Definition of a Miscarriage

In these clinical guidelines, we follow the definition of miscarriage provided by The American College of Obstetricians and Gynecologists (ACOG) in the 2015 Practice Bulletin that described miscarriage as “a non-viable, intrauterine pregnancy with either an empty gestational sac or a gestational sac containing an embryo or fetus without fetal heart activity...” Ectopic pregnancy and complete molar pregnancy are both early pregnancy losses but will not be covered in this discussion.

Types of Miscarriages

Anembryonic or Blighted Ovum Fertilization occurs and the gestational sac develops. Although the woman is pregnant, no embryo is seen on the ultrasound.

Chemical Pregnancy Fertilization occurs. The pregnancy ends before 5 or 6 weeks’ gestation. There is no gestational sac seen on the ultrasound.

Embryonic or Fetal Death Fertilization occurs and cardiac activity is present. Cardiac activity ceases or a demonstrable embryo is not visible on ultrasound.

Partial Molar Pregnancy Fertilization occurs. The mole contains both abnormal cells and an embryo or fetus that eventually is overtaken by the abnormal cells. Due to the presence of an embryo, partial molar pregnancy is defined as a type of miscarriage.

Additional Terms

Complete miscarriage Total expulsion of all products of conception from the uterus

Incomplete miscarriage Some tissue or placenta remains in the uterus.

Spontaneous miscarriage The miscarriage happens on its own, without medical intervention. This spontaneous action can be deemed complete or incomplete. As it is imperative that the uterus be emptied to prevent sepsis, medical intervention is necessary.

Missed miscarriage A death has occurred, and the pregnancy is no longer viable. The actual process of expelling the products of conception has not begun.

Threatened miscarriage Bleeding or other signs of distress may be present but are unconfirmed. About half of all threatened miscarriages will progress to a complete miscarriage.

Inevitable miscarriage The cervix is open and blood and/or products of conception are beginning to be expelled. The miscarriage is certain to happen.
Potential Causes of a Miscarriage

- Embryonic or fetal chromosomal abnormality – causative factor in 50-60% of all miscarriages (Romero et al., 2015)
- Aging ovum (American College of Obstetricians and Gynecologists, 2014)
- Irregular ovulation (Wilding, 2015)
- Luteal phase defects (Wilding, 2015)
- Prior miscarriage (Bhattacharya, Townend, & Bhattacharya, 2010)
- Maternal social factors
  - Caffeine use – dose related (Savitz, Chan, Herring, Howards, & Hartmann, 2008)
  - Alcohol use (Bingham, 2015)
  - Illicit drug use (Edelman, Patel, Glasper, & Bogen-Johnston, 2014)
  - Tobacco use (Hyland et al., 2015)
- Uterine anomalies, both acquired and congenital
  - Muellarian defects
  - Adhesions from curettage or septum removal
  - Scarring from prior myomectomy, fibroid removal, or classical cesarean delivery (Practice Committee of the American Society for Reproductive Medicine, 2012)
- Maternal infections
  - Rubella
  - Toxoplasmosis
  - HSV
  - Cytomegalovirus
  - Parvovirus
  - Listeria (Jamieson, Kourtis, Bell, & Rasmussen, 2006)
  - Zika (van der Eijk et al., 2016)
- Endocrinopathies
  - Thyroid dysfunction (Practice Committee of the American Society for Reproductive Medicine, 2012)
  - Polycystic ovary syndrome (PCOS) (Yu, Chen, Rao, & Gong, 2016)
- Maternal Diabetes, especially if not well-controlled (Practice Committee of the American Society for Reproductive Medicine, 2012)
- Thrombophilias
  - Factor V Leiden deficiency
  - Methylene tetrahydrofolate reductase (MTHFR) (Practice Committee of the American Society for Reproductive Medicine, 2012)
- Maternal immune disorders
  - Lupus erythematosus (Gleicher, Weghofer, & Barad, 2012)
  - Antiphospholipid antibody syndrome (APS) (Practice Committee of the American Society for Reproductive Medicine, 2012)
A definite cause of the miscarriage may not be found. Genetic testing of products of conception can be offered as part of miscarriage evaluation to determine whether or not a chromosomal abnormality was present. If an abnormality is found, it is not necessarily likely to occur again. Most chromosomal abnormalities arise de novo rather than being inherited from a parent with a balanced translocation. Furthermore, some genetic abnormalities are not easily detected by conventional analysis because they are caused by point mutations, micro-deletions, or duplications.

**When Is a Miscarriage a Medical Crisis?**

Miscarriage typically does not rise to the level of a medical emergency. Bleeding, cramping, fever and chills, nausea, vomiting, diarrhea are all common symptoms; however, there is still cause to consider the risk of hemorrhage, anemia, high fever, and other symptoms suggesting endometritis or extreme distress.

The following symptoms warrant emergency care:

- Bleeding enough to soak through one heavy duty menstrual pad per hour for 2 consecutive hours
- Fever of 100.4 degrees F (38 degrees C) for more than 4 consecutive hours
- Bad smelling discharge
- Pain considered intolerable by the patient despite use of OTC medications such as Acetaminophen
- Blood clots the size of a plum

**Assess Before Treating**

The symptoms of miscarriage such as vaginal bleeding and uterine cramping are also common in a normal pregnancy (ACOG, 2015). Bleeding or spotting can occur at any time during a pregnancy. Still, when a woman notices bleeding or experiences uterine cramping, she is likely to feel some measure of concern, even alarm. To distinguish between early pregnancy complications and early pregnancy loss, healthcare providers must conduct a thorough assessment. The approach should be person-, family-, and culture-centered (Lor, Crooks, & Tluczek, 2016). The evaluation must be inclusive of clinical assessments as well as the use of active listening, information sharing, ample time for processing any bad news, and decision making.

Before any treatment options are contemplated, a thorough and accurate assessment to confirm the diagnosis is critical for the patient.

- Determine a thorough medical history.
- Conduct a physical examination, including a pelvic exam.
- Monitor vital signs.
- Perform a transvaginal ultrasound.
- Test Serum β-hCG evaluation(s), Blood type and Rh, Hemoglobin/ Hematocrit, White Count.
Treatment Options for Miscarriage

There are three options for treating miscarriage: expectant management, medical management, and surgical treatment. Each option is considered safe and has comparable risk factors for infection and hemorrhage. In the presence of maternal hemodynamic instability and/or uncontrolled, heavy bleeding, suction dilation and curettage (D&C) remains the standard of care; however, if there is time to consider alternate therapies, it is vital that patients be included in decision making (Walter & Alvarado, in press).

Expectant management

This approach allows the body to respond naturally to its own process of expelling the products of conception from the uterus. Bleeding and cramping occur and the cervical os dilates. A follow-up appointment with both serial β-hCG evaluations and ultrasound may be useful to confirm that the uterus is empty. Heavy or prolonged bleeding and/or intense or prolonged cramping may indicate that the miscarriage is incomplete and surgical treatment is required. The unpredictability of expectant management is what leads some women to choose a different option.

Medical management

Misoprostol is a prostaglandin E1 analogue. It is typically administered intravaginally due to higher bioavailability. Oral or buccal administration is acceptable but often leads to more bothersome side effects such as nausea and vomiting. The miscarriage typically begins within 2 to 6 hours of administration. With medical management, the patient perception of pain, and therefore need for analgesics, may be higher. Zhang et al. (2005) reported that up to 71% of women had complete expulsion of the product of conception with just one dose of Misoprostol. That rose to 84% with a second dose. A D&C was needed in the remaining 16%. A perceived advantage of medical management is that it is less invasive than surgery and yet expedites the miscarriage process.

Surgical treatment

Surgical options can be performed at a hospital or clinic using manual vacuum or curettage. Surgical options are predictable and fast, they reduce bleeding, and they may lead to perceived better pain control by the woman. Of those women undergoing D&C, 90% had complete clearing of uterine contents by day 15, and 97% by day 30. A repeat D&C was needed only 3% of the time (Zhang et al., 2005). The major disadvantage of relying on surgery is its invasiveness and risks associated with anesthesia if used.

Preparing the Patient

All three treatment options come with the possibility that the woman will miscarry randomly prior to any intervention. That is, the woman may miscarry unexpectedly, before administration of misoprostol, or prior to the surgical procedure. Rather than leaving the patient unprepared for this possibility, providing comfort items for use at home is strongly recommended.

The following comfort items can be placed in a nondescript bag with instructions on their use.

- Toilet hat to monitor blood loss and to safely provide a place for the miscarriage, baby, or products of conception (POC)
• Heavy duty menstrual pads
• Disposable under pads with fluid resistant backing to protect bed/furniture from absorbing blood and fluid
• Disposable gloves
• A small plastic container to place the POC for safe keeping
• A muslin bag or other appropriate bag for the patient to transport the POC to the hospital or clinic
• A bereavement folder with appropriate materials, the after-hours contact information and any other additional information that may be helpful should the patient begin to hemorrhage or otherwise feel the need for emergency care

Physiological Impact on Patients

Miscarriage can be compared to the actual birthing process. As with labor at term, the amount and duration of pain, bleeding, cramping, nausea, and other symptoms experienced during a miscarriage will vary. Those providing care for the woman experiencing a miscarriage need to be aware that women will often experience fear, shock, uncertainty, and loss of control in the face of a miscarriage. This can be heightened by the intense physical symptoms they feel.

Although intrauterine infection is rare with spontaneous miscarriage, surgical management increases the risk. Counsel the patient to watch for signs of infection (fever, heavy bleeding, bad smelling discharge, or increasing pelvic pain) and consider antibiotic prophylaxis.

If a woman knows that she will have a miscarriage, she rarely thinks about the possibility of hemorrhage. Excessive bleeding is not a common complication, but it is a type of traumatic birthing experience. Hemorrhage may cause fear for one’s life, a lack of understanding about how to manage the
heavy bleeding, uncertainty about when to go to the emergency department or outpatient clinic, and an overwhelming fear that it might happen again when considering a next pregnancy. In the study by Limbo, Glasser, and Sundaram (2014), one woman who initially signed the research consent form ultimately opted out before the interview because she was too afraid to talk about her hemorrhage in the required data-gathering interview. Assess hemoglobin level if there is continued heavy bleeding or other signs of anemia.

Vaginal bleeding or spotting may continue for several weeks after a miscarriage. Breast tenderness, engorgement, or lactation can also occur. Menstrual cycles typically begin within 4 to 8 weeks. Sexual activity can resume when bleeding has stopped and the patient feels physically and emotionally ready. A return to normal levels of physical activity usually takes 3 to 4 weeks. Hormonal changes may lead to mood swings, shifts in sleeping and eating patterns, difficulty concentrating or focusing, and adjustments in your overall level of energy. Postpartum depression can also be experienced post-miscarriage.

Postpartum Depression

The DSM-V diagnosis of depression during the postpartum period refers to peripartum onset. It is important to recognize that the patient may present in a fragile emotional state. According to the Centers for Disease Control and Prevention (2017), 1 in 9 women experiences postpartum depression (PPD). The postpartum period can be a challenging time for any woman, including women who miscarry.

While multiple factors can contribute to postpartum depression, hormonal changes and sleep deprivation are thought to be two major factors. Certainly, the ending of a pregnancy itself can induce a grief reaction much like that felt after the death of a loved one, that is, shock and disbelief, pangs of grief, confusion, guilt, and somatic symptoms (Thieleman & Cacciatore, 2013). Still, postpartum depression is more than a grief reaction as it is marked by extreme emotions and an inability to care for oneself and one’s family. Counseling, psychotherapy, and/or anti-depressant medication are preferred methods of treatment. If left unabated, postpartum depression can last for months or years and impact future pregnancies.

It is important to alert the patient to the possibility of PPD and offer guidelines on how to recognize symptoms and seek professional help.

Symptoms of postpartum depression include

- feeling numb, invisible, disconnected, or empty;
- thinking life is meaningless or irrelevant;
- dramatic changes in the ability to concentrate, eat, sleep, and/or perform routine tasks;
- feeling worthless or hopeless;
- having disturbing and/or intrusive thoughts; and
- thinking about harming one’s self or others.
Communicating With the Patient

It is important to speak slowly, distinctly, and with a warm and compassionate voice. Rely on active listening to ensure that you are hearing not only the words of the patient, but also the meaning and intentions of the communication. Pause frequently to verify what the patient understood you to say and to determine if they want information repeated. Ask the patient to repeat back instructions. Provide critical information in writing, and review the materials with the patient so she can easily locate needed information.

The following tips can help guide your interactions and, if necessary, help in the delivery of “bad news”:

- Make eye contact and speak clearly and distinctly.
- Actively listen to the patient.
- Determine the patient’s understanding of what is occurring.
- Anticipate that the patient may have an emotional response to her current state.
- Correct any misunderstandings, myths, or misconceptions.
- Use language that matches that of the patient when referring to the pregnancy.
- Take into consideration the patient’s language abilities, culture, and level of education.
- Give a gentle warning before imparting bad news
  - “I have some important news to share”
- Allow for silence after delivering bad news so that the patient has time to absorb the information. Resist the urge to fill the quiet with information the patient/family will be unable to attend to.
- Be empathetic.
- Summarize the current situation, strategize options, and support the patient’s decision-making.
- Use empathy to reflect on the patient’s emotional state.
  - “You seem afraid, is that right?”
- Legitimize the patient’s experience through validation.
  - “Yes. You made the right choice to be seen because of the cramping and bleeding you are having.”
- Appreciate the efforts the patient makes to communicate effectively.
  - “Thank you for telling me that you are concerned about the amount of blood you have already lost.”
- Support the patient’s feelings and thoughts.
  - “It’s okay with me that you are crying. I’m here to help you.”
- Use active listening to fully comprehend and understand the patient.
  - “I gather that it hurts when I push on your abdomen here.”

Respectful Disposition

Requiring a process for respectful disposition is a key strategy in providing sensitive care for the patient experiencing a miscarriage. Far too often a patient who allowed the hospital to manage the disposition of remains may call asking, “Where is my baby?” Women who make the decision to leave the disposition
of the remains up to the hospital can change perspectives. Months or years later they may question what occurred during the miscarriage and want to know and understand what happened to the remains.

This heartrending situation is one of the major reasons why policies and procedures for respectful fetal disposition are necessary. Patient records should accurately and thoroughly record the miscarriage, including how fetal remains were managed. If the hospital was given responsibility, all pertinent data regarding date, method, and location of disposition needs to be logged. All remains should be tagged with the name of the patient so that identification is possible.

**Guidelines for Respectful Treatment of Fetal Remains**

- Provide the patient oral and written information regarding the facility’s policies and procedures for handling fetal remains.
- Place no demands on the patient to make decisions within a prescribed timeframe; allow them time to process the experience.
- If possible, allow the patient and family the opportunity to see, touch, name, and be witness to the baby.
- Separate the remains from the medical waste, individually preserve the remains, and store them for final disposition by the patient or the facility.
- Bury intact remains (individually bundled) in a single casket (co-casketing).
- Bury remains at a site deemed appropriate for burial by state and/or local law.
- Cremate or incinerate the remains only if other options do not exist or are overly burdensome. Remains are separated from other medical waste and are sent to a facility licensed to dispose of fetal remains.
- With facility disposition, consider hosting a Memorial or Remembrance Ceremony for interment of remains.
- With private disposition, present the remains to the patient in a compassionate and caring manner.

**Memorial Services**

Memorial services are seen as a way of helping a family say goodbye. These services are not necessarily considered a religious ritual; instead, they are considered a spiritual commemorative event that is welcoming and inclusive. While a particular organization may be affiliated with a specific sect or religion, all those in attendance may not share the same beliefs. With that in mind, services designed by specific organizations may avoid works with religious connotations and choose more humanistic works.

The following tips can be helpful when designing a memorial service.

- Experience suggests that there may be one or more participants at the service who had a pregnancy loss in the past and may not have been afforded an opportunity for a formal recognition or chance to say goodbye. These individuals are also granted the opportunity to remember their babies during the observance.
- Families with surviving children may wish to bring them to the service. The officiant can say, “Children are present here today as significant family members: siblings of the baby who died. Please welcome them and think of ways in which they embody the sounds of the service today.”
• Music, either live or recorded, can help set a calming atmosphere and serve as a transition during the formal program. Songs provide an opportunity for active participation in the observance. This unifies the group, solidifies bonds with the deceased, and allows them to access their emotions in a safe and ritualized manner. The therapeutic aspects of music have long been noted through the discipline of Music Therapy. As Berger (2012) stated, music encourages the bereaved to "tell and retell their story both as orators and listeners."

• Photographs of the memorial service can be shared with participants as a further extension of memory making. Photographs can also be made available to those women and their families that were unable to attend the observance.

Appendix A provides a sample of a memorial service invitation. Fillable versions of this invitation and a memorial service program are available in the INTE teaching kit.

Suggested Clinical Implications

• Not every woman experiencing a miscarriage considers it the loss of a baby. Assess before assuming.
• Regardless of the point of entry for care, all patients experiencing an early pregnancy loss should receive the same standard of care.
• Patients who have assigned personhood to their pregnancy are likely to view the miscarriage as loss of baby, child, or pregnancy.
• Staff members in the ED and outpatient settings need to know if the hospital offers “respectful disposition” and what the process entails, in order to inform the family.
• Healthcare providers must co-create a plan of care and treatment plan with the patient and her family in order to assure a satisfactory resolution.
• Patients leaving the ED or outpatient setting to miscarry at home should have clear, concise information about bleeding amounts, pain control, and when to return for care.
• The use of a standard list of miscarriage comfort supplies (toilet hat, pads, gloves, and more) will provide the patient who leaves the ED or outpatient setting to miscarry at home with useful tools to help her through this unknown process.
• A woman may view any part of the miscarriage experience as traumatic, especially heavy bleeding (i.e., hemorrhage). Evidence shows that traumatic events may lead to depression, anxiety, dwelling on the experience, and other post-traumatic responses.
• Patients who miscarry will often exhibit a grief response and some will later develop symptoms of depression or PPD.
Appendix A: Annual Burial and Memorial Service Information Card

ANNUAL BURIAL AND MEMORIAL SERVICE INFORMATION CARD

A burial and memorial service for all parents, and their families, whose baby died through miscarriage, ectopic pregnancy or other early pregnancy loss, takes place each year on the third Thursday of May. The service includes babies who died the previous year.

Not everyone recognizes the death of an unborn baby as the loss of a life. However, this farewell ritual can help validate the grief that parents and families experience, which facilitates healing. The graveside memorial service and burial are offered by Gundersen Health System in collaboration with the Mormon Coulee Cemetery Association.

Date: Third Thursday in May

Time: 10:30 a.m.

Location: Mormon Coulee Memorial Park Cemetery, N1137 Bloomer Mill Rd., La Crosse, WI.

Directions: From La Crosse, take Mormon Coulee Rd. to Hwy 14/61. Continue on 14/61 to Bloomer Mill Road. Turn left onto Bloomer Mill Rd. Once at the cemetery, look for the Resolve Through Sharing (RTS) Bereavement Services “Ended Beginnings” site marker near the cherub planter.

For information: Please call

If you want to include your baby in the burial service, please use the labeled container you received in the miscarriage kit to collect the tissue of your baby. You may deliver the container to the OB/Gyn clinic nurse at the La Crosse or Onalaska clinic, where it will be kept safe for inclusion in the burial.

OB/Gyn nurses are available to assist you weekdays from 8 a.m. to 5 p.m.
• La Crosse Clinic
• Onalaska Clinic

After 5 p.m. weekdays, on weekends and on holidays, please call the hospital Labor and Delivery unit. Ask to speak with a nurse.

“Grief can take care of itself, but to get to the full value of joy you must have somebody to divide it with.” – Mark Twain

Resolve Through Sharing®
BEREAVEMENT EDUCATION SINCE 1981
Appendix B: Products of Conception and Hospital Burial SOP

Standard Operating Procedure

Subject: Products of Conception and Hospital Burial
Index Number: Lab-5760
Section: Laboratory
Subsection: Pathology - Histology
Category: Departmental
Contact: 
Last Revised: 5/11/2017

References
This is a required document for Laboratory Accreditation by the College of American Pathologists.

Applicable To
Employees of the Pathology section of the Laboratory.

Detail
PRINCIPLE:
Products of Conception received by the pathology department are examined and sampled for diagnostic purposes. Following examination, Products of Conception are either released for private burial or retained for hospital burial. Employees of the pathology department will retain, store, and prepare for burial all Products of Conception (POC) tissue and fetuses less than 20 weeks gestational. A fetus delivered from a medical interruption of a patient’s pregnancy is also eligible for hospital burial.

Occasionally, with approval from a patient’s provider, Products of Conception tissue may be exempt from pathological examination and retained for burial only. In this instance, the above information must be noted on the Surgical Pathology Requisition Form at the time the POC tissue is submitted to the laboratory (i.e., “For hospital burial only – no examination or genetic studies required”).

SPECIMEN:
Products of Conception - miscarriage, ectopic pregnancy, fetus (stillbirth or neonatal death).

1. Miscarriage
   Definition: The expulsion of all (complete) or any product of conception (incomplete) less than 20 weeks gestation or birth weight of less than 350 grams. Gestational age is defined by the National Center of Health Statistics as the period of time (in weeks) between the first day of the last normal menses and the day of delivery.

2. Ectopic Pregnancy:
   Definition: Ectopic pregnancy is a pregnancy in which the fertilized egg develops outside the uterus.

3. Fetal Death/Stillborn:
   Definition: Death prior to complete expulsion from its mother of a product of conception of at least 20 weeks gestation or 350 grams (or greater) in weight and the death is indicated by the fact that after separation, the fetus shows no signs of life such as beating of the heart, pulsation of the umbilical cord or definite movement of the voluntary muscles. (Wisconsin Department of Health and Social Services, Division of Health, Bureau of Health Statistics).
Standard Operating Procedure

4. Neonatal Death:
   Definition: Live birth infant who dies before completing four weeks (28 days) of life. (Wisconsin Department of Health and Social Services, Division of Health, Bureau of Health Statistics).

5. Live birth:
   Definition: The complete expulsion or extraction from its mother of a product of conception irrespective of the duration of pregnancy which, after separation, breathes, or shows any other evidence of life, such as beating of the heart, pulsation of the umbilical cord or definite movement of voluntary muscles. A live birth requires a birth certificate and a death certificate when baby dies.

HANDLING CONDITIONS:
1. Miscarriage or ectopic pregnancy
   a. Routine/Formalin fixed
      If no special studies (i.e., cytogenetics/chromosome studies) are required the tissue may be placed in a prefilled Formalin container. "Routine" is indicated on the Surgical Pathology Consultation Request Form. The specimen is transported to the Histology laboratory. The specimen container and the surgical pathology requisition form must be properly labeled with the patient name, medical record number, date of birth, physician, and specimen source or identification.
   b. Genetic Studies - cytogenetics/Chromosomal Microarray Analysis/CGH- Comparative Genomic Hybridization/FISH (Fluorescence in Situ Hybridization)
      Genetic studies are per physician order. Genetic studies may be performed on identifiable fetal tissue or placental tissue. If genetic studies are requested, DO NOT PLACE THE TISSUE IN FORMALIN. Indicate on the surgical pathology form “Genetic Studies Requested”. Place the tissue in an empty specimen container (a few milliliters of saline may be poured over the tissue/fetus to prevent drying). The specimen container and the surgical pathology requisition form must be properly labeled with the patient name, medical record number, date of birth, physician, and specimen source or identification and any pertinent history or specific requests.

After hours (1700-0530) and weekends:
FORMALIN fixed specimens may be transported to the Histology lab for routine processing the following day. If the specimen is collected on the weekend, the tissue will be processed on the following Monday.
UNFIXED (fresh) specimens require refrigeration. A refrigerator located in the Histology lab and a walk-in cooler in the main laboratory (4NW Heritage) are available for storage.

2. Fetal Death/Stillborn/Neonatal Death
   In the event of a fetal death, stillbirth, or neonatal death the Provider may consider a diagnostic evaluation by either Autopsy Examination or Surgical Examination.
   A. Labor and Delivery (L&D) will call the Hospital Operations Manager (HOM) for all fetal deaths, stillbirths, and neonatal deaths (deaths occurring within 24 hours of delivery).
   B. The HOM will ask for the EGA (Estimated Gestational Age) in cases of a fetal death and whether an examination is requested (a surgical pathology exam if the fetus EGA<20 wks and an autopsy if EGA>20 wks).
Standard Operating Procedure

C. If an autopsy is requested the HOM will be responsible for making sure that a properly filled out autopsy consent form accompanies the fetus and placenta.

D. The HOM will also ask if cytogenetics is requested.

E. The HOM will arrange for transportation of the fetus, placenta, and all appropriate paperwork to the cooler outside the histology lab.

F. If cytogenetics are required or an expeditious autopsy is requested, once the HOM is assured that the fetus and placenta are in the lab cooler he or she will call the pathologist on call and give him or her the following information:
   a. Cytogenetics or expeditious autopsy required for fetal death, stillbirth, or neonatal death.
   b. Patient name, MRN, EGA, time of death, and when body will be sent out (if applicable).
   c. If cytogenetics are requested the pathologist on call is responsible for obtaining the required tissues as well as freezing skin, fascia and liver, tissue for possible studies as expediously as possible, so as not to delay send out of the body if an autopsy is requested.
   d. If EGA>20wks or the baby is stillborn or dies within 24 hours after delivery and an expeditious autopsy is requested, the pathologist on call will be responsible for verifying the autopsy consent form is properly filled out and providing a summary of the relevant clinical history to accompany the fetus and placenta to Madison. He or she will then notify the HOM that the fetus and placenta are ready to be sent to Madison. The HOM will be responsible for making arrangements for transport of the fetus and placenta to Madison.

G. If neither cytogenetics nor an expeditious autopsy is required the pathologist on call does not need to be notified. The fetus, placenta and appropriate paperwork simply need to be placed in the cooler outside the histology lab.

H. During routine hours (Monday – Friday, 0730-1700 hours) the pathologist on call is notified (by Histology staff) when a fetus or stillborn infant or an infant that died in the neonatal period is in the cooler. The pathologist on call will determine what further steps need to be taken:
   a. If EGA>20wks and exam requested, the fetus and placenta will be treated as a single surgical specimen, except that the fetus will have a hospital burial.
   b. If EGA>20wks and no exam is requested the fetus will be reserved for hospital burial. This information must be noted on the Surgical Pathology Requisition Form at the time the POC tissue is submitted to the laboratory – i.e. “For hospital burial only – no examination or genetic studies required”.
   c. If EGA>20wks or the baby is stillborn or dies within 24 hours after delivery and autopsy is requested, the pathologist on call will be responsible for verifying the autopsy consent form is properly filled out and providing a summary of the relevant clinical history to accompany the fetus and placenta to Madison.

I. Once the pathologist on call has decided on a course of action he or she will call the HOM and notify him or her that one of the following three conditions apply:
   a. EGA>20wks – the fetus and placenta will be retained by the surgical pathology lab for pathology examination and/or hospital burial. No further action required by HOM.
Standard Operating Procedure

b. EGA>20wks – autopsy requested. When all paperwork is in order HOM will be responsible for transport of the fetus and placenta to Madison.
c. EGA>20wks – no autopsy requested. HOM will notify the family that they are responsible for making arrangements for the disposition of the body of the deceased. HOM will make arrangements for transportation of the fetus to the Legacy morgue for pick up.

J. The above protocol will also apply to all elective pregnancy terminations.
K. A copy of the above protocol will be placed in the HOM’s protocol handbook for ready reference (modified as necessary).

DISPOSITION OF THE BODY
Tissue resulting from a miscarriage or ectopic pregnancy is eligible for hospital burial. Fetuses that are less than 20 weeks gestation are eligible for hospital burial. A fetus delivered from a medical interruption of a patient’s pregnancy is also eligible for hospital burial. Fetuses greater than 20 weeks gestation become the parents’ responsibility for private burial. Release of the body is coordinated by the Hospital Operations Manager (HOM).

REAGENTS/MATERIALS:
Prefilled 10% buffered neutral formalin containers for routine specimens.
If the specimens are large or genetic studies are requested, an empty screw-top sterile container (120 ml), 1 pint or 2 quart empty white plastic containers are available.
Surgical Pathology Consultation Request Forms.
Specimen label.
CombiMatrix POC transport media.
Orange “SAVE POC” labels.

EQUIPMENT/INSTRUMENTATION: N/A

Implementation
The following procedure steps apply to products of conception obtained from a miscarriage, ectopic pregnancy, or a fetal death/stillbirth in which the gestation is 20 weeks or less, and/or in cases of medical interruption of a patient’s pregnancy. Products of Conception greater than 20 weeks gestation require an autopsy.

1. The specimen is received in the Histology lab (ANW Heritage) with proper labeling and a completed Surgical Pathology Consultation Request Form.
2. Follow Standard Precautions as appropriate.
3. The specimen is assigned a computer generated surgical number. A "SAVE - POC" label is affixed to the specimen jar and the same surgical number is recorded on the label.
4. The Pathologists’ Assistant or Pathologist will dictate a gross description of the specimen, indicating whether a fetus or embryo is present or absent. If a fetus or identifiable fetal tissue is recognized, a brief description to include length, weight, general external characteristics, and gender, if possible, is given.
5. Small portions of placental and fetal tissue will then be submitted for histologic examination. If genetic studies have been requested, tissue samples are placed in cytogenetics transport media.
Standard Operating Procedure

(CombiMatrix). Two separate containers are required if both placental and fetal tissues are identified. DO NOT PLACE BOTH TISSUES IN THE SAME VIAL.

6. All remaining tissue is returned to the original, properly labeled container and retained by the laboratory, although a fetus is sometimes released to a Funeral Director for burial. If there is no additional tissue (submitted entirely for Histologic examination), the paraffin block(s) will be available to the parents for viewing or burial if necessary.

7. The products of conception are stored initially in Histology. The tissues are subsequently moved to the Autopsy Suite and stored in an area designated for “Products of Conception” tissue where they are saved for burial.

RELEASING SPECIMENS TO PATIENTS:
If patients request the return of their products of conception a Request for Release of Pathology Specimens form, available in Histology, must be signed by the patient as well as a witness. Histology will assist in retrieving the tissue and filling in the data on the requisition.

Note: Products of conception not claimed by parents will be sealed in a plastic bag (in formalin) and properly labeled with an appropriate "SAVE-POC" label. The specimen is placed with the other products of conception in the Histology lab or Morgue to await burial. The burial is conducted annually (3rd Thursday in May) at the Mormon Coulee Cemetery. Histology personnel will assist the RTS/Bereavement Coordinator by preparing the products of conception for burial in an infant casket.

REVIEW AND CHANGES:
This document and all attached forms should be reviewed optimally on an annual basis, with two years as the maximum review date. Review will be done by the technical leader, medical director or designee. Changes require retyping document or form and review by the medical director.

REFERENCES:
Wisconsin Department of Health and Social Services, Division of Health, Bureau of Health Statistics.
Appendix C: Less Than 20 Weeks (born dead) Miscarriage Checklist

<table>
<thead>
<tr>
<th>REQUIRED FORMS</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date</td>
<td>Time</td>
</tr>
<tr>
<td>1. Notice of removal</td>
<td>Complete: Part 1 (section 1-31) &amp; Part 2 (section 1-12)</td>
</tr>
<tr>
<td>2. Genetics Studies Orange Folder</td>
<td>□ Yes □ NA/decline</td>
</tr>
<tr>
<td>3. Autopsy Consent</td>
<td>□ Yes □ NA/decline</td>
</tr>
<tr>
<td>4. Photo consents</td>
<td>□ Medical Media photo requisition Medical Photos: □ taken □ NA Authorization for release □ NILMOTS</td>
</tr>
<tr>
<td>5. If Medical Interruption: “Induced Termination of Pregnancy” Form</td>
<td></td>
</tr>
</tbody>
</table>

**Note:** All forms are located in Perinatal Death Packet. Use only those forms listed here and recycle the rest in the Recycle Bin in RTS room labeled “Extra RTS Forms”. This form is a worksheet and should not remain part of the patient’s medical record unless in cases of EPIC downtime.
**PERINATAL LOSS (WORKSHEET ONLY)**

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Comments</th>
<th>Initials</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td><strong>Immediate Notifications:</strong></td>
<td>HOM will assist as needed. Notify Spiritual Care even if patient declines visit to assist in grief process.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>RTS Support Person:</strong></td>
<td>Leaf and Teardrop Magnet in RTS room.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Bereavement Tray – Dietary (optional):</strong></td>
<td>Call Dietary 53445 7am-9pm. After hours tray is stocked on 6th floor Legacy nourishment room-staff to retrieve.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Parent Folder Given with Brief Review:</strong></td>
<td>Obtain from RTS room (if not received in clinic).</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Offer Appropriate Options:</strong></td>
<td>Photos, Private time with baby, Bathe baby, Blessing, Touch/hold, Baptism.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Offer Appropriate Mementos:</strong></td>
<td>ID band/crib card, Plaster mold, blanket/clothes, Baby ring, Footprints/handprints, NB ID sheet, Lock of hair, In Memory of sheet.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>RTS Photos:</strong></td>
<td>Camera memory card: sent to medical media. Digital photos/disc: given to family. (Check to see that camera battery is charged.)</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Disposition:</strong></td>
<td>Baby Placed in Purple Preschool Box, Hospital Disposition, Family Transport, Funeral Home.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Options for Other Arrangements Discussed:</strong></td>
<td>Funeral Home Name/Number, When Notified, If Family Transport, contact HOM for paperwork.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>RTS Newsletter:</strong></td>
<td>Yes, No. Patient to receive: Mail, Email.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Follow-Up Appointment:</strong></td>
<td>Notify HUC to write a note accompanying follow-up appointment that patient had a loss.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>If Patient Discharge from L&amp;D:</strong></td>
<td>Mother’s Care after a Loss, Discharge Instructions After a Loss, Print/Verify discharge medication list.</td>
</tr>
</tbody>
</table>

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References


