

# Managing patients with a Levitronix Ventricular Assist Device ( VAD) outside of the Intensive Care Environment

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# Outline

- Clinical setting
- Artificial heart programme
- What is a levitronix assist device and how does it work
- Drivers for change
- Consultation process and Training
- Clinical protocol
- Outcomes and What next



Imperial College Healthcare NHS Trust  
Welcome to  
Harefield Hospital

# Royal Brompton and Harefield NHS Trust

- 2 sites
- Largest specialist Heart and Lung centre in the UK
- Largest artificial heart programme in the UK
- 2500 transplants carried out since 1980



# Transplant Unit

- 30 beds including 8 Level 2 beds
- Admitting patients with end stage heart and lung failure
- Heart and lung Transplant
- Long term management of post transplant patients
- Palliative Care
- Insertion of ventricular assist devices

# Clinical Interventions

- Inotropic therapy
- Non invasive ventilation
- Intra aortic balloon pump
- Haemofiltration
- Immunoabsorption therapy



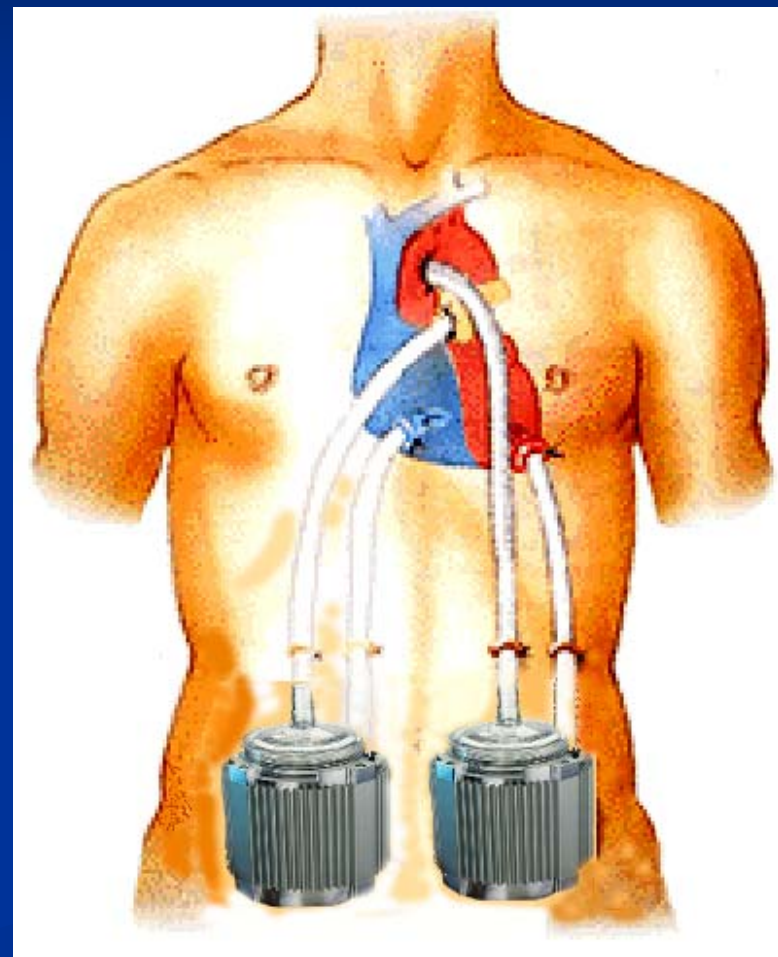
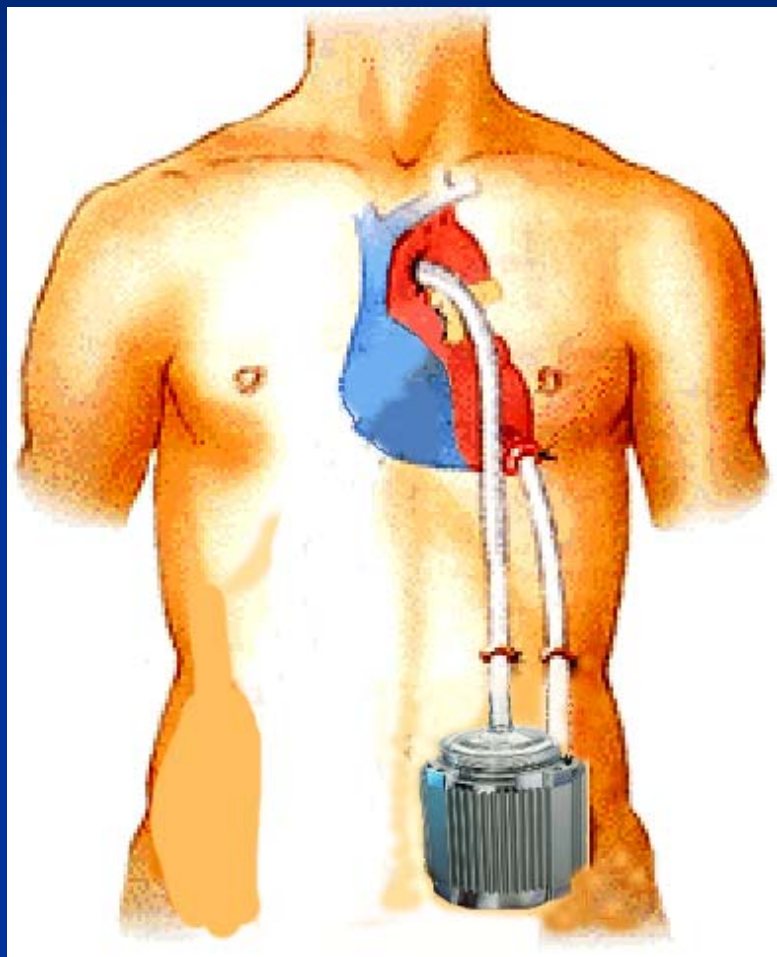
# Artificial Heart Programme

- Programme Led by Dr Emma Birks
- World wide recognition for her myocardial recovery programme.

Emma J. Birks, M.R.C.P., Ph.D., et al. (2006) Left Ventricular Assist Device and Drug Therapy for the Reversal of Heart Failure. *The New England Journal of Medicine*. 355: 1873- 84.

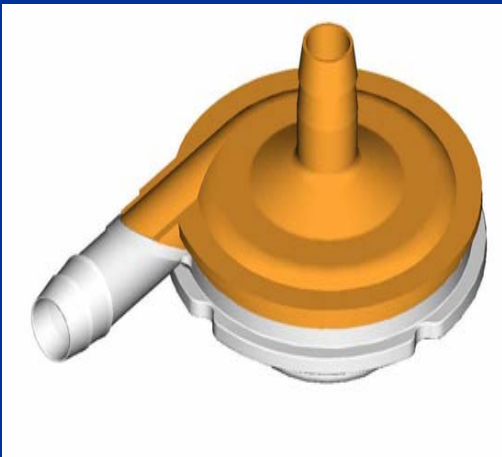
# Levitronix

- Can be right ventricular, left ventricular or both
- Can be used in conjunction with other VAD
- Short term device
- Bridge to :
  - Decision
  - Transplant
  - Long term device
  - Recovery
- Post cardiac surgery or transplant



# How does it work

- External device
- Centrifugal
- Magnetically Levitated impeller
- Continuous Flow



# Drivers for change

- Increasing numbers of level 3 beds used for levitronix patients
- Impact on other surgical activity
- Patient experiences



# Consultation Process

- Only centre in the world to nurse Levitronix patients outside of the ITU.
- Meetings
- Analysis of financial implications
- Draft Protocol
- Training programme



# Training

- Bedside training.
- ITU placement
- Competencies and Quiz
- 'Hands on' training for emergency procedures
- VAD Tutorials
- Initially band 7 and 6 trained

# Admission Protocol

- Single organ failure
- Haemodynamically stability ( rhythm, MAP and flows)
- No respiratory support (except low flow oxygen)
- Single stable dose or weaning inotrope
- Stable anticoagulation history
- Previous successful mobilization
- Alert and orientated

# Admission Guidelines

- Discharge agreed by VAD Consultant, ITU Consultant, Perfusionist, Sister/ Charge Nurse ITU and Transplant Unit
- No out of hours or weekend admissions
- Levitronix patients nursed on a one to one basis ( ensure safe staffing levels for next 72 hours)
- Daily review by VAD consultant and Outreach team.

# Other Considerations

- HDU bed, cardiac and invasive monitoring
- Large bed space, consoles and back up console
- Adequate staff (2 VAD nurses, physio, and Nurse) required for mobilization
- On call technical support



# Outcomes

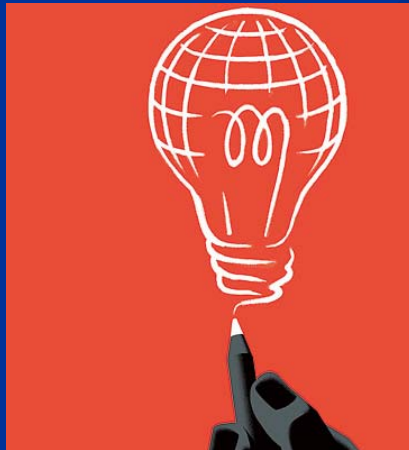
## June 2007 - June 2008

- 12 patients (9 survived to discharge)
- Psychological benefits to patients:
  - Improved sleep pattern
  - Quieter environment
  - Less anxious
  - More flexible visiting hours
- No adverse incidents
- Staff experiences
- 381 ITU bed days saved



# What next

- Quantitative and Qualitative study to assess patient experiences
- Improve service from patient stories



# Acknowledgements

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- Mandy Hipkin Practice Educator Transplant Unit

**THANK YOU FOR LISTENING**

**ANY QUESTIONS ?**

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