

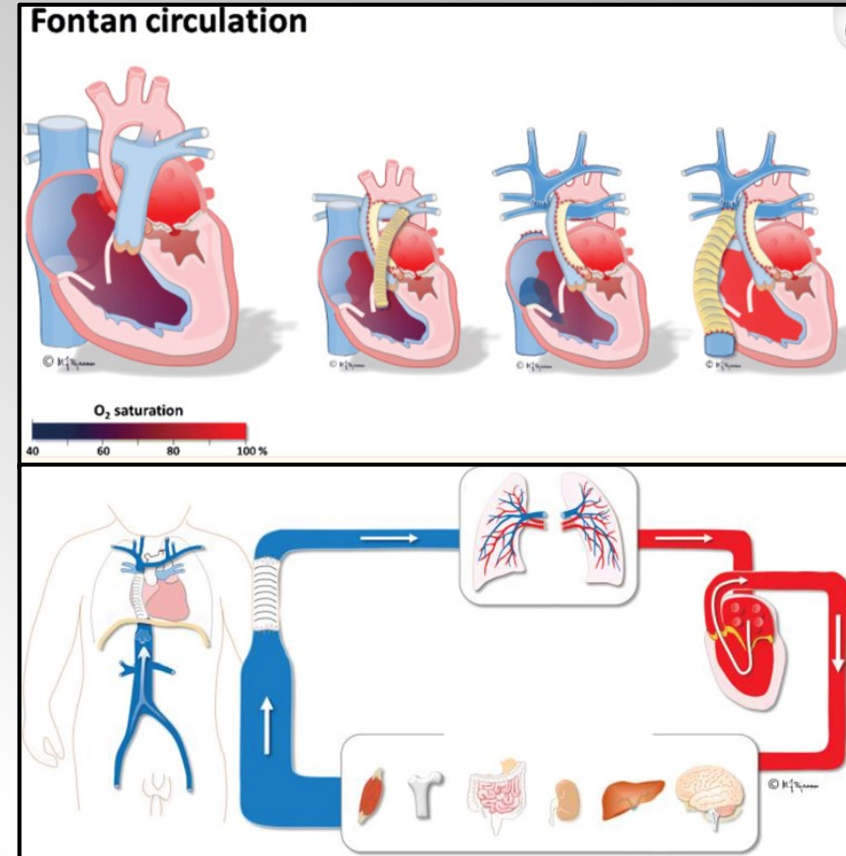
# Multidisciplinary Approach for Cesarean Delivery in a Parturient with Fontan Circulation

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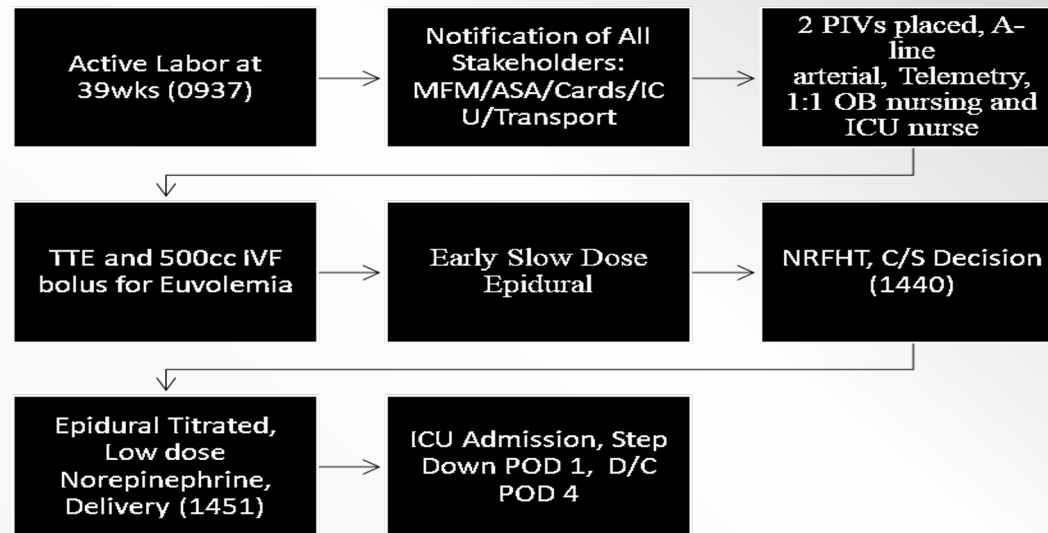
## Background:

- Fontan operation is indicated for single ventricle physiology, commonly diagnosed at prenatal evaluation or birth.
- Last of a 3-stage palliation for complete separation of pulmonary and systemic circulation.
- During pregnancy ↑ plasma ↑ cardiac output can challenge Fontan circulation.
- ↑ Risk of arrhythmias and heart failure.



# Case Events

- 31-year-old G1P0 with tricuspid atresia with single left ventricle with unobstructed Fontan circulation (NYHA Class I)
  - PMHx: occasional palpitations, nodular hyperplasia of the liver, and scoliosis.
  - Holter: Rare episodes of SVT, occasional PAC's and PVC's.
  - Medication: Metoprolol 12.5 increased to 25mg BID (w/ectopy resolved), ASA 81 mg daily.
- Early multidisciplinary meetings involved OB, MFM, anesthesia (OB & Cardiac), adult congenital cardiology, cardiology, and ICU.
- Early coordination with Children's Hospital ICU for contingent patient transportation plan.
- Delivery plan: IOL 39wks, consultations, arterial line, telemetry, and 1:1 OB nursing and ICU nurse. Lumbar X-ray and Venous Mapping Completed.



Lumbar X-ray @26wks

# Discussion

- Fontan Physiological Challenges: ↑ Risk of arrhythmias and heart failure in pregnancy.
- Heart failure and critical decompensation possible particularly in patients with poor functional status before pregnancy.
  - Additional risks: Miscarriage, pre-maturity, small for gestational age, and IUFD
- TTE/POCUS and Arterial line placement can aid in management.
- Antepartum Vascular US mapping is also helpful for potential CVC.
- Early epidural catheter placement has a desirable hemodynamic profile; but GETA has been done safely at institutions.
- Early multidisciplinary discussions can establish a care model for a delivery facility.
- With careful planning, successful delivery of parturients with Fontan circulation can be consistently achieved.

## References:

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