

CPB FOR PATIENTS BEING SUPPORTED ON ECMO

CPB For ECMO Patients

ECMO

- ? “Static” Procedure
- ? Only in ICU

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ECMO & DIAGNOSTIC PROCEDURES

1. ICU

- * Xray
- * ECHO
- * TOE
- * Bronchoscopy
- * Surgery

2. REMOTE SITE

- * Catheterisation
- * CAT Scan
- * Surgery

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At Remote Site.....

- Cardiac Catheter
- CAT Scan
- Initial Surgery
 - * HTx
 - * Lung Tx
 - * Valve Replacement
 - * CABGs
 - * Others
- Subsequent Surgery

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Moving An ECMO Patient : Issues

- Decannulation
- Bleeding
- Flows
- Emboli

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Technical Problems (I)

- Catheterisation Lab
- CAT Scan Lab

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Technical Problems (II) - O.R.

- Cardiotomy & Vent Return
- Patient Temperature Management
- Air Management

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Solution

- Prepare New Reservoir (H.E.), Tubing & Connectors
- Prime and De-Air
- Interrupt ECMO & Insert Reservoir
- Resume ECMO
- Surgery
- Wean (or Resume ECMO & Exclude Reservoir)

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CASE 1

- J.W. 6 days 2.5 kg ↙
- TAPVD
- Full Surgical Repair
- Init. OK in ICU but Deterioration - ECMO
- After 48 hr. Unwean. - Cath. Lab - RULPV Obstruction
- Theatre and Conversion to CPB
- Relief of Obstruction
- Weaned Successfully

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CASE 2

- A.B. 9 wk. 3.66kg ♂
- CAVSD; T. of F.; Hypo RV & P.A.'s; LVOTO
- Full Surgical Repair
- Init. OK in ICU but Deterioration - LVAD - ECMO
- After 1wk Unwean. Severe LVOTO; MR; RVOTO
- Theatre and Conversion to CPB
- Relief of OTO
- Weaned Successfully

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- A.B. (cont.)
- In ICU OK but Then Deterioration - ECMO
- After 2/365 RVOTO & RV Failure
- Theatre and Conversion to CPB
- Relief of RVOTO - Homograft Insertion
- Not Weaned
- Bleeding +++++
- Support Withdrawn

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R.C.H. Experience

- 4 Patients to OR For Sx: 5 Occasions
- 3 of 5 Weaned From ECMO in OR
- 1 of 5 Weaned From ECMO 36 Hours Post Sx
- 3 of 4 Patients Survived ALL ECLS

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Tips for Beginners.....

- Safety
- Adequate Staff
- Discuss / Plan, Before & After

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Conclusion

- Perfusionist May Hold One of the Few Keys to Patient Survival
- Use One Oxygenator
- Provide Solutions to ALL Technical Challenges