POLICY

A Physician applies a vacuum extractor to assist with vaginal delivery, as indicated.

Family Practice Physician

Consult with an Obstetrician when the gestational age is less than (<) 36 weeks, the presentation is higher than plus (+) 2 station or when there is not a high likelihood of successful extraction.

Applicability: Vacuum extraction for assisted vaginal delivery occurs in the Birthing area of the Acute Perinatal Program.

PROCEDURE

1.1 Indications for Vacuum Extraction

- Evidence of fetal compromise requiring prompt delivery
- Failure to progress and spontaneously deliver in the second stage.
- Maternal conditions requiring a shortened second stage including a contraindication to pushing
- Maternal exhaustion or discoordinate maternal effort

Contraindications for Vacuum Extraction

<table>
<thead>
<tr>
<th>Maternal</th>
<th>Fetal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cervical dilatation is incomplete</td>
<td>Fetal conditions, including bleeding disorders or demineralization</td>
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<tr>
<td></td>
<td>Fetal head attitude is extended</td>
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<tr>
<td></td>
<td>Fetal head is higher than 0 station, with the exception of a second twin</td>
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<tr>
<td></td>
<td>Fetal head requires rotation</td>
</tr>
<tr>
<td></td>
<td>Fetal weight estimated at (greater than or equal to (≥) 4000 grams</td>
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<tr>
<td></td>
<td>Malpresentation, including breech, brow or face</td>
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</tbody>
</table>

1.2 Prerequisites for Vacuum Extraction

Prior to initiating extraction determine that all the following conditions are present:

<table>
<thead>
<tr>
<th>Maternal</th>
<th>Fetal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Membranes are ruptured</td>
<td>Estimated fetal weight is greater than (&gt; 1500 grams</td>
</tr>
<tr>
<td></td>
<td>Gestational age is 34 weeks or greater</td>
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<tr>
<td></td>
<td>Vertex presentation is at 0 station or lower</td>
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</tbody>
</table>

1.3 Gather Materials

- Fetal monitor
- Pump - Electric, foot controlled (Medela) with sterile reusable vacuum extractor cup and tubing, increments in millimeters mercury (mmHg)
- Pump - Hand held (Mityvac) with disposable vacuum cup and tubing, increments in centimeters of mercury (cmHg)
- Sterile lubricant
- Urine catheter, #12 french

Physician

1.4 Assessment and Consent

Assess fetal presentation, position in the pelvis and confirm full dilatation of the cervix.

- Explain the need for vacuum extraction to the woman and her support person. Identify alternatives, risks and complications.
• Obtain informed consent verbally from the woman. Document in Physician's History and Progress notes.

1.5 Preparation
1) Formulate an efficient care management plan for shoulder dystocia or failure of extraction.
2) Indicate the preferred vacuum extractor pump.
3) Consult with a Pediatrician if indicated.
4) Obtain appropriate analgesia for the procedure.
5) Ensure the bladder is empty

1.6 Application of Vacuum and Extraction
1) Introduce the vacuum cup into the vagina and position onto the fetal head just anterior to or over the posterior fontanel. Avoid positioning cup over FECG electrode or site of recent fetal scalp sampling.
2) Ensure the absence of maternal tissue between the vacuum cup and fetal head.
3) Direct the nurse to apply vacuum negative pressure during the contraction
4) Direct the woman to push using her best effort.
5) Apply traction in the direction of the pelvic curve initially downward.
6) Change direction of the traction upward as the fetal head moves through the maternal pelvis.

Note: Do not apply rotational force.

1.7 Post Procedure
Remove the vacuum when the fetal head is delivered through the maternal pelvis. The procedure is discontinued when:
• There is no progress after three (3) vacuum assisted contractions
• The vacuum pops off (self-releases) three times
• The total time of vacuum use is 20 minutes and delivery is not imminent.

1.8 Registered Nurse (RN) Preparation
• Monitor and document fetal well being.
• Empty the woman's bladder with a #12 french urine catheter.
• Prepare the vacuum equipment by attaching tubing to the appropriate pump.

<table>
<thead>
<tr>
<th>Hand held pump</th>
<th>Foot controlled pump</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase the pressure to the yellow zone on the pump (10 - 12 cmHg) and maintain between contractions</td>
<td>Increase the pressure to 100 mmHg and maintain between contractions</td>
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<tr>
<td>Note: Negative pressure should not extend beyond 60 cm Hg in the red zone</td>
<td></td>
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</tbody>
</table>

1.9 Vacuum procedure
Palpate the uterus for contractions

<table>
<thead>
<tr>
<th>Hand held pump</th>
<th>Foot controlled pump</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase to 600 mm Hg.</td>
<td>Increase to the green zone (40-60 cm Hg)</td>
</tr>
</tbody>
</table>

• Increase the pressure of the pump as directed by the physician when the contraction begins.
• Release the pressure to previous levels if directed by the physician when the contraction ends.
• Repeat procedure until the fetus is delivered OR the procedure is discontinued as indicated above.

After delivery examine the newborn’s scalp for chignon or cephalohematoma
VACUUM EXTRACTION: ASSISTED VAGINAL DELIVERY

DOCUMENTATION

- Fetal Monitor Tracing and Label
- Labour and Birth Summary Record
- Labour Partogram
- Newborn Clinical Path
- Newborn Record, Part 1
- Physician History and Progress Notes

REFERENCES


