#### An Guide To Assisted Vaginal Delivery

## Vacuum Delivery Procedures

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This tutorial is designed to re-inforce previous training – and should, therefore, not be regared as sufficient guidance by itself

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#### Assisted delivery may be classified as:

#### Outlet forceps or vacuum:

- where the fetal skull is on the pelvic floor

#### Low forceps or vacuum:

where the fetal skull is at or below +2 station

#### Mid forceps or vacuum:

where the fetal head is engaged but above +2 station

# Essential conditions for instrumental use include:

- Vertex presentation
- Complete dilatation of the cervix
- Rupture of membranes

- No known bony obstruction
- Being willing to stop the procedure if it is not successful

It is important that the fetal head is engaged before attempting assisted vaginal delivery

#### This means that:

- The biparietal/largest diameter of the fetal head has passed through the pelvic inlet
- The leading edge of the fetal skull is at or below the ischial spines



Instrumental delivery should be considered if the mother is demonstrating any of the following conditions:

- Maternal exhaustion
- Drug induced analgesia
- Soft tissue resistance with failure to descend
- Predisposing maternal illness

- Haemorrhage
- Relative cephalopelvic disproportion
- Malposition
- Malpresentation

Vacuum delivery should be considered if the fetus is demonstrating either of the following conditions:



 Fetal compromise requiring immediate delivery in the second stage



Non-reassuring fetal heart rate



## The instruments that you will need to have available are as follows:

#### Vacuum delivery:

 Vacuum extractor with cup, vacuum pump and vacuum release



#### Procedure

- There are 10 steps to be followed for vacuum delivery
- In English, these are easily remembered as A-J
  - This comes from the ALSO (Advanced Life Support in Obstetrics) organisation





- Address the woman (explain the procedure and ask for consent)
- Adequate anaesthesia
- Abdominal palpatation





May need to be catheterised





- Examine the woman
- Cervix should be fully dilated





#### of the fetal head

- the anterior fontanelle is larger and forms a cross
- the posterior fontanelle is smaller and forms a Y
- assess for bending the ear
- Remember moulding of the head makes assessment difficult
- Think about dystocia (is the fetus going to fit through the pelvis?)





 Equipment and vacuum extractor need to be ready





- Apply the cup over the sagittal suture 3 cm in front of the posterior fontanelle
- Flexion point: proper application of the cup results in flexion of the fetal head when traction is applied



#### This diagram shows correct positioning of the cup





- Gentle traction at right angles to the plane of the cup
- This must only be performed during contractions
- Rotary force, or para median application will cause the cup to fall off



This diagram shows application of the cup and the procedure for vacuum extraction





- Halt (stop) traction after each contraction
- Halt (stop) procedure:
  - If the cup falls off three times
  - If there is no progress in three consecutive pulls
- Do not take longer than 20 minutes for total application of the cup, or 30 minutes from the commencement of the procedure



#### ncision

- Incision or episiotomy needs to be considered when the fetal head is being delivered
- This is not always necessary for vacuum delivery although may be necessary for shoulder dystocia or difficult delivery





 Release the vacuum when you are able to reach the baby's jaw



## The disadvantages of vacuum delivery are that:

- It may take longer than forceps
- It needs the woman to co-operate
- There needs to be minimal cephalopelvic disproportion i.e. the fetus should fit fairly easily through the mother's pelvis

- The cup needs to be placed properly
- Traction is necessary to avoid losing vacuum
- There may be a small increase in cephalhaematoma i.e.
  bruising under the baby's scalp

### Vacuum delivery should not be performed in the following cases:

- Severe prematurity (less than 34 weeks)
- The fetus is thought to have a blood-clotting problem
- Breech, face, or brow presentation

- Transverse lie
- Incomplete cervical dilatation
- The head is not engaged
- Excessive traction is needed for delivery

# The following care needs to be provided after vacuum delivery:

#### Mother:

 Examination of cervix and vagina for injuries

#### Baby:

- Examination of the new born baby for birth trauma (injuries) and complications such as:
  - scalp emphysema (fluid)
  - haematomas (bruising)
  - jaundice (yellowing of the skin)

symptoms of internal bleeding
Record keeping is important





## Vacuum delivery illustrated (1)



## Vacuum delivery illustrated (2)



