IMOET National Meeting
Tuesday 30th September 2014
Dublin Castle

Standardisation of multidisciplinary obstetric emergency training nationally.

Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive

IMOET
Irish Multidisciplinary
Obstetric Emergency Training

Umbilical Cord Prolapse

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Acknowledgements: colleagues

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Outline

- Purpose and scope
- Definition(s)
- Clinical practice guidelines
- Management
- Resources
- Quality standards

Purpose and scope

- Objectives and intended outcomes
  - Definition(s) of cord prolapse
  - Risk factors, prediction and recognition
  - Management of cord prolapse in viable and non viable pregnancies

- Learning and implementable solutions

Definition

- **Cord prolapse is defined as the descent of the umbilical cord through the cervix in the presence of ruptured membranes.**
  - *Occult (alongside the presenting part and not visible externally)*
  - Overt (past the presenting part, and easily palpable or visible externally)

- **Irish incidence**: 1.7/1, 000 live births (0.17%)
- **International incidence:** 0.1 – 0.6%

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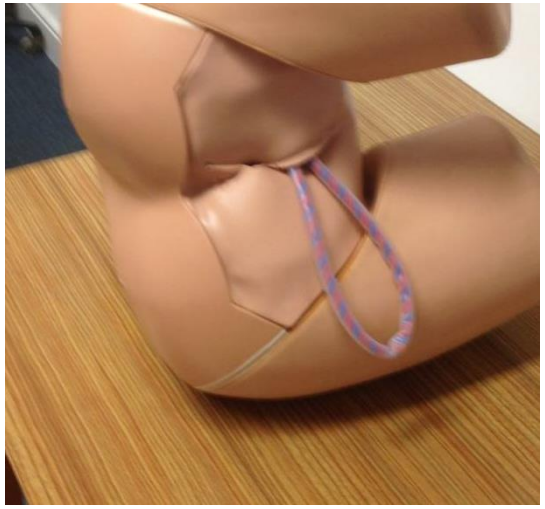
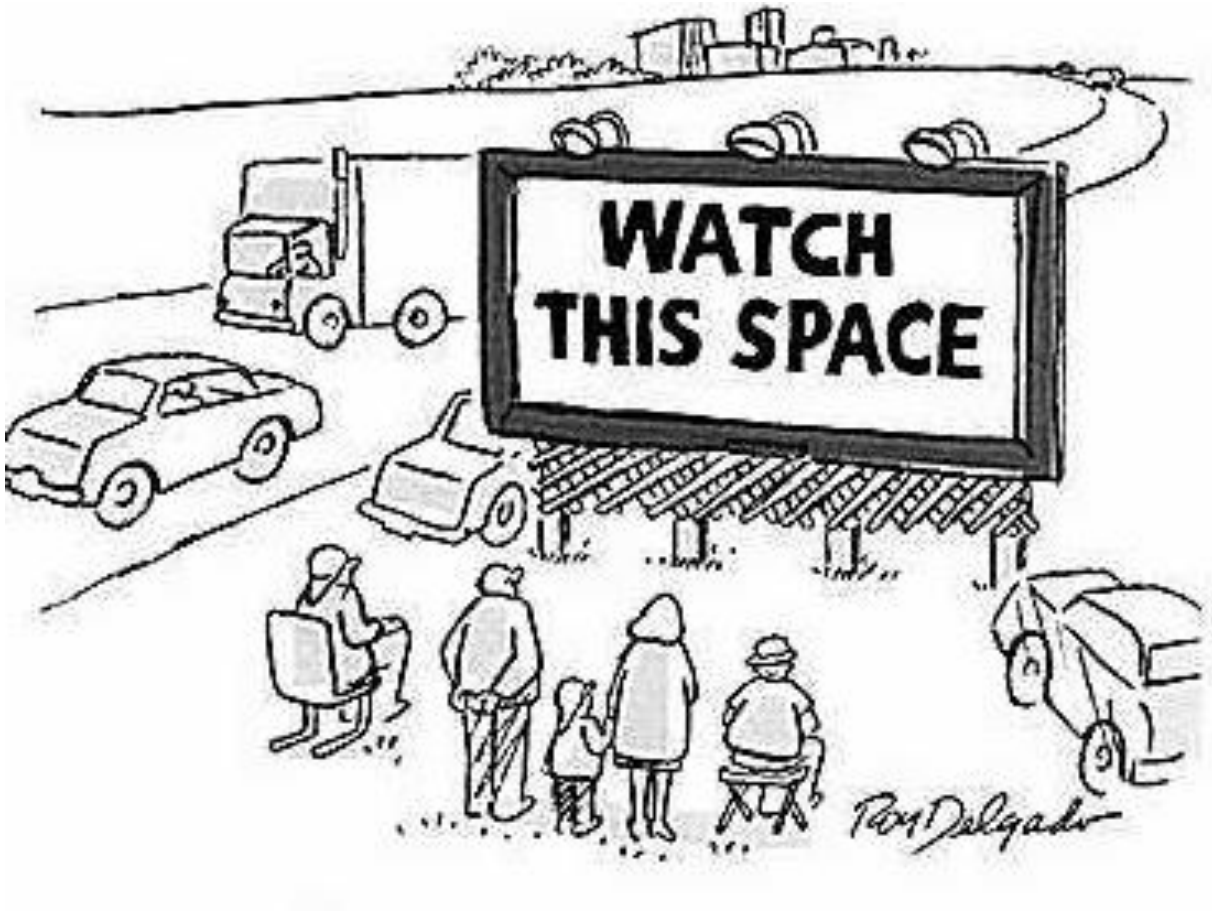


Clinical practice guidelines



Early detection I

- Recognition of risk factors

Antenatal Risk Factors	**Intra-partum Risk Factors**
Non vertex presentation (transverse lie "back up" or breech)	Artificial rupture of the membranes (especially with high presenting part)
Unengaged presenting part	Prematurity
Unstable Lie	Second twin
Polyhydramnios	Manual rotation or other vaginal manipulation of the fetus - internal podalic version - disimpaction of fetal head during rotational assisted delivery) - placement of a fetal scalp electrode - insertion of an intrauterine pressure catheter or amnioinfusion catheter,
External Cephalic Version	
Preterm premature rupture of membranes	
Multiparity	
Low birth weight	
Congenital abnormalities	
Cord abnormalities	
Male gender (if known)	

Table 1: Risk factors for Cord Prolapse

Early detection II

- KEY POINT: Women with an unstable lie (transverse, oblique) at 37-38 weeks gestation should be advised admission to hospital for inpatient observation until the lie stabilizes or delivery is achieved.

- KEY POINT: Amniotomy should only be considered when the presenting part is well applied; otherwise it should be delayed. If amniotiomy in this setting is deemed suitable (following discussion with a senior obstetrician) then a controlled artificial rupture of the membranes should be performed.

Management response

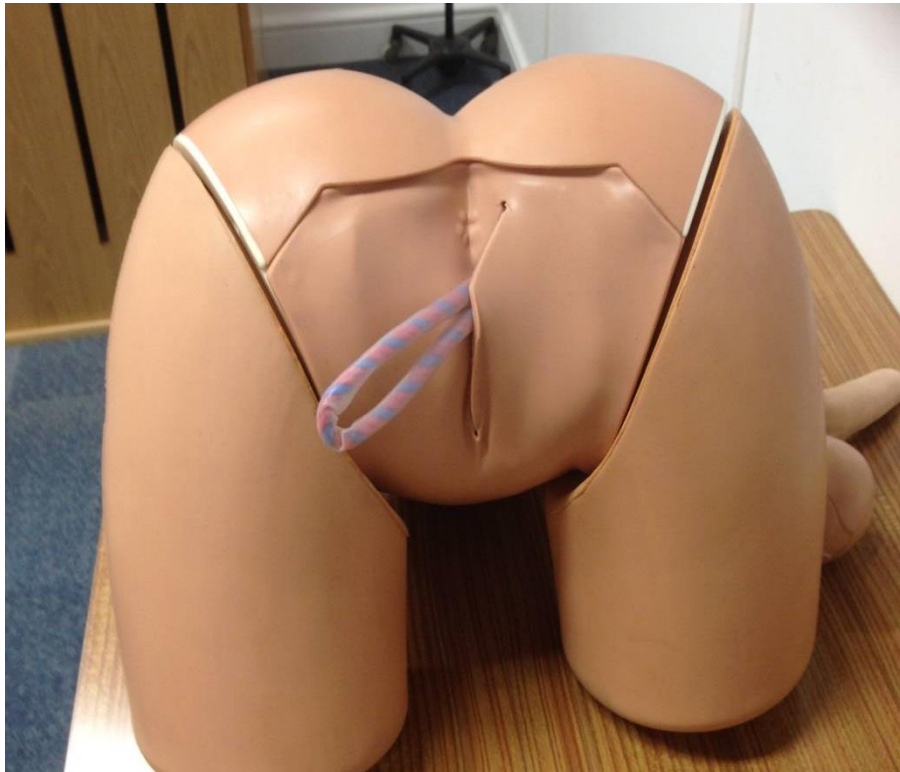
- *CALL FOR HELP –*
  - *Assess fetal and maternal well being*
  - *Elevate the presenting part*
  - *Deliver the fetus*

Management response I

- **Assess fetal and maternal well being**
  - Is the mother well enough to be delivered?
  - What tests have been done to check fetal well being?
    - Is the fetus alive?

Management response II

- **Elevate the presenting part**
  - **Mother adopts either knee chest or “head down left lateral” position**
  - Manual displacement of the head
  - Bladder filling
  - Wrapping the cord
  - Tocolysis



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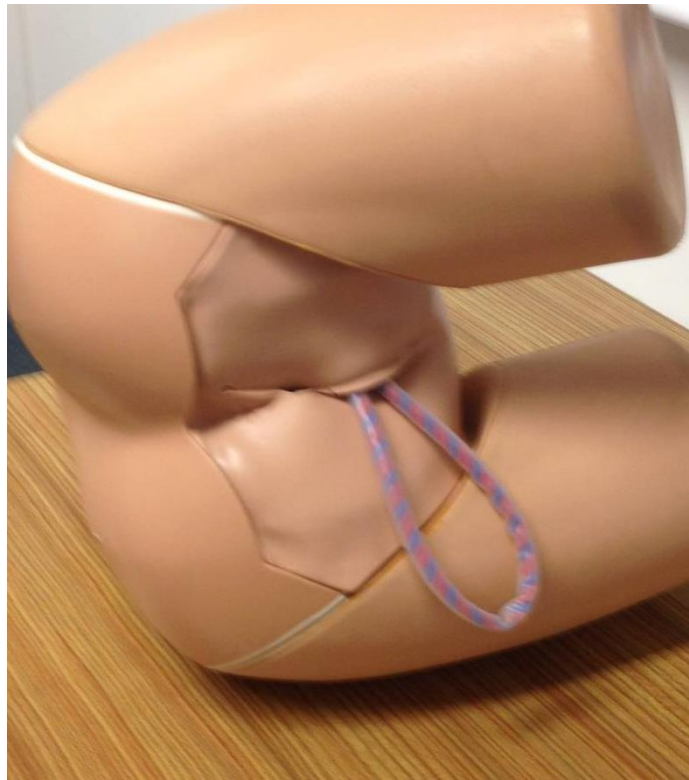

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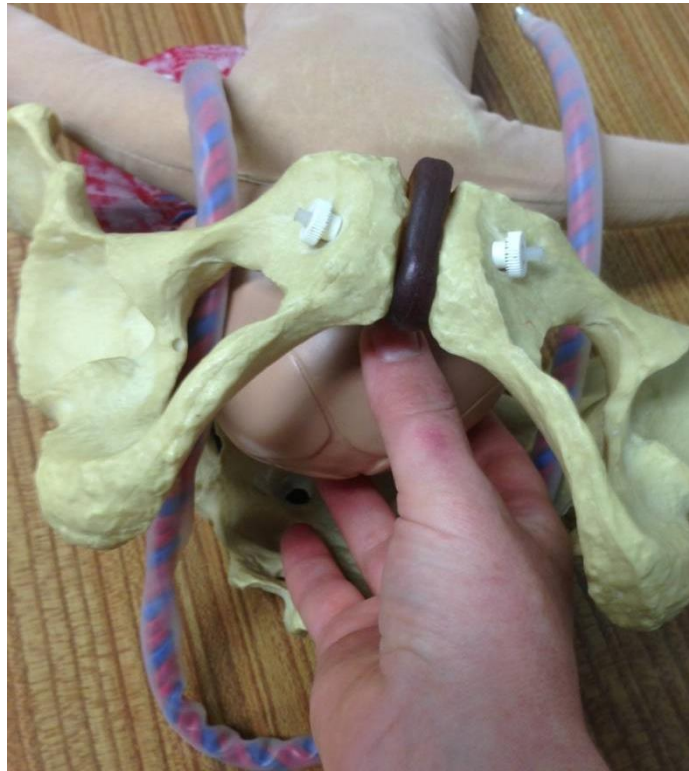

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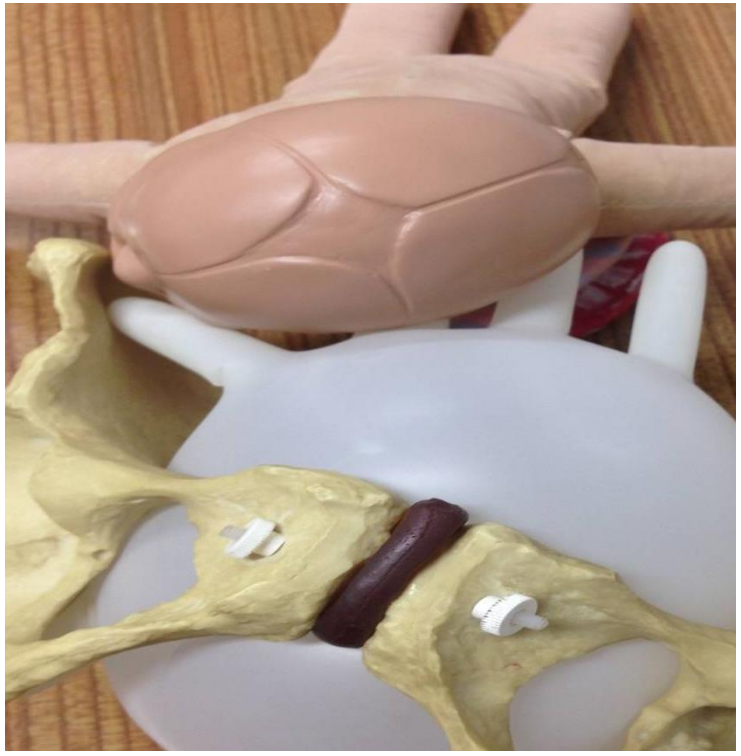

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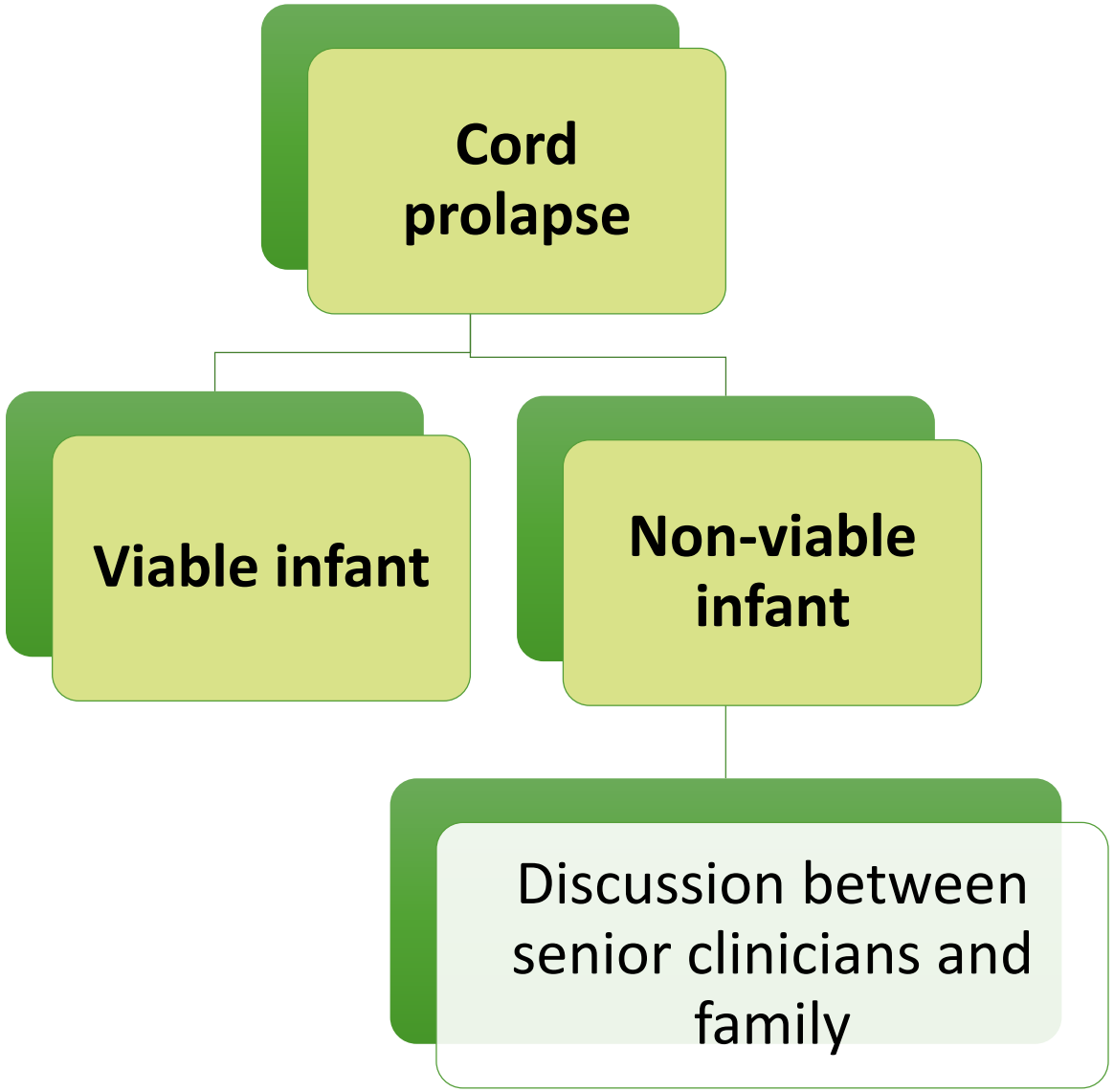
  - Wrapping the cord
  - **Tocolysis**

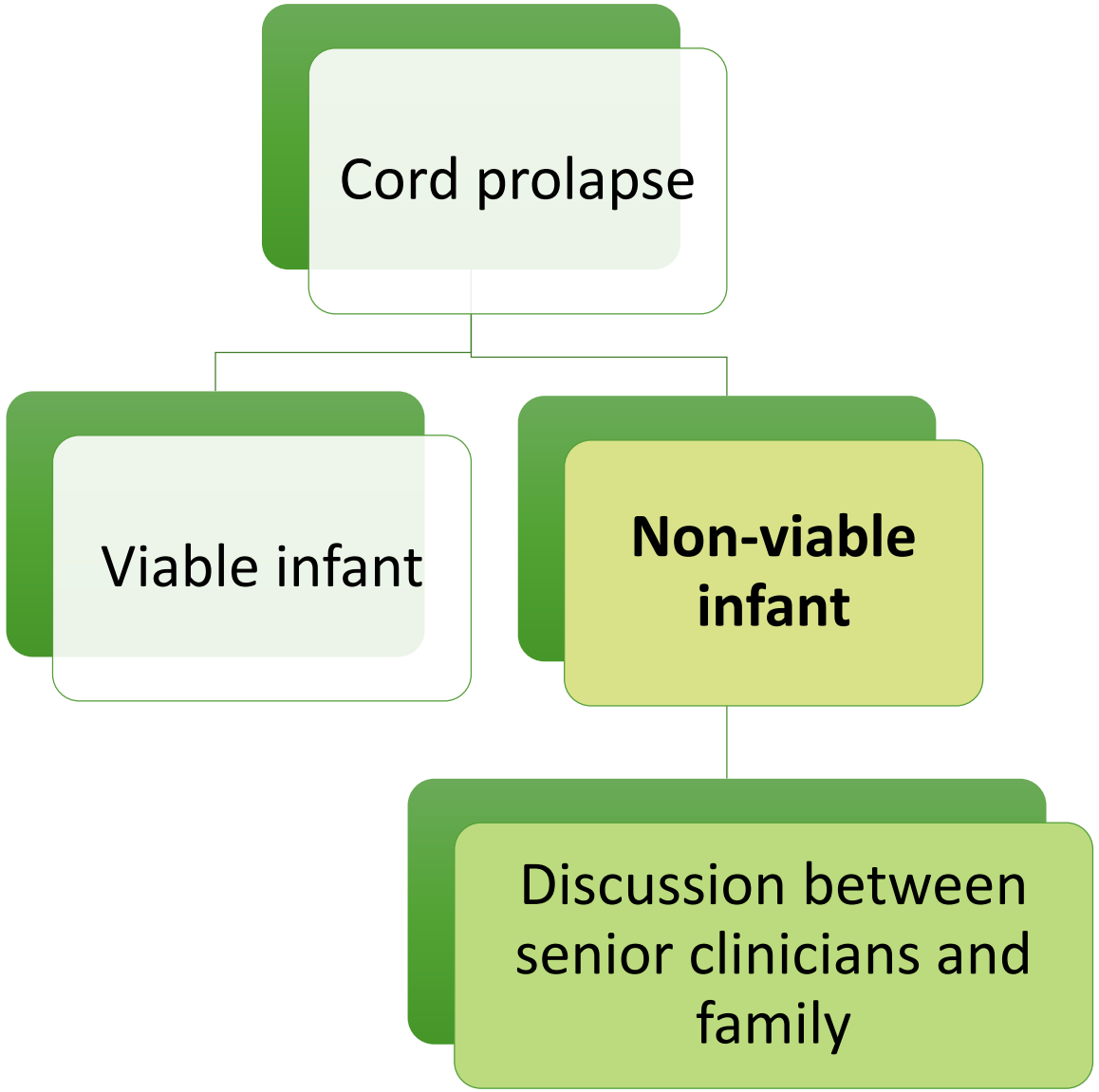
Management response III

- **Deliver the fetus**
  - Mode of delivery will depend on multiple factors
  - In a viable infant with no known congenital abnormalities the quickest means of delivery results in the best perinatal outcome

Algorithm


Recognition of cord prolapse
Viable infant
Non viable infant (gestation <24 weeks, EFW <500g, fetal anomalies)
Absent FHR
FHR suspicious
FHR normal
Individualisation of care by senior obstetrician and midwife
Manage as normal for IUD
Elevate presenting part
Elevate presenting part
Consider tocolysis
Consider tocolysis
Delivery not imminent
Second stage of labour
Delivery not imminent
Second stage of labour
Delivery by CS (category 1)
Delivery by CS or instrumental delivery if appropriate (Category 1)
Delivery by CS (Category 2)
Delivery by CS or instrumental (Category 2)


Cord prolapse
Viable infant
Non-viable infant
Discussion between senior clinicians and family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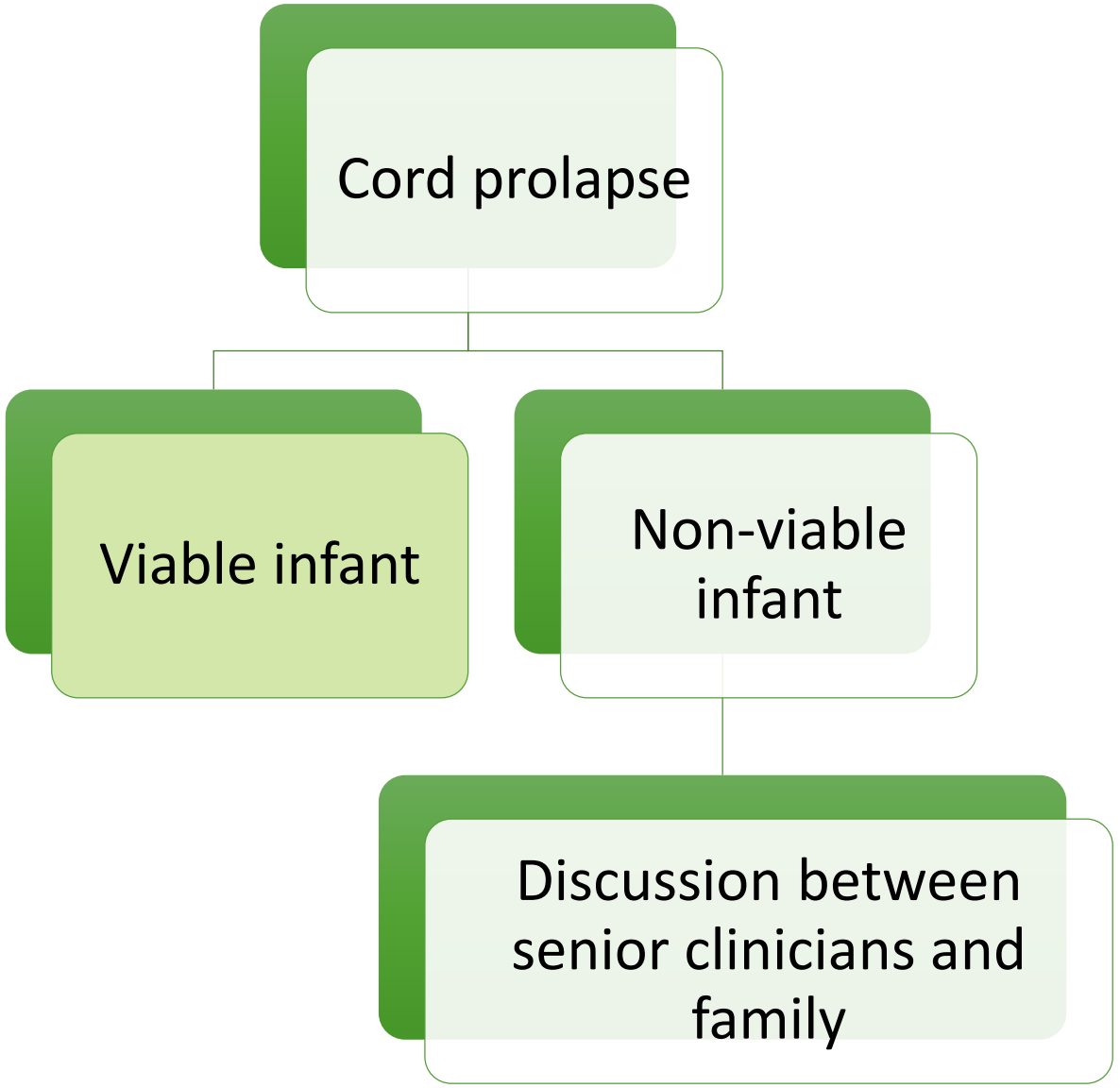
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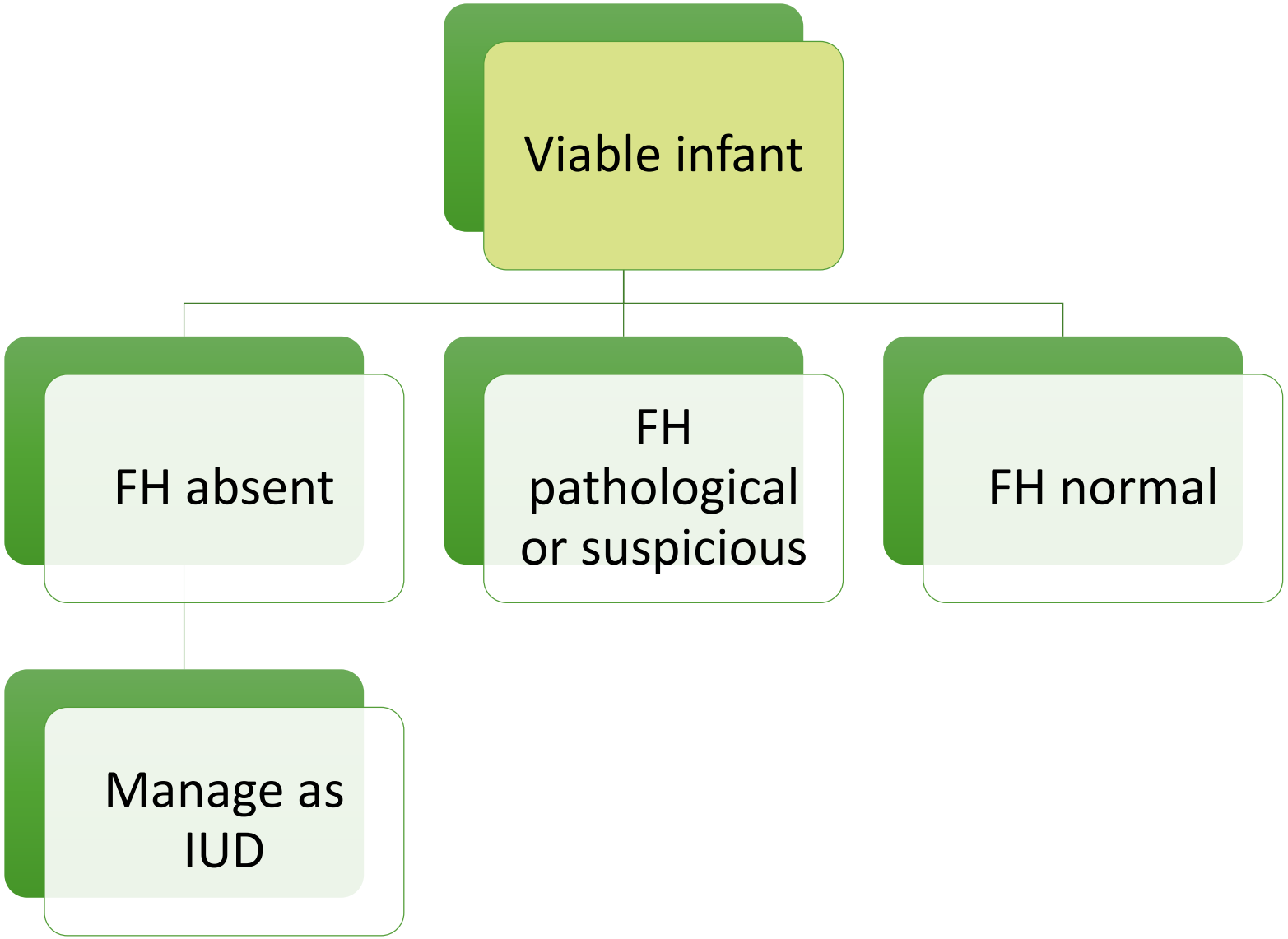
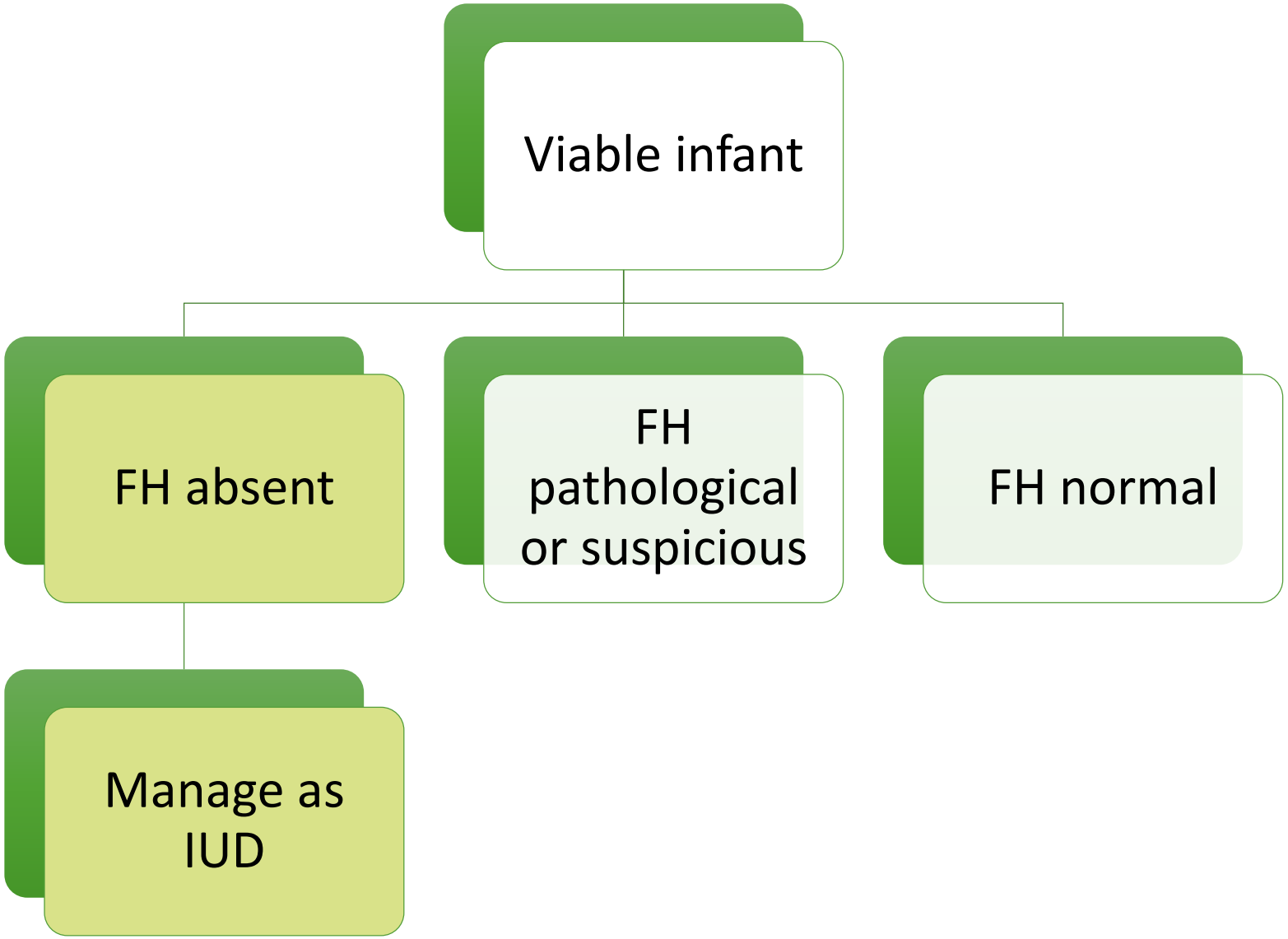

Viable infant
FH absent
FH pathological or suspicious
FH normal
Manage as IUD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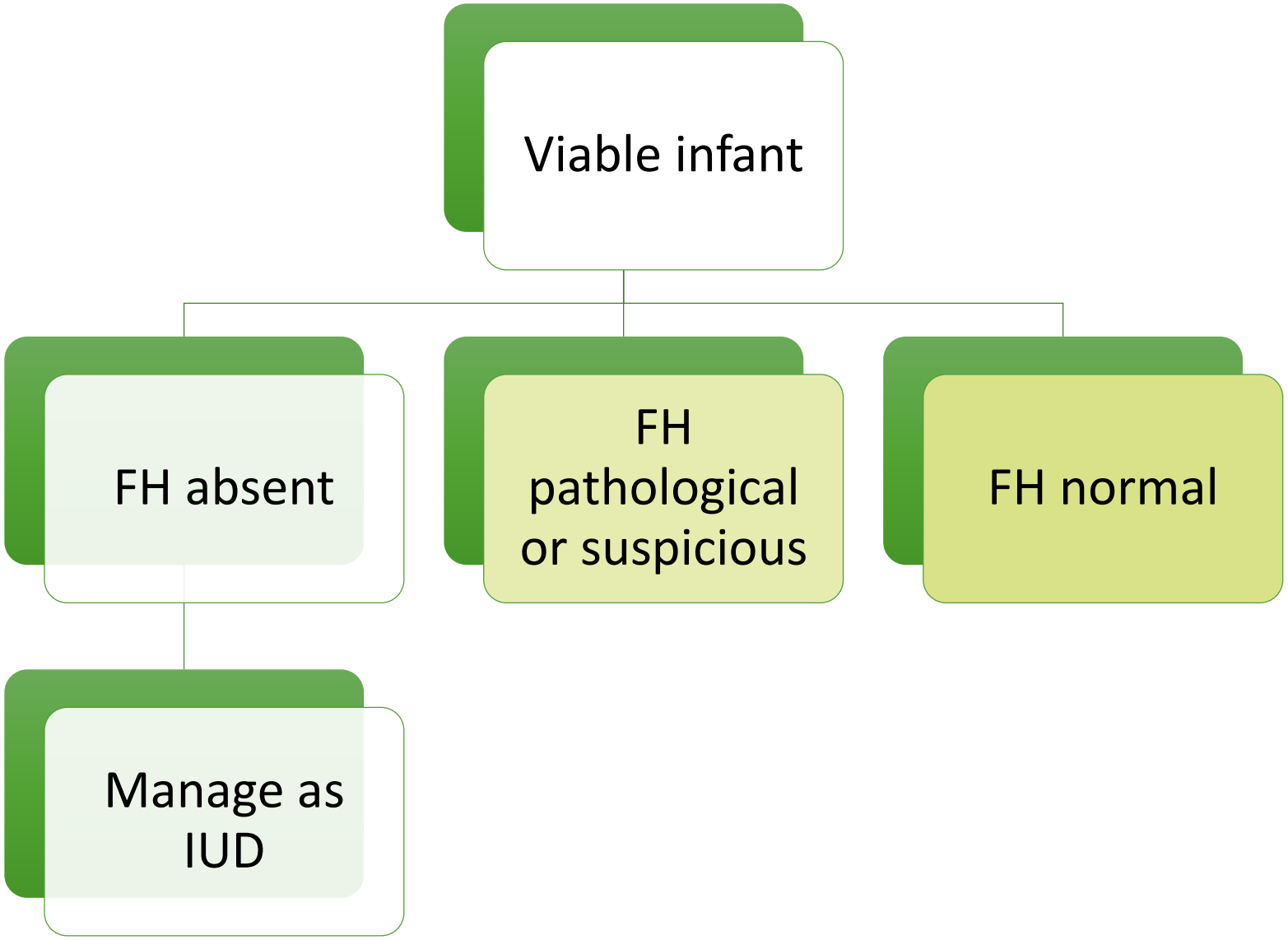
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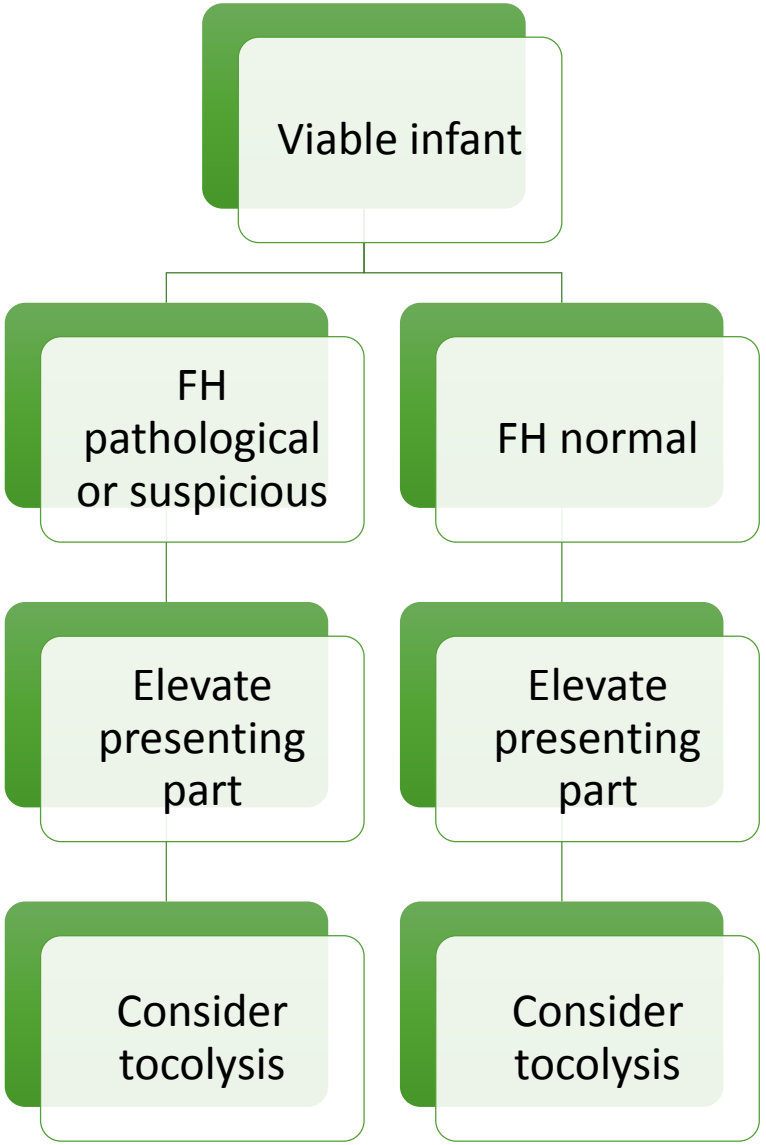
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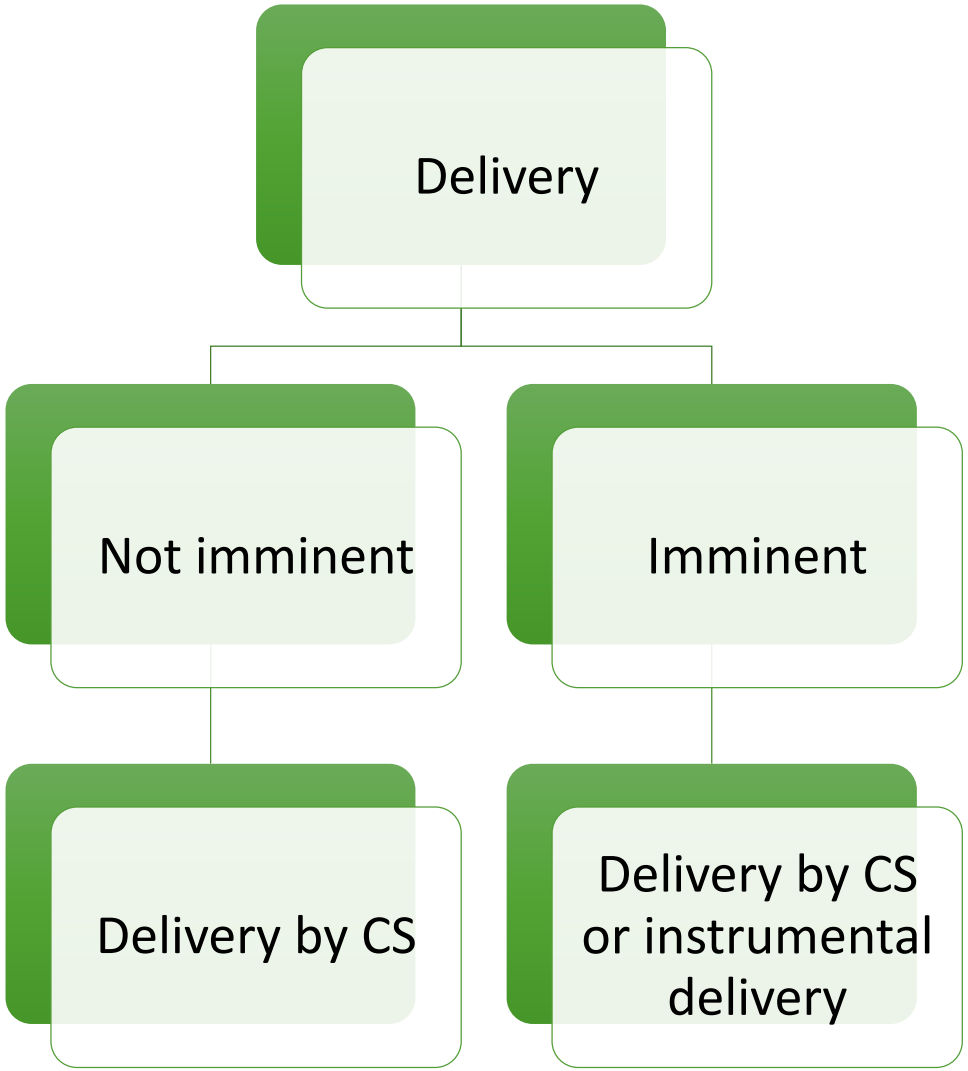
Delivery
Not imminent
Imminent
Delivery by CS
Delivery by CS or instrumental delivery

Resources

- Guidelines
  - Intrapartum fetal heart monitoring
  - Management of multiple pregnancy
  - Preterm prelabour rupture of the membranes

- Other courses
  - MOET, ALSO, PROMPT

Communication: ISBAR

- Two words: “Cord prolapse”

- Followed by “Fetal hear reassuring” OR “Non reassuring”
  - Relevant medical issues
  - Is it possible to deliver vaginally?
  - **Anaesthesia** and **paediatrics** and **porters**

- Debrief **both** the parents and the team

Quality standards and improvement

- Proportion of staff receiving training in cord prolapse
- Decision to delivery interval
  - Adding in confounders of gestational age, where cord prolapse occurred and presence of fetal anomalies
- Peri-natal outcome following cord prolapse (corrected and uncorrected)

Practical skills & drills elements

- Control of the situation
  - Quiet communication (conversation level)
  - Calm environment
  - Deliberate responses without panic
- ISBAR
- Procedures themselves
  - Using a OSAT checklist?

Summary

- Women with an **unstable lie** (transverse, oblique) at 37-38 weeks gestation should be advised admission to hospital for inpatient observation until the lie stabilizes or delivery is achieved.
- **Amniotomy should only be considered when the presenting part is well applied.**
- **Cord prolapse with a viable fetus should result in delivery of the infant**.
- When **transporting a woman with a cord prolapse for delivery** (either from out of hospital or within the hospital to a theatre or labour room) it may be safer to place her in **"head down left lateral"** position rather than **"all fours".**

Looking forward

- If you do only one thing when you return to your unit:
  - think “talk at conversation level” and “head down left lateral”