Dystocia in the Bitch

History
- Ovulation timing (progesterone, LH, vaginal cytology, vaginoscopy) performed to determine gestation length?
- Known breeding dates?
- Prior history of dystocia/health issues?
- Pregnancy at term?

Confirm pregnancy with imaging before proceeding

Physical examination
- Attitude? Hydration? TPR? MM/CRT?
- Cardiovascular status
- Abdominal palpation
- Digital examination (stricture/septum/tag) and response to feathering
- Fetus/membranes palpable in canal

Signs of labor
- Stage 1—Panting, trembling, nesting, temperature drop, uterine contractions (via tocodynamometry), progesterone <2 ng/mL
- Stage 2—Water breaking, visible abdominal or uterine contractions via tocodynamometry, visible allantoic/amniotic sac or fetal parts
- Vulvar discharge (clear, bloody, green/black, light green)

Signs of dystocia
- Stillbirth/difficult resuscitation
- Gestation length >66 days from LH surge or >72 days from last breeding
- >4 hours from rupture of first chorioallantois (if detected)
- >2 hours between births
- >30 minutes of hard straining before delivery of puppy
- Heavy green/black discharge before delivery of puppy
- Large amounts of bright red blood/hemorrhage
- Abdominal pain, collapse, or distracted mothering

Confirm pregnancy with imaging before proceeding

Radiography
- Pregnancy confirmed? Number of fetuses?
- Signs of fetal obstruction/death
- Pelvic abnormality preventing delivery
- Feto–pelvic disparity
- Fetal malposition, malposture, malpresentation

Ultrasoundography
- Pregnancy confirmed?
- Fetal heart rates
- Placental integrity
- Fetal fluids
- Fetal maturation assessment (intestinal and renal development, peristalsis evident)

Complete blood work
- Blood loss/anemia detected? Do not confuse with normal pregnancy anemia
- R/O hypoglycemic (glucose <70 mg/dl)
- R/O hypocalcemia (ionized calcium <1.30 mmol/L or corrected total serum calcium <9 mg/dl)
- Corrected calcium (mg/dl) = 3.5 – albumin (g/dl) + serum calcium (mg/dl)

CRT = capillary refill time, FHR = fetal heart rate, LH = luteinizing hormone, MM = mucous membranes, TPR = temperature/pulse/respiration
If the following exist:
• FHR >190 on all fetuses
• <4 fetuses remain
• Fetal size and position consistent with vaginal delivery
• Physical condition stable with adequate energy to complete vaginal delivery

If there are signs of:
• Fetal distress (bradycardia)
• Exhaustion
• >4 fetuses remain

Medical management

Response to feathering/uterine contractions?

Strong contractions

• Oxytocin at 0.5-2 IU/bitch IM or SC; repeat up to 3×/puppy
• Calcium SC, may further increase contraction strength

Weak/no contractions

• 10% calcium gluconate at 0.22 mL/kg SC
• Wait 30 min before giving oxytocin

Puppy delivered?

Yes

No

Cesarean section

Fast Facts

• Feathering = repeated strokes with firm pressure on dorsal vestibulovaginal wall; should elicit strong abdominal contraction.
• Calcium may increase the strength of contractions. If given first, then oxytocin may not be necessary.
• Calcium may be repeated q4–6h to maintain stronger uterine contractions.
• Oxytocin can result in decreased placental blood flow or premature placental separation, leading to fetal hypoxia, bradycardia, or death. Repeated doses against fetal obstruction can result in uterine rupture. Calcium is safer if there is concern about obstruction.