# Elevating Care For Families: Above Standards, Beyond Expectations



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#### **FORWARD**

In the ever-evolving landscape of healthcare, it becomes increasingly evident that specialized care tailored to the unique needs of women and families is not just an option but a necessity. As we navigate through the complexities of medical advancements and societal shifts, it is imperative to raise the bar for health professionals entrusted with the well-being of women and families.

The International Partnership for Perinatal Excellence is a forward-thinking program. It addresses the growing demand for comprehensive healthcare services that prioritize the physical, mental, and emotional aspects of women's health, extending its reach to encompass the holistic needs of entire families. By investing in the education and training of healthcare professionals, we pave the way for a future where every individual receives the quality care they deserve.

Moreover, this program places a particular emphasis on preventing perinatal loss—a deeply personal and often devastating experience for families. By equipping health professionals with the knowledge and resources to identify risk factors, provide compassionate support, and implement preventative measures, we can strive to reduce the incidence of perinatal loss and alleviate the burden of grief borne by countless families.

This initiative also recognizes and confronts the racial and economic disparities that persist within our healthcare system. Too often, women and families from marginalized communities face barriers to accessing the care they need, resulting in unequal health outcomes. By addressing these disparities, we can ensure that all individuals, regardless of race or economic status, have equal access to high-quality healthcare.

The significance of this endeavor cannot be overstated. It is a call to action—a commitment to elevating standards, fostering empathy, and embracing individuality within the realm of healthcare. By championing initiatives that equip health professionals with the knowledge and skills necessary to navigate the intricacies of women's health and family dynamics, we will not only enhance patient outcomes but also foster a culture of trust and empowerment.



As we embark on this journey to raise the bar for health professionals caring for women and families, let us remember that our collective efforts hold the power to transform lives. Together, we have the opportunity to shape a healthcare landscape where compassion, competence, and collaboration serve as the cornerstone of excellence.

With determination and dedication, let us forge ahead, knowing that the impact of our endeavors will resonate far beyond the confines of our clinics and hospitals, enriching the lives of generations to come.

Sincerely, Lindsey J. Wimmer, DNP, CPNP Executive Director, Star Legacy Foundation



#### **FORWARD**

Star Legacy Foundation is at the forefront of addressing critical healthcare challenges with the launch of our International Perinatal Prevention and Education (IPPE) program. This initiative is a direct response to the distressing statistics on miscarriage, stillbirth, and perinatal mortality both in the United States and globally.

Our goal with the IPPE program is to equip healthcare professionals with the tools and knowledge necessary to prevent these tragic outcomes. The curriculum includes the latest in international multispecialty research, practice guidelines tailored for perinatal care, and a strong foundation in ethical considerations.

Certified participants will contribute to a centralized database, enhancing transparency and enabling continuous improvement in care practices. This initiative not only supports professionals but also empowers patients, allowing them to identify and choose providers committed to the best and most current care practices.

We invite your support and advocacy for integrating the IPPE program within national health strategies, enhancing the quality of care for mothers and babies across our nation.

Respectfully, Barbara Toppin, MD Board Chair, Star Legacy Foundation



#### **INTRODUCTION**

Perinatal health is an indicator of overall health and the status of health systems as it has a significant impact on the well-being of babies, mothers, and families across the lifespan. Recent programs have raised awareness about how often pregnancies end tragically, primarily with the death of the baby or mother. While many questions remain about how to prevent some of these deaths, international initiatives are providing critical information about how healthcare providers and systems can improve the experience and outcomes for families during and after pregnancy.

Perinatal loss, defined by the International Partnership for Perinatal Excellence as the death of a baby during pregnancy or infancy, is a heartbreaking event for millions of families every year. In the United States, it is estimated that one in four women will experience a perinatal loss during their lifetime. It is challenging to know the true impact due to the lack of data collection and stigma that surrounds different types of losses. Tremendous disparities exist as well. Black and Native American women experience stillbirth and neonatal death at rates more than double the rates for other women, and similar inequities are noted among families of varying economic classes, education levels, and access to care. These losses also have a detrimental impact on health professionals and teams and have been cited as a contributor to work-related stress and burnout among maternal/child health professionals.

Most health professional training programs do not have curriculum dedicated to preventing these losses and caring for bereaved families. In fact, many providers report that they are generally taught that most perinatal losses are not preventable. As a result, studies have shown that there are knowledge gaps among health professionals about causes and prevention opportunities, and health professionals are often uncomfortable addressing these issues with patients.

One of the goals of the International Partnership for Perinatal Excellence (IPPE) is to provide health professionals with the information and tools they need to provide optimal perinatal health care to families, focusing on prevention and care of perinatal loss. The resources provided draw from the latest research, results from international initiatives, and multidisciplinary perspectives. Threaded throughout the program are care principles such as shared-decision making, family-centered care, trauma-informed care, social determinants of health, empathic listening, and culturally-sensitive care.



This document serves to outline the care recommendations of IPPE and the path to becoming an IPPE certified health professional. It is important to note that these recommendations are designed to guide care that is above the minimum standards established by professional and legal organizations. Our objective is to provide information about approaches to care that exceed these minimums, yet are still guided by evidence, experience, and compassion.

#### **Members of IPPE will:**

- Be leaders in their community and champions for their patients
- Seek continuing education around perinatal loss prevention and care
- Incorporate IPPE concepts into their work
- Discuss risk factors for perinatal loss with patients and colleagues
- Identify families at risk and develop a plan to address these concerns

#### **Certification by IPPE recognizes a commitment to excellence in three key areas:**

1) perinatal loss prevention, 2) perinatal loss, and 3) pregnancy after loss.

#### Initial certification requires understanding of the following concepts:

- Prevention:
  - Preconception Care
  - Fetal Growth Restriction
  - Fetal Movements
  - Maternal Sleep Position

- Perinatal Loss:
  - Communication
  - Bereavement Care
  - Clinical Care
- Pathology

- Pregnancy After Loss:
  - ° Clinical Care
  - Emotional Care

A curriculum outline for certification is available in Appendix C. These topics are not representative of all care that should be provided. Rather, they provide a progressive approach to identifying and managing vulnerable pregnancies that is not currently represented by standards of care. Throughout the curriculum, common threads will include family-centered care, empathic listening, and culturally-sensitive care. These concepts are known to improve health outcomes in many settings and may be particularly beneficial in reducing the disparities in perinatal health. Members who are obstetric providers are encouraged to submit practice indicators to serve as outcomes, process, and balancing measures.

Recertification will focus on additional topics found to impact these core elements of perinatal excellence. Expected topics include Infections, Health Disparities, Substance Use, Perinatal Palliative Care, Maternal Health, Care Audits, and more.



#### **EXECUTIVE SUMMARY**

Perinatal loss refers to the death of a baby during pregnancy or the neonatal period. For decades, the rates of these losses have remained relatively steady. It is estimated that one in four women will experience the death of a baby during their lifetime. The emotional, social, and physical impact on the entire family cannot be overestimated. Across the United States and around the world, millions of women and families are living with the grief of having a baby die too soon.

In recent years, several health systems and nations have been investing in programs aimed at reducing these deaths, particularly stillbirth. Early indicators from care bundles implemented in Scotland, the United Kingdom, and Australia are creating promise that these efforts will be successful. Adjacent initiatives, such as the Manchester Rainbow Clinic for pregnancy after loss, are providing additional hope, information, and motivation for future progress. One of the most powerful effects of these programs is that they force us to question the professional fatalism that has surrounded perinatal loss for generations. The idea that these losses 'just happen' is no longer an acceptable myth. When we open our minds to the possibility that we can make a difference, it is easy to be motivated to implement similar programs.

One common denominator in these international initiatives is their multifactorial nature. Unfortunately, it is unlikely that we will identify a single 'magic wand' that independently improves the rates of these losses. However, when many concepts are combined into comprehensive care, our potential for making a difference increases significantly. The care bundle format was selected because it has proven to be successful in improving healthcare outcomes with complex etiologies. Initially designed by the Institute for Healthcare Improvement, this model has been utilized by several organizations such as the Alliance for Innovation on Maternal Health. Recently, the Scottish Maternity and Children Quality Improvement Collaborative, National Health Service England, and the Stillbirth Centre for Research Excellence in Australia have used this process for preventing stillbirth.

In the United States, no professional health organizations have taken responsibility for reducing the rate of perinatal loss. While there are many differences in the financial, legal, and social context, there is much that health professionals in the United States and other nations can learn from these exciting programs in other nations. The International Partnership for Perinatal Excellence (IPPE) was created to be a place for health professionals to join together and move perinatal loss prevention forward. Through education, research, practice tools, networking opportunities, and support, members of IPPE will be equipped as leaders in the field. Further, their certification will demonstrate their commitment to a higher



level of care. As such, they will be much sought after professionals by parents and families who want to take a progressive approach to their pregnancy and maternity care.

Initial certification focuses on three main areas of care. First, perinatal loss prevention includes preconception health, fetal growth restriction, fetal movement, and maternal sleep position. Second, perinatal loss covers bereavement communication, bereavement care, clinical care, and pathology. The third area, pregnancy after loss, discusses clinical and psychosocial care. Recertification will add additional topics that are critical to improving prevention and care of these losses. They include elements such as long-term maternal health, disparities in perinatal loss, palliative care programs, infections, maternal health conditions, recurrent pregnancy loss, and more.

Several care concepts are woven into the entire curriculum. These include principles of family-centered care, shared-decision making, trauma-informed care, empathic listening, culturally-sensitive care, and addressing social determinants of health. Many of these practice concepts are well-known, but not consistently implemented by health professionals. Throughout the curriculum, individuals will be challenged to assess their practice and find opportunities to improve. These care principles hold great promise to increase success with implementation of this program, reduce poor perinatal outcomes, and minimize the disparity gaps that currently exist.

IPPE offers membership for many types of health professionals. One of our guiding principles is the importance of teamwork and a multidisciplinary approach to care. We believe that when an entire care team has the same fundamental approach and commitment to perinatal excellence, women, babies, and families will all benefit. We also believe that measuring the impact of our actions is important to be good stewards of the trust offered by families. Outcomes, process, and balancing measures will be collected from certified providers to ensure these efforts have the best interest of the families in mind at all times. They will also serve as important data points to guide future revisions as appropriate.

IPPE is grateful for the many health professionals, researchers, and families who inspired this work, especially those who were instrumental in bringing this program to fruition.



#### **SECTION ONE: PERINATAL LOSS PREVENTION**

#### PRECONCEPTION HEALTH

Healthy pregnancies begin with a healthy mother and family. Ideally, individuals who are considering pregnancy will discuss their plans with a health professional. This provides an opportunity to screen for genetic conditions, infections, autoimmune concerns, and other risk factors. If a preconception visit has not occurred, this information should be covered during the first antenatal appointment. Screening for additional risk factors should be done at each antenatal visit. Tools for screening are available in Appendix A.

#### Recommended plan for preconception visits include:

- Detailed personal and family history, including reproductive history
- Screen for history of trauma, including reproductive trauma
- Screen for mental health concerns using PHQ9 and GAD7
- Screen for STIs
- Determine TORCH immunity
- Screen for genetic conditions/advanced karyotype screening (once)
  - ° SMA
  - Cystic Fibrosis
  - ° Tay Sachs for Jewish or French Canadian families
  - Fragile X
  - o Factor V Leiden
  - ° MTHFR
  - ° Prothrombin
- Review childhood vaccination status
- Screen for maternal health conditions and develop a plan for management
  - Maternal weight
  - Mental health
  - Substance use
  - Thyroid function
  - Lipid profile
  - ° Pap smear
  - ° Sleep hygiene
  - Existing health conditions
- Discuss pregnancy spacing
- Review social determinants of health
  - Occupational situation/setting
  - Family dynamics
  - Financial considerations
  - Support system
  - Lifestyle factors

- Cultural traditions
- Exposure to racism
- Access to care
- Stress



- Screen for risk factors for pregnancy complications
  - Advanced maternal age
  - History of poor pregnancy outcomes
  - IVF pregnancy
  - Primiparity
- Discuss known and potential risk factors for pregnancy complications
- Initiate prenatal vitamins with folate and DHA supplements
- Workup for recurrent pregnancy loss if strong family history or personal history of poor pregnancy outcomes
- Referral to specialists for management of maternal health conditions as needed

At each antenatal visit, risk factors should be reviewed and discussed with the family. Changes to the antenatal surveillance schedule should be considered with increased number or severity of risk factors. It is important to view pregnancy loss as a multifactorial condition. There may be several factors present that could lead to a poor outcome, but more commonly, it is the combination of these factors that results in poor outcomes, specifically pregnancy loss.

## Recommended topics for assessment include the following risk factors: Maternal Health

- Autoimmune Disorders
- Maternal health conditions (hypertension, diabetes, renal disorders, sickle cell disease, thyroid disorder)
- Substance use
- Maternal BMI (underweight or overweight)
- Infections
- Advanced maternal age
- History of poor pregnancy outcome
- Maternal sleep position and quality
- Maternal mental health

#### **Social Health**

- Support system
- Financial concerns
- Trauma
- Stress
- Access to care
- Prenatal care
- Exposure to racism



#### **Pregnancy/Fetal Health**

- IVF pregnancy
- Multiple gestation
- Gestational Diabetes
- Preeclampsia
- Cholestasis
- Infections
- Primiparity
- Placental conditions
- Abnormal PAPP-A, inhibin A, PIGF
- Umbilical cord abnormalities
- Fetal growth restriction
- Altered fetal movement
- Oligo/polyhydramnios
- Post-term



#### **FETAL GROWTH RESTRICTION**

Fetal Growth Restriction (FGR) has been identified as a critical opportunity for reducing poor pregnancy outcomes including stillbirth, preterm birth, prolonged neonatal hospitalization, and developmental delays. Undetected FGR has an 8-fold increased risk for stillbirth over detected FGR.

Fundal height measurement has shown to have mixed results in identifying growth restriction, yet serial ultrasound is not recommended as a screening tool for all pregnancies. Therefore, the recommended care plan focuses on screening all pregnancies for risk factors and ensuring those with any high-risk factors or multiple moderate risk factors are referred for additional assessment and surveillance. Both Symphysis-Fundal Height (SFH) and Estimated Fetal Weight (EFW) measurements should be tracked on growth charts beginning by 20 weeks. One limitation of current guidelines is that they are based on the EFW which indicates size, not growth. This increases the chances of missing larger babies that are not meeting their growth potential, but also risks inappropriately diagnosing constitutionally small babies as growth restricted. Serial measurements offer an opportunity to reduce false negatives and identify babies at risk for poor outcomes.

Timing of delivery when FGR is present is determined by a combination of results from maternal health status, non-stress test (NST), biophysical profile (BPP), amniotic fluid index (AFI), Doppler studies, and other tests as indicated. All pregnancies complicated by growth restriction should be delivered by 39 weeks.

#### **Background**

FGR complicates 5-10% of all pregnancies and is the biggest known risk factor for stillbirth. It is also associated with premature birth, intrapartum hypoxia, prolonged neonatal hospitalization, feeding and respiratory difficulties, abnormal brain development, long-term cardiovascular disease, developmental delays, and early mortality. When unrecognized, FGR is associated with an 8x increased risk of stillbirth compared to non-FGR pregnancies. Improving the identification of FGR plus surveillance and timely delivery is associated with a decrease in stillbirth.

The most common cause of FGR is placental insufficiency. Other causes include maternal health conditions associated with vascular disease, fetal chromosomal abnormalities, and cord and placenta abnormalities (placental abruption, circumvallate placenta, hemangioma, chorioangioma, velamentous or marginal cord insertion, two-vessel cord). In FGR, small arteries in the placental villi are damaged or destroyed causing a progressive decrease in end-diastolic blood flow in the umbilical artery until it is absent and then reversed. Early onset FGR (diagnosed before 32 weeks) has the largest impact on nutrition and growth, while late onset FGR (32 weeks or later) impacts respiratory demands.



#### Screening

All pregnancies should be screened for FGR with SFH. Ultrasound screening should be used if there are risk factors for FGR present or the mother has a BMI greater than 35, polyhydramnios, or large fibroids. During the fetal anatomic ultrasound in the second trimester, the presence of fetal biometry measurements more

than one week behind gestational age, short femur, echogenic bowel, two-vessel cord, or a marginal or velamentous cord insertion may be early indicators of fetal growth restriction. The combination of screening for risk factors and fetal biometry has been shown to identify more than 90% of FGR pregnancies at 30-34 weeks gestation. PAPP-A and PIGF may also be used to identify pregnancies at risk.

#### **Diagnosis**

Assessment for FGR should include a detailed history, screening for congenital infections, and detailed ultrasound. PIGF or sFlt1/PIGF ratio should be added if being done after 24 weeks gestation. Genetic consultation and amniocentesis should be offered if before 32 weeks, especially if accompanied by structural abnormalities, polyhydramnios, or soft markers.

# Early onset FGR is diagnosed before 32 weeks and requires at least one of three criteria to be present:

- Abdominal circumference or EFW below the 3rd percentile
- Late changes in the umbilical artery Doppler assessment
- Fetal abdominal circumference or EFW below the 10th percentile accompanied by abnormal uterine artery Doppler study (mean pulsatility index >95th percentile) or abnormal umbilical artery Doppler study (pulsatility index >95th percentile)

# Late onset FGR is diagnosed at or after 32 weeks with abdominal circumference or EFW below the 3rd percentile, OR two of the following criteria:

- Abdominal circumference or EFW below the 10th percentile
- Abdominal circumference or EFW crossing 2 quartiles
- Abnormal Doppler finding (umbilical artery Doppler pulsatility index above the 95th percentile or a cerebroplacental ratio below the 5th percentile)

#### Management

See Appendix A for recommended algorithms for screening and management of FGR. In early onset FGR, a combination of serial ultrasounds and Doppler studies should be used for monitoring. In late onset FGR, additional tools include maternal monitoring of fetal movements and weekly biophysical profiles and NSTs. Aspirin decreases the risk of preeclampsia and SGA in high risk women. Nutritional supplements and maternal hyperoxygenation have not been shown to be effective. Admission for in-patient monitoring is appropriate in the presence of reversed



EDV or when other complications such as preeclampsia or insulin-dependent diabetes exist. Indications for immediate delivery include severe preeclampsia, HELLP syndrome, placental abruption, or NST abnormalities. The risk of stillbirth outweighs the risk of neonatal morbidity and mortality at 33-34 weeks if the umbilical artery EDV is absent. This ratio is moved to 30 weeks if the umbilical artery EDV is reversed, or the ductus venosus EDV is absent or reversed. Cesarean delivery is recommended for placenta-mediated, early-onset FGR and major Doppler abnormalities to avoid fetal compromise during labor. A consultation with a neonatologist is recommended if early delivery is a possibility.

Late-onset FGR with abnormal umbilical artery Doppler studies, abnormal cerebroplacental ratio, abnormal BPP, oligohydramnios, or concurrent diagnosis of preeclampsia should be considered for delivery by 37 weeks. In mild FGR with normal Doppler studies and AFI, delivery between 37 and 39 weeks is recommended.

- Determine and document EDD ASAP to increase accuracy for percentile measurements
- Screen all pregnancies for risk factors
- Start aspirin 100mg qd by 16 weeks for high risk of hypertensive disorders of pregnancy until delivery
- Start uterine artery Dopplers at 20 weeks if 2 or more moderate risk factors for FGR
- Start fundal height measurements at 20 weeks, repeat every 2 weeks
- Screen pregnancies with a risk factor for FGR at 32 weeks with ultrasound EFW
- Use serial U/S instead of fundal height for screening if the pregnancy is complicated by uterine fibroids, high maternal BMI, polyhydramnios, positive screening tests for SGA, fundal height more than 3 cm of discrepancy with gestation
- Plot all fundal height measurements and EFWs on growth charts
- If EFW 10th 20th percentile and fractional thigh volume is < 10th volume is 10-20th percentile, use short-interval follow up or consider surveillance if other clinical factors present
- If fundal height is less than 10th percentile, static growth, or change in rate of growth (more than 30 percentiles in EFW or AC over 8 weeks), proceed to U/S, AFI, NST, Doppler, and PIGF.
- If U/S confirms SGA, proceed to Doppler studies, serial biometry, amniotic fluid volume, NST, and BPP every 2 weeks. OBs and midwives consult with and/or refer to MFM
- If FGR diagnosis before 32 weeks or is present with polyhydramnios or fetal malformation, offer prenatal diagnostic testing and genetic counseling



- If FGR with FHR decelerations immediate delivery by c/section
- If FGR with reversed EDV of umbilical artery or ductus venosus PI >95th percentile, deliver by 30 weeks
- If FGR deliver at 34 0/7 37 6/7 if also has oligohydramnios, abnormal Doppler studies, maternal risk factors, or other comorbidities
- If FGR deliver at 37 weeks
- If severe FGR (EFW less than 3rd percentile) deliver at 37 0/7
- If early FGR deliver at any gestation if maternal indication (ie HELLP); at 26+0 if repeated and persistent FHR decels or BPP <4; at 26+0 28+6 if ductus venosus below baseline or cCTG STV <2.6ms; at 29+0 31+6 if ductus venosus below baseline or cCTG STV < 3.0ms; at 23+0 33+6 if umbilical artery EDF is reversed or cCTG STV <3.5ms; at 34+0 if umbilical artery EDF is absent or cCTG STV <4.5ms</li>
- Consider elective c/section for early FGR if abnormal cCTG STV, abnormal ductus venosus Doppler, absent or reversed umbilical artery EDF, abnormal BPP, or maternal indication
- If late FGR: deliver immediately if repeated and persistent FHR decels, BPP <4, maternal indication, absent or reversed umbilical artery EDF, or cCTG STV <3.5ms (before 34 weeks) or <4.5ms (after 34 weeks); deliver at 36+0 37+6 if umbilical artery PI >95th percentile or AC/EFW < 3rd percentile; at 38+0 39+0 if evidence of cerebral blood flow redistribution or any other feature of FGR. Deliver all FGR pregnancies by 37-38 weeks
- Delivery recommendations
  - ° 24-26 weeks deliver for maternal indications
  - ° 26-28 weeks deliver if BPP <6/10
  - ° 28-32 weeks delivery if DV reversed
  - ° 32-34 weeks deliver if reversed UA EDV
  - 34-38 weeks deliver if absence of UA EDV or consider MCA results
  - ° 38+ weeks deliver
- Conduct chart audits to identify missed FGR



#### **FETAL MOVEMENT**

Fetal movement has been used as a non-specific indicator of fetal well-being for decades despite conflicting results of studies looking at the benefit to stillbirth rates. Reduced fetal movement is recognized as a risk factor, but management of it as a symptom is variable. Despite increasing movements being seen in healthy babies, that thinking is being modified because of recent findings that a single episode of violent or especially rigorous movement is also associated with stillbirth.

Part of the delay in accepting fetal movement awareness as a prevention opportunity is that studies could not identify a 'normal' or reassuring number of movements in a given time period. More recent efforts have shown that this should be replaced with advice for each mother to get to know her baby's individual patterns and report deviations from that in quality and quantity.

Current recommendations by RANZCOG, the NHS' Saving Babies Lives Care Bundle, and the Safer Baby Bundle encourage providers to continue educating pregnant women about monitoring fetal movement and reporting any changes. Providers should immediately evaluate all concerns with a standardized protocol. Emphasis is placed on listening to the mothers and ensuring their concerns are addressed appropriately until they have been resolved.

#### **Background**

Decreased fetal movement is considered a possible symptom of a baby trying to conserve energy due to insufficient oxygen and nutrients. A decrease in the frequency or strength of fetal movements has been associated with an increased risk of stillbirth, which increases with recurrent episodes of altered movements. It has also been associated with low birth weight, oligohydramnios, preterm birth, congenital/chromosomal abnormalities, FMH, perinatal brain injuries, abnormal neurodevelopment, intrauterine infections, low APGAR scores, fetal acidemia, hypoglycemia, umbilical cord complications, placental insufficiency, emergent delivery, IOL, cesarean section delivery, and neonatal death. Women who have experienced stillbirth were less likely to have monitored their baby's movements or to have been encouraged to do so by their health professionals. However, even when mothers monitor their baby's movements, there will be no impact on outcomes if the health professionals do not respond appropriately to their concerns.

Unfortunately, many families report that they delayed contacting their health care providers about their concerns. This is often due to lack of information about the physiologic connection between fetal well-being and fetal movement, listening to myths about the baby 'running out of room' or drinking a cold/sugary beverage to



'wake the baby up', or a desire not to bother their healthcare provider. Many health professionals are uncomfortable sharing information about fetal movement with their patients because they don't want to cause anxiety, they think the women already know this information, or they are not confident in how to respond to concerns. However, recent research provides evidence that the myths are not valid, pregnant women appreciate information about monitoring movement, and these conversations do not increase anxiety for patients.

- Provide all pregnant women and families verbal and written information about monitoring baby's movements by 24 weeks, including information about why it is important
- Encourage mothers to report any deviation from the baby's usual movement patterns immediately.
- Maternal concern of fetal movement overrides any other definition
- If a pregnant woman reports a change in fetal movement, assessment should be completed ASAP, preferably within two hours
- Evaluation for altered fetal movement should include immediate Doppler to confirm FHTs followed by clinical examination, NST, and AFI. If these tests are abnormal or the family is not reassured, consider biophysical profile, biometry, and/or testing for FMH.
- Consider delivery of women who report altered fetal movement or recurrent changes to fetal movement after 38+6 weeks gestation
- Ensure informed, shared decision-making practices are followed about timing of delivery



#### **MATERNAL SLEEP POSITION**

Maternal supine sleep in the third trimester has been associated with an increased rate of stillbirth and small for gestational age babies. Pregnant women should be informed of this correlation and encouraged to go to sleep on their side after 28 weeks of gestation.

#### **Background**

Five case-control studies and an individual participant data meta analysis have found an association between stillbirth and maternal supine sleep position in the 3rd trimester. The initial studies indicated the left lateral was the preferred position, however, more recent studies indicate that going to sleep in any position other than supine is equally advantageous for reducing the risk of stillbirth. For babies who are growth restricted and their mother slept in a supine position in the third trimester, the odds ratio for stillbirth increased to 15x more than babies who are not growth-restricted and whose mothers slept in a non-supine position.

The mechanism behind these findings is believed to be the result of decreased blood return with increasing weight of the gravid uterus. A decrease in maternal cardiac output and subsequent reduction in uterine perfusion has been documented when the mother is supine. Of note, the going-to-sleep position is associated with stillbirth, but the waking-up position is not.

NICE Guidelines published in 2021 recommend educating all pregnant women on the association of supine sleep with stillbirth. Unfortunately, reports indicate that less than 20% of health professionals routinely offer information to patients about sleep position.

- Provide verbal and written information about safe sleep practices to all pregnant women and families by 24 weeks
- Encourage pregnant women to go to sleep on their side in the third trimester
- Teach pregnant women that this sleep position increases blood flow to their baby
- Ask about sleep position at each encounter in the third trimester
- Suggest a wedge, tennis ball, or similar tool to support women who have difficulty sleeping on their side



#### **SECTION TWO: PERINATAL LOSS**

#### COMMUNICATION

Stress and grief can impact how people absorb, retain, and respond to information. Given the amount and significance of the conversations that happen around perinatal loss, strong communication skills are essential for all health professionals who work with these families. Unfortunately, many families report negative experiences with health professionals, and most health professionals receive little to no training in having these discussions.

When giving bad news, it is important to provide privacy, support, and clear information. Sensitive language throughout the situation helps to support patient-centered care. This can include simple acts such as using the baby's name, explaining medical terms, and avoiding medical jargon such as 'products of conception', 'spontaneous abortion', 'fetus', or 'not compatible with life'. It is important to be honest about what is known and not known. Non-verbal communication is equally important during these conversations. This is especially true when there are language barriers.

It may be necessary to share important information multiple times. This allows the family time to process the details, or they may not hear and understand it well if it is only presented once. Providing information in both verbal and written materials can also help meet different learning styles. Communication between health professionals can minimize confusion and prevent the family from needing to repeat their story or being given contradictory information.

Families have shared many comments that are often helpful, and also those that are not helpful. It is appropriate to ask to hear their story, express your sympathy, validate their emotions, or reassure them that they didn't cause their baby's death. Platitudes and cliches are usually not helpful, as are any comments that minimize their emotions or try to find a positive in the situation.



- All staff with the potential to care for perinatal loss families should receive education and compassionate communication.
- Be open and honest with families about all the information that is known or not known.
- Avoid medical jargon or insensitive terms
- Allow for silence.
- Avoid assumptions or impulsive reactions.
- Validate the family's emotions and feelings.
- Be prepared to repeat information.
- Identifiers should be used in charts and physical spaces to improve communication among health professionals.
- Utilize resources to minimize the impact of language barriers.
- Maintain respectful non-verbal communication.
- Allow a support person to be present for important conversations if desired.
- All providers should receive education in delivering bad news or conducting difficult conversations.



#### **BEREAVEMENT CARE**

Bereavement support for perinatal loss has changed significantly over the last 30-40 years. Parents should be validated for their grief based on how they interpret the loss. Health care professionals can model this support and facilitate bereavement activities such as memory making. Recognizing that health care cannot take away the pain for families, the goals for care focus on encouraging healthy grieving, minimizing regrets, and promoting physical recovery and mental health.

Cultural care is a key element of quality care as most cultures have rituals and beliefs connected to birth and death that should be recognized when desired by the family. Respectful care principles encourage health professionals to acknowledge the physical, emotional, mental, and spiritual needs of the entire family. Bereavement work can be taxing on health care professionals; therefore, organizational support and self-care practices can reduce the negative impact and potential burnout for professionals caring for grieving families.

#### **Background**

Before the 1980s and 1990s, many parents were discouraged from having contact with their baby after death, naming the baby, making memories with the baby, or conducting services or rituals. It was common for the parents, especially mothers, to be prescribed tranquilizers or sedatives. The primary intervention was to encourage families to pursue another pregnancy as soon as possible. Studies and families have taught that this approach may appear to reduce acute distress for parents, it is not the most advantageous for long-term mental health and healing.

#### **Grief Principles**

Key concepts when working with bereaved individuals are that grief is not linear or predictable, it often includes a variety of emotions experienced simultaneously, and it will be different for each person. Some families will view these losses as the death of a baby, while others may see it as a medical event. Health professionals should meet the families where they are and let them define what this loss means to them. In perinatal loss, it can be tempting to expect the intensity of grief symptoms to be related to the length of gestation/age of the baby. However, this is not a reliable indicator of impact on the family. Many early losses, including infertility journeys, are equally traumatic and painful for a family as losses that occur later in pregnancy or after birth. Conversely, not all families will view a pregnancy or neonatal loss as the death of a baby but rather a medical event. It is important to identify what this loss means to the individual and the family and tailor all interventions accordingly.



Common emotional symptoms include shock, sadness, anger, guilt, shame, irritability, and anxiety. As grief progresses, it can also lead to changes in appetite, sleep patterns, and libido. Physical symptoms are also common. Headache, nausea, vomiting, shortness of breath, chest pain, abdominal pain, and other physical signs require careful assessment to determine if they have a physical or emotional etiology.

Perinatal losses are family events just as any other birth or death. The father or partner can feel like a secondary griever if not included in decisions or otherwise made to feel that the mother or their partner's well-being is the primary concern. Older children will also be impacted and will experience grief symptoms, even if they are very young. Grandparents and other extended family members or close friends will also be grieving the baby, but they also report grieving for the pain that their loved one is experiencing. A multi-disciplinary approach is often helpful in addressing the needs of all family members.

Perinatal loss is associated with an increased risk of mental health issues, including depression, anxiety, PTSD, substance use/abuse, and suicidal thoughts. An accurate diagnosis is needed to ensure grief is not over-pathologized and mental health is not ignored.

#### **Providing Care**

Several care principles should be applied when caring for perinatal loss families. Family-centered care, shared decision-making, respectful care, culturally-sensitive care, and trauma-informed care all have a role to play. Examples of these concepts include acknowledging the baby and their parenthood; respecting privacy; providing honest, accurate, and complete information; being flexible to accommodate cultural or religious needs and rituals; and supporting the parents' decisions.

Health professionals should be familiar with the resources available to families in their area. Peer support, support groups, counseling/therapy, mental health services, and social programs are noted to make a significant difference for many grieving families.

Self-care is an essential component of caring for families enduring perinatal loss, but it is often minimized or overlooked. Health professionals report that these situations contribute to the burnout or work-related stress observed in many maternal/child health settings. Exercise, faith, counseling, training, and supportive colleagues and administration are frequently reported as reducing this stress.



- Bereavement support is the responsibility of all health professionals who may encounter families during or after a perinatal loss.
- All staff in maternal/child health settings should receive training in perinatal loss care.
- Families should be offered:
  - Mental health services
  - Memory making activities
  - Follow-up support
  - Spiritual care services
  - o Opportunities for cultural rituals and traditions
  - Support for the entire family
- Policies and procedures should reflect the principles of respectful care, compassionate communication, shared decision-making, trauma-informed care, family centered care, and culturally-sensitive care.
- Policies and procedures should encourage support for the health professionals caring for grieving families.



#### **CLINICAL CARE**

Clinical care for families experiencing a perinatal loss varies greatly among different facilities and providers. Health professionals should be equipped and comfortable discussing all options for care with families in a neutral and caring manner. Consideration of psychosocial factors is also appropriate when planning care for grieving families.

The goals for physical care during perinatal loss aim to provide competent and compassionate care, minimize regrets, avoid adding further distress, adjust as the family's needs change, and support the family moving forward in their grief journey. This can be done through testing and treatments, timing and mode of delivery, pain relief options, lactation management, memory making activities, disposition guidance, discharge planning, and appropriate follow-up.

#### **Labor and delivery**

Shared decision-making is vital when determining the optimal mode and timing of delivery. Early pregnancy losses can be managed with expectant management, medication, surgical delivery, or induction of labor. IOL and vaginal birth have

the lowest medical risk for women. Between 14-24 weeks, IOL has an increased risk of infection over D&E, but a parental desire to see/hold their baby should be considered.

Vaginal delivery is recommended over cesareans because it promotes a faster recovery and hospital discharge, but c/sections may be clinically indicated in loss situations. Women who delay labor more than 48 hours after diagnosis of the baby's death should be monitored with twice weekly testing for DIC.

All pain relief modalities should be available to pregnant women with perinatal loss. Sedation should be discouraged to avoid memory gaps and later regrets.

#### **Memory Making**

Studies indicate that parents find the time with their babies the most valuable aspect of their time in the hospital setting. Many may be hesitant or nervous about seeing and holding their baby, but they later share that they were glad they did and appreciated the health professionals supporting and encouraging these activities. The baby should always be treated with respect and in a manner that is consistent with care for a living baby. Memory making can include this time with the baby, parenting activities done with the baby (ie: bathing, dressing, reading to, or rocking the baby), or creation of mementos (ie: hand and footprints, photographs, etc.).



Families can also be encouraged to participate in memory making activities outside of the health care setting. Examples from loss families include planting a tree, holding a memorial service, candle lighting, creating new traditions, getting tattoos, purchasing meaningful jewelry, or listening to music that reminds them of their baby.

#### **Disposition**

Many antenatal deaths are not eligible for vital organ donation, but some options may exist if desired by the family. Neonatal deaths may be eligible for organ donation based on the cause and timing of the death.

In most states in the U.S., families are not responsible for a baby's remains if under 20 weeks gestation, but they are responsible if the baby is over 20 weeks gestation or born alive. Families may request to manage remains under 20 weeks, but may need to work with the hospital and/or a funeral home according to the facility policies. Over 20 weeks or in neonatal deaths, the families must usually decide if they want a hospital cremation or private cremation or burial using a local mortician. Financial and memorial implications should be discussed with the family before decisions are finalized. If a family wishes to take their baby home prior to burial or cremation, this is allowed in most states. However, it may require the cooperation of a local funeral director as most hospital facilities require that human remains only be released to licensed morticians.

#### **Discharge**

Lactation is possible after 16 weeks gestation and can be a traumatic experience for loss families. Postpartum care information should include details about milk donation or suppression. Other postpartum teaching should discuss bleeding, wound care, contraception, activity restrictions, and mental health care. Written information specific to loss families and the type of loss is preferred. A follow-up plan should be created with specific information about when the family should return to care or when they can expect to hear from their health care team next. Leaving the healthcare setting without their baby is extremely emotional for families. Work with them to create a plan that they are comfortable with and that respects their wishes for their baby.

- Families should receive all available information when making decisions
- Families should be offered private entrances/exits, waiting rooms, or patient-care rooms to provide privacy and minimize interaction with families in happy pregnancies/deliveries
- The pros and cons of all delivery options should be discussed with the family including time needed for recovery and ability to see the baby.



- Pain control options should be discussed, even if decisions had been made previously.
- Avoid over-sedation that could cause memory lapses
- Immediate delivery is usually not necessary, but postponing delivery for more than 24 hours can increase the risk of long-term anxiety symptoms
- Offer suggestions on lactation management including donation, suppression, and pain management.
- Consider Cabergoline 1mg po x 1 within 24-28 hours for women who are choosing lactation suppression.
- Provide a variety of memory making options for families and encourage them to use their own ideas. Ensure the family has practical and emotional support for these activities as desired. The most common activities include seeing/holding the baby, dressing/bathing the baby, reading a book,taking photographs, collecting mementos such as hand and footprints, crib card, or lock of hair.
- Offer to include spiritual care or local religious and cultural leaders in appropriate traditions or rituals
- Provide information to families about memory making activities that can be done later, without the baby's body, or outside the medical setting.
   Examples of these ideas include planting a tree, holding a memorial service, and lighting a candle.
- Families should be provided with information and resources for disposition options.
- Discharge planning should include information on physical recovery, bereavement services and resources, follow-up plan, and information about next steps with the baby's body.
- Ensure the baby's body is handled respectfully and in accordance with the family's wishes
- Families should be allowed to decide how/when they would like to leave the health facility, with recognition from health professionals that this is a significant moment for most families.
- All appropriate documentation should be completed, including information about Birth, Death, or Stillbirth certificates.
- Consider home-health nurse visits for the family after discharge



#### **PATHOLOGY**

The majority of perinatal losses never have a definitive cause of death identified. However, this may be due to a lack of evaluation, or incomplete evaluation, in many cases. Clinical evaluation has been shown to identify a cause of death in roughly 24% of cases. Adding placental examination improves this to 61%, and autopsy increases it again to 74%. Information learned from the placental examination alone will alter clinical management in more than one third of cases.

Even in situations where a definitive answer is not determined, much can be learned from ruling out potential causes. This information will often inform future pregnancies and can reassure families about things that were not a concern. Some families find it healing to know that what is learned could help scientists learn more about these deaths to influence future studies and help future families. Barriers to a complete pathology evaluation include myths and misconceptions about what autopsy is and how the body is handled, lack of knowledge by health professionals who are guiding families through the decision, shortage of perinatal/placental pathologists, financial implications, and cultural or religious practices.

Families should be offered a full description of options for evaluating their losses. At minimum, each family should have a comprehensive review of the medical, social, family, and pregnancy history including the parents' perception of the pregnancy loss, symptoms, and events surrounding the loss. A variety of blood tests, genetic test- ing, and imaging can also be helpful and are usually acceptable to families. Placenta and umbilical cord pathologic examination is one of the most impactful evaluation options, followed by a complete autopsy. If a complete autopsy is not possible, a partial autopsy may be performed.

Families should be reassured that their baby will be treated with respect throughout the process and the baby's body will be returned to the family or appropriate facility as soon as possible. A meeting should be scheduled with the family when results are expected to be available to review the findings and any implications.

Multidisciplinary collaboration can be beneficial when interpreting the results and developing a plan with the family. If the cause of death is determined to be something other than what was initially indicated on the death report, this report should be revised to improve the accuracy of this data.



- Cytogenic analysis of tissue should be offered after early perinatal losses.
   Instructions should be provided on how to collect samples at home if individuals opt for expectant management or medication management of their loss. Single nucleotide polymorphism (SNP) array and next generation sequencing (NGS) are preferred.
- Antepartum deaths should receive an ultrasound for fetal biometry, AFI, and any fetal/placental/cord abnormalities as soon as possible after the diagnosis of fetal death
- Examination of cord, placenta, and baby at birth
- Full medical history, including family, maternal health, current pregnancy and obstetric histories
- Prepare placenta and cord for examination by pathologist by keeping them refrigerated and unfixed
- Autopsy (limited or complete) or equivalent offered to every family
- Placenta and cord examination (including histopathology) offered to every family
- If an autopsy is not possible or acceptable to the family, the family should be offered a partial autopsy, gross examination by a pathologist, or imaging (MRI, ultrasound, and/or XRay)
- CBC, syphilis screen, Kleihauer-Betke (before delivery if possible), parvovirus B-19 serology, TSH, Lupus anticoagulant, Anticardiolipin antibodies, beta 2 glycoprotein AB
- Microarray is preferred over karyotype due to a lower failure rate. In case of prolonged demise-to-delivery period, consider performing microarray on placental tissues.
- Thrombophilia testing should be done if there is evidence of placental complications, including FGR
- CMV, toxoplasmosis, parvo, listeria serology should be done if indicated by history, placental pathology, signs of infection, or if the baby is SGA.
- HbA1C if baby is LGA, FGR, or SGA
- LFTs and non-fasting bile acid testing if there is a maternal history of pruritus
- Substance use testing unless cause of death is already known
- RPR and antibody screening if not completed previously
- Provide information to parents about where their baby's body will be, that it will be treated with respect, when they can see their baby again, and what time frame to expect for testing and results
- Schedule a meeting with parents to discuss results
- If test results are not conclusive, it is appropriate to share with the family what is and is not known and how that may impact future decisions.
- Revise the cause of death on the Fetal Death Report if the evaluation identified a different cause than initially suspected



#### **SECTION THREE: PREGNANCY AFTER LOSS**

#### **CLINICAL CARE**

Pregnancies after a previous pregnancy loss have a significantly higher risk of a poor outcome than other pregnancies. The risk is even more pronounced for African American women. Despite these risks, the majority of families who experience a pregnancy loss will enter another pregnancy, with most of them occurring within 18 months of the loss. Until recently, no standardized guidelines existed for providing care during these pregnancies.

The Rainbow Clinic in Manchester, England has been a leader in creating a program to address the physical and emotional needs of families in a pregnancy subsequent to loss. Their approach is multidisciplinary and focuses on continuity of care. Each plan is individualized based on obstetric history, maternal medical conditions, and pathology or other test results. In addition to showing a positive impact on pregnancy outcomes, this program has demonstrated a social return on investment primarily from the birth of a live baby, reduced negative psychological symptoms, and fewer contacts with health professionals.

Open communication is essential to develop a trusting and effective relationship between the provider and family. Common topics of concern for families include recurrence risk, providers for each visit, accessibility of providers to address concerns, cadence of prenatal appointments and tests, specialists and others involved in the care plan, emotional support, potential triggers, desired testing and monitoring, plan for managing concerns, and timing of delivery. These and many other conversations should be discussed with families early and often throughout the pregnancy.

#### Recommendations

#### **Preconception Visit:**

- Detailed medical and obstetric history
- Eval/workup of previous loss
- Determination of recurrence risk
- Discuss risk of other obstetrical complications
- Smoking cessation
- Weight loss for obese women (preconception only)
- Genetic counseling if indicated
- Diabetes screen
- Acquired thrombophilia testing (lupus anticoagulant, IgG and IgM for anticardiolipin and β2-glycoprotein antibodies



- Support
- In situations of recurrent pregnancy loss, consider uterine cavity evaluation, thyroid function tests including the presence of TPO antibodies, sperm DNA fragmentation analysis, and endometrial biopsy

#### **First Trimester**

- Complete Preconception Visit items if not done before conception
- Schedule first visit/ultrasound for immediately after pregnancy identification
- Use an identifier in the chart to communicate to staff members that this is a pregnancy subsequent to a loss
- Dating ultrasound
- First trimester screen (PAPP-A, hCG, nuchal translucency, cell-free fetal DNA testing)
- Low-dose ASA if risk of preeclampsia or placental insufficiency
- Support

#### **Second Trimester**

- Fetal anatomic survey at 18-20 weeks
- Quad screen (MSAFP, hCG, estriol, inhibin-A)
- Fetal movement assessment starting at 20-24 weeks
- Uterine artery Doppler study at 22-24 weeks
- Serial growth ultrasounds starting at 24-28 weeks
- GDM screening at 26-28 weeks
- Support

#### **Third Trimester**

- Continue serial growth ultrasounds and fetal movement monitoring
- Antepartum fetal surveillance starting at 32 weeks or 1-2 weeks before gestational age of stillbirth if loss occurred before 32 weeks (twice weekly NST, AFI, BPP)
- Discuss maternal sleep position and encourage side sleep after 28 weeks
- Encourage Pregnancy After Loss specific Childbirth Education Class
- Support

#### **Delivery**

• Induction at 37 - 39 weeks if desired based on clinical situation and emotional status of parents



#### **PSYCHOSOCIAL CARE**

Pregnancy after loss is frequently described by families as a rollercoaster of emotions with extreme anxiety. Even the decision to pursue another pregnancy can be stressful. The variety of challenges have been described as developmental phases. It is essential for families to have health professionals who understand the complexity of these thoughts and emotions.

Common concerns of families include worry about replacing the baby who died, avoiding attachment to this baby, feeling paranoid about symptoms, and increased grief intensity. Many families have reported that they worked with health professionals who made insensitive comments, lacked empathy for their anxiety, were unaware of their history, and did not provide important information. They will also receive insensitive comments and questions from family and friends and often need support to cope with the emotions that arise.

Trauma-informed care is an important component of the protocol for these pregnancies. Health professionals should be willing to listen without judgment, establish trusting relationships, be mindful of triggers, and include the family in all decisions. Families also appreciate when their concerns are taken seriously, including offers for additional clinical care as needed for reassurance. Referral to specialists and mental health therapists may also be helpful.

- Acknowledge the previous baby(ies)
- Ask if the baby(ies) were named and how the family would like health professionals to refer to those babies during this pregnancy
- Provide multiple support options with contact information
- Discuss plans for antenatal care, labor/delivery, and postpartum care to identify, avoid, and manage potential triggers
- Minimize interaction with other pregnant women if desired by the family. Examples include a private entrance/exit or a separate waiting room.
- Acknowledge the anxiety and mixed emotions and offer options for coping with them
- Support flexible and/or additional care as needed for reassurance



#### **CERTIFICATION**



Health professionals and others who are dedicated to the prevention and care of perinatal loss are encouraged to join our efforts to improve outcomes for families.

#### **Certified members will receive:**

- Recognition on the IPPE website and social media
- Membership in a referral network
- Monthly newsletter with practice tips and research discussions
- Access to Ask the Experts for clinical questions
- Membership seals and tool kit
- Complimentary Continuing Education through Star Legacy Foundation
- Complimentary registration for the IPPE Summit
- Patient feedback opportunities

Organizations who support the work of IPPE are encouraged to join as sponsors.

#### They will receive:

- Recognition on social media
- Name and Logo on IPPE website
- Discounted exhibits at Stillbirth Summit
- Discounted education events for staff
- Discounted certification fees for staff
- Discount on organizational membership (when available)



#### **Certification requirements:**

- Complete online Introduction to IPPE Continuing Education module
- Pass IPPE Certification Exam (see Appendix C for outline)
- Complete an Oral Interview with an IPPE Reviewer (see Appendix D for Interview Guide)
- Individuals using the student rate (students, interns, residents, fellows, etc) will need to provide documentation of status
- Optional: Obstetrical providers are encouraged to participate in our ongoing quality improvement work by submitting practice indicators. Those who do will receive \$100 off their certification fee. (See Appendix B for list of practice indicators)

#### **Certification Fees:**

Physicians	\$750/2 years
CNM/NP/PA	\$350/2 years
Allied Health Professionals	\$150/2 years
Mental Health Professionals	\$150/2 years
Residents/Students	\$50/2 years

#### **First Certification Renewal Requirements:**

Pass IPPE Recertification Exam (see Appendix C for outline)

#### **Subsequent Certification Renewal Requirements:**

- Maintain certification x 48+ months
- Complete five approved Continuing Education modules



APPENDIX A: PRACTICE TOOLS PREVENTION

#### PRECONCEPTION CHECKLIST

- Detailed personal and family history, including reproductive history
- Screen for history of trauma, including reproductive trauma
- Screen for STIs, TORCH immunity
- Screen for genetic conditions/advanced karyotype screening (once)
  - O SMA
  - O Cystic Fibrosis
  - O Tay Sachs
  - o Fragile X
  - O Factor V Leiden
  - o MTHFR
  - o Prothrombin
  - Review childhood vaccination status
- Screen for maternal health conditions and develop a plan for management
  - O Maternal weight
  - O Mental health
  - O Substance use
  - O Thyroid function
  - O Lipid profile
  - O Pap smear
  - O Sleep hygiene
  - O Existing health conditions
- Discuss pregnancy spacing
- Review social determinants of health
  - O Occupational situation/setting
  - O Family dynamics
  - O Financial considerations
  - O Support system
  - Lifestyle factors
  - O Cultural traditions
  - O Access to care
  - O Stress
- Screen for risk factors for pregnancy complications
  - O Advanced maternal age
  - O History of poor pregnancy outcomes
  - O IVF pregnancy
  - o Primiparity
- Discuss known and potential risk factors for pregnancy complications
- Initiate prenatal vitamins with folate and DHA supplements
- RPL workup if strong family history or personal history of poor pregnancy outcomes
- Referral to specialists for management of maternal health conditions as needed



#### **SCREENING FOR RISK FACTORS**

#### **Maternal Health**

- Autoimmune Disorders
- Maternal health conditions (hypertension, diabetes, renal disorders, sickle cell disease, thyroid disorder, etc)
- Substance use
- Maternal BMI (underweight or overweight)
- Advanced maternal age
- History of poor pregnancy outcome
- Maternal sleep position and quality
- Maternal mental health

#### Social Health

- Financial concerns
- Support system
- Trauma
- Stress
- Access to care
- Prenatal care
- Exposure to racism

#### Pregnancy/Fetal Health

- IVF pregnancy
- Multiple gestation
- Gestational Diabetes
- Preeclampsia
- Cholestasis
- Primiparity
- Placental conditions
- Abnormal PAPP-A, inhibin A, PIGF
- Umbilical cord abnormalities
- Fetal growth restriction
- Altered fetal movement
- Oligo/polyhydramnios
- Post-term

#### Adapted from:

American College of Obstetricians and Gynecologists. (2020). Management of stillbirth: ACOG Obstetric Care Consensus No. 10. Obstetrics & Gynecology, 135(3), e110-32.

Committee on Gynecologic Practice, & American Society for Reproductive Medicine. (2019). ACOG Committee Opinion: Prepregnancy counseling. Obstetrics & Gynecology, 133(1), e78–e89.

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#### **SAFER PREGNANCY**



## DAILY ACTIONS FOR A SAFER PREGNANCY



Get to know your baby's normal behavior



Monitor the pattern of your baby's movements



**Monitor the** movements



Monitor the strength of your baby's frequency of your baby's movements



Go to sleep on your side after 28 weeks



Trust your maternal instincts



**Call your provider** immediately if you have any questions or concerns





## **PARENTING IN PREGNANCY:**

Taking care of baby starts now!





Do not worry about calling. It is important for your doctors and midwives to know if you have any concerns. **DO NOT** put off calling until the next day to see what happens.

#### SIDE TO SLEEP

#### WHY?

Research has shown that going to sleep on your back in the third trimester (after 28 weeks) increases your risk of stillbirth. Going to sleep on your side in the third trimester is safer for your baby.

#### WHEN?

Whenever you are sleeping in the third trimester.

This includes daytime naps and going to sleep at night.

#### WHAT IF?

If you wake up on your back in the night, just roll over onto your side. If you get up in the night, go back to sleep again on your side. Falling asleep on your side helps you stay on your side for the deepest and often longest part of your sleep.

#### **CONCERNS?**

If you get hip pain or can't sleep on your side, it is suggested that you avoid sleeping FLAT on your back. Try a wedge under your mattress or small pillow behind your back to tilt your pelvis while you sleep.

#### MOVEMENTS MATTER

#### NORMAL?

There is no set number of normal movements. You will probably notice your baby has a routine pattern that you can get to know by 28 weeks. From 16-24 weeks on, you'll feel the baby move more and stronger and stronger right up to their birth.

#### WHY?

Around half of women who have stillbirths have noticed a change in their baby's movement. Any change in the strength, pattern, or number of times the baby moves may be a warning sign that the baby is not well. This includes a sudden increase in activity that feels frantic.

#### WHAT?

A baby's movements can be described as anything from a kick, flutter, swish, or roll. It is important to notice the frequency, strength, and pattern of baby's movements and behaviors.

#### MYTHS?

- It is NOT TRUE that babies move less towards the end of pregnancy.
- You should feel baby move right up to the moment you go into labor and during labor, too.



## **EARLY PARENTING**

#### **MY BABY**

Each pregnancy and baby is unique. Get to know this baby and do not compare this pregnancy to your previous pregnancies or anyone else's pregnancies. You and your baby are a team.

#### **INSTINCTS**

Trust your maternal instincts! Many women report a 'gut instinct' that something is not right.

Report all concerns to your provider immediately even if you can't identify a specific symptom.

#### WHY?

Ignoring even subtle concerns could be harmful to you or your baby. It is better to see your provider and confirm that all is well than to delay and let a problem get worse.

#### CALL?

If you ever have an uneasy feeling or concern that something is wrong, contact your healthcare provider immediately If you are worried, we are worried and need to know! Don't wait!



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#### **AUTOIMMUNE SCREENING**





#### **ASPIRIN USE IN PREGNANCY**

### **HIGH RISK**

- History of preeclampsia
- Multiple gestation pregnancy
- Chronic HTN
- Pregestational diabetes
- Renal disease
- Autoimmune disease
- History of placental dysfunction

Start ASA >100mg qd if **any** of these risks are present

### MODERATE RISK

- Nulliparity
- BMI >30
- Family history of preeclampsia
- Maternal age >35 years
- IVF conception
- History of SGA
- History of gestational diabetes
- History of poor pregnancy outcome
- · Poor access to healthcare
- >10 years since last pregnancy

Start ASA
>100mg qd if
more than one
of these risks are
present

Adapted from:
ACOG Committee Opinion No. 743: Low-Dose Aspirin Use During Pregnancy. (2018).
Obstetrics & Gynecology, 132(1), e44-e52. https://doi.org/10.1097/AOG.000000000002708



# FETAL SURVEILLANCE FOR PERINATAL RISK FACTORS AT VIABILITY

Adapted From: American College of Obstetricians and Gynecologists. (2021). ACOG Committee Opinion: Indications for Outpatient Antenatal Fetal Surveillance. Obstetrics & Gynecology, 137, e177–97.

RISK FACTOR	BEGIN SURVEILLANCE	SURVEILLANCE FREQUENCY
MATERNAL HEALTH		
Hypertension, chronic  Controlled with medications Poorly controlled or with associated medical conditions	32 0/7 weeks At diagnosis²	Weekly Individualized
Previous stillbirth  At or after 32 0/7 weeks  Before 32 0/7 weeks of gestation	32 0/7 weeks <sup>11</sup> Individualized	Once or twice weekly Individualized
Gestational hypertension/preeclampsia   Without severe features  With severe features	At diagnosis <sup>2,3</sup> At diagnosis <sup>2,3</sup>	Twice weekly Daily
Diabetes     Gestational, controlled on medications without other comorbidities     Gestational, poorly controlled     Pregestational	32 0/7 weeks 32 0/7 weeks 32 0/7 weeks <sup>6</sup>	Once or twice weekly Twice weekly Twice weekly
Systemic lupus erythematosus  Uncomplicated Complicated	By 32 0/7 weeks At diagnosis²	Weekly Individualized
Antiphospholipid Syndrome	By 32 0/7 weeks	Twice weekly
Sickle cell disease  Uncomplicated  Complicated  Hemoglobinopathies other than Hb SS disease	32 0/7 weeks At diagnosis² Individualized	Once or twice weekly Individualized Individualized
Renal disease (Cr greater than 1.4 mg/dL)	32 0/7 weeks	Once or twice weekly
Thyroid disorders, poorly controlled	Individualized	Individualized
Substance use  Alcohol, 5 or more drinks per week  Polysubstance use	36 0/7 weeks Individualize	Weekly Individualized
Prepregnancy BMI  Prepregnancy BMI 35.0-39.9 kg/m2  Prepregnancy BMMI 40 kg/m2 or above	37 0/7 weeks 34 0/7 weeks	Weekly Weekly
Maternal age older than 35 years	Individualized <sup>10</sup>	Individualized
History of other adverse pregnancy outcomes in immediately preceding pregnancy  Previous fetal growth restriction requiring preterm delivery  Previous preeclampsia requiring preterm delivery	32 0/7 weeks 32 0/7 weeks	Weekly Weekly



## FETAL SURVEILLANCE FOR PERINATAL RISK FACTORS AT VIABILITY

RISK FACTOR	BEGIN SURVEILLANCE	SURVEILLANCE FREQUENCY
FETAL/PREGNANCY HEALTH		
Growth Restriction <sup>1</sup> UAD: normal or with elevated impedance to flow in umbilical artery with diastolic flow present; with normal AFI and no other concurrent maternal or fetal conditions	At diagnosis²	Once or twice weekly
UAD: AEDV or concurrent conditions (oligohydramnios, maternal comorbidity (eg, preeclampsia, chronic hypertension) UAD: REDV In vitro fertilization	At diagnosis <sup>2</sup> At diagnosis <sup>2</sup> 36 0/7 weeks	Twice weekly or consider inpatient management Inpatient management <sup>3</sup> Weekly
Multiple gestation Twins, uncomplicated dichorionic Twins, dichorionic, complicated by maternal or fetal disorders, such as fetal growth restriction Twins, uncomplicated monochorionic-diamniotic Twins, complicated monochorionic-diamniotic (ie, TTTS) Twins, monoamniotic Triplets and higher-order multiples	36 0/7 weeks At diagnosis <sup>2</sup> 32 0/7 weeks <sup>4</sup> Individualized Individualized Individualized	Weekly Individualized Weekly Individualized Individualized Individualized
Decreased fetal movement	At diagnosis³	Once <sup>5</sup>
Fetal anomalies and aneuploidy	Individualized	Individualized
Cholestasis	At diagnosis²	Once or twice weekly
Late term	41 0/7 weeks	Once or twice weekly
Abnormal serum markers <sup>12</sup> PAPP-A less than or equal to the fifth percentile (0.4 MoM)  Second-trimester Inhibin A equal to or greater than 2.0 MoM	36 0/7 weeks 36 0/7 weeks	Weekly Weekly
Chronic placental abruption <sup>13</sup>	At diagnosis²	Once or twice weekly
Vasa previa	Individualized	Individualized
Velamentous cord insertion	36 0/7 weeks	Weekly
Single umbilical artery	36 0/7 weeks	Weekly
Isolated oligohydramnios (single deepest vertical pocket less than 2 cm)	At diagnosis <sup>2,3</sup>	Once or twice weekly
Polyhydramnios, moderate to severe (deepest vertical pocket equal to or greater than 30 cm)	32 0/7 – 34 0/7 weeks <sup>14</sup>	Once or twice weekly

Abbreviations: AEDV, absent end-diastolic velocity; AFI, amniotic fluid index; BMI, body mass index; Cr, creatinine; MoM, multiples of the median; PAPP-A, pregnancy-associated plasma protein A; REDV, reversed end-diastolic flow; TTTS, twin to twin transfusion syndrome; UAD, umbilical artery Doppler

The guidance offered in this table should be construed only as suggestions, not mandates. Ultimately, individualization about if and when to offer antenatal fetal surveillance is advised.

 $^{1}\mbox{Estimated}$  fetal weight or abdominal circumference less than the  $10^{th}$  percentile

<sup>&</sup>lt;sup>2</sup>Or at a gestational age when delivery would be considered because of abnormal test results

<sup>&</sup>lt;sup>3</sup>If not delivered

<sup>&#</sup>x27;In addition to routine surveillance for twin-twin transfusion syndrome and other monochorionic twin complications

<sup>5</sup>Repeat if decreased fetal movement recurs

<sup>&</sup>lt;sup>6</sup>Or earlier for poor glycemic control or end organ damage

<sup>7</sup>Such as active lupus nephritis, recent lupus flare, antiphospholipid antibodies with prior fetal loss, anti-RO/SSA or anti-La/SSB antibodies, or thrombosis

<sup>&</sup>lt;sup>6</sup>Individualize, take into consideration obstetric history, number of positive antibodies, and current pregnancy complications

<sup>&</sup>lt;sup>9</sup>Such as maternal hypertension, vaso-occlusive crisis, placental insufficiency, fetal growth restriction

<sup>&</sup>lt;sup>10</sup>Based on cumulative risk when present with other factors

 $<sup>^{\</sup>rm ti}{\rm Or}$  starting 1-2 weeks before the gestational age of the previous stillbirth

<sup>&</sup>lt;sup>12</sup>If serum screening for aneuploidy is performed, the results may be considered in determining whether antenatal fetal surveillance should be performed

<sup>&</sup>lt;sup>13</sup>In individuals who are candidates for outpatient management

<sup>&</sup>lt;sup>14</sup>Or at diagnosis if diagnosed after 32 0/7 – 24 0/7 weeks



#### **FGR SCREENING CRITERIA**

#### HIGH RISK **FACTORS**

#### **Maternal Conditions:**

- History of IUGR, preeclampsia, or stillbirth in a previous pregnancy
- · HTN or hypertensive disorders of pregnancy
- Auto-immune disorders (Systemic lupus erythematosus, anti-phospholipid syndrome)
- Thrombophilias
- Renal Conditions
- Diabetes Melletis
- Age >40 years
- Gestational hypercholanemia
- Malnutrition
- Use of anti-neoplastic, anti-thrombotic, or anti-epileptic medications
- Infection (CMV, rubella, toxoplasmosis, varicella, syphilis, parvovirus B19)
- · Significant first-trimester bleeding

#### **Fetal Conditions:**

Fetal genetic or chromosomal abnormalities EFW <10th percentile AC <10th percentile

#### **Pregnancy Conditions:**

Multiple gestation pregnancy Placental Abruption Velamentous Cord Insertion Marginal Cord Insertion Two Vessel Cord

#### Adapted from:

Centre of Research Excellence Stillbirth. (2019). Safer Baby Bundle Handbook and Resource Guide: Working together to reduce stillbirth. https://stillbirthcre.org.au/wp-content/uploads/2021/03/SBB-Handbook\_Final-1.pdf

Kingdom, J., Ashwal, E., Lausman, A., Liauw, J., Soliman, N., Figueiro-Filho, E., Nash, C., Bujold, E., & Melamed, N. (2023). Guideline No. 442: Fetal Growth Restriction: Screening, Diagnosis, and Management in Singleton Pregnancies. Journal of Obstetrics and Gynecology Canada, 45(10), 102154 https://doi.org/10.1016/j.jogc.2023.05.022

NHS England. (2019), Saving Babies' Lives Care Bundle Version 2. https://www.england.nhs.uk/wp-content/uploads/2019/03/Saving-Babies-Lives-Care-Bundle-Version-Two-Updated-Final-Version.pdf

#### **MODERATE RISK FACTORS**

#### Biomarkers:

- Low PAPP-A in 1st trimester
- · Low PIGF in 1st trimester
- · High AFP in 2nd trimester
- AFP: PAPP-A ratio in 1st trimester > 10

#### **Maternal Conditions:**

- Substance use
- Nulliparity
- · Poor access to care
- Age >35 years
- Black/Native American

#### Fetal/Pregnancy Conditions:

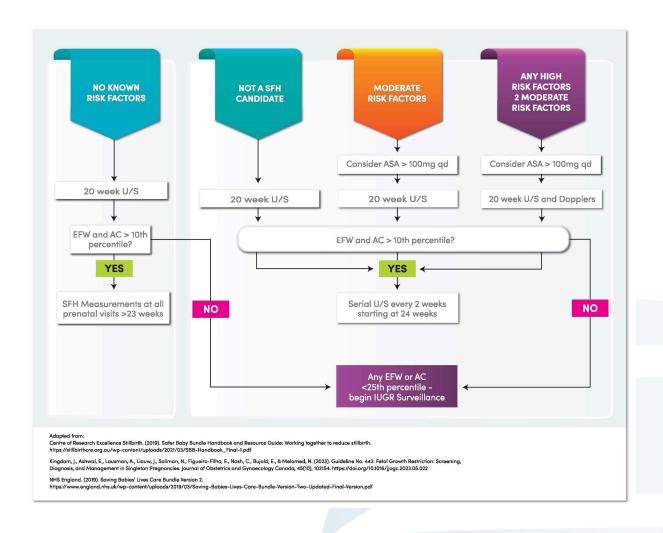
**IVF** Conception

EFW 10th - 25th percentile

· Screening for unrecognized auto-immune disorders

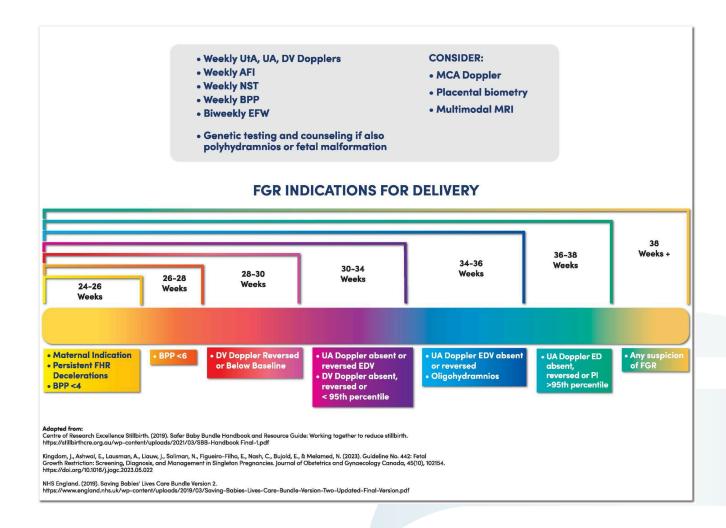


#### FGR SCREENING ALGORITHM



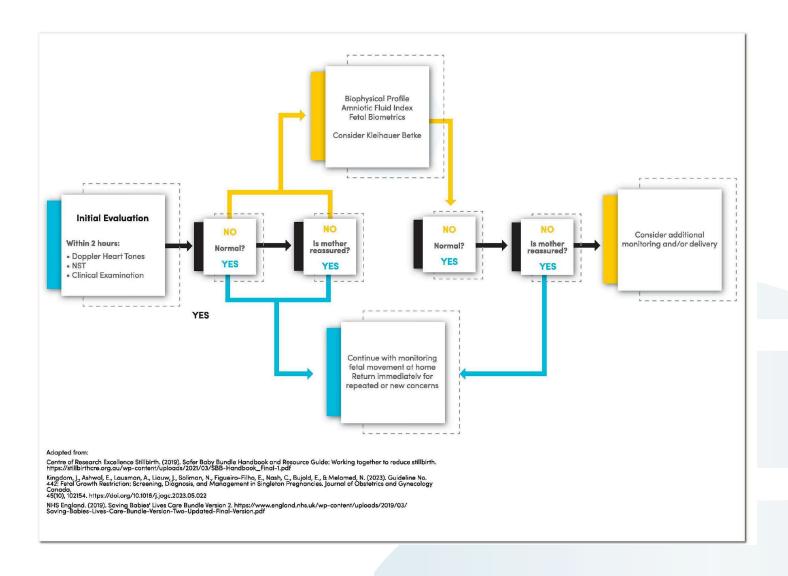


#### **FGR SURVEILLANCE**





## MATERNAL REPORT OF ALTERED FETAL MOVEMENT





## APPENDIX A: PRACTICE TOOLS PERINATAL LOSS CARE

#### **STAR LEGACY FOUNDATION BROCHURES**





#### **MENTAL HEALTH**



## **Mental Health Resources**

988 - Suicide and Crisis Lifeline

**National Suicide Prevention Lifeline** 

1-800-273-8255

National Maternal Mental Health Hotline

call or text

1-833-852-6262

multiple languages available

Postpartum Support International Helpline

call or text

1-800-944-4773

English and Spanish available

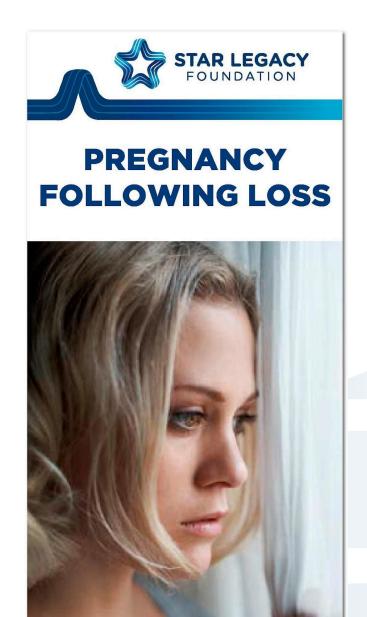


## PLACENTAL LESIONS ASSOCIATED WITH STILLBIRTH

Adapted from Graham, N., Stephens, L., & Heazell, A. E. (2021). Care in pregnancies subsequent to stillbirth or perinatal death. The Obstetrician & Gynaecologist, 23(1), 48–59. https://doi.org/10.1111/tog.12708

PLACENTAL CONDITIONS	ASSOCIATED LESIONS	RECOMMENDATIONS FOR SUBSEQUENT PREGNANCY
Maternal Vascular Malperfusion	Placental hypoplasia	Assess maternal cardiovascular status
	Infarction	Glucose tolerance test Thrombophilia screen
	Retroplacental hemorrhage	Renal function
	Distal villous hypoplasia	Low dose aspirin Preconception weight loss 10-25% recurrence risk
	Accelerated villous maturation	
Fetal Vascular Malperfusion	Thrombosis	Thrombophilia screen Glucose tolerance test
	Avascular villi	
	Villous stromal-vascular karyorrhexis	
	Stem vessel obliteration	
	Intramural fibrin deposition	
Delayed Villous Maturation		Glucose tolerance test Preconception Weight Loss Unknown recurrence risk
Ascending Uterine Infection	Maternal stage 1: acute subchorionitis or chorionitis Maternal stage 2: acute chorioamnionitis Maternal stage 3: necrotizing chorioamnionitis Fetal stage 1: chorionic vasculitis or umbilical phlebitis Fetal stage 2: involvement of umbilical vessels Fetal stage 3: necrotising funisitis	10–25% recurrence risk if spontaneous preterm birth with chorioamnionitis
Immune inflammatory lesions	Villlitis of unknown etiology	Maternal autoimmune testing Preconception weight loss
	Chronic villitis	Low dose aspirin +/- Low molecular weight heparin
	Intervillositis	+/- Low molecular weight neparin +/- Immunosuppressive therapy 25–50% recurrence risk







#### PREGNANCY AFTER LOSS FLOWCHART

#### **BEFORE PREGNANCY**

- 1 Investigate loss(es)
- Autopsy, placental histopathology, maternal blood work, genetic testing, and thorough medical, family, and reproductive histories
- 2 Create plan for next pregnancy
- 3 Address maternal health conditions
- 4 Offer emotional support or genetic counseling

#### **0-12 WEEKS**

- Start ASA if risk of preeclampsia or placental insufficiency
   Offer emotional support
   Ultrasound to confirm EDD
   Screening: PAPP-A, nuchal translucency, diabetes, antiphospholipid antibody,

#### 13-20 WEEKS

- 1 Quad screen
- 2 Anatomic survey
- 3 Referral to specialists prn
- 4 Emotional support

#### **21-24 WEEKS**

#### **25-31 WEEKS**

- Fetal movement assessmentDiscuss maternal sleep position

#### **32-36 WEEKS**

- 1 Serial growth ultrasounds
- 2 Fetal movement assessment
- 3 Biweekly NST, weekly AFI and BPP
- 4 Emotional support

#### **37 WEEKS - DELIVERY**

- 1 Antenatal fetal surveillance and growth ultrasounds
- 2 Fetal movement assessment
- 3 Emotional support
- 4 Offer induction

Adapted from Graham, et al., 2021; Ladhani, et al., 2018; Reddy, 2010



#### **APPENDIX B: PRACTICE INDICATORS**

# Certified individuals will submit responses to the items below on their previous two years of practice

- Total # of pregnancies per year
- Total # of live births per year
- Total # of preterm births per year (before 37 weeks)
  - o # spontaneous
  - ° # iatrogenic
- Total # of post term births per year (after 40 weeks)
- Total # of stillbirths per year
  - ° # preterm stillbirths (20 36+6 weeks)
  - ° # full term stillbirths (37+0 weeks and more)
  - \* # autopsies performed
  - ° # cord/placenta pathology performed
- Total # of miscarriages per year
  - # first trimester and/or chemical losses
  - \* # second trimester losses < 20 weeks</p>
  - \* # post-miscarriage workups completed
- Total # of neonatal deaths per year
  - o # preterm neonatal deaths
  - o # full term neonatal deaths
- Total # of maternal deaths per year
- Total # of cesarean section deliveries per year
- Number of pregnancies in women under 35 years
- Number of pregnancies in women 35-37 years
- Number of pregnancies in women 38-40 years
- Number of pregnancies in women 41 years or older
- Number of pregnancies in women with obesity
- Number of pregnancies in women with smoking
- Number of pregnancies in women with previous pregnancy loss
- Number of pregnancies in women with gestational diabetes
- Number of pregnancies in women with hypertensive disorders
- Number of pregnancies with complete assessment (per above) at preconception or first prenatal visit
- Number of pregnancies with documented risk assessment
- Number of pregnancies with documented discussion of risk assessment with patient/family
- Number of births with undetected SGA
- Number of pregnancies with risk factors appropriately treated/referred per the algorithm



- Number of women with risk factors taking aspirin
- Number of pregnancies without risk factors with SFH measurement plotted on a growth chart at every prenatal visit starting at 24 weeks
- Number of pregnancies without risk factors with ultrasound EFW at 32 weeks
- Number of pregnancies with FGR delivered by 39+0 weeks
- Number of pregnant women who received verbal and written information on monitoring FM by 24 weeks
- Number of pregnant women who report altered FM within 8 hours
- Number of pregnant women who report altered FM that are evaluated with an NST and clinical examination within 2 hours
- Number of pregnant women who report altered FM that were offered care consistent with the protocol
- Number of pregnant women who undergo IOL or elective c/s before
   39 weeks with altered FM as the only indication for delivery
- Number of pregnancies with documented discussion about safe sleep position after 24 weeks
- Number of women who have received written information on safe going- to-sleep position after 24 weeks
- Number of women who report going to sleep in non-supine position after 28 weeks
- Number of loss families provided referral to bereavement counseling
- Number of loss families referred to additional resources
- Number of stillbirth families given CBRS/tax credit information
- Number of pregnancy losses treated with expectant management
- Number of miscarriages managed with medication
- Number of D&Cs
- Number of D&Es
- Number of inductions initiated within 24 hours of diagnosis
- Number of inductions initiated more than 24 hours after diagnosis
- Number of loss families selecting palliative care
- Number of C/S for IUFD for medical reasons
- Number of C/S for IUFD for bereavement reasons
- Number of loss families with documented counseling on lactation management
- Number of families with visit to discuss pathology results
- Number of losses from placental causes
- Number of losses from umbilical cord causes
- Number of losses from genetic/anatomic causes
- Number of losses from infection
- Number of losses from preterm labor/prematurity
- Number of losses from other causes



- Number of losses with undetermined cause
- Number of pregnancies after a previous loss
- Number of PAL with live births
- Number of PAL with miscarriage
- Number of PAL with stillbirth
- Number of PAL with neonatal death
- Number of PAL with maternal death
- Number of PAL with documented PAL protocol
- Number of PAL with documented counseling and/or referrals



#### **APPENDIX C: CERTIFICATION OUTLINE**

#### **INITIAL CERTIFICATION**

#### **Introduction to IPPE**

- 1. Perinatal loss definitions and statistics
- 2. Disparities in perinatal loss
- 3. Risk Factors
- 4. Causes of death
- 5. International initiatives to prevent stillbirth
- 6. Care principles
  - a. Shared-decision making
  - b. Family-centered care
  - c. Culturally-sensitive care
  - d. Trauma-informed care
  - e. Social determinants of health
  - f. Empathic Listening

#### **Perinatal Loss Prevention**

- 1. Identifying, modifying, and managing known risk factors
- 2. Preconception testing
- 3. Fetal Growth Restriction
  - a. Role in poor perinatal outcomes
  - b. Risk factors and causes
  - c. Types of FGR
  - d. Screening
  - e. Diagnosis
  - f. Management
  - g. Timing of delivery
- 4. Fetal Movement
  - a. Role in poor perinatal outcomes
  - b. Implementing fetal movement education
  - c. Responding to reports of altered fetal movement
- 5. Maternal Sleep Position
  - a. Role in poor perinatal outcomes
  - b. Implementing sleep position education



#### **Perinatal Loss**

- 1. Bereavement Communication
  - a. Delivering bad news
  - b. What to say, What not to say
  - c. Verbal and nonverbal communication
  - d. Interdisciplinary communication
- 2. Bereavement Care
  - a. Grief principles
  - b. Symptoms of grief
  - c. Impact on the family
  - d. Stigma
  - e. Mental health sequelae
  - f. Providing respectful care
  - g. Incorporating trauma-informed care
  - h. Cultural care practices
  - i. Role of spirituality
  - j. Recommendations and resources for families
  - k. Self-care for health professionals
- 3. Clinical Care
  - a. Delivery options
  - b. Pain management
  - c. Lactation management
  - d. Memory making
  - e. Organ donation
  - f. Disposition
  - g. Discharge planning
  - h. Follow-up care
- 4. Pathology
  - a. Evaluation options after perinatal loss
  - b. Benefits and barriers to evaluation
  - c. Recommended evaluation plan
  - d. Interpreting pathology reports



#### **Pregnancy After Loss**

- 1. Clinical Care
  - a. Risk of recurrence
  - b. Initiatives to improve holistic care
  - c. Preconception planning
  - d. Recommended testing and monitoring by trimester
- 2. Psychosocial Care
  - a. Deciding to conceive
  - b. Mental health concerns
  - c. Developmental phases
  - d. Care principles
  - e. Recommended interventions and resources for families

#### Recertification

(additional detail coming soon)

- 1. Maternal Health
- 2. Disparities in Perinatal Health
- 3. Infections
- 4. Palliative Care
- 5. Perinatal Audit/Analysis





#### **APPENDIX D: ORAL INTERVIEW GUIDE**

The International Partnership for Perinatal Excellence (IPPE) is a professional organization dedicated to providing health professionals with the information and tools needed to offer the best in perinatal care. Our focus is prevention and support for perinatal loss. In addition to recommending protocols for managing common risk factors and conditions, our program hopes to ensure health professionals have an exceptional commitment to partnering with families along their reproductive journeys. The Oral Interview is designed to evaluate the degree to which a candidate embraces this concept and demonstrates care for expectant and grieving families that goes above the minimum standard.

After successful completion of the written examination, the candidate will receive an email with information about scheduling the oral interview. Candidates will receive written confirmation of the final decision regarding certification. Unsuccessful candidates may attempt a second oral interview with a different reviewer. Those who are not successful after a second interview must submit a \$100 fee to schedule a third oral interview. If a candidate does not show up for the scheduled interview, it will be considered a failed attempt.

If, before the interview begins, a candidate recognizes their reviewer as a program director, residency faculty, or a person with whom they have a relationship, the reviewer will contact IPPE staff to consider the issue and make appropriate changes, if necessary.

#### **Scoring and Reporting Results**

Candidates will be evaluated on each of the three focus areas: Perinatal Loss Prevention, Perinatal Loss, and Pregnancy After Loss. Specific content for each section is available in the Clinical Recommendations.

Interviews will consist of general discussions about practice philosophy and experience and clinical vignettes. Evaluation is based on an understanding of the IPPE Clinical Recommendations, commitment to perinatal loss prevention, and approach to caring for loss families.

Candidates will receive results of their interview via email within one week.



#### **APPENDIX E: EDUCATION MODULES**

#### Introduction

Introduction to IPPE

#### **Perinatal Loss Prevention**

- Preconception Care for Obstetric Providers and Allied Health Professionals
- Preconception Care for Mental Health Professionals
- Fetal Growth Restriction for Obstetric Providers
- Fetal Growth Restriction for Allied Health Professionals
- Fetal Growth Restriction for Mental Health Professionals
- Fetal Movement for Obstetric Providers
- Fetal Movement for Allied Health Professionals
- Maternal Sleep Position

#### **Perinatal Loss Care**

- Perinatal Bereavement Care for Allied Health Professionals
- Perinatal Bereavement Care for Mental Health Professionals
- Bereavement Photography for Health Professionals
- Perinatal Pathology for Obstetric Providers
- Perinatal Pathology for Allied and Mental Health Professionals

#### **Pregnancy After Loss**

• Pregnancy After Loss for Mental Health Professionals



#### APPENDIX F: RECOMMENDED READING

#### Introduction

- 1. American College of Obstetricians and Gynecologists. (2020) Management of stillbirth: ACOG Obstetric Care Consensus No. 10. Obstetrics & Gynecology, 135(3), e110-32.
- 2. American College of Obstetricians and Gynecologists. (2021). ACOG Committee Opinion: Indications for Outpatient Antenatal Fetal Surveillance. Obstetrics & Gynecology, 137, e177-97.
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#### **Preconception Health**

- 1. American College of Obstetricians and Gynecologists. (2021). ACOG Committee Opinion: Indications for Outpatient Antenatal Fetal Surveillance. Obstetrics & Gynecology, 137, e177-97.
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- 3. Toppin, B. (2013). One in four: Shifting the balance on pregnancy loss. CreateSpace Independent Publishing.



- 4. Toppin, B. (2023). Unacceptable loss: Reshaping the approach to pregnancy loss and beyond. Independent Publishing.
- Vogel, T. M., & Coffin, E. (2021). Trauma-Informed Care on Labor and Delivery. Anesthesiology Clinics, 39(4), 779–791. https://doi.org/10.1016/j.anclin.2021.08.007

#### **Fetal Growth Restriction**

- 1. American College of Obstetricians and Gynecologists. (2021). Fetal growth restriction: ACOG Practice Bulletin No. 227. Obstetrics & Gynecology, 137, e16-28.
- Centre of Research Excellence Stillbirth. (2019). Safer Baby Bundle Handbook and Resource Guide: Working together to reduce stillbirth. <a href="https://stillbirthcre.org.au/wp-content/uploads/2021/03/SBB-HandbookFinal-1.pdf">https://stillbirthcre.org.au/wp-content/uploads/2021/03/SBB-HandbookFinal-1.pdf</a>
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#### **Fetal Movement**

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