

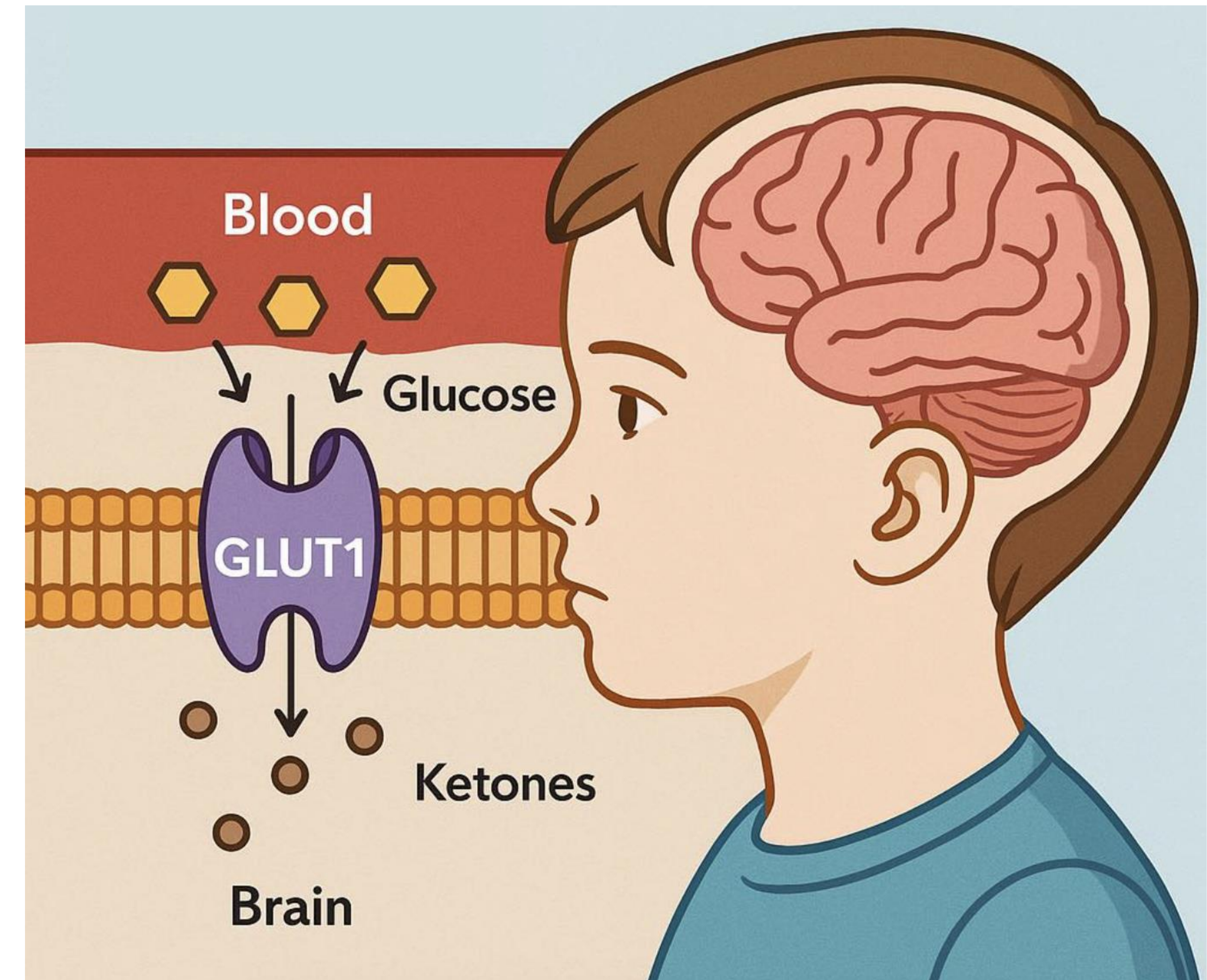
Anesthetic Challenges in GLUT-1 Deficiency

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GLUT1 deficiency syndrome (GLUT1-DS)

- Rare (1:50 000) autosomal dominant disorder due to *SLC2A1* mutation
- Impaired glucose transport across BBB
- Perioperative fasting may precipitate seizures
- Glucose diverts away brain use of ketone
- Seizure with fasting or glucose ingestion

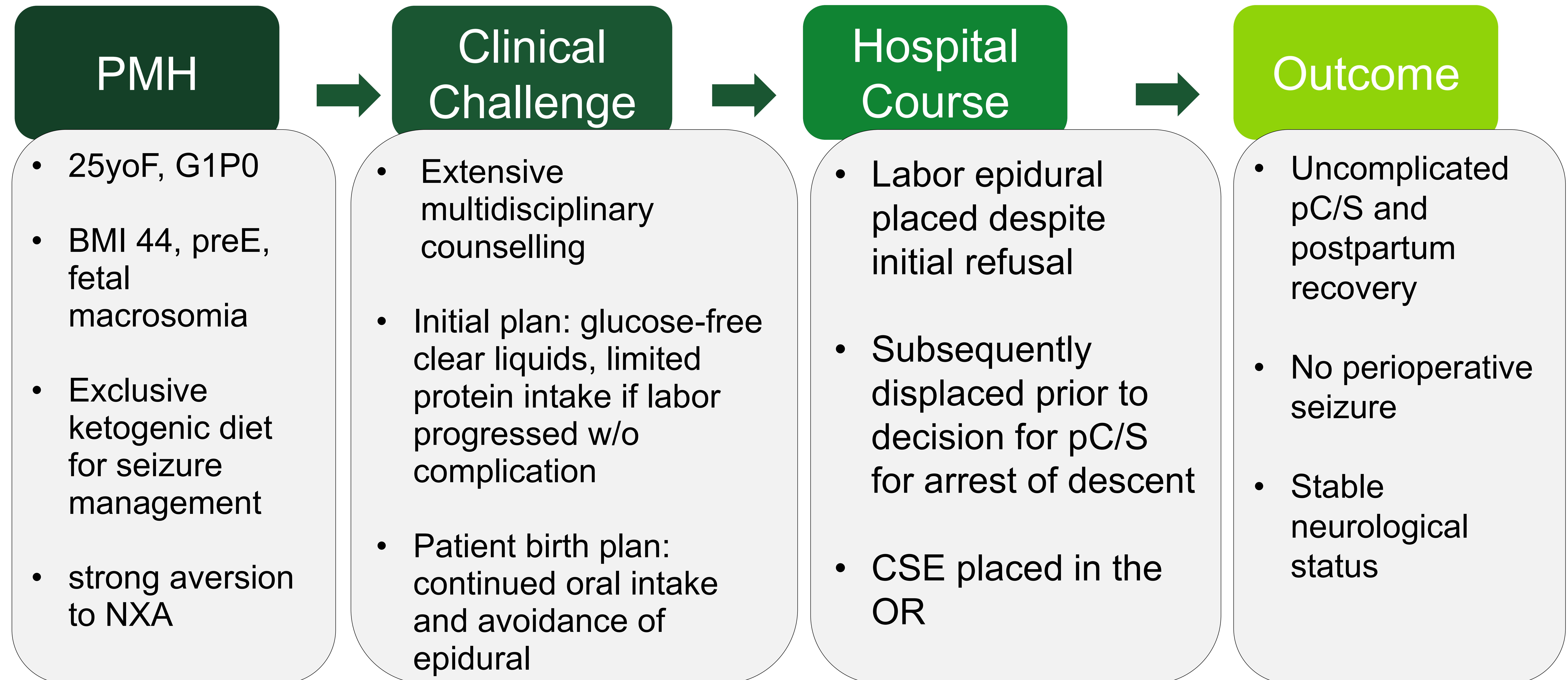


Klepper J. Glut1 Deficiency Syndrome: Novel Pathomechanisms, Current Concepts, and Challenges. *J Inherit Metab Dis*. 2025;48(3)

Anesthetic Challenges in GLUT-1 Deficiency

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Teaching Points – GLUT-1 Deficiency

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Maintain Ketosis

- Brain depends on ketones → fasting can trigger seizures
- Avoid glucose-containing fluids; minimize prolonged NPO time

Careful Anesthetics Selection

- Avoid barbiturates → impair cerebral glucose transport
- Use agents cautiously; prevent lowering seizure threshold

Individualized Perioperative Plan

- NPO vs seizure risk → competing priorities
- Multidisciplinary + patient centered approach is essential

