

## **C-22 The Baby Has Congenital Heart Disease! Can I Induce Without Nitrous?**

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### **Objective**

After completion of this session, the participant will be able to:

- Create a care plan for a pediatric patient with cyanotic heart disease presenting for a non-cardiac anesthetic case.

### **Case Stem Question**

3 year old male with inguinal hernia presents for surgical repair. His vital signs: HR 125, BP 95/56, Sat 85%, RR 26, Wt 10.5kg, Ht 74cm. The child is playful although a bit small for his age. On auscultation, the lungs and heart sounds are normal. His parents report he is active and can keep up with his peers.

The parents present a medical clearance from the child's cardiologist that says he was born at full term with a diagnosis of tricuspid atresia. He underwent a Blalock-Taussig-Thomas shunt procedure as a newborn and a Glenn procedure at 6 months age. The TTE from 1 year ago showed an unrestricted atrial septal communication, severe tricuspid atresia, hypoplastic right ventricle, and a normal size and function left ventricle. Furthermore, the cardiologist note says the child has no restrictions to anesthesia for the hernia repair. The child will begin the workup for Fontan surgery after he recovers from this procedure. The facility you are working at does not have a pediatric cardiac anesthesia team.

### **Guiding Questions for Discussion**

1. What are the cyanotic heart lesions and how are they classified?
2. What is a Blalock Taussig Thomas shunt?
3. What is a Glenn procedure?
4. What is a Fontan procedure?
5. What signs and symptoms would cause you to be more concerned?
6. What additional tests and/or consults are warranted prior to surgery?
7. Is it safe to proceed in your practice?
8. The hospital has decided to decommission nitrous oxide. What are the environmental impacts of inhalation anesthetics?
9. How will you safely induce anesthesia in this child without nitrous oxide?
10. What are your hemodynamic goals for this procedure?
11. Which commonly used intravenous medications have lower environmental impact than inhalation agents?
12. How can you integrate sustainability principles and practice to real life scenarios?
13. What are the pertinent complications that may arise in the PACU after the procedure is completed.

## **References**

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