NO RELATIONSHIPS TO DISCLOSE

My wife doesn't even like me!
Modalities of Heart Failure Support

Options?

Percutaneous MCS Devices

- A. IABP
- B. ECMO
- C. TandemHeart
- D. Impella


#heartfailure2015 www.escardio.org/HFA

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Dr. Gibbons

1953 We’ve come a long way baby!
I’d Like to Help, but… You Need ECMO, Not Elmo.

ECMO VA vs. VV
Difference?
ECMO Manufacturers

Getinge Maquet offers the Quadrox Oxygenator and the Cardiohelp system.

Liva Nova
Tandem Heart System
Liva NovaTandem Heart System

The cannula can be performed through a minimally invasive percutaneous procedure.

Medtronic System
Cannula options

What do you need to do?
Exclusion Criteria

*Our experience has shown*....

**Absolute Contraindications**
- Advanced age (> 75 years)
- Prolonged ventilation for > 7 days or high airway pressure and/or high FiO2 > 7 days for VV-ECLS
- Established multi-system organ failure with (Sequential Organ Failure Assessment (SOFA) Score > 15) for respiratory and cardiac support. SOFA Score Calculator
- Contraindication to systemic anticoagulation
- Inability or refusal to accept blood transfusion
- Quadriplegia
- Bone marrow transplant recipient
- DNR/DNI status

Inclusion Criteria

**Criteria for VV-ECLS, VA-ECLS & ECPR Therapies**
- Age 18-75 years
- Weight ≤ 125 kg or BMI ≤ 40 kg/m2
- Known life expectancy > 1 year
- Lack of chronic disease(s) contributing to morbidity

**Cardiogenic Shock**
- Cardiogenic shock is demonstrated by: SBP < 90 mmHg or MAP < 65 mmHg for more than 30 minutes
- Need for inotropes, vaspressors, or a form of mechanical circulatory support (IABP, Impella, etc.) to maintain SBP > 90 mmHg
How do we WEAN? What is the ventilator’s role?

V-V ECMO
Once ventilation (pO2 + pCO2) is improving –

**DECREASE FIO2** – does the pt. pO2 change?

**DECREASE SWEEP** – does the pt. pCO2 change?

(sweep can go to zero ml/min flow)

**KEY – BLOOD FLOW RATE DOESN’T MATTER AS MUCH!**

V-A ECMO
Once cardiac function is improving –

**DECREASE BLOOD FLOW** – does the pt. BP change?

**DECREASE FIO2** – does the pt. pO2 change?

(never go below 60% FiO2)

**DECREASE SWEEP** – does the pt. pCO2 change?

(never go below 500ml/min flow)

ECMO is still in its Infancy
Thank You

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