



Standard of Newborn Care in the Age of Birth Plans

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Objectives

- Review preventative and screening standard care for healthy newborns
- Discuss Texas state laws that pertain to newborn care
- Understand reasons for parental refusals
- Identify strategies to advocate for the standard of care for newborns

The Age of Birth Plans

- Birth Plans becoming more common
- Can be helpful
- Can include things that are not standard of care

Preventative or Empiric Therapies

- Eye prophylaxis
- Vitamin K
- Hepatitis B
- Sepsis Evaluation



Screening

- State Metabolic Screen
- Hearing Screen
- Critical Congenital Heart Disease Screen
- Bilirubin Screening
- HIV, Syphilis and Hepatitis B Testing
- Hypoglycemia Screening
- Car Seat Challenge

Eye Prophylaxis

What:

- 0.5% **erythromycin ophthalmic ointment** placed in baby's eyes within 2 hours of delivery

Why:

- Prevention of Ophthalmia Neonatorum (ON) and blindness



IM Vitamin K

What:

- AAP recommended IM vitamin K at birth in 1961
- All newborns receive vitamin K1 as a 0.5 – 1 mg IM dose within the first 6 hours of life.

Why:

Prevent vitamin K deficiency bleeding

- Classic VKDB : 1/250 (1-7 days).
- Late VKDB: 1/14,000 to 1/25,000 (2-12 wks, up to 6 months)

Mortality for VKDB is 1 out of 5



Newborn Metabolic Screen

What:

- Blood spot test at 24-48 hours of life
- Done in every state in the US (although diseases screened for can differ between states)

Why:

Screen for rare genetic disorders for which early diagnosis and treatment saves or improves an infants life (in Texas 53 are screened)

- Amino acid disorders (ex PKU)
- Fatty acid disorders (ex MCAD)
- Endocrine disorders (ex CAH, hypothyroidism)
- Organic acid disorders (ex methylmalonic acidemia)
- Hemoglobinopathies (ex sickle cell)
- Other disorders (ex CF, galactosemia)



Hearing Screening

What:

- A Hearing Screen should be performed on all newborns before discharge.

Why:

- Prevalence of newborn hearing loss is about 1 to 2 per 1000 live births in the *normal* newborn population.
- Incidence is 20 to 40 per 1000 in the NICU population.
- Early intervention improves outcomes



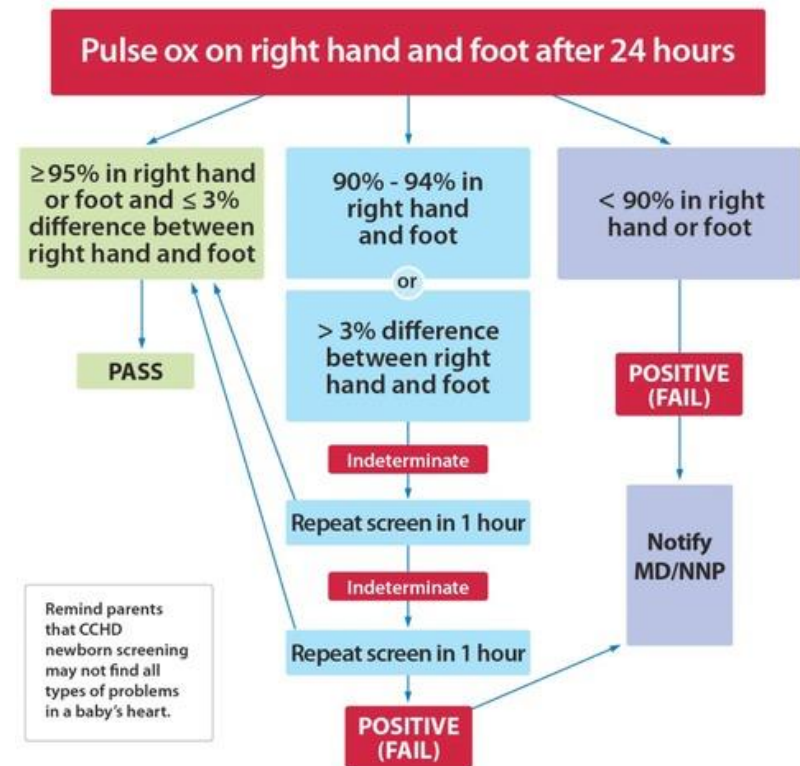
What:

Pre and post ductal oxygen saturations are compared after 24 hours of life

Why:

- Failing to detect CCHD while in the newborn nursery may lead to critical events such as cardiogenic shock or death at home
- Outcomes are better if babies diagnosed before symptomatic

Critical Congenital Heart Disease Newborn Screening Algorithm



CCHD Screening

- Critical Congenital Heart Disease Screening
- Potentially lethal, or “critical”, heart defects.
- Incidence 2/1,000 live births
- Requires expert cardiac care and intervention in the immediate newborn period or early infancy
- Leading cause of death in infants < 1 yr old



CCHD Screening

The **seven** defects classified as CCHDs are:

- Hypoplastic left heart syndrome
- Pulmonary atresia (with intact septum)
- Tetralogy of Fallot
- Total anomalous pulmonary venous return
- Transposition of the great arteries
- Tricuspid atresia
- Truncus arteriosus.

Five Secondary conditions include:

- Coarctation of the aorta
- Double outlet right ventricle
- Ebstein anomaly
- Interrupted aortic arch
- Single ventricle.

What:

- Intermittent POC glucose for at risk infants
- Hypoglycemia is treated if necessary

Why:

- Untreated hypoglycemia can be dangerous
- Some data shows early transient newborn hypoglycemia associated with lower achievement test scores at age 10 years

Hepatitis B

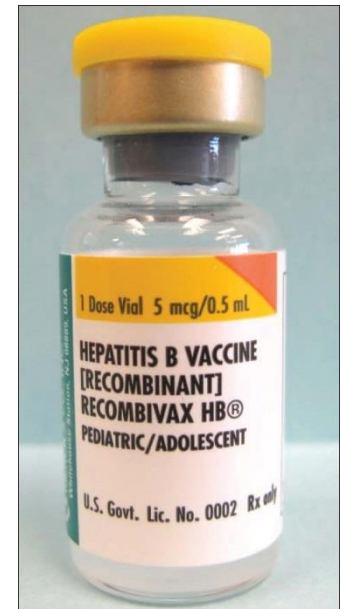
What:

Hepatitis B Vaccine

+/- Hepatitis B Immunoglobulin

Why:

- Protect against hepatitis B and chronic liver disease/cancer



Bilirubin Screening

What:

- Screen all infants for elevated total bilirubin levels.
- AAP recommendation since 2004.
- Many centers now also do a direct or conjugated bilirubin with the total or unconjugated bilirubin.

Why:

- Identify infants with elevated bilirubin levels
- Treat with phototherapy if needed to prevent bilirubin encephalopathy and kernicterus
- Early screening for possible biliary atresia (elevated direct or conjugated bilirubin)



HIV and Syphilis Testing

What:

- Maternal testing during 3rd trimester of pregnancy for HIV and syphilis
- If declined, testing of infant for HIV and syphilis

Why:

- Identify infants at risk for maternal fetal transmission of HIV and syphilis
- Treat mother early if possible (before infant is born)
- Treat infant for congenital syphilis and prevent further permanent damage to baby
- Give HIV prophylaxis to infants and decrease chance of transmission

Car Seat Challenge

What:

Cardiorespiratory monitoring while in car seat for preterm or low birth weight infants

Why:

- Identify infants that may have apnea or bradycardia while in the car seat (semi-reclined position)
- Prevent hypoxia, brain damage or death



Sepsis Evaluation

What:

Sepsis evaluation for at risk infants (maternal fever, GBS + with risk factors)

Why:

- Treat sepsis in an infant before infant gets very sick
- Infants given fewer signs of early sepsis than older children and adults
- Can get very ill, very quickly
- Early treatment can improve outcomes

Some perinatal and newborn care is dictated by law

- Eye prophylaxis
- State metabolic screen (blood spot)
- Hearing screen
- Critical congenital heart disease screen
- Some maternal serologies (hepatitis B, syphilis and HIV)



A physician, nurse, midwife, or other person in attendance at childbirth shall apply, or cause to be applied, to the child's eyes a 0.5% ophthalmic erythromycin ointment in each eye within two hours after birth.

Failure to perform is a **Class B misdemeanor**.

No parent refusal is not addressed with the wording of the law.



Law mandates that every newborn delivered in Texas must be screened with 2 blood draws, between 24-48 hours of life and at ~2 weeks of life.

EXEMPTION

- Screening tests may not be administered to a newborn child whose parents objects on the ground that the tests **conflict** with the religious tenets or practices of an **organized church** of which they are adherents.
- Any refusal must be **documented** in the medical record and signed by the parent.

LIABILITY

- A medical professional is not liable or responsible because of the failure or refusal of a parent to consent.



Texas Law and Hearing Screen

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Birth facility responsible for providing screening and follow-up (can be referred elsewhere) for failed screens **unless** the parent declines the screening.

NEWBORN HEARING SCREENING REFUSAL

I, _____, ask that the newborn hearing screening NOT
(Parent or Legal Guardian Name)

be performed on my baby _____.
(Baby's Name)

I release _____, my physician/health care provider
(Birthing Facility Name)
from any fault for disability or injury to my baby that might have been found by hearing screening. I have read the newborn hearing screening information. I fully understand what I read. I am responsible for choosing not to have the screening done.

Print Name of Parent or Legal Guardian

Signature of Parent or Legal Guardian

Date

Signature of Witness (Optional)

Date

- Birthing facility must perform the screening test for critical congenital heart disease on each newborn who is a patient of the facility before the newborn is discharged from the facility.
- Law went in to effect September 2013.
- Confirmed cases of the seven CCHD disorders along with the five secondary disorders must be reported to the DSHS.
- Parent can decline the screen.



By law, the obstetrician must screen for the following diseases:

- Syphilis and HIV at the initial prenatal visit and 3rd trimester
- Hepatitis B at the initial prenatal visit and at delivery

If the mother's results for HIV and syphilis are not found or available, then the newborn's physician shall test the infant less than two hours after the time of birth, UNLESS the parent objects to the HIV testing.



Reasons for Refusal

- Potentially Painful
- Cost
- Not Natural
- Not Necessary

Common Reasons for Refusal

- Eye prophylaxis
 - Mother tested negative for STDs
 - Impairs vision and bonding
 - Irritates baby's eyes
 - Antibiotic resistance or allergies
- Vitamin K
 - Hyperbilirubinemia
 - Leukemia risk
 - Prefer the PO formulation
 - 'I took a lot of Vitamin K during pregnancy'



Common Reasons for Refusal

Vitamin K resources for families can be found on the CDC website.

Protect Babies from Life-threatening Bleeding — Talk to Expectant Parents about the Benefits of the Vitamin K Shot for Newborns



Sources of Vitamin K

Adults get vitamin K from food — mainly leafy green vegetables — and from bacterial synthesis in the gut. Babies have very little vitamin K in their bodies at birth because only small amounts of the vitamin pass through the placenta. Also, the bacteria that produce the vitamin in the newborn's intestines are not yet present. Breast milk contains only low levels of vitamin K, and it may take weeks to months for the infant's 'sterile' gut to become established and functional. Infants are therefore predisposed to having low vitamin K levels, resulting in low levels of vitamin K-dependent clotting factors, and an increased risk for bleeding, termed vitamin K deficiency bleeding.

What is vitamin K deficiency bleeding (VKDB)?

Infants who do not receive the vitamin K shot are at risk for developing VKDB.

VKDB can be classified according to the time of presentation after birth into early (0–24 hours), classical (1–7 days) and late (2–12 weeks) VKDB. Early VKDB is severe, and is mainly found in infants whose mothers used certain medications during pregnancy that interfere with vitamin K metabolism, such as certain anticonvulsants or isoniazid. Classical VKDB is typically characterized by bruising or bleeding from the umbilicus. Late VKDB is the most concerning type — this bleeding occurs up to 6 months of age in previously healthy infants, and between 30–60% of late VKDB presents as an intracranial bleed. This life-threatening complication tends to occur in exclusively breastfed infants who have received no or inadequate vitamin K prophylaxis; warning bleeds before an initial severe event are rare.

Infants who do not get the vitamin K shot at birth are at 81 times greater risk for developing VKDB than infants who do get the shot. VKDB is effectively prevented by

Although the Vitamin K shot is safe and, as recommended by the American Academy of Pediatrics, has been routinely given to newborns at birth since 1961, some parents refuse the shot due to myths and misperceptions about its safety. This puts babies at risk for dangerous bleeding which can lead to brain damage and even death. **As a healthcare provider, you are in a unique position to debunk these myths and misperceptions. Provide reliable information to parents about the benefits of Vitamin K so that they can make the most informed choices about their child's medical care and protect them from potentially devastating health consequences.**

- Talk to expectant parents about the benefits of a single Vitamin K shot after birth **before** they get to the delivery room.
- Encourage expectant parents to protect their newborn by making sure he or she gets the shot after birth.

Purpose of Vitamin K

Vitamin K refers to a group of structurally similar fat-soluble molecules that are primarily involved in the

Protect Your Baby from Bleeds – Talk to Your Healthcare Provider about Vitamin K



Without enough vitamin K, your baby has a chance of bleeding into his or her intestines, and brain, which can lead to brain damage and even death. Infants who do not receive the vitamin K shot at birth can develop VKDB up to 6 months of age.

How can I prevent VKDB?

The good news is that VKDB is easily prevented. The easiest and most reliable way to give babies vitamin K is by a shot into a muscle in the leg. One shot given after birth will protect your baby from VKDB.

Protect Your Baby from Vitamin K Deficiency Bleeding

Before having a baby, most parents don't give much thought to the vitamin K injection (shot) for their newborn. It's just not something that is talked about during prenatal checkups, even though babies have been routinely given this important shot at birth since the practice was first recommended by the American Academy of Pediatrics in 1961.

Vitamin K is needed for blood to clot normally. Babies are born with very small amounts of vitamin K in their bodies which can lead to serious bleeding problems. Research shows that a single vitamin K shot at birth protects your baby from developing dangerous bleeding which can lead to brain damage and even death. Ask your healthcare provider about the benefits of Vitamin K before your delivery. Protect your newborn by making sure he or she gets the shot after birth.

What is vitamin K deficiency bleeding (VKDB)?

Vitamin K deficiency bleeding or VKDB, is a condition

What is vitamin K?

Vitamin K is a vital nutrient that our body needs for blood to clot and stop bleeding. We get vitamin K from the food we eat. Some vitamin K is also made by the good bacteria that live in our intestines.

Babies have very little vitamin K in their bodies at birth because:

Why does my baby need a vitamin K shot?

1. Vitamin K from the mom is not easily shared with the developing baby during the pregnancy
2. The intestine of the newborn baby has very little bacteria so they do not make enough vitamin K on their own.

Without enough vitamin K, blood cannot clot well. As a result, bleeding can occur anywhere in the body. This means not only that bleeding from a cut or bruise may continue for a long time, but that uncontrolled

Common Reasons for Refusal

- Hepatitis B, HIV and Syphilis testing
 - Stigma or fear
- Car Seat Challenge
 - Too stressful for baby
 - Delay discharge/ Test is too long



Common Reasons for Refusal

- Phototherapy
 - Delay discharge
 - Possible separation of mother and baby
- Sepsis Evaluation
 - Concern about antibiotics being given
 - Baby looks fine



Principals of Advocating

- Be friendly not angry
- Ask for about their concerns and reasons
- LISTEN
- Acknowledge their interest in their child
- Acknowledge any valid arguments
- Show empathy for their distress

- Wait for permission to advocate your side
- Remind them that this is their decision and their child but you want them to be well informed
- Now when to stop and give them space/time to think things over
- Check back in later

Firm Refusals

Document discussions in the medical record

- risks and benefits discussed
- families stated reasons for refusal
- responses to the refusal reasons
- final parental decision

If refusing a state mandated screen

- follow hospital policy regarding refusal
- formal paperwork signed if necessary or available

Advocating for the Baby

Case 1:

First time parents come in with a detailed birth plan. Because of fetal distress, the delivery did not go as planned and mother required c-section. They are very adamant about the rest of their plan being followed, which includes declining the erythromycin ointment and Vitamin K injection.

When asked why they are declining, they state that “we know that the eye ointment is a law, but we don’t have STDs, so we really don’t think it’s necessary. And we don’t want to give the Vitamin K because its not natural.”

Practice with your Neighbor

Advocating for the Baby

Case 2:

A large for gestational age infant is born to a diabetic mother after an uncomplicated pregnancy and delivery. You come in to check the baby's glucose and mother says no. When asked why, she states she says that checking her glucose during the pregnancy was painful and she doesn't want the baby to go through that when he's so little.

Practice with your Neighbor

Conclusions

- Remember that a family wants what they think is best for their baby
- When a family refuses standard of care for their baby, ask why and listen
- Educate and advocate for the infant
- Document, document, document

Questions?

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Thank You