How to Use EXIT to Rescue Foals During Dystocia

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Support Foal During Stage II

- Beginning resuscitation
- Relieving the haste to correct the dystocia
- Allowing for more time for correction
EXIT

Ex-utero Intrapartum Treatment
Development of EXIT
EXIT
Equipment

- Endotracheal tube
  - 7 to 10 mm ID 55 cm
- Self-inflating bag-valve device
- Capnograph
- Oxygen
EXIT Technique

- During a dystocia
  - If nares are external
  - If nose in the pelvic canal, palpable
- Intubation attempted
  - Placement checked
  - Bain Circuit
- Ventilation initiated
  - Self inflating bag
EXIT Technique

- Carbon dioxide detector
  - Capnograph
  - Easy Cap II
Capnography

- Monitor cardiac output
  - ETCO₂ correlates with cardiac output
- Ventilation
  - Transition - placental to pulmonary circulation
- Initially ETCO₂ low (4 – 8 torr)
  - Residual tissue levels
- ETCO₂ levels predict viability
  - Dead fetus
    - Initially 4 – 8 torr
    - Quickly becomes 0
  - Compromised foal
    - 8 to 20 torr
  - Responding to resuscitation
    - 40 to 60 torr
Technique

- Drug therapy
  - Catheter through endotracheal tube
  - Epinephrine
  - Vasopressin
  - Naloxone
- Pulse/ECG
- Arterial blood gas
  - Lingual artery
Complications

- Esophageal intubation
- Hyperventilation
  - Lower Paco$_2$ to dangerous levels
  - Hasten demise
  - Differentiate from poor cardiac output
    - Slow ventilation
General Anesthesia

- Redirection of placental blood flow to the lungs
- Decrease in placental blood flow
  - Associated with rise in fetal $PO_2$
  - $O_2$ Rx
  - Decrease transfer of anesthetic agents/other drugs
  - Reduction in neonatal depression after delivery
Referral Centers
Dystocia Teams

- Limiting factor - travel distance
- Possible role for EXIT
  - Maintain fetal viability during shipment
- Increase successful referral radius
- Endotracheal tube and a self-inflating bag
  - Oxygen not necessary
  - Carbon dioxide detector
    - Useful but not necessary
Summary

- Luxury of time to correct the dystocia
- Assess fetal viability
- Rescue foals during dystocia
- Decrease the impact of anesthesia