

Recognition of Failure and VAD options



CLAIRE MCGRAITH

**CHILDREN'S VAD AND HEART FAILURE
NURSE SPECIALIST**

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Heart Failure



- The heart's inability to pump sufficiently to maintain blood flow to meet the demands of the body

Diagnosis



- Tachypnoea
- Poor feeding
- Sweatiness with feeds
- Poor weight gain

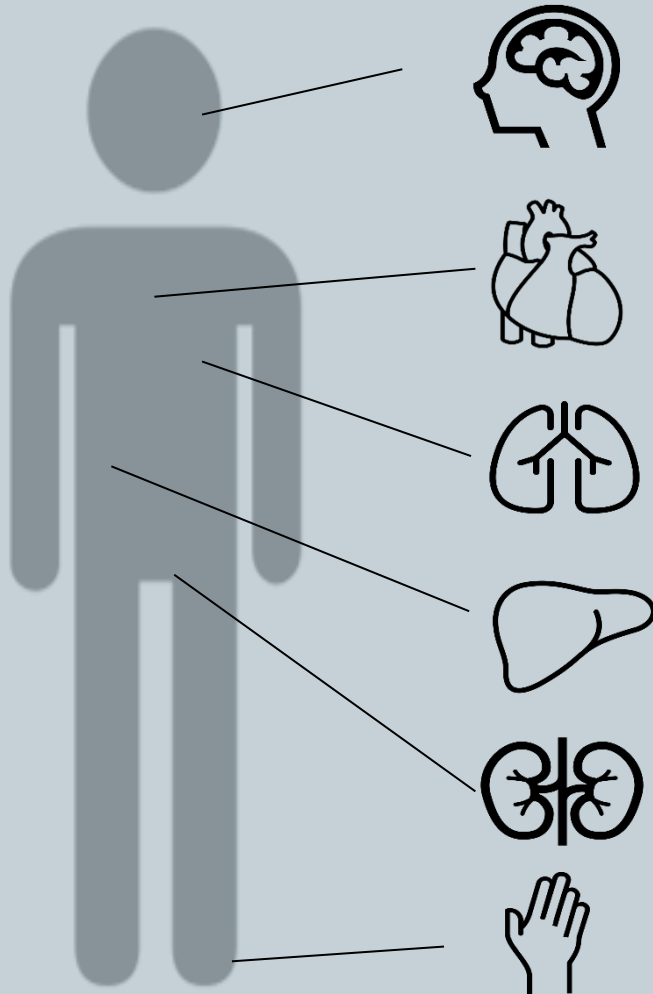


- Malaise
- Tiredness
- Recurrent cough
- Vomits
- Abdominal pain



- Tiredness
- Recurrent cough
- Palpitations/ Syncope
- Vomits
- Abdominal pain
- Oedema

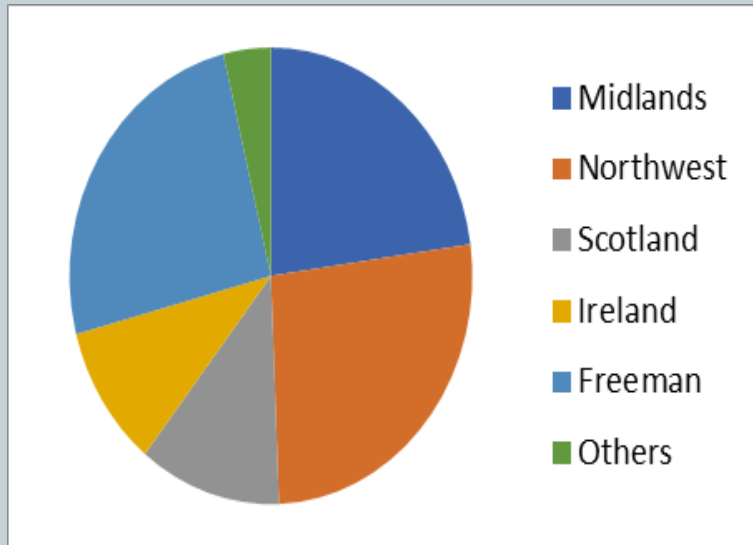
Diagnosis



- Hypotonia
- Tachycardia
- Gallop rhythm
- Tachypnea
- Increased WOB
- Basal crackles
- Hepatomegaly
- Systemic venous congestion

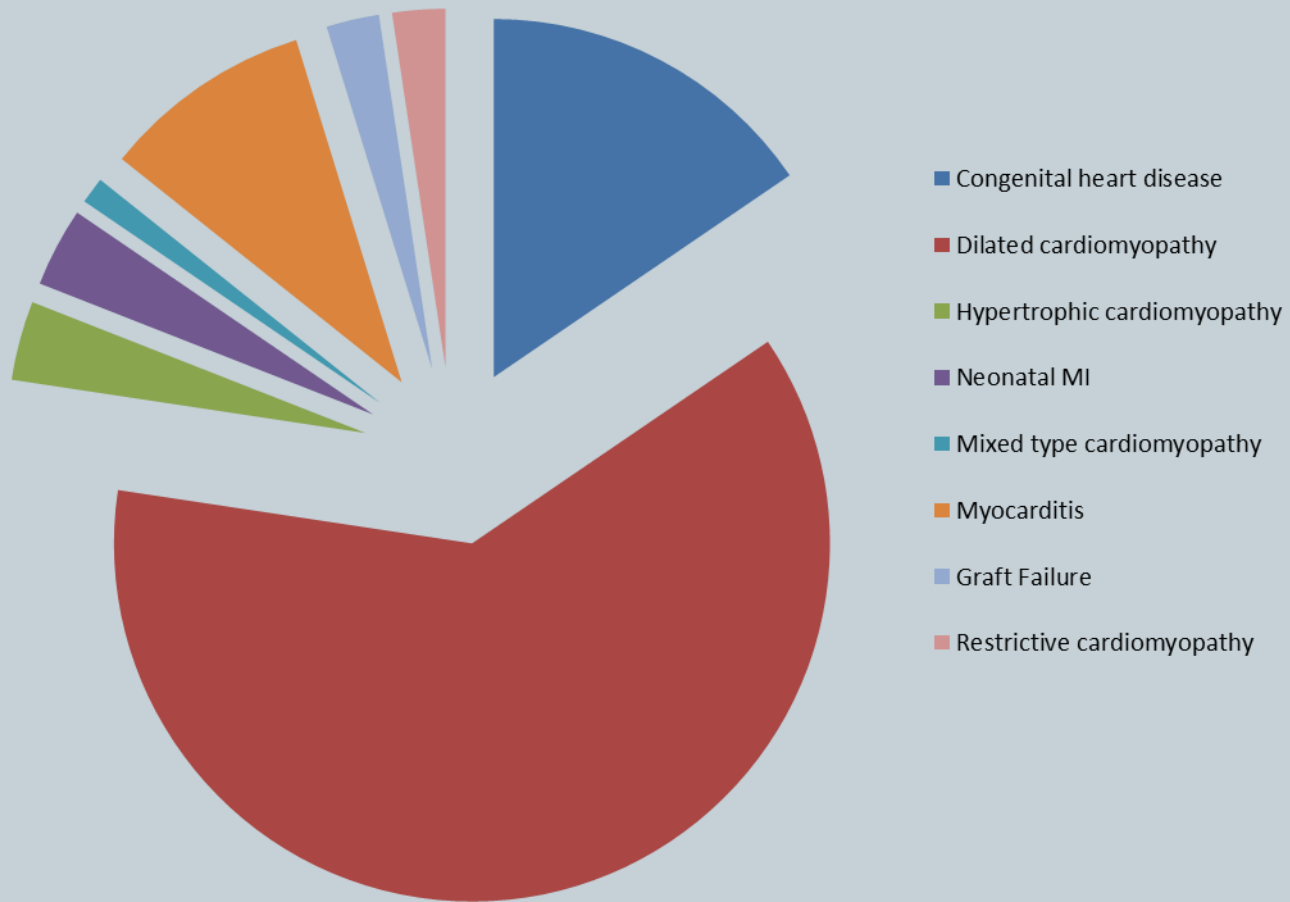
- Oligoanuria
- Pallor/ Poor perfusion
- Faint pulses

Where do our heart failure referrals come from?



Region	2016	2017	Total
Midlands	7	11	18
Northwest	8	13	21
Scotland	4	5	9
Ireland	3	5	8
Freeman	9	11	20
Others	0	3	3
Total	31	48	79

Diagnosis



Why do we need mechanical circulatory support in paediatrics



- Prevalence of heart failure in children caused by either CHD's or cardiomyopathies is 164-480 per million children
- The number of patients requiring heart transplants outweighs the donor availability.
- In the paediatric population, MCS is used mainly as a bridge to transplantation, but can be used as a bridge to recovery in patients with acute myocarditis or following open-heart surgery.
- 47 % of paediatric patients listed for transplant have a VAD.
(Freeman Hospital 2012-2018)

What kind of VAD is available?



Which VAD??



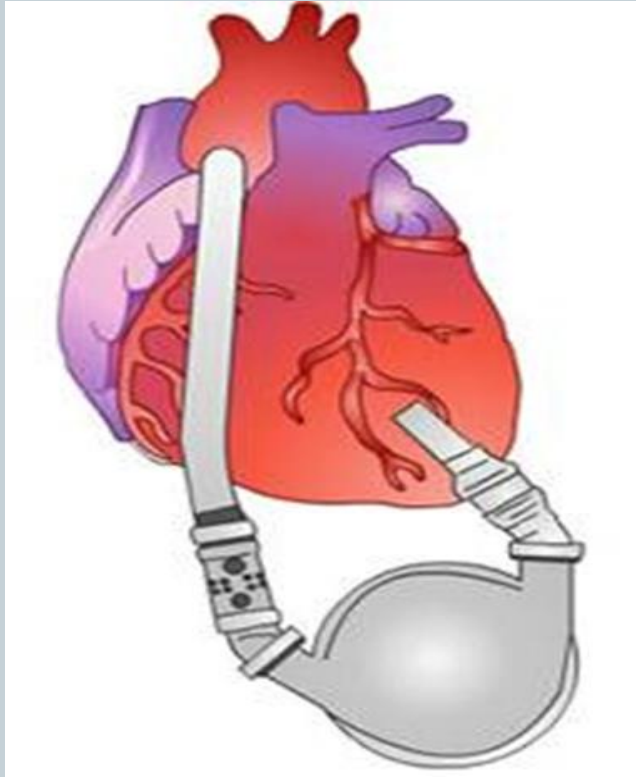
- Age
- Support
- Long term or short term device

Levitronix



- Short and medium term VAD
- Continuous flow pump
- No oxygenator
- Berlin Heart cannulae
- Once inflammatory response settles and antiticoagulants – change to BH ventricle

Berlin Heart Excor Pump



- Long term VAD
- Paracorporeal
- Pulsatile flow
- Support LV and RV
- Suitable for all sizes
- Choose ventricle (pump) size
- Precise control

Berlin Heart EXCOR



Stationary driving unit 'Ikus'



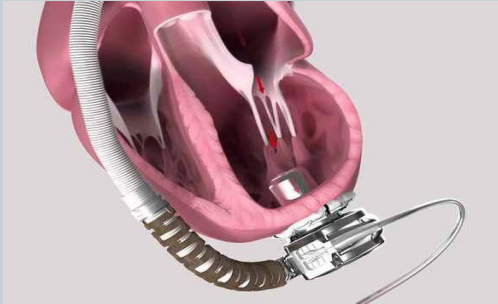
Mains power



Pump

Pressurised air driveline

Heartware



- Long term VAD
- Can only have LV support
- Continuous flow device
- One size – 20kgs
- Aim for discharge home
- Once stable routinely listed for transplant

Heartware



Contact



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