

CARDIOLOGY
2025 ❤️

MIRACLE ON MILLER STREET

Surviving Shunt Occlusion

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HOPE. HEAL. LEARN.



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Objectives

- Discuss single ventricle physiology and surgical intervention
- Discuss systemic to pulmonary artery shunts and shunt occlusion including treatment and management
- Discuss patient outcomes following prolonged cardiac arrest

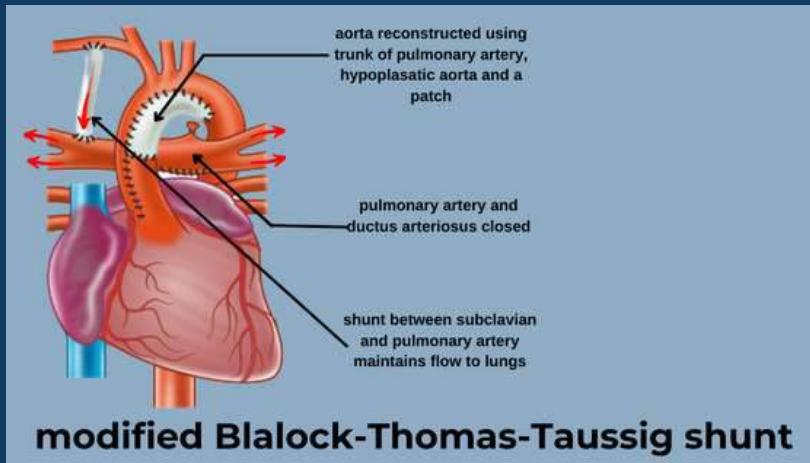
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I have no financial interests or disclosures

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Norwood Operation

- Coarctectomy
- Aortic arch augmentation
- Creation of DKS
- Atrial septectomy
- 3.5mm right mBTT shunt
- Ligation and division of PDA

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April 10

- Intermittent desaturations, self resolving
- ECHO: patent mBTT shunt, patent DKS, no branch PA obstruction

April 12

- Desaturated, requires blow by oxygen
- Dehydrated, diuretics weaned

April 14

- Desaturated, escalated to nasal cannula
- Febrile

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April 15

0737 – patient dusky, desaturated 50-60%, tachycardic, limp

Rectal temperature 102F

Unable to auscultate shunt murmur

0742 - Heparin bolus given, normal saline bolus given

Desaturated 40%, unresponsive

0749 - Intubation

0751 -Loss of pulse

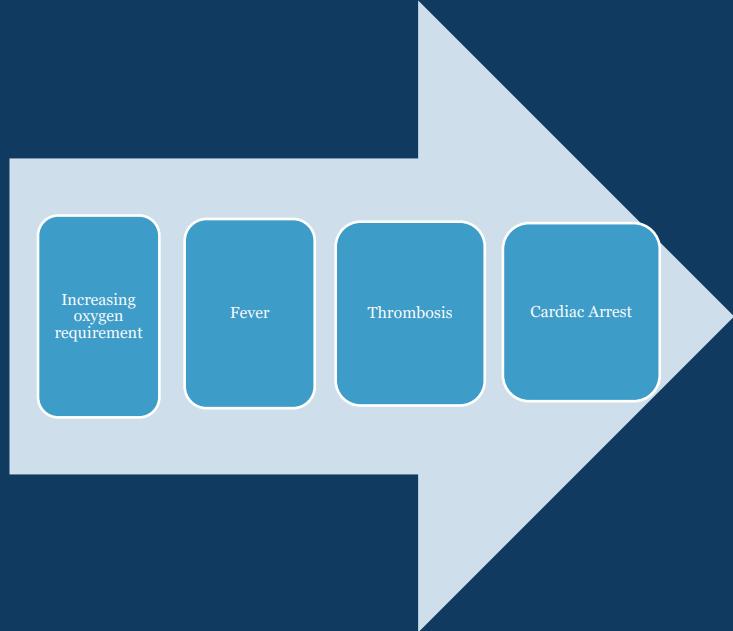
75 min cardiac arrest

0906 - Cannulation onto VA ECMO via R neck vessels

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Etiology of the Cardiac Arrest?

- ECHO post cardiac arrest suggest narrowing at the proximal end of the mBTT shunt at the subclavian artery as well as at the distal pulmonary end
- Cardiac Cath: BTT shunt unobstructed with no evidence of stenosis
- **Blood culture + Enterobacter cloacae @ 1413**



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Baby DJ is now ...

s/p Glenn procedure

11 months old

Feeding by mouth

Meeting developmental
milestones

Happy, healthy and thriving



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What worked?

- Blood culture and antibiotics at time of first fever
- Early recognition of shunt occlusion and early treatment
- Effective CPR
- Team communication

Areas of improvement

- Further investigation into oxygen requirement
- Therapeutic anticoagulation
- Remove PICC line in a timely manner
- In house staffing of surgical team



THANK YOU

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