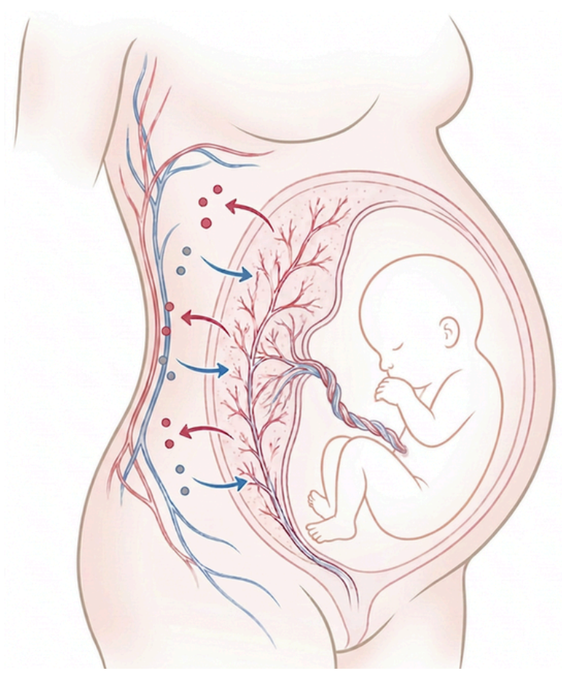
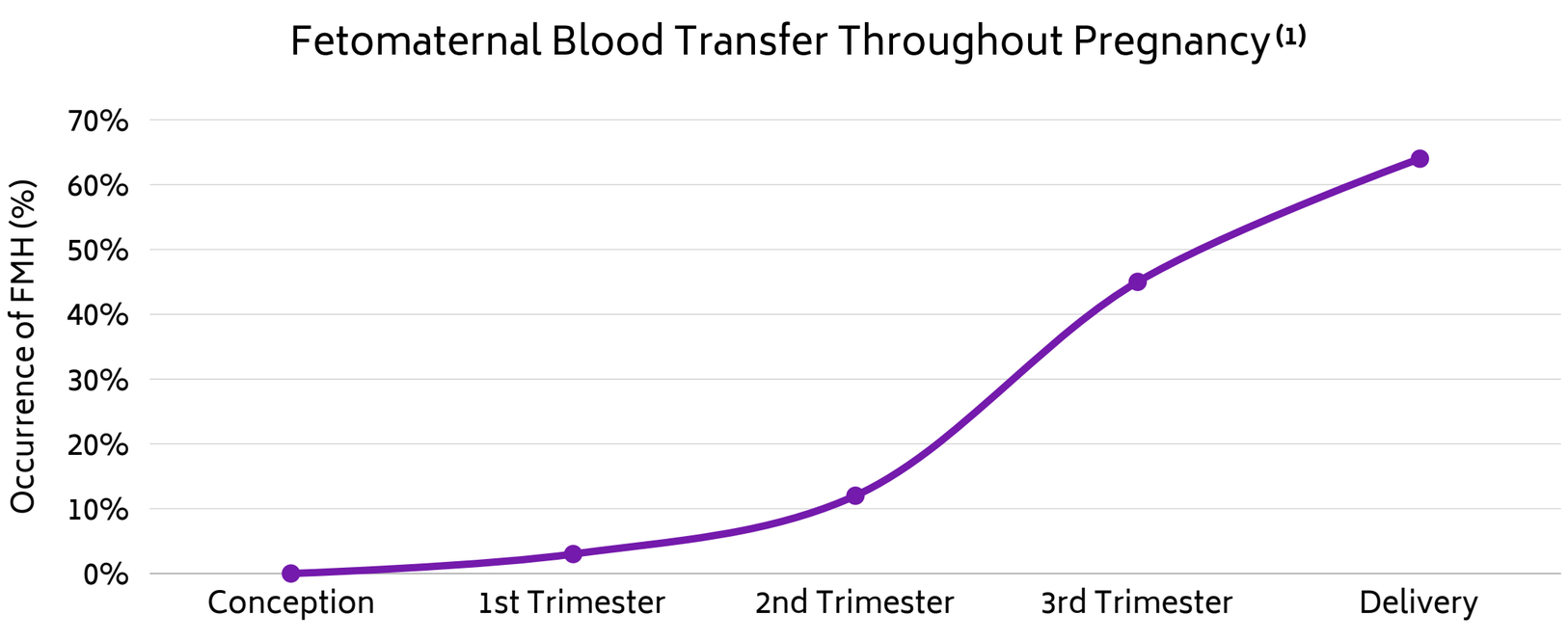
ALLO HOPE FOUNDATION

Delivery Timing for Alloimmunized Pregnancies

Understanding Blood Transfer Between Mom and Baby During Pregnancy

Most pregnancies experience small, clinically silent transfers of fetal blood into the maternal circulation. These events, called fetomaternal hemorrhage (FMH), are usually microscopic, cause no symptoms, and cannot be felt by the mother. The likelihood of detectable FMH increases as pregnancy advances. Even low-risk, uneventful pregnancies without trauma or invasive procedures can experience FMH.





Why Does This Matter in Alloimmunized Pregnancies?(2)

- Fetal blood exposure may contribute to continued maternal immune stimulation (therefore, increased titers and/or additional antibody development).
- Since it becomes more common for blood to mix later in pregnancy, antigen-postive/antigen-unknown babies can become more severely affected towards the end of pregnancy, and fetal monitoring becomes increasingly important:
  - Weekly NSTs/BPPs for all pregnancies beginning at 32 weeks gestation
  - Weekly MCA Doppler ultrasounds for women with current or prior critical titers, or a previously affected pregnancy, beginning at 15-16 weeks gestation

Events Associated with FMH

- Abdominal Trauma
- Amniocentesis
- Chorionic Villus Sampling (CVS)
- Delivery
- External Cephalic Version (ECV)
- Vaginal Bleeding

However, many episodes occur without any identifiable event

Delivery Timing

All alloimmunized pregnancies carrying an antigen-positive baby (or when antigen status is unknown) are recommended to deliver between 37+0 and 38+6 weeks regardless of titer, unless maternal/fetal condition requires an earlier delivery.(3-5) The risks of a baby remaining exposed to maternal antibodies during periods of increased FMH occurrence are considered to outweigh the risks of delivery at Early Term (37-38 weeks gestation). Allowing a baby to remain exposed to maternal antibodies beyond 38+6 weeks gestation may lead to the baby requiring more intervention at delivery due to an increased presence of maternal antibodies and inability to reliably monitor for fetal anemia through MCA Doppler ultrasounds beyond 35 weeks.(6) The methods of monitoring listed below are often used collectively to get a big-picture view of the baby's condition and to inform delivery timing. Delivery timing is individualized based on fetal condition and maternal condition. *Please see our Excellent Neonatal Care Checklist for immediate care and monitoring the baby will require at delivery.*



Non-Stress Test (NST)

Sometimes called CTG

Two bands are placed on the belly to monitor the baby's heart rate and the mom's contractions to assess well-being and identify signs of fetal distress.



Biophysical Profile (BPP)

Ultrasound assessing the baby's breathing movements, body movements, muscle tone, amniotic fluid volume, and heart rate reactivity to evaluate overall fetal well-being.



Middle Cerebral Artery (MCA) Doppler

A specialized ultrasound that measures the blood flow in the baby's brain to screen for fetal anemia and monitor its severity.

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Delivery Checklist

All Antibodies and Titers

- ☐ Delivery at a hospital with a level 3 or level 4 NICU
- ☐ Delivery by 37+0 and 38+6 weeks (unless earlier delivery is indicated)
- ☐ Cord blood/venous blood testing immediately available with prompt results
- ☐ Properly crossmatched (antigen-negative) blood available for mom and/or newborn
- ☐ Immediate phototherapy available after delivery
- ☐ AHF Neonatal Excellent Care Checklist and AHF HDFN Care Record printed to stay on top of required monitoring and intervention (QR codes to right)
- ☐ Alloimmunization alone is *not* an indication for cesarean section

Neonatal Checklist

HDFN Care Record

Frequently Asked Questions

Do babies born to mothers with non-critical antibody titers ever require treatment after delivery?
Non-critical antibody titers indicate that a baby is unlikely to develop significant fetal anemia *during* pregnancy. However, after delivery, the placenta is no longer available to help clear bilirubin produced from hemolysis, and the newborn's liver must take over this process. As a result, some babies can develop significant hyperbilirubinemia and/or anemia after birth, even when maternal antibody titers have remained below the critical threshold during pregnancy.

My titers are low; is it really necessary to be induced?
A non-critical antibody titer indicates that the risk of significant fetal anemia during pregnancy is lower, but it does not mean that the baby will be unaffected after birth. Babies born to mothers with low or non-critical titers can still develop significant anemia and/or hyperbilirubinemia and require treatment after delivery.

Delivering within the recommended window of 37 to 38+6 weeks helps balance the benefits of continued fetal maturation with the risks of prolonged transfer of maternal antibodies. Allowing the pregnancy to continue beyond the recommended delivery window may prolong the baby's exposure to ongoing placental antibody transfer, increasing the potential for more significant anemia or hyperbilirubinemia after birth.

I was planning a home birth; is that still a safe option for me?
Because it is not possible to predict with certainty what level of care a baby may require after delivery, it is safest to deliver at a hospital with a Level III or Level IV NICU. Even babies born to mothers with low antibody titers can develop significant hyperbilirubinemia or other complications requiring immediate treatment.

If a baby is not born at an equipped hospital and requires a transfer of care, even a delay of a few hours in initiating phototherapy or other necessary treatment can have serious, potentially lifelong consequences. Additionally, delayed treatment may increase the need for invasive interventions and potentially prolong the baby's recovery.

Some mothers are diagnosed with clinically significant antibodies later in pregnancy, and transferring care to a new provider or hospital can feel overwhelming. To help ease this transition, some families choose to have their midwife attend the hospital birth in a supportive role, such as a doula, allowing the mother to maintain continuity of emotional and physical support while receiving the specialized care available at the hospital.

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