Assisted Vaginal Delivery

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1. Introduction, background and epidemiology

Management of second stage of labour frequently necessitates assisted birth, to avoid a potentially hazardous second stage caesarean section. In the United Kingdom 10% to 15% of all women undergo assisted vaginal birth, even though rate is much lower in Sri Lanka[1]. Instrumental delivery when performed correctly by a trained clinician, results in satisfactory feto-maternal outcomes[2]. However, clinician should be aware that serious and rare complications, such as sub-galeal and intracranial haemorrhage, skull fractures and spinal cord injury, can occur particularly in the untrained hands as well as with repeated failed attempts[3]. Mastering the art of safe assisted delivery is an essential skill in the modern obstetrician's armament.

2. Purpose and scope

The aim of this guideline is to provide evidence-based recommendations on the use of forceps and vacuum. This guidance is intended not only for practicing specialists, but also for trainee registrars, senior registrars who are expected to develop competency in the use of both vacuum and forceps for non-rotational birth and at least one technique for rotational birth. Recommendations made in this document may serve for all grades of medical staff involved in women's health and labour management. The scope of this guideline includes indications, procedures, governance and follow up issues relating to assisted vaginal birth.

3. Identification and assessment of evidence

Search strategy: External guidelines, systemic reviews and Cochrane revives were searched assessing available evidence and the best practices.

4. Summary of recommendations

- Whenever possible, strive to provide continuous support during labour, one to one care and the choice of a labour companion. Available evidence suggests this can reduce instrumental delivery rate and promote normal vaginal delivery.
- Epidural analgesia may increase the duration of active second stage and the need for instrumental vaginal birth.
- Encourage upright or lateral positions in second stage of labour (in women not on epidural analgesia). This reduces the need for instrumentation.
- Allow delayed pushing (passive second stage) in women with epidural analgesia. This may reduce the need for rotational and mid-pelvic assisted vaginal birth.
- Do not routinely discontinue epidural analgesia during pushing as this increases the woman's pain with no evidence of a reduction in the incidence instrumental delivery.

Sri Lanka Journal of Obstetrics and Gynaecology 2021; **43:** 335-347

DOI: http://doi.org/10.4038/sljog.v43i4.8029

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- Operators should appreciate that no indication forinstrumental delivery is absolute, and that prudent clinical judgment is required in each situation.
- Suspected fetal bleeding disorders and predisposition to fractures are relative contraindications for assisted vaginal birth.
- Presence of blood borne viral infection in a woman is not an absolute contraindication for assisted vaginal birth.
- Vacuum is not contraindicated following a fetal blood sampling or application of a fetal scalp electrode.
- There is a higher risk of sub-galeal haemorrhage and scalp trauma with vacuum extraction compared to forceps at preterm gestation.
- Vacuum is contraindicated below 32 weeks of gestation and should only be used with extreme caution between 32+0 and 36+0.
- Safe assisted vaginal birth requires not only technical expertise, but also careful assessment of each clinical situation, clear communication with the woman and other healthcare personnel.
- Ultrasound assessment of the fetal head position prior to assisted vaginal birth can be attempted where uncertainty exists following clinical examination.
- Routine use of abdominal or perineal ultrasound for assessment of the station, flexion and descent of the fetal head in the second stage is not recom mended and is not a substitute for clinical examination.
- For procedures in the labour room, verbal consent should be obtained and documented in the notes.
- When mid-pelvic or rotational birth is indicated, the risks and benefits of assisted vaginal birth should be compared with the risks and benefits of second stage caesarean section, for the given circu-mstances and skills of the operator.
- Prior written consent is recommended for a trial of assisted vaginal birth in the operating theatre.
- Operators must achieve expertise in spontaneous vaginal birth prior to commencing training on assisted vaginal birth.
- Non-rotational low-pelvic and lift out assisted vaginal births have a low probability of failure, hence most procedures can be attempted safely in the labour room.
- Assisted vaginal births that have a higher risk of failure should be termed a trial of instrumental delivery and is best attempted in an operation theater, where immediate CS can be resorted to.
- The operator should choose the instrument most appropriate to the clinical circumstances and their level of skill.
- Forceps and vacuum extraction are associated with different benefits and risks.
- Failure to complete the birth with a single instrument is more likely with vacuum extraction, but maternal perineal trauma is more likely with forceps.
- Soft cup vacuum extractors have a higher rate of failure but a lower incidence of neonatal scalp trauma.
- Rotational births should be performed by experienced operators; the choice of instrument depending on the clinical circumstances and expertise of the individual.
- The options include, Manual rotation followed by direct traction with forceps or vacuum, Rotational vacuum extraction or Kielland's rotational forceps.
- It is recommended to complete vacuum-assisted birth with not more than three pulls to bring the fetal head on to the perineum. (Additional gentle pulls may be used only to ease the head out of the perineum).
- If there is minimal descent with the first pull of a vacuum, consider if the application is sub-optimal, the fetal position has been incorrectly diagnosed or if there is cephalopelvic disproportion.
- Discontinue vacuum-assisted birth where there is no evidence of progressive descent with moderate traction during each pull of a correctly applied instrument.
- Discontinue vacuum-assisted birth if there have been two 'pop-offs' of the instrument.

- ❖ The use of sequential instruments is associated with an increased risk of trauma to the infant as well as obstetric anal sphincter injury (OASI). Operator needs to balance the risks of caesarean birth vs forceps following failed vacuum and may consider forceps extraction.
- ❖ Abandon forceps delivery when the forceps cannot be applied easily, the handles do not lock or if there is lack of progressive descent with moderate traction and birth is not imminent following three pulls with a correctly applied instrument by an experienced operator.
- ❖ Discontinue rotational forceps birth if rotation is not easily achieved with gentle pressure.
- ❖ If there is minimal descent with the first pull of theforceps, consider if the application is incorrect, the position has been incorrectly diagnosed or there is cephalopelvic disproportion.
- ❖ There is increased risk of fetal head impaction at caesarean birth following a failed instrumental delivery and the operator should be prepared to disimpact the fetal head using recognized maneuvers.
- ❖ Mediolateral episiotomy should be discussed with the woman and tailored to the circumstances.
- ❖ When performing a mediolateral episiotomy, the cut should be at a 60-degree angle to the midline and initiated when the head is crowning the perineum.
- ❖ A single prophylactic dose of intravenous amoxicillin and clavulanic acid should be considered following assisted vaginal birth as it significantly reduces confirmed or suspected maternal infection compared to placebo.
- ❖ Reassess women after assisted vaginal birth for venous thromboembolism risk and the need for thromboprophylaxis.
- ❖ Highlight the risk of urinary retention and the importance of bladder emptying in the postpartum period. Timing and volume of the first void urine should be monitored and documented.
- ❖ A post void residual should be measured if urinary retention is suspected.
- ❖ For women who had regional analgesia for a trial in theatre, recommend indwelling catheter in situ following birth, to prevent covert urinary retention.
- ❖ Review women before hospital discharge with a confirmatory vaginal examination. Discuss the indication for assisted vaginal birth, management of any complications and advice for future births.
- ❖ Documentation for assisted vaginal birth should include information on the assessment, decision making and conduct of the procedure, a plan for post natal care and information for subsequent pregnancies – standardized proforma is recommended.

5. Avoiding assisted vaginal birth

Evidence suggests, continuous one to one care and labour companionship can reduce the need for assisted vaginal birth[4]. Use of epidural analgesia may increase the need for instrumental delivery[5]. Adopting an upright or lateral position during second stage reduces the need for assisted vaginal delivery[6]. If on epidural it is not recommended to routinely discontinue during second stage, as this will not reduce need of assisted vaginal delivery but increases pain and distress to the woman[7].

6. Classification of instrumental delivery as outlet, low and mid cavity assisted birth in forceps delivery

Outlet	Low	Mid
Fetal scalp visible without separating the labia Fetal skull has reached the perineum Rotation does not exceed 45°	Fetal skull is at station +2cm, but not on the perineum Two subdivisions: 1. Non-rotational ≤45° 2. Rotational >45°	Fetal head is no more than one-fifth palpable per abdomen Leading point of the skull is at station 0 or +1cm Two subdivisions: 1. Non-rotational ≤45° 2. Rotational >45°

7. The performing clinician should take a relevant concise history and carry out systematic examination to identify any contraindications:

- Check obstetric, general, and medical history.
- Birth weight of previous baby/babies and assessment of EFW in the index pregnancy.
- Assessment of progress in the first stage (noting secondary arrest).
- Assessment of second stage of labour.
- Assessment of frequency and strength of uterine contractions and noting any contraindications for the use of oxytocin infusion.

7.1 Assessment of feto-maternal status

- Evaluation of the physical and emotional state of the mother and her ability to participate actively in birth.
- Give clear explanation and obtain informed consent and document on her hospital notes.
- Reduce maternal discomfort by administering appropriate analgesia (Consider local or regional).
- Confirm the bladder is empty. If on catheter, remove it or deflate the balloon.
- Note colour of amniotic fluid for the presence of meconium or blood.
- Assessment of fetal wellbeing.
- Always use aseptic techniques.

7.2 Abdominal examination

- Estimated fetal weight.
- Assessment of engagement of the fetal head, descent, the number of fifths palpable abdominally. The head should be ≤1/5 palpable per abdomen.
- Identification of the position of the fetal back and sinciput, (This examination is not always possible, but an attempt should be made).
- Examination for distension of the lower uterine segment or formation of a retraction ring (Bandl's ring), indicating labour may have become obstructed.

7.3 Vaginal examination

- To confirm full dilatation of the cervix and station of the presenting part (should be at or below spines).
- Grade the degree of moulding as mild, moderate, or severe.
- Note the position, extent of de-flexion and asynclitism of fetal head. (see below)
- Estimate the capacity of the pelvis relative to the size of the baby. Special note of pubic arch and sacrospinous ligaments.
- Accurate account of the findings should be documented. (Lack of appreciation of the situation and delivery by wrong method in wrong place by inexperienced staff can cause increased fetal and maternal morbidity.)

7.4 Preparation of Staff

- The operator should have necessary knowledge, experience, and skill.
- Confirm the adequacy of facilities and availability of the theatre if a need arises.
- Backup plan in case of failure.
- Inform senior staff.
- Consider complications like shoulder dystocia, perineal trauma, and post-partum haemorrhage.
- Presence of the Neonatal team.

7.5 Recognition of obstructed labour/CPD

CPD may be defined as the inability of the fetus to pass safely through the birth canal for mechanical reasons. These mechanical reasons include, relative sizes of maternal pelvis and fetal presenting part, which may vary, considerably in their three-dimensional sizes and shapes and in the degree to which the fetal head may undergo compression without injury to the brain.

CPD is either true disproportion, when even the smallest diameters of the presenting part are too big to pass through the pelvis, or relative disproportion caused by larger presenting diameters of the head that are commonly associated with transverse and posterior positions of the occiput, which results from de-flexion and asynclitism of the head.

The distinction between the two types of disproportion may be impossible to make but should be attempted because correction of the malposition in the case of relative disproportion, either by enhancing uterine contractions with oxytocin or by manipulating the fetal head with an instrument or manually, may allow safe vaginal delivery of the baby. Unfortunately, there is no reliable test that will diagnose CPD with certainty before the onset of labour. It may be suspected if there is a history of previous difficult labours or from the findings on clinical examination or when delay occurs in the late active phase of the first stage of labour or pelvic (Decent) phase of the second stage.

❖ Signs of obstructed labour

1. Significant caput and moulding.
2. Tenderness and 'ballooning' of lower uterine segment.
3. Formation of uterine retraction ring.
4. Presence of oedema of cervix and/or vulva.
5. Blood-stained urine.
6. Bleeding from the vagina.

Note: Severe or increasing moulding of the head that fails to rotate descend despite of strong uterine contractions is also a clinical finding suggestive of CPD/obstructed Labour.

- If a diagnosis of obstructed labour is made, delivery should be undertaken immediately by caesarean section.

7.6 Estimation of the level of fetal head – Per Abdomen (P/A) and Vaginally (V/E) (This helps in assessment of progress at subsequent examination and on decision regarding mode of delivery)

1. P/A- 5/5 the fetal head is completely palpable above upper border of symphysis pubis.

   V/E-3 cm. digital examination at this stage is hardly possible.

2. P/A- 4/5 the lower portion of the head is just below the upper border of the symphysis pubis.

   V/E -2cm station (difficult examination of head).

3. P/A -3/5 Occipitofrontal diameter of the head may be palpable just above the upper border of the symphysis pubis.

   V/E -1cm station.

4. P/A- 2/5 the head is engaged. On one side, usually the side of sinciput, the head may be easily palpable while on the other, the side of the occiput; it may not be so easily palpable.
   V/E -0 cm station.

5. P/A -1/5 the fetal head is engaged; the head, usually the sinciput, may be just palpated with the fingers on one side only.
   V/E +1cm station.

6. P/A 0/5 the head is deeply engaged; neither the occiput nor the sinciput are palpable abdominally.
   V/E +2cm.

   - If the station is at the level of ischial spines or higher vaginally, instrumental delivery is contra-indicated[4,5].

     If it is necessary to deliver the baby at this stage, either due to maternal or fetal distress, it should be by a caesarean section.

7.7 Use of oxytocin for slow progress in second stage

Use of oxytocin (especially in a nulliparous women) may be better than premature instrumental delivery with a high fetal head station for the treatment of delay in the second stage of labour[6,7,8,9].

- **In a nulliparous** woman with inefficient uterine contractions, and with absence of signs of fetal distress, contractions can be stimulated with oxytocin to achieve 4-5 contractions per 10 minutes.
- However, in a **multiparous woman**, inefficient uterine action is less common and caution is required before introducing oxytocin to increase uterine contraction due to risk of hypertonic contractions and uterine rupture. Careful assessment should be made by an experienced clinician/consultant, to exclude disproportion before administering oxytocin for delay in the first or second stages of labour.
- Oxytocin should not be routinely used in women with previous caesarean delivery. Need should be discussed with on-call consultant/Senior clinician before augmentation.

{Rate of uterine rupture doubles with use of Syntocinon after previous C/S, compared to non-use of Syntocinon[9,10,11]. Earliest signs of uterine dehiscence/ rupture can be fetal distress, abdominal pain (in the region of scar), vaginal bleeding and blood-stained urine. If the pain 'breaks through' despite epidural analgesia, scar dehiscence should be considered.}

8. Choice of instrument

The choice, judgement and the skill of the operator dictates the outcome rather than the instrument itself. Following factors needs to be considered in decision-making:

- Experience of operator.
- Station and position of head.
- Size of the baby.
- Degree of caput/moulding.
- Maternal exhaustion – physical/mental.

Ventouse is more likely to fail in the presence of excessive caput. The vacuum extraction causes less maternal trauma but may increase the risk of cephal-hematoma, retinal haemorrhage and certain types of intra-cranial haemorrhage in the fetus compared to forceps delivery[12]. Maternal perineal trauma is more likely with forceps but ability to complete delivery with single instrument is more likely with forceps.

Regional analgesia is advisable for difficult forceps delivery when done in theater, and a pudendal block when conducted in the labour room. Ventouse extraction can be performed without regional analgesia. Perineal infiltration for episiotomy would suffice. However, operator should confirm adequacy of analgesia with the woman prior to application of the instruments.

- Application of rotational forceps needs training and experience. If not adequately trained/experienced on the technique, manual rotation followed by non-rotational forceps/ vacuum or rotational vacuum delivery or LSCS would be prudent.

9. Trial of instrumental delivery

Adequate assessment of the case will generally resolve any doubts prior to attempting an instrumental delivery. Operator should first ensure adequate analgesia for examination has been provided. If the operator is uncertain about the position of the fetal head, degree of engagement, instrument delivery should not be undertaken.

When the operator is uncertain about the likelihood of success or expect a difficult delivery a formal trial of ventouse/forceps in the operating theater should be attempted where immediate resorting into caesarean section can be done. Failure in the labour room without preparation for immediate C/S), has shown to increase fetal morbidity and mortality[13,14].

Vacuum and forceps birth has been associated with higher incidence of episiotomy, pelvic floor tearing, levator ani avulsion and obstetric anal sphincter injury compared to spontaneous vaginal birth. Meticulous examination for perineal or obstetric anal sphincter injuries (OASIS) should be undertaken. Care should be taken on the management decision and expert opinion should be sought when in doubt.

9.1 Probable indications for a trial in theatre

- Head palpable abdominally 1/5 i.e., station +1 (mid cavity instrumental delivery). (If the station of the head is higher than this, instrumental delivery is contra-indicated. Beware of the caput at the spines, whilst the actual head is much higher.)
- Severe caput/moulding
- Non occipito-anterior (OA) positions such as OP and OT positions.
- Deflexed/Asynclitic head.
- Protracted 1st stage of labour, prolonged 7-10cm interval.
- Fetal macrosomia/borderline CPD. (HC ≥95th centile / EFW ≥4kg/ BMI above 30.)
- Any condition, which may lead to failure of instrumental delivery.

10. Vacuum extraction / ventouse delivery

Rigid/soft silicon cups can be used for OA positions and posterior cups should be used for non-OA positions. Hand-held vacuum cup (kiwi omni cup) can be used for both OA and non-OA positions.

10.1 Indications for ventouse delivery

- Delayed second stage
- Fetal distress in the second stage with fetal head below '0' station (see above)
- Maternal conditions requiring a short second stage (severe PET, cardiac disease)
- Delivery of the 2nd twin (only if cephalic).

10.2 Contraindications for ventouse delivery

- Face/brow/breech presentation
- Marked active bleeding from fetal blood sampling site or maternal immune thrombo-cytopenia in pregnancy.
- Vacuum is contraindicated below 32 weeks of gestation and should be used with extreme caution between 32+0 and 36+0 and should be discussed with consultant on-call).
- Fetal head per abdomen >1/5 palpable.
- Apparent CPD.
- Inexperience with the use of the equipment.

10.3 Prerequisites of ventouse delivery

- Full dilatation of cervix and ruptured membranes.
- Careful pelvic examination to assess adequacy of pelvis, with special attention to architecture of pelvis to assess sacral hollow, ischial spines and sub-pubic arch.
- Fully engaged head and any de-flexion of head identified.
- Full explanation of the procedure and verbal consent of the woman, and need for her co-operation emphasized.
- Good regular contractions should be present. (If they are less frequent, then Oxytocin infusion should be set-up and caution needed in multiparous women and women with previous section).

10.4 Basic rules

- The delivery should be completed in no longer than 15 minutes following application of the cup. (Fifteen minutes is given as the maximum time allowed, but the average time from insertion of the cup to delivery is normally six minutes[15,16]).
- The head should be delivered with no more than 3 synchronized pulls with maternal expulsive force.
- The procedure is abandoned if there is no descent after 2 pulls (actual head should descend and not just the caput).
- The cup should be reapplied no more than twice (discontinue after two pop-offs).
- The cup must be applied on flexion point. (Bird et.al demonstrated provided the cup is applied correctly over the flexion point and traction directed along the pelvic axis, autorotation of fetal head would occur in >90% of the fetal OP and OT positions[17].
- Anterior placement of the cup (in relation to flexion point) will aggravate de-flexion, and off-center placement of the cup will cause asynclitism. Both the situations will increase failure rate due to larger diameter of engagement and increase the chance of fetal injury.
- After checking the correct application and ensuring that no maternal tissue is included in

the cup, pressure is raised to 0.8kg/cm^2 almost straightaway. There is no advantage in stepwise increase in pressure.

- Traction on the apparatus should coincide with uterine contractions and maternal voluntary effort. To avoid the cup detachment, 'finger thumb' position of the other hand is used.
- The use of sequential instruments is associated with an increased risk of trauma to the infant. However, the operator should assess the risk of performing a second stage caesarean section with a deeply impacted fetal head versus a forceps delivery following a failed vacuum.
- Beware of shoulder dystocia, after the ventouse delivery. The association is co-incidental rather than causal.

10.5 Place of episiotomy for ventouse delivery

Episiotomy should be discussed with the woman prior to any instrumental delivery and formal consent obtained and documented. Episiotomy is not routinely required for ventouse delivery. Clinical judgement is advised.

Episiotomy may be necessary in case of:

- Rigid perineum.
- Big baby.
- Fetal distress to hasten the delivery.

If the perineum seems to be splitting an episiotomy is often performed to limit the damage[18]. Episiotomy should be done under anesthesia. (Local block if regional anesthesia is not insitu). Episiotomy is always given medio-lateral (median, increases chance of 3rd / 4th degree tear. Premature episiotomy should be avoided and should be given at the time of crowning. (In case the instrument fails to deliver the baby and C/S is required).

11. Forceps delivery

11.1 Indications

- Delay in the 2nd stage of labour.
- Fetal distress in the second stage.
- After coming head of breech delivery.
- Maternal conditions requiring short second stage.
- Delivery of the head at cesarean section.

11.2 Choice of forceps over ventouse

- After coming head in breech vaginal delivery.
- Face presentation (Mento-anterior).
- Pre-term infants <36 weeks.
- Women under anesthesia and unable to generate substantial expulsion.
- A heavily bleeding scalp sample site.
- Significant caput in OA positions, when ventouse cup is likely to come off.

11.3 Pre-requisites for forceps delivery

- Appropriately experienced operator.
- Rupture of membranes.
- Fully dilated cervix.
- Clear knowledge of the position of the fetal head (use of USS will be helpful if uncertain findings).
- Clinically adequate pelvis.
- Fetal head engaged at station +1 or lower (1/5 or less palpable abdominally).
- Adequate analgesia (regional/pudendal block).
- Empty bladder.
- An adequately informed and consented (verbal) patient.
- Availability of pediatric support.

(The careful abdominal/pelvic examination for the fetal head station, position and fetal size is carried out as in ventouse protocol.)

- If episiotomy is given it should be meticulously sutured. Vaginal and rectal examination is mandatory after instrumental delivery.
- The woman and her partner if available are debriefed regarding the procedure.
- Accurate, legible documentation of the procedure should made. Postoperative care plan including prescription of antibiotics, analgesia and thromboprophylaxis should be carried out when needed.

11.4 Management of a failed attempted forceps delivery

- If the forceps cannot be applied easily, or if the blades does not lock, or if there is lack of decent with moderate traction and maternal pushing, it is prudent to abandon the forceps delivery and resort to an emergency caesarean section.
- When attempting rotational forceps, the rotation should be achieved with ease and if not should discontinue the procedure.
- The procedure should be abandoned and resorted to an emergency caesarean section if the birth is not imminent even after 3 pulls of a correctly applied instrument and a correct direction in traction.
- If resorted to an emergency caesarean section due to failed forceps, the obstetrician should be aware that there is an increased risk of head impaction and be ready to dis-impact the head with known maneuvers.
- The neonatology team should be informed clearly about the failed forceps as there is increased risk of neonatal morbidity following caesarean section for failed forceps.

12. Prophylactic antibiotics

- Following instrumental vaginal birth, it is recommended to give a single prophylactic dose of intravenous antibiotics to prevent maternal infection.
- Amoxicillin and clavulanic acid single dose can be used for this purpose after confirming allergy status.

13. Postnatal care following instrumental delivery

- Postnatal care following instrumental vaginal delivery requires the need to assess the requirement of thromboprophylaxis to prevent thromboembolism, adequate pain relief, voiding function, pelvic floor rehabilitation and debriefing about the events in current birth and about future births.
- For pain relief NSAIDs and paracetamol administered is adequate.
- Routine bladder emptying should be encouraged after instrumental vaginal birth to prevent urinary retention. It is prudent to document the timing and the volume of the first void urine following an instrumental delivery.

14. Postnatal psychological morbidity

- Difficult childbirth can leave a traumatic experience in women and ultimately result in fear of future childbirth. It will also impact quality of life with her partner and family, ultimately leading to psychological morbidity.
- Shared decision making with the woman, good communication, and continuous support during and immediately after the childbirth have the potential to reduce the psychological morbidity following instrumental childbirth.
- It is best practice to discuss the indications for the instrumental delivery, how the complications were managed and to advise regarding future births. This should ideally be done by the obstetrician who attended the procedure.
- It should be informed that there is a high possibility of a successful spontaneous vaginal birth in the future pregnancies.

15. Clinical governance

15.1 Proper documentation

a. Documentation should include detailed information on the assessment, decision making and conduct of the procedure, a plan for postnatal care and counselling for future pregnancies.

b. Use of a standard proforma for this purpose is recommended and is best to be audited at regular intervals.

c. Training the staff with using mannequins and accreditation of the trainees.

15.2 Obtaining cord blood

d. If facilities are available, cord blood be obtained in instrumental delivery, and this should include arterial as well as venous blood sampling. The

PH and base deficit can be documented in the patient operative notes.

e. Institutes may strive to provide obstetric care units with required facilities to perform cord blood gases.

15.3 Risk management

Adverse outcomes, including failed instrumental deliveries, major obstetric haemorrhage, fetal injuries, and morbidity, OASI, shoulder dystocia and associated complications should trigger risk management meeting with unit consultant. Adequate steps can be taken to reduce these events in the future and to properly manage such complications. Frequent audits should be undertaken on these complication rates and trends.

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Annexure 1

OPERATION NOTES: FORCEPS / VENTOUSE DELIVERY

1. Name: ……
……
2. BHT: ……..

Date: …….. Time of Delivery: ……..

Operator: …… Anaesthetist: ……

Type: Forceps: Ventouse:
Neville Barnes /Simpson's Kiwi Cup
Wrigleys Soft Cup
Keillands Hard Cup
_____

Indications: 1.
2.

Anaesthesia: GA / Spinal / Epidural / Pudendal / Local Infiltration

Head Position: OA / OT / OP / Other

Head Station: O / + 1 / + 2 / + 3

Moulding: no / + / 2 + / 3 +

Caput:: no / + / 2 + / 3 +

Meconium: no / yes

Application method: Direct / Wandering Rotation:

no / easy / mod / diff

Traction: easy / mod / diff Number of Pulls_____

Delivery Comments:

Annexure 1 (Continued)

Placenta: Method of Delivery: CCT/ Manual Abnormalities:

Cord around neck: NO / YES tight / loose
Time: _____

Perineum: Episiotomy: NO / YES

Lacerations: Vaginal / Perineal 1^0 2^0 3^0 4^0

Method of repair : _____
& Suters used _____
_____
_____
_____
_____
_____

No. of swabs used:_____ No. of swabs at completion _____

Checked by:-

Signature 1: Signature 2 :

Vaginal Pack YES / NO Urethral catheter YES / NO

Antibiotic Prophylaxis: YES / NO
Single dose of IV given: YES / NO

Follow up oral Antibiotics & analgesics prescribed YES/ NO

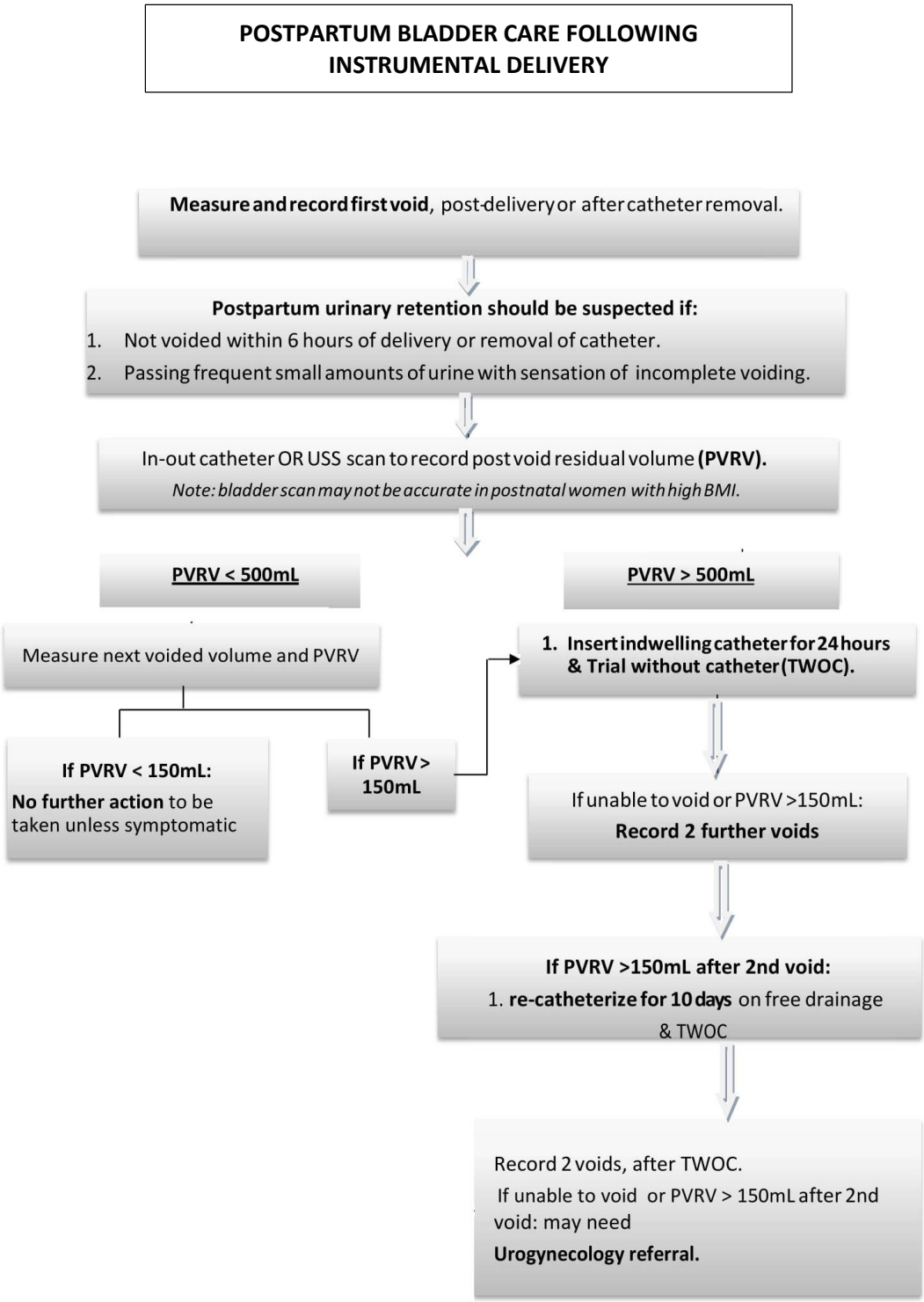
Blood loss:_____m/ls Transfusion:_____units

Further Comments:

Thromboprophylaxis: Risk assessment YES/ NO

Signature:
Name:

Annexure 2


POSTPARTUM BLADDER CARE FOLLOWING INSTRUMENTAL DELIVERY
Measure and record first void, post-delivery or after catheter removal.
Postpartum urinary retention should be suspected if:
1. Not voided within 6 hours of delivery or removal of catheter.
2. Passing frequent small amounts of urine with sensation of incomplete voiding.
In-out catheter OR USS scan to record post void residual volume (PVRV).
Note: bladder scan may not be accurate in postnatal women with high BMI.
PVRV < 500mL
PVRV > 500mL
Measure next voided volume and PVRV
If PVRV < 150mL:
No further action to be taken unless symptomatic
If PVRV > 150mL
1. Insert indwelling catheter for 24 hours & Trial without catheter (TWOC).
If unable to void or PVRV >150mL:
Record 2 further voids
If PVRV >150mL after 2nd void:
1. re-catheterize for 10 days on free drainage & TWOC
Record 2 voids, after TWOC.
If unable to void or PVRV > 150mL after 2nd void: may need
Urogynecology referral.