Well Newborn Guidance

Sponsored by: Maternal Newborn Child & Youth Strategic Clinical Network™

This Well Newborn Guidance will address three central topics regarding the management of healthy newborns. Although the three topics are to some degree interrelated, each topic will be addressed separately to enhance clarity. The three topics are

- screening during pregnancy for sexually transmitted infections (STIs) and, if result is positive, appropriate treatment of pregnant patient and newborn to prevent known complications;
- treatment of newborn with intramuscular (IM) vitamin K to prevent vitamin K deficiency bleeding (VKDB); and
- notification of the most responsible health practitioner (MRHP) **when they are absent from the acute care setting**.

Content in this guidance is based on recommendations from the Canadian Paediatric Society (*Preventing ophthalmia neonatorum*, *Guidelines for vitamin K prophylaxis in newborns*) and other evidence, with consideration for the Canadian neonatal stabilization program Acute Care of at-Risk Newborns (ACoRN) and Alberta Health Services' (AHS) Obstetrics 101 e-learning modules. Topic information aligns with provincial initiatives and standards, e.g., the AHS *Newborn Admission and Nurse-Initiated Ordering at Time of Birth* protocol, *Care of Late Preterm Infants* guideline, and Postpartum and Newborn Pathway (Maternal Newborn Child & Youth Strategic Clinical Network™ [MNCY SCN]).

Sexually Transmitted Infection Screening During Pregnancy

In July 2022, a temporary direction issued by the MNCY SCN extends the discontinuation of routine administration of erythromycin ointment to the eyes of all newborns born in all AHS Labour and Delivery facilities. As highlighted in Canadian Paediatric Society (CPS) position statement, *Preventing ophthalmia neonatorum*, the central reason for discontinuing erythromycin ointment is its lack of effectiveness for preventing neonatal conjunctivitis caused by gonorrhea and chlamydia transmitted from the pregnant patient during birth. More specifically, the majority of gonococcal isolates identified in Canada (including Alberta) are resistant to erythromycin. As a preferred alternative to treatment of newborns with erythromycin eye ointment, the CPS, Alberta Health, and AHS recommends all women be screened for sexually transmitted infections during pregnancy.

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The current recommended practice for STI screening during pregnancy is outlined in Alberta Health's *Alberta Prenatal Screening Guidelines for Select Communicable Diseases*. Patients with a positive gonorrhea or chlamydia result are treated as per the Alberta Treatment Guidelines for Sexually Transmitted Infections. The Well Newborn Committee's STI Screening Working Group reviewed the current recommendation and considered several options to enhance screening for gonorrhea and chlamydia during pregnancy and reduce the number of unscreened pregnant patients.

The preferred option for STI screening during pregnancy recommended by the STI Working Group and presented to the Well Newborn Committee is

Universal screening at first prenatal visit, or at time of delivery if not screened during pregnancy**.**

- All pregnant patients will be screened for gonorrhea and chlamydia at their first prenatal visit (ideally in the first trimester [10-12 weeks].
- All pregnant patients who were not screened at any time during pregnancy, will be screened at time of delivery.

The STI Working Group will address methods to enhance routine STI screening for patients at the first prenatal visit and develop a detailed plan for identifying and testing unscreened patients when they present in labour. This work will also address management of the pregnant patient and newborn if the screen result is positive, including prevention of ophthalmia neonatorum. **Until further notice, the current practice for STI screening during pregnancy remains as outlined by Alberta Health.**

Prevention of Vitamin K Deficiency Bleeding

The current standard for prevention of newborn VKDB is administration of IM vitamin K within 6 hours of birth in accordance with the CPS *Guidelines for vitamin K prophylaxis in newborns*. Due to Alberta legislation that regulates health professions' scope of practice, IM vitamin K must be ordered specifically for an identified newborn before a Labour and Delivery/Postpartum (L&D/PP) nurse can administer the Schedule 1 medication.

In Connect Care, the MRHP can enter an order for IM vitamin K if the pregnant patient is near delivery as a nurse can pend the order by creating a health record for the soon to be delivered newborn. If the vitamin K order is not pended before birth, the nurse must receive a patient-specific order from the MRHP prior to administering vitamin K. This may occur during a scheduled check-in, or, after paging the MRHP if the time is nearing six hours post-delivery.

AHS Health Professions Strategy & Practice (HPSP) recognizes that the requirement for a patient-specific vitamin K order from an MRHP who is often absent from the acute care setting has resulted in disruption to routine L&D/PP workflows, and inadvertent delays or duplicate vitamin K dosing. In consultation with the College of Registered Nurses of Alberta (CRNA),

HPSP has received permission to conduct a pilot test of a registered nurse (RN) initiated prescription of vitamin K at one or more L&D/PP sites that have already implemented Connect Care. ***Until further notice, MRHPs absent from the acute care setting must continue to order IM vitamin K for a newborn as outlined in the first two paragraphs.***

For parents who decline injection, counselling on the serious health risks of VKDB is advised. If they still decline, an oral (PO) dose of 2.0 mg vitamin K at the time of the first feeding, to be repeated at 2 to 4 and 6 to 8 weeks of age is recommended by the CPS *Guidelines for vitamin K prophylaxis in newborns*. Parents should also be advised that:

- PO vitamin K is less effective than IM vitamin K for preventing VKDB;
- Making sure their infant receives all follow-up doses is important; and
- Their infant remains at risk for developing late VKDB (potentially with intracranial hemorrhage) despite use of the parenteral form of vitamin K for PO administration, which is the only alternate formulation available at this time.

Conversation with parents is necessary to explore their decision. Although vitamin K administration should occur promptly after birth to optimize its success for preventing VKDB, parents have already chosen more risk for their child, and in situations when the MRHP is not present at the delivery there will be a delayed discussion around this treatment option and the possibility of oral vitamin K. Vitamin K administration to newborns is the standard of care in Canada and informed refusal/consent is appropriate.

Notification of Most Responsible Health Practitioner when Absent from the Acute Care Setting

A healthy newborn's MRHP may be absent from the acute care setting at the time of their delivery. The large majority of well newborns transition to extrauterine life without any difficulty and require no acute medical management. They do, however, require nursing care and guidance; and in some cases, urgent medical assessment or medical therapy is required. Nursing provides a great deal of support to the MRHP who is not available in the acute care setting, but ultimately the MRHP is responsible for timely identification of prenatal, intrapartum and postnatal risk factors that would contribute to timely and quality care of the newborn.

This section outlines for the newborn's MRHP, when they should expect to be notified if they are not present in the acute care setting and readily available to assess the newborn. This will help facilitate well newborn admission in the absence of the newborn's MRHP and will guide contact with the newborn's MRHP if there is a change in the newborn's condition.

Notification of the MRHP: In any circumstance when the MRHP is absent from the acute care setting, they will be notified if the newborn does not meet **well newborn** criteria. Notification may occur upon admission or upon change in clinical disposition after admission.

- The **WELL NEWBORN** is any neonate 36 weeks or greater who can be admitted to a postpartum room *AND* there are no obstetrical or newborn variances that require urgent contact with the MRHP.
  Note: A preterm newborn (gestation less than 37 weeks) can be at increased risk for adverse outcomes. Safe care of the late preterm well newborn is supported by the AHS *Care of Late Preterm Infants* guideline.

The AHS Postpartum and Newborn Pathway developed by the Maternal Newborn Child & Youth Strategic Clinical Network™ details newborn assessment parameters as normal, normal variation, or variance. The MRHP should be made aware of all variances, but many can await in-person assessment by the MRHP sometime during the first 8 to 24 hours after birth. Standard nursing care orders can be initiated in the presence of variances that do not require urgent MRHP notification if the newborn is considered a well newborn. These orders do not include Schedule 1 medications. Orders for Schedule 1 medications can be deferred up to 6 hours after birth and will be provided by the MRHP.

However, the MRHP should be contacted urgently if there is the presence of any of the following variances, or if there is a combination of signs or symptoms that in combination with maternal history indicate the newborn may be unwell.

Variances that *require urgent contact* with the MRHP absent from acute care setting:

1. **Obstetrical variances requiring urgent contact:**

   (i) patient with concerns identified in obstetrical medical history
      a. HIV positive status
      b. abnormal fetal echocardiogram (most recent)
      c. absence of prenatal care
      d. absence of hepatitis B or HIV serology
      e. absence of prenatal blood typing and red blood cell antibody screen
   (ii) patient with clinical chorioamnionitis (as documented by the delivering MRHP)
   (iii) patient with evidence of placental abruption and/or fetal blood loss prior to delivery
   (iv) patient with cord occlusion or prolapse associated with significant fetal heart rate abnormality

2. **Newborn variances within the first 10 minutes of life (initial transition) requiring urgent contact:**

   (i) unattended birth outside of acute care setting
   (ii) cardio-respiratory instability in the absence of authorized prescriber led resuscitation personnel:
      a. positive pressure ventilation for longer than 2 minutes

b. chest compressions, or signs of circulatory insufficiency including pallor or mottling *OR* persistent tachycardia (HR > 180bpm)
c. ineffective respirations, tachypnea (RR > 60/min), increased respiratory effort (in-drawing and nasal flaring), or cyanosis (persistent SaO2 < 92%)

(iii) findings associated with acute pain of any cause
(iv) newborn trauma (e.g., suspected fracture) or an infant fall

3. Newborn variances after initial transition requiring urgent contact:

(i) any occurrence of apnea, gasping, or ineffective breathing that requires positive pressure ventilation, *OR* chest compressions
(ii) any occurrence of tachypnea (RR > 60/min), increased respiratory effort (grunting, in-drawing, or nasal flaring), or cyanosis (persistent SaO2 < 92%)
(iii) any occurrence of circulatory insufficiency including pallor or mottling, *OR* tachycardia at rest (HR > 180 bpm)
(iv) abnormal movement such as hypotonia, hypertonia, or rhythmic motor movements (seizure)
(v) any laboratory or POCT glucose < 1.8 mmol/L, or any failure to respond to hypoglycemia management
(vi) persistent hypothermia (< 36.5 ºC) or hyperthermia (> 37.5 ºC)
(vii) bilious vomiting or inability to swallow oral secretions
(viii) clinical evidence of subgaleal hemorrhage such as boggy swollen head that is associated with increasing head circumference (greater than or equal to 1 cm from last measurement), pallor, or tachycardia (HR > 180 bpm)
(ix) findings associated with hypoxic ischemic encephalopathy:
    a. cord arterial blood pH ≤ 7.0 or a base deficit ≥ 16; *OR*
    b. cord arterial blood pH ≤ 7.15 and base deficit ≥ 10 *AND* acute perinatal event
(x) Total Serum Bilirubin (TSB) above phototherapy treatment level according to the AHS Hyperbilirubinemia Screening, Assessment and Treatment guideline
(xi) any significant increased symptoms associated with withdrawal as per the AHS Neonatal Abstinence Syndrome guideline. For example: increased irritability or muscle tone, increased feeding cues, but disorganized swallowing, sneezing, or temperature instability
(xii) findings associated with acute pain of any cause
(xiii) suspected newborn trauma (e.g., suspected fracture) or an infant fall
(xiv) a request for early discharge or request for discharge against medical advice
(xv) any purulent eye discharge

A newborn can have variances that do not require urgent notification of the MRHP. The MRHP should provide time to discuss these variances with nursing at times that are mutually agreeable and frequent enough as to not interfere with patient care or workflow. The following list illustrates *some* newborn or obstetrical variances but do not represent all probable scenarios.

Examples of variances that *do not require urgent contact* with the MRHP absent from acute care setting:

1. **Obstetrical variances not requiring urgent contact:**

   (i) patient with concerns identified in obstetrical medical history
   - a. positive hepatitis B serology
     - The newborn will benefit from non-urgent Hepatitis B Immunoglobulin (HBIg). This therapy is ideally initiated before 12 hours of age. Informed consent is required and should be addressed when the MRHP is in the acute care setting.
   - b. positive syphilis serology
   - c. absence of sexually transmitted infection screen
   - d. absence of varicella zoster virus screen
   - e. absence of rubella serology
   - f. gestational diabetes
     - Standard orders should include scheduled blood glucose monitoring of at-risk newborn
   - g. hypertensive disorder of pregnancy

2. **Newborn variances not requiring urgent contact:**

   (i) heart murmur with normal vital signs including oxygen saturation
   (ii) low resting heart rate (HR 80 - 100 bpm) that increases with movement, stimulation or activity and is *not* associated with any signs of sepsis (refer to section 3 i-vi for indications of sepsis)
   (iii) atypical physical features suggesting a genetic problem (e.g., Down Syndrome [Trisomy 21]) but otherwise clinically well including normal vital signs and oxygen saturation
   (iv) minor and non-life threatening anomalies, malformations, or deformities, including, but not limited to extra digits, missing digits, fused digits, clubbed feet, sacral dimples, ear anomalies, etc.

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