Subgaleal Hemorrhage: Assessment after Assisted Delivery (Vacuum/Forceps)

Site Applicability

SPH Maternity Centre

Skill Level: **Specialized:**

Maternity Centre RNs, NICU RN's and

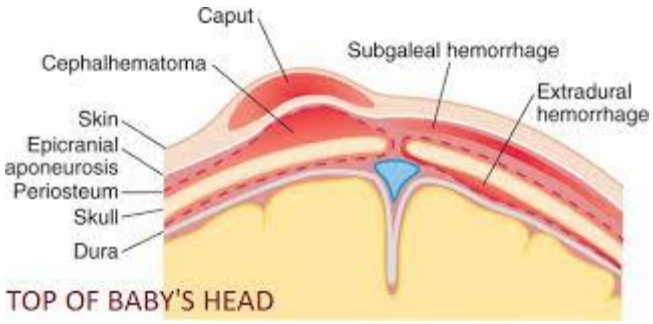
LPNs who have completed additional education and work in the Maternity Centre

Need to know:

Subgaleal hemorrhage (SGH) is a result of bleeding into the space between the scalp aponeurosis and the periosteum. It is caused by rupture of the emissary veins which connect dural sinuses and scalp veins.

The potential for massive blood loss into the subgaleal space contributes to the high mortality rate associated with this lesion.

An assessment by a pediatrician is required for infants who are at risk and show concerning signs (abnormal VS, lethargy, swelling of the scalp) in order to differentiate between SGH and the more benign conditions of caput succedaneum and cephalohematoma (See Appendix A).



Increased monitoring to assess for the presence of subgaleal hemorrhage must be completed for infants following:

- Any vacuum delivery
- Any delivery where a vacuum extraction has been attempted i.e. include all failed vacuum deliveries
- Delivery where vacuum delivery has been attempted and another instrument, such as

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forceps, has been used as the final method of delivery

- Any rotational forceps delivery

The signs of a subgaleal hemorrhage may be present at delivery or may not become clinically apparent until several hours after delivery. At risk babies should remain in hospital under close monitoring for a minimum of 24 hours following birth.

Subgaleal Hemorrhage Presentation:

Early stage:	**Later stages:**	**Shock:**
The scalp may feel tight and thick. The scalp may pit when pressure is applied with a finger. This swelling may be difficult to distinguish from simple edema.	Diffuse swelling of the head is present. Swelling is fluctuant (movable and compressible) and shifts with repositioning. Increase in scalp thickness (may be minimal)	A large accumulation of blood in the subgaleal space results in signs of hypovolemic shock: • Pallor (will look quite pale) • Hypotension • Tachycardia • Increased respiration rate • Hypotonicity **Note:** These symptoms might be the only obvious signs when cranial findings are unremarkable

PRACTICE GUIDELINE

Equipment & Supplies:

Pulse oximeter

Thermometer

Stethoscope

All neonates delivered by vacuum/forceps should have vitamin K administered as soon as possible after birth, preferably within one hour of delivery.

At the discretion of the pediatrician, cord blood may be taken for cord pH, lactate, hematocrit, and platelet count.

Pediatrician may order pulse oximetry for accurate measurement of heart rate to detect

progressive tachycardia.

The pediatrician may decide to admit the baby to NICU for continuous telemetry and observation.

Frequency of observations:

- Immediately after birth
- Every hour after birth x 3 (at 1 2 and 3 hours following birth)
- Then at 6 hours after birth
- Then every 4 hours until 24 hours after birth
- Then every shift until discharge

Assessment:

Vital Signs:

- heart rate
- temperature
- respirations

Physical Assessment:

Colour, perfusion and appearance of the scalp:

- Assessment for bogginess of the head. (DO NOT use hats)
- Visual inspection and manual palpation of the head including the scalp.
- Review head size and shape for location and nature of swelling. Palpate to assess for resolution of the chignon.
    - Palpation to note any ballotable mass or movement of fluid (gravity dependent) in scalp, note color and head shape including displacement of ears or pitting edema.

Interventions:

If there is a change in newborn status or any abnormal findings:

- Notify care provider/pediatrician STAT (use SBAR) for immediate assessment.
- Anticipate orders for frequent assessment and document all findings and actions in chart.

Patient Education:

- Explain to parents why you are monitoring the baby closely and the frequency of

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assessments

Documentation:

Documentation to include:

- Type of assisted delivery
- Newborn vital signs at birth
- Head circumference and condition of scalp at birth
- Ongoing assessments
- Physician notification
- Action plan for suspected subgaleal hemorrhage

Tools:

- Assessment for Subgaleal Hemorrhage following Assisted Delivery (where available)
- Newborn Clinical Pathway
- Newborn Record
- Interdisciplinary Notes

References:

1. Davis, D.J (2001) Neonatal subgaleal hemorrhage: diagnosis and management. Canadian Medical Association Journal, 164 (10), 1452-1453
2. McKee-Garrett, T. (2013). Neonatal Birth Injuries in UpToDate. Weisman, L.E, Phillips, W & Patterson, M.C (Eds). UpToDate. Waltham, MA 2015. Accessed at www.uptodate.com December 12 31 2015

Persons/Groups Consulted:

Pediatrician

Nurse Educator, Maternity Centre

Developed By:

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Approved By: Professional Practice Standards Committee

Maternity Safety and Quality Committee

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Questions, concerns, comments about PHC guidelines can be emailed to: nursingstds@providencehealth.bc.ca

Appendix A Distinguishing features of different neonatal extracerebral fluid collections

Feature	Caput succedaneum	Cephalohematoma	Subgaleal hemorrhage
Location	At point of contact; can extend across sutures	Usually over parietal bones; does not cross sutures	Beneath epicranial aponeurosis; may extend to orbits, nape of neck
Characteristic findings	Vaguely demarcated; pitting edema that shifts with gravity	Distinct margins; initially firm, more fluctuant after 48 h	Firm to fluctuant; ill-defined borders; may have crepitus or fluid waves
Timing	Maximal size and firmness at birth; resolves in 48 to 72 h	Increases after birth for 12 to 24 h; resolution over 2 to 3 weeks	Progressive after birth; resolution over 2 to 3 weeks
Volume of blood	Minimal	Rarely severe	May be massive, especially if there is an associated coagulopathy

(Adapted from Davis DJ (1))

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