OPERATIVE VAGINAL DELIVERY

Do not attempt operative vaginal delivery unless criteria for safe delivery have been met (see Table)

AIM
- To expedite vaginal delivery with minimal maternal or neonatal morbidity
- Compared to completed instrumental delivery, caesarean section in second stage of labour is associated with an increased risk of obstetric haemorrhage, prolonged hospital stay and admission of baby to neonatal unit (NNU)
- Consider each case individually

INDICATIONS
Fetal
- Presumed fetal compromise developing in second stage

Maternal
- Medical indications (e.g. cardiac disease, cerebrovascular disease and hypertension)

Delay in second stage of labour
- Lack of continuing progress
- Consider operative delivery if delay diagnosed in active second stage of labour – see Delay in labour guideline
- Primips – 2 hours
- Multips – 1 hour
- In the absence of other concerns, maternal exhaustion, fetal compromise etc.

Other
- After-coming head of the breech

CONTRAINDICATIONS
- Vacuum extractor contraindicated with a face presentation
- Avoid the use of vacuum <34 weeks' gestation because of preterm susceptibility to cephalohaemtoma, intracranial haemorrhage and neonatal jaundice
- Avoid metal cups <36 weeks' gestation
- Forceps/vacuum extraction deliveries before full dilatation of cervix, with the exception of prolapsed cord at 9 cm in a multiparous woman or a 2nd twin

CRITERIA FOR SAFE OPERATIVE VAGINAL DELIVERY

<table>
<thead>
<tr>
<th>Preparation</th>
<th>Essential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full abdominal and vaginal examination</td>
<td>• Head &lt;1/5 palpable per abdomen</td>
</tr>
<tr>
<td></td>
<td>• Vertex presentation</td>
</tr>
<tr>
<td></td>
<td>• Cervix fully dilated and membranes ruptured</td>
</tr>
<tr>
<td></td>
<td>• Exact position of head determined so that instrument can be placed properly</td>
</tr>
<tr>
<td></td>
<td>• Pelvis deemed adequate</td>
</tr>
</tbody>
</table>

| Mother                               | • Clear explanation given and informed consent obtained and documented |
|                                      | • Continuous electronic fetal monitoring                                |
|                                      | • Appropriate analgesia in place:                                       |
|                                      | • regional block                                                        |
|                                      | • pudendal block                                                         |
|                                      | • local infiltration                                                    |
|                                      | • Maternal bladder emptied                                              |
|                                      | • Indwelling catheter removed and replaced, if required, after delivery  |
Aseptic technique

- Operator has been assessed as competent in the use of forceps and vacuum extractor
- Adequate facilities and back-up personnel must be available
- Back-up plan in place in case of failure to deliver
- Anticipation of complications (e.g. shoulder dystocia, postpartum haemorrhage)
- Personnel present who are trained in neonatal resuscitation e.g. midwife or ANNP/neonatologist (according to local policy)

Anticipate difficult delivery

Where instrumental delivery expected to be difficult, an experienced and appropriately trained person must undertake or directly supervise in theatre. Immediate recourse to caesarean section must be possible

Higher rates of failure are associated with

- Maternal obesity
- Clinically big baby
- Malposition
- Mid-cavity delivery

What instrument?

- Doctor should choose instrument most appropriate to clinical circumstances and their level of expertise. Forceps and vacuum extraction are associated with different benefits and risks:
  - Ventouse associated with more neonatal trauma and higher risk of failure
  - use of forceps associated with more perineal trauma and 3rd and 4th degree tears
  - Kielland’s forceps should be used only by those trained and assessed as competent in their use

Where fetal compromise suspected, fetal blood sampling (FBS) may be more appropriate than a difficult instrumental delivery

Dual instrumental delivery

- Dual instrumental delivery is associated with an increased risk of trauma and neonatal morbidity
- If satisfactory descent and/or rotation achieved before displacement of the vacuum, it is acceptable to complete a delivery with outlet forceps
- Attempt when it is very likely that a vaginal delivery will be successful (e.g. good descent of head in the perineum and detachment of Ventouse cup)

When to abandon operative vaginal delivery

- When there is no evidence of progressive descent with each pull, or where delivery is not imminent following 3 pulls of correctly applied instrument (cup or forceps) by an experienced doctor
- If delivery is thought to be imminent, with head in the perineum, it may, after careful re-evaluation, be appropriate to await one more contraction
- Poor progress or descent or concerns about fetal wellbeing should indicate the need to abandon the procedure (even if an episiotomy has been performed) and perform a caesarean section for the safety of mother and baby

Incident reporting

- Adverse outcomes, including unsuccessful forceps/vacuum delivery should trigger an incident report as part of effective risk management process. Follow local incident reporting procedure
- Paired cord blood samples processed and recorded following all attempts at operative delivery – see Umbilical cord sampling guideline
DOCUMENTATION
- Clearly document in maternal healthcare record:
  - informed consent obtained
  - analgesia used
  - maternal bladder catheterised
- Use of instruments:
  - number of pulls
  - descent of head
  - number of cup detachments
  - total cup application time
- Episiotomy/tear findings and repair technique
- Cord gas blood results
- Swabs, needles, tampons to be counted before and on completion of procedure
- Record of incident report (if local practice)

AFTERCARE
- Assess mother after delivery for risk factors, especially venous thromboembolism. Consider thromboprophylaxis – see VTE - thromboprophylaxis guideline
- Give regular analgesia. If no contraindications, consider paracetamol and diclofenac
- Bladder management – see Bladder care guideline

FOLLOW-UP
- An obstetrician (ideally who performed delivery) should discuss procedure, management of any complications and future deliveries with mother

TRIAL OF OPERATIVE VAGINAL DELIVERY IN THEATRE
- If there is doubt as to whether instrumental delivery will succeed, conduct the delivery as a trial of vaginal delivery in theatre where theatre team and anaesthetist are present should a caesarean section be required
- Consider instrumental delivery in theatre particularly in the following situations:
  - multiparous women; especially those with a previous vaginal delivery
  - mid-cavity deliveries or where head palpable in the abdomen
  - where position is not occipito-anterior
  - obese women where assessment of fetal size is difficult
  - where there has been delay in labour despite oxytocin
  - estimated fetal weight >4000 g