Diabetes Case Studies
Labor and Delivery
Higher Risk

Patient	Janine is a 32 year old with Type 1 DM, poorly controlled with NPH and Lispro. Last weight at the doctor's office was 295# a week ago. She presents for induction.
Current Pregnancy	G 2 P 1 at 37 weeks
History of Present Illness	• Proteinuria of 2+ and 3+ protein during antenatal visits • Polyhydramnios • States fasting blood sugar on fingerstick was 300 this morning
Current pertinent medications	Patient has been taking the following Insulin doses: o Before breakfast – 15 units Lispro, 30 units NPH o Before lunch – 10 units Lispro o Before bed – 11 units NPH
EFM	• Variability--moderate • Baseline—140 bpm • Accelerations—absent • Decelerations—absent • Toco—contractions every 3 minutes, 60 sec duration, strong on palpation
Cervical exam	• 6 cm, 100%, -1 station, floating.
Vital signs	Time: 0900 • T 37 C • HR 83 • RR 16 • BP 134/85
CBG	195 mg/dL
Nursing care on the morning of induction	• **Goal: Maintain blood sugar between 70-120 mg/dL** • Withhold insulin and breakfast • Why? Working muscles take in sugar with less insulin requirements. If she needs insulin it will be by a continuous IV solution. • CBG < 70 mg/dL – do NOT initiate insulin o Treat hypoglycemia o Recheck blood glucose every 30 min until greater than 70 mg/dL two times, and then according to blood glucose level. • CBG 70-100 mg/dL – do NOT initiate insulin. o Monitor CBG every 2 hours • CBG 101-120 mg/dL – do NOT initiate insulin o Monitor CBG every 1 hour • CBG > 120 md/dL – initiate insulin infusion to maintain blood glucose between 80-120 mg/dL (see order set for rate)

	○ Monitor CBG every 1 hour ○ Notify MD if unable to obtain or maintain CBG at less than 200 mg/dL with this order within 4 hours • Notify MD and send urine for ketones if blood sugar >190.

a) What are your questions for this patient?

- Did you take your regular insulin dose this morning? (No)
- Any vomiting, visual changes, vaginal bleeding, leaking fluid?

b) What are your priorities for care?

- Stabilize blood sugar, hydrate, monitor fetus.
- Begin oxytocin induction.

c) What is your plan for next steps in care?

- Notify provider of patient's arrival and assessments
- Send urine test for ketones (because blood sugar > 190), ketones, glucose, protein.
- Initiate insulin and D5NS+KCL20 drips on pump (2nd-check RN)
- Initiate another site with LR mainline.
- Why? If needed for FHR decels, BP maintenance with epidural, and avoid mistakenly bolusing with D5NS+KCL.
- What is the "safety net" solution when starting insulin? (See OB IV insulin order set).
  --Always *run* D5NS+KCL20 solution continuously at 100 mL/hour when starting IV insulin and/or if pt NPO for more than 4 hours.
- Begin testing CBG every 1 hour

d) What FHR patterns can you anticipate?

- Possible late decelerations, minimal variability due to possible placental perfusion problems.

e) What findings or changes would make your worry?

- Spontaneous rupture of membranes
- Why? With polyhydramnios, the fetal head might not be well applied to the cervix, and there is a potential for a prolapsed cord if the membranes rupture.

f) What findings would make you call the provider immediately?

- FHR showing recurrent late decelerations (a decel with more than 50% of the contractions in 20 minutes)
- Prolonged FHR deceleration (could indicate a prolapsed cord.
- What would you do if you saw a prolonged decel?
  - Vaginal exam to rule-out prolapsed cord, elevate fetal head if indicated, etc.

g) What findings could wait until the provider makes rounds?

- Minimal FHR variability less than 1 hour, intermittent late decelerations.

Immediately after delivery	• What will you do with the insulin? ○ Turn it off after delivery unless CBG > 190 ○ Why won't she need insulin any more? ▪ Placental hormones cause insulin resistance. After delivery of the placenta, that insulin resistance usually stops. ▪ NOTE: For a T1DM, check with the provider before turning

	the IV insulin off. Sometimes the insulin is cut in half after the delivery instead of being turned off.
Newborn Care	• What can you anticipate doing for the newborn after delivery? o Initiate hypoglycemia protocol for frequent testing because of Mom's high blood sugar and use of insulin during pregnancy.