

CASE STUDY 3

Inhaled Anesthetics



Patient Profile

Name

Liam T., 5 y/o male

Weight

20 kg

Procedure

Tonsillectomy/adenoidectomy

NPO

6 hr solids, 3 hr clears

History

PMH

Mild OSA, no asthma, no cardiac history

Family Hx

Negative for MH

Meds

None

Allergies

NKDA

Exam

Airway

- Mallampati I
- Large tonsils
- Full neck mobility

Cardiovascular

Lungs clear; cardiovascular normal

Neurological

Neuro exam normal

Labs/Imaging

01

CBC, BMP

Within normal limits

02

Lateral neck X-ray

Adenotonsillar hypertrophy

03

EKG

Sinus rhythm 95 bpm

Anesthetic Implications

- **Agent of choice:** Sevoflurane (non-pungent, smooth mask induction).
- Blood:Gas 0.65 → rapid induction and emergence.
- Use N₂O 70% + Sevo 8% → second gas effect → faster onset.
- Monitor for Compound A formation (avoid prolonged low-flow < 2 L/min).
- Post-op PONV prophylaxis (N₂O ↑ risk).
- Avoid hypercarbia (↑ CBF → bleeding).

📌 **Key Learning:** Pediatric inhalation induction, solubility concepts, Compound A nephrotoxicity, second-gas effect.