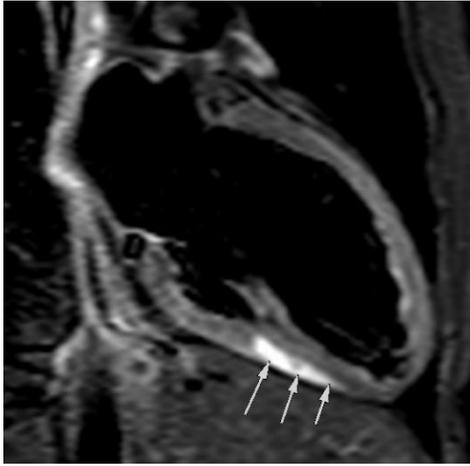


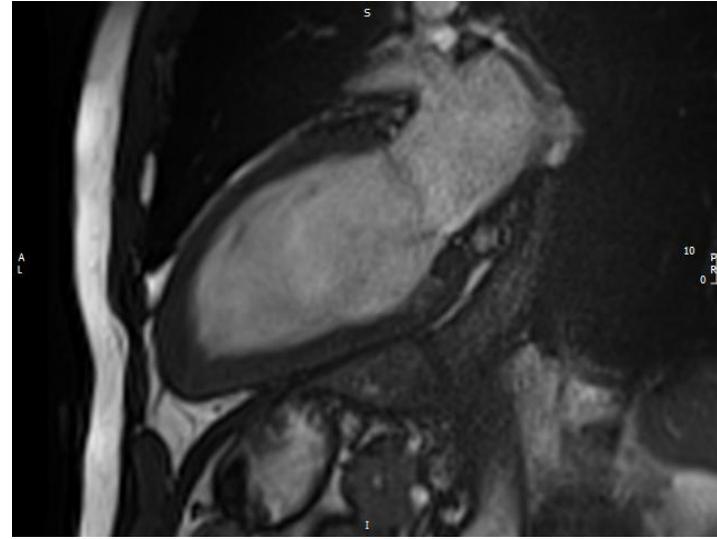
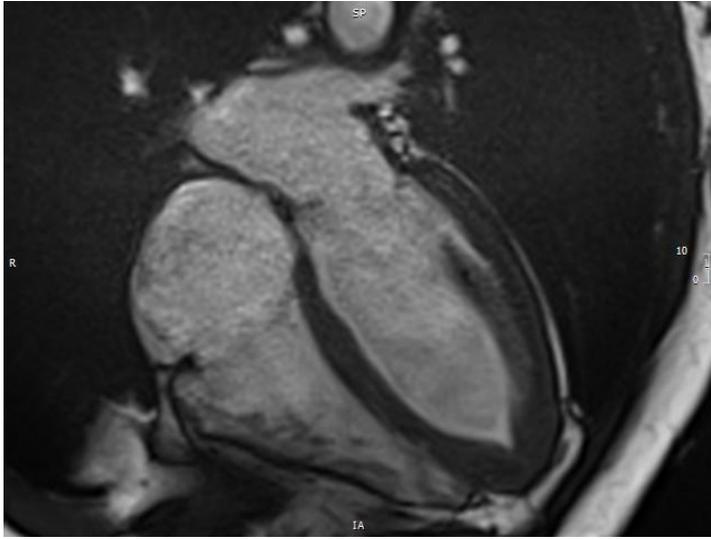
- 62 year old male
- Lockdown life changes
- Fam hx, LDL 3.8, BP 141/81 on 24 hr BP
- Slight disproportionate unexplained fatigue in afternoons
- Worried re family hx





22 Year old. Tnl positive chest pain.  
Recent COVID.





- 51 year high level runner
- Sinus brady 46bpm but significant TWI throughout
- Normal echo

## In summary – who should you consider for CMR in the community

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Family hx SCD- was it an MI? Could it have been cardiomyopathy or anomalous coronaries?

Frequent ventricular ectopy- despite a normal echo

Unexplained LVH- on echo or ECG

Suboptimal echo- ie valvular assessment

Syncope

Unexplained LV or RV dilatation/enlargement

Post MI

MI with normal coronary arteries (MINOCA)

Post myocarditis

Pericardial assessment

Aorta assessment (no radiation)

It is **not** a good screening test for non obstructive CAD/early atheroma. CMR detects ischaemia.

# Heart Failure Management

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Rebecca Mc Donnell

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THIS IS MODERN MEDICINE

# Suspected Heart Failure (HF) - Rapid recognition and treatment is key

## Patient History

Medical/Surgical/Family

CAD, HTN, MI, Valvular disease, cardiotoxic drugs, atrial fibrillation, COPD, Diabetes, family history of cardiomyopathy, alcohol excess, sleep disordered breathing...

## Clinical Assessment

Signs & Symptoms

Dyspnoea (PND or Orthopnea) Fatigue, decline in exercise tolerance, fluid status, raised JVP, congestion on auscultation, Oedema to lower limbs and/or abdomen, Laterally displaced apex beat, weight status (>2kg/2 days), cough....

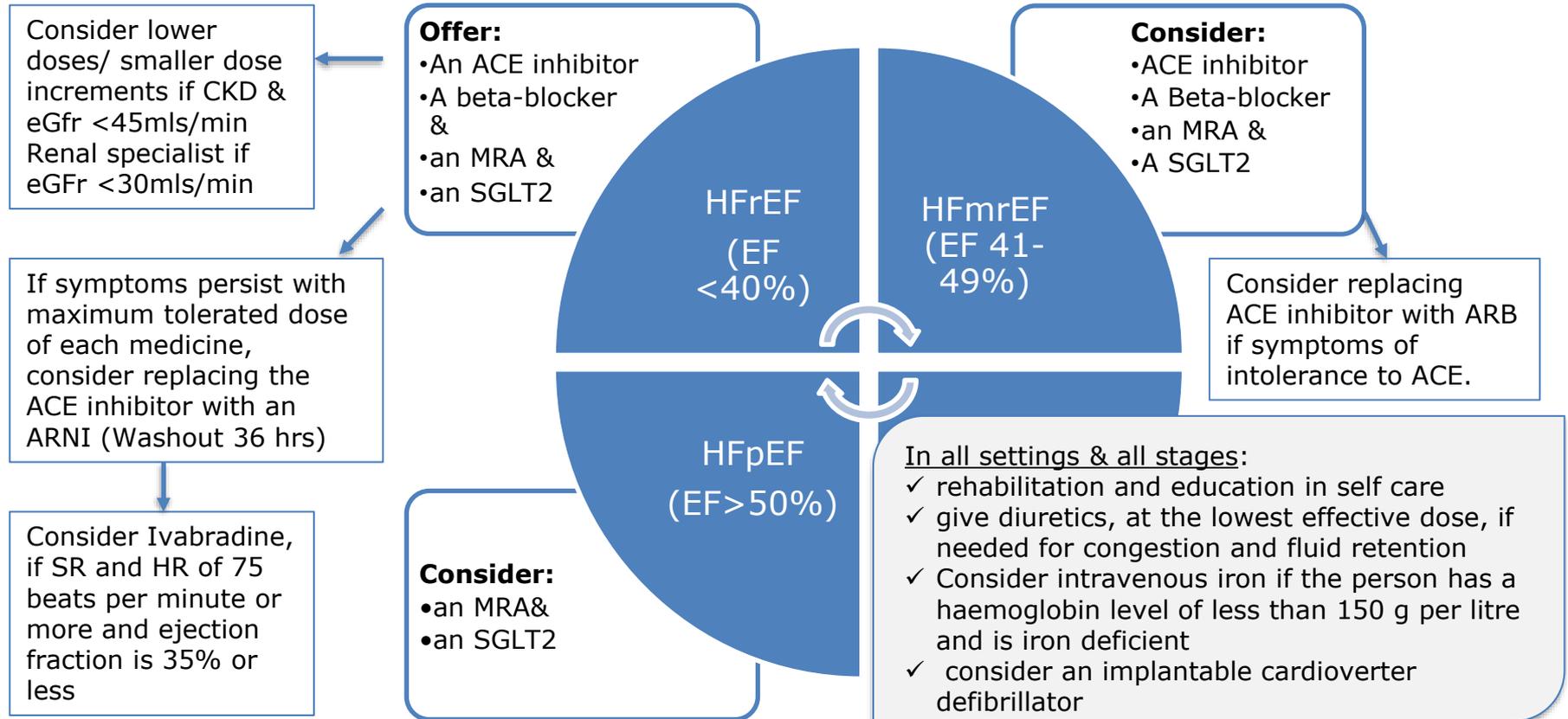
## Diagnostics

If HF is suspected

- **NT-proBNP**; Referral to HF specialist in 2 weeks & ECHO if >2,000 ng/l. If 400-2,000ng/l- 6 weeks with ECHO and or further diagnostics.
- Renal panel, K+, FBC, TFTs, LFT's, HbA1c, lipid profile. Peak flow or spirometry. 12 Lead ECG.
- Consider CXR: Pulmonary congestion, Cardiomegaly

NICE, 2025 & ESC, 2023

# Management of heart failure by classification



# The fantastic four for HFrEF

## SGLT2 inhibitors

Empagliflozin 10 mg  
once daily  
Dapagliflozin 10mg  
once daily

Monitor for:  
UTI/(thrush),  
volume depletion,  
DKA,  
hypoglycaemia.  
**Sick day rules**

## Beta-Blockers

Bisoprolol  
Metoprolol  
Atenolol  
Nebivolol

Bradycardia,  
Arrhythmia exercise  
intolerance,  
Erectile dysfunction.

## MRA

(Mineralocorticoid receptor  
antagonists)

Spironolactone,  
Eplerenone.  
Block hormones  
causing fluid  
retention; reduce  
scarring/remodelling.

Hyperkalaemia  
Gynaecomastia  
Mastodynia

## ARNI

(Sacubitril/Valsartan)

Entresto  
Improves renal  
blood flow by  
inhibiting renin and  
aldosterone

Dizziness.  
Postural  
hypotension.  
Renal impairment.  
Electrolyte  
imbalance.

## Heart Failure pathway for HFrEF patients

- All Beacon Hospital consultants have direct access to Heart Failure clinic referral
- Initial patient review as an in-patient. Education and care plan with resources
- Aim to commence all four GDMT during admission
- 2 weeks following discharge - Heart Failure clinic appointment
- Regular check in with patient via telephone
- Review patient with bloods 1-2 weeks after each dose increment
- Review every 3 months after max dose tolerated
- If patient continues to be symptomatic and not tolerating initial therapies - relook and refer
- I offer to refer all my heart failure patients to "Heart Connect"

# Cardiac Rehab

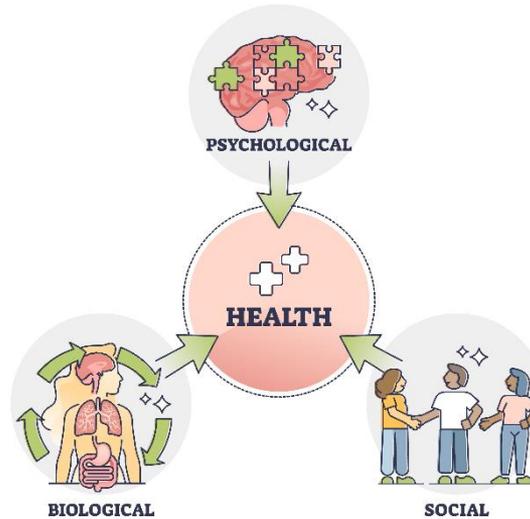
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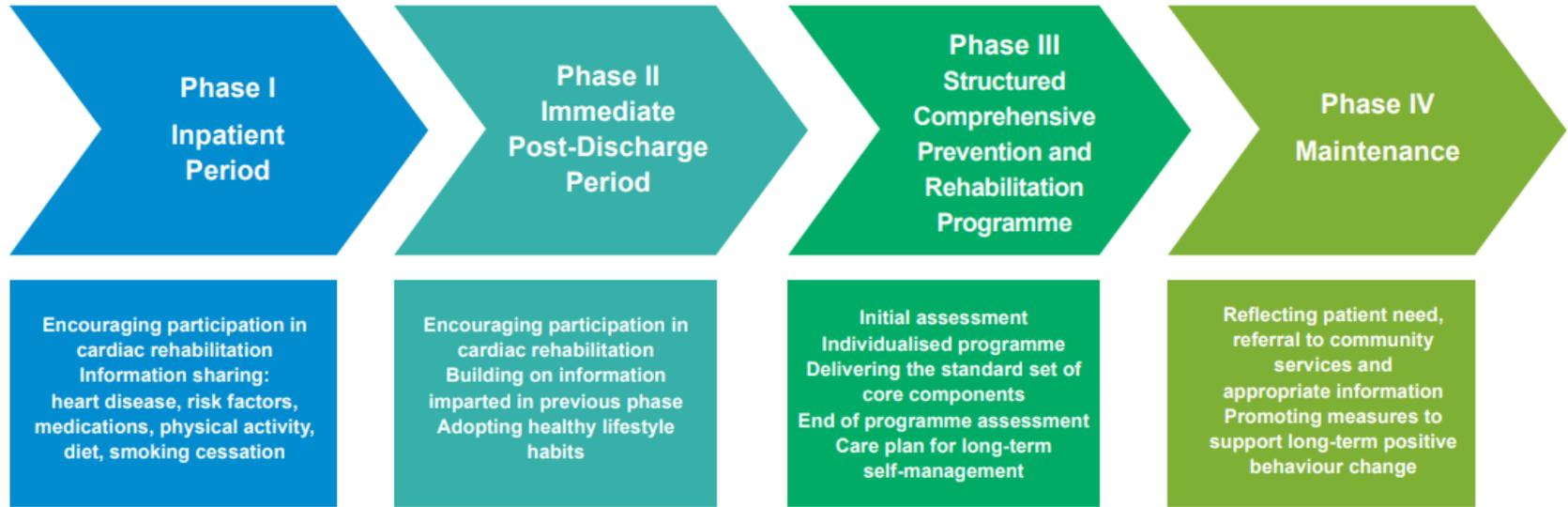
Niamh Dillane

Senior Cardio-Respiratory Inpatient Lead &  
Cardiac Rehab Co-Ordinator, Beacon Hospital.

# What is Cardiac Rehab?

The coordinated sum of activities required to influence favorably the underlying cause of cardiovascular disease, as well as to provide the best possible physical, mental and social conditions, so that patients may, by their own efforts, preserve or resume optimal functioning in their community and through improved health behavior, slow or reverse progression of disease.





- The “National Framework for the Integrated Prevention and Management of Chronic Disease in Ireland” recommends cardiac rehab as an integrated, end-to-end pathway for the prevention and management of chronic disease in Ireland.

## Phase 3- Cardiac rehab classes

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- Irish Association of Cardiac Rehab Registry
  - [2026-IACR-Outpatient-Cardiac-Rehabilitation-Services-Directory-Final.pdf](#)
- Beacon Hospital Cardiac Rehab Service:
  - Pre and post class block assessment
  - 12 classes over 6 weeks
  - Personalised exercise program
  - Education sessions
    - Managing stress
    - Exercise for cardiac health & behavior change
    - Cardio-protective diet
    - Managing medications
    - Lifestyle change (smoking cessation, alcohol consumption, weight management)

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# Thank you