Spinal Anesthesia for a Patient with Achondroplasia, Prior Lumbar Fusion, and Obesity:

Development of a Novel Difficult Back Algorithm

Jordan A Francke MD MPH, Jimin J Kim MD MSc, John J Kowalczyk MD, Michaela K Farber MD MS

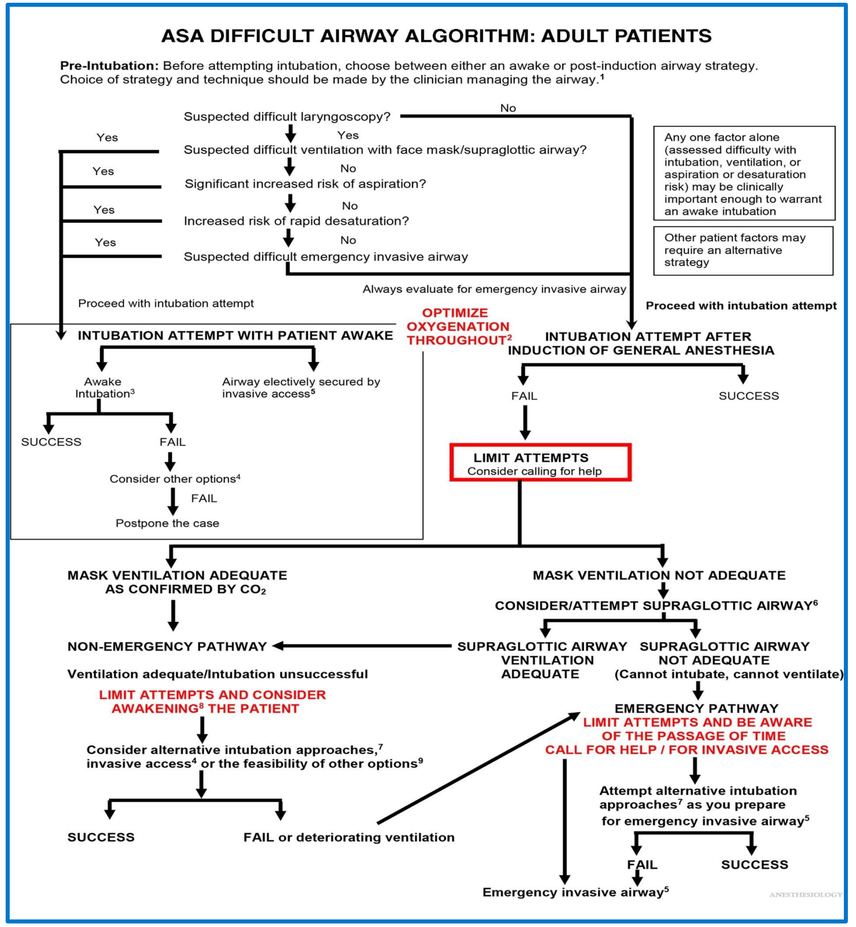
Background: Achondroplasia

- Most common bone dysplasia
- Autosomal dominant condition caused by *FGFR3* mutation
- Spinal instrumentation is common due to claudication from narrowing of spinal canal
- Challenging airway: adenotonsillar hypertrophy, macrocephaly, midface retrusion

---

- ASA difficult airway algorithm first published in 1993.
- Spinal anesthesia predates the modern cuffed endotracheal tube by over 2 decades, but no formalized difficult back algorithm exists

→ Can a difficult back algorithm be created to guide management?



Apfelbaum JL, et al. *Anesthesiology*. 2022;136(1):31-81.

Case: 32 yo G2P0010 @38wks presented for primary CD for maternal achondroplasia

PMHx: Asthma, anxiety
Class III obesity, BMI 55.4 kg/m^2 (height 4’3”, weight 200 lbs)

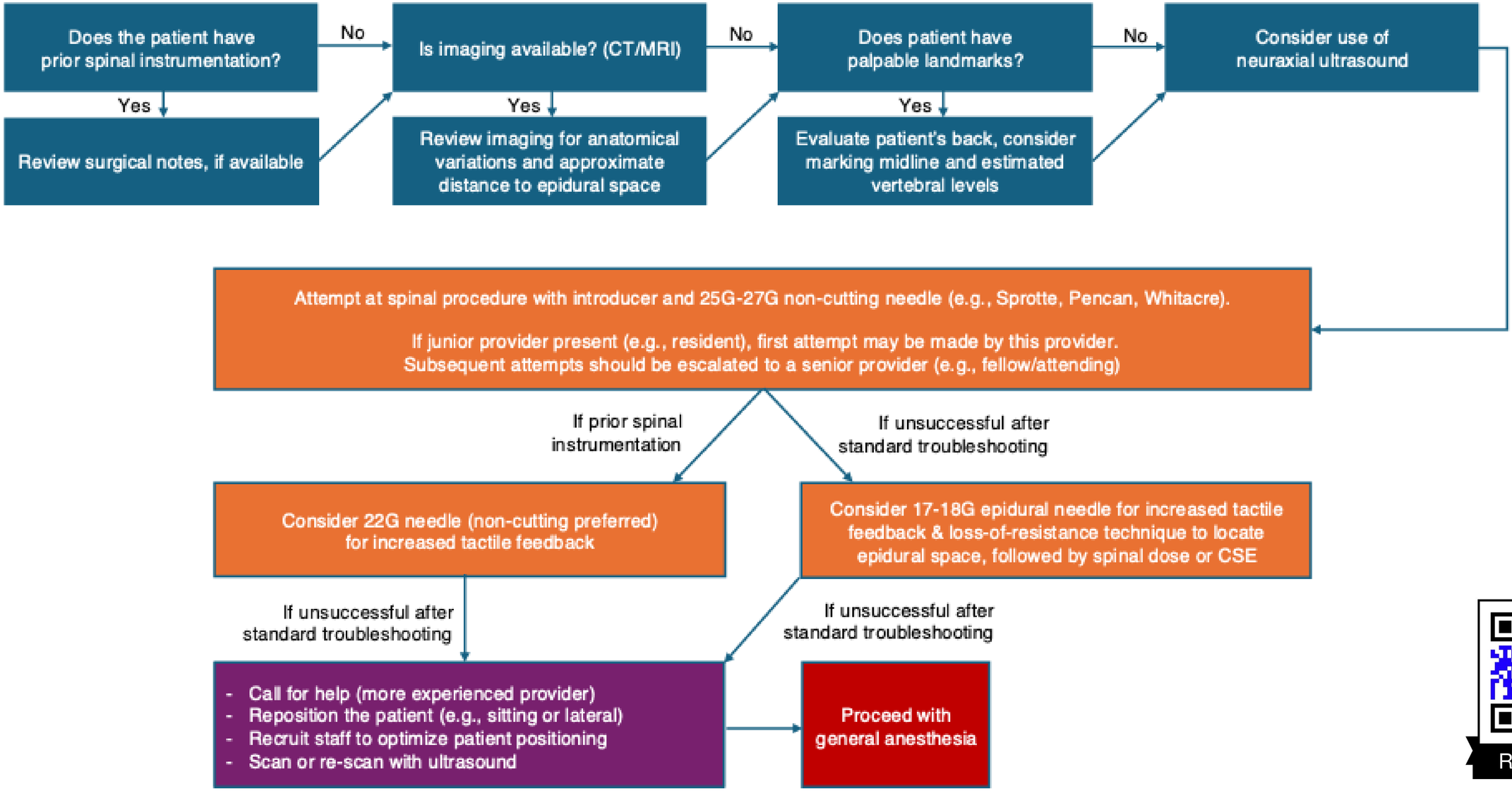
PSHx: Hysteroscopy w/ polypectomy, IVF
Limb-lengthening surgeries in legs & arms x 4, Spinal fusion (level unknown)

Exam: Mallampati IV, decreased TM distance, short neck, full cervical ROM
Class I UPL bite test, normal dentition
Cardiopulmonary exam WNL, scar spanning ~L2-5 based on palpation.

Studies: No neuraxial imaging; TTE 2021 unremarkable; EKG 2023 unremarkable
Hgb 10.2 g/dL, Hct 31.9%, Plt 147 K/µL

Would you plan for Neuraxial or GETA?

Discussion: A Proposed Difficult Back Algorithm



References