Midwifery Care for Early Pregnancy Loss: Optimizing client centered counseling and management

Tara Cardinal, CNM, ARNP
Marnie Raelene, MSM Student
Midwives Association of Washington State
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- Linda Prine, MD

Objectives

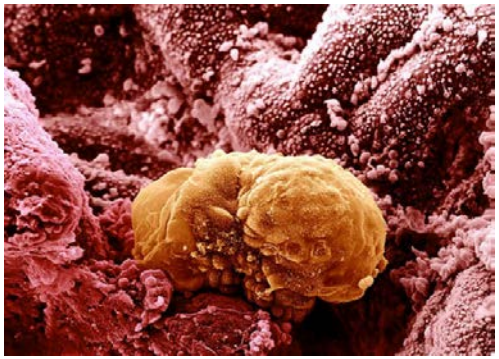
- Differentiate between and list 3 different classifications of spontaneous abortion
- Describe 3 outpatient management options for miscarriage management
- Describe success rates of the 3 management options based on type of early pregnancy loss diagnosis
- Name 3 strategies to empower and support those who are experiencing pregnancy loss
- Identify 3 elements of the new Practice Guideline for Washington State Midwives that optimize client-centered counseling and care.

Background

- Standard of Practice
- Origins
- Capacity and Limitations
- Reinforcing your foundation

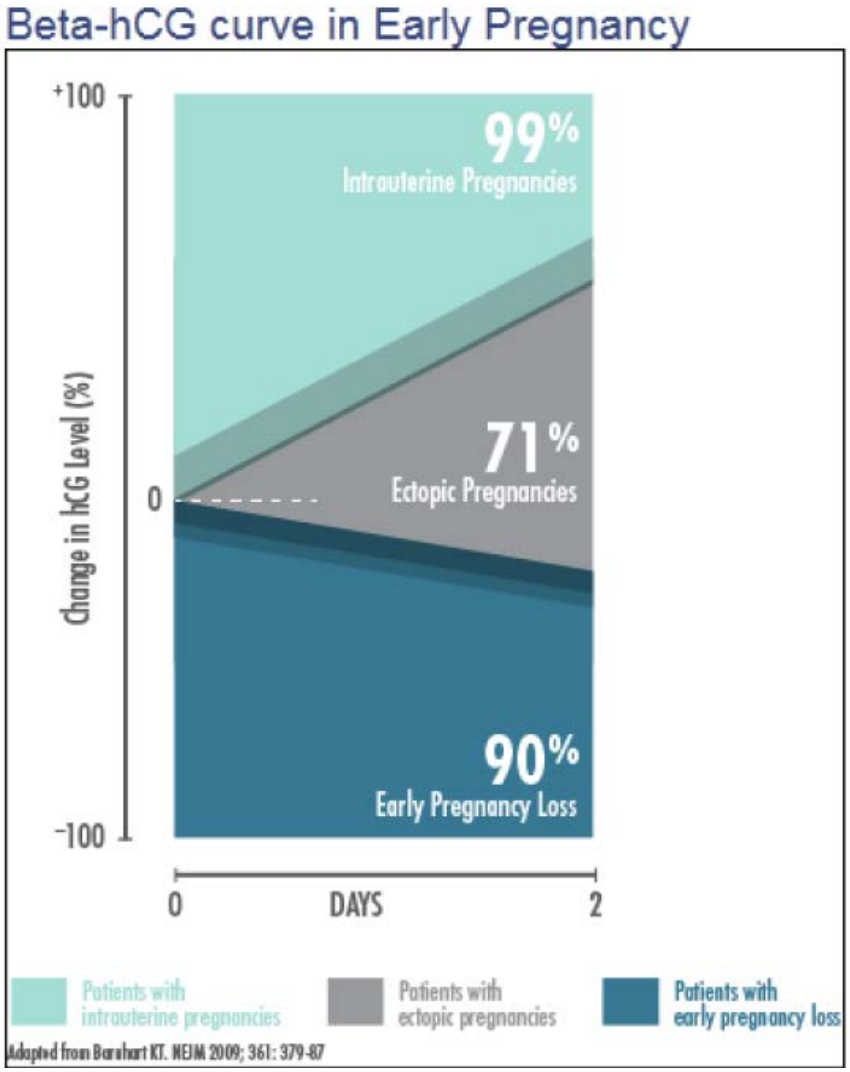
Review: normal implantation & development

- Implantation
  - 5-7 days after fertilization
  - Takes ~72 hours
  - Invasion of trophoblast into decidua
- Embryonic disc
  - 1 week post-implantation
    - If no embryonic disc, trophoblast still grows but no embryo (anembryonic pregnancy)



Embryonic disc=
Embryonic pole

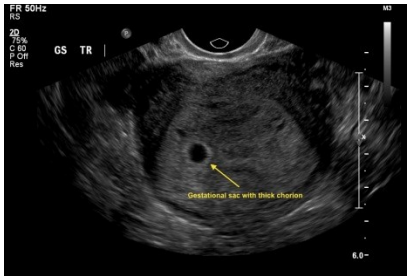
ßhCG



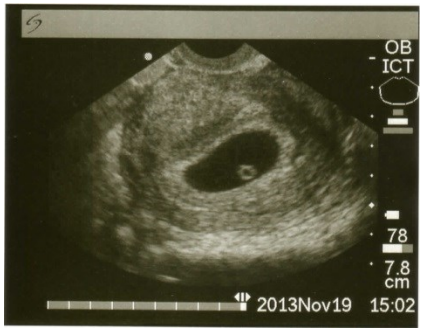
- ßhCG Guidelines
  - Normal pregnancy
  - Spontaneous abortion
  - Ectopic pregnancy
  - Molar pregnancy
  - Twin pregnancy

Ultrasound Assessment

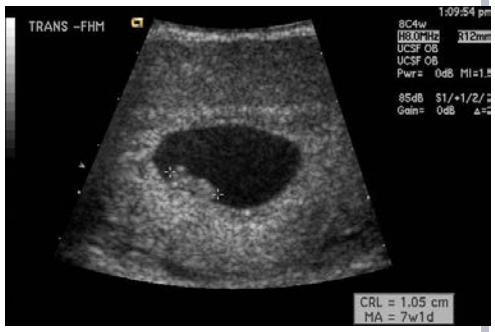
Gestational Sac



Yolk Sac



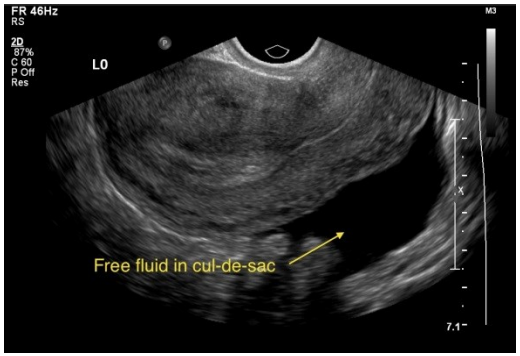
Embryo w/ CRL



innovating education in reproductive health - http://www.innovating-education.org/professionalism/managing-early-pregnancy-loss/evaluation-and-diagnosis/

Ectopic

- Implantation anywhere other than main uterine body
  - includes corunal, cervical, intra-cesarean scar
- Adnexa are most common location
- Anywhere there is sufficient blood source
- Can be difficult to diagnose
- Managed expectantly, with medication or operatively

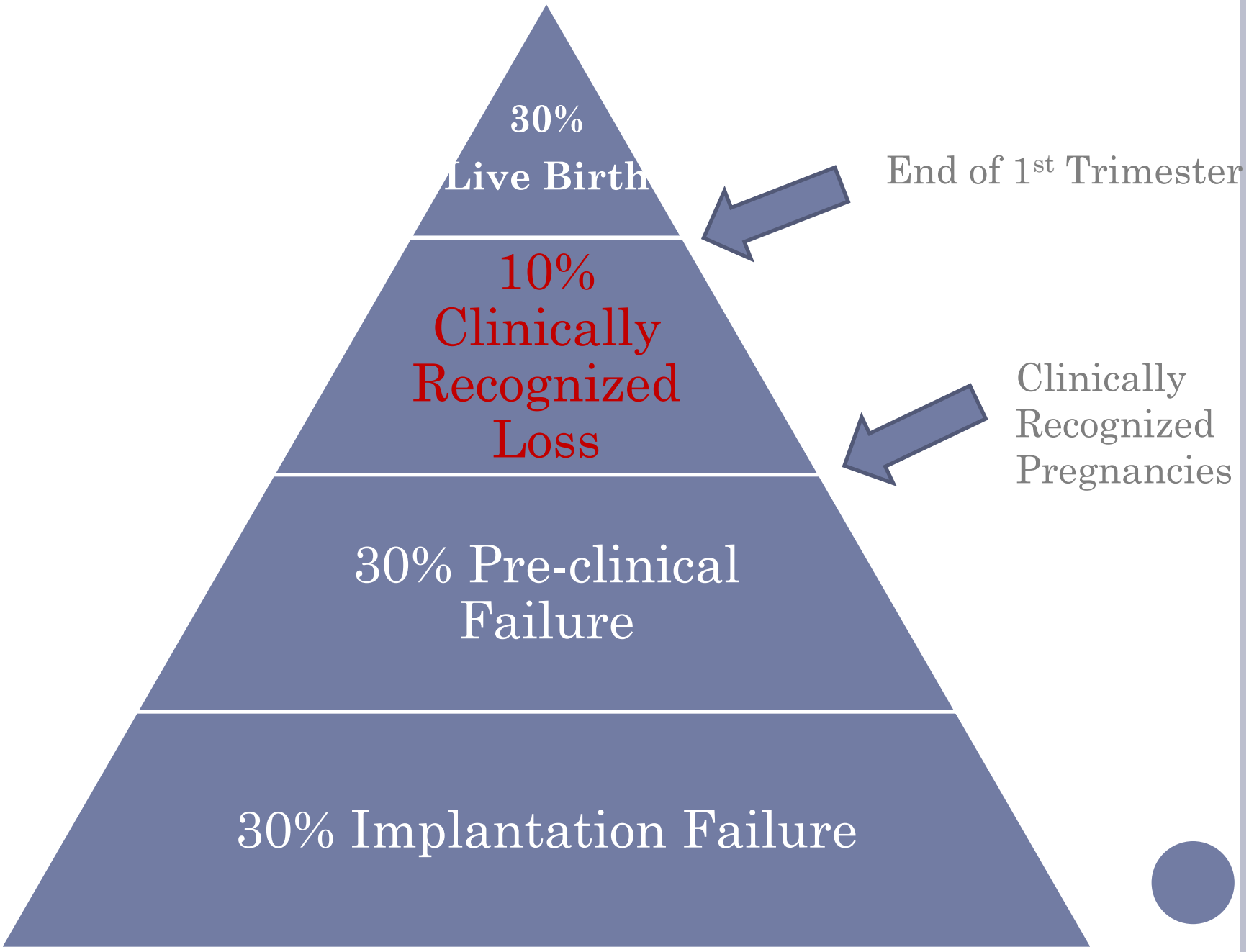


Different Diagnosis Same Meaning?

Background

- Spontaneous Abortion (SAb) most common complication of early pregnancy
  - 8-20% clinically recognized pregnancies
  - 13-26% all pregnancies
  - ~800,000 SAb's estimated each year in the US
- 80% of SAb's occur in 1st trimester

(Cunningham, et al. 2013; Prine et al, 2011; Prager, 2013)



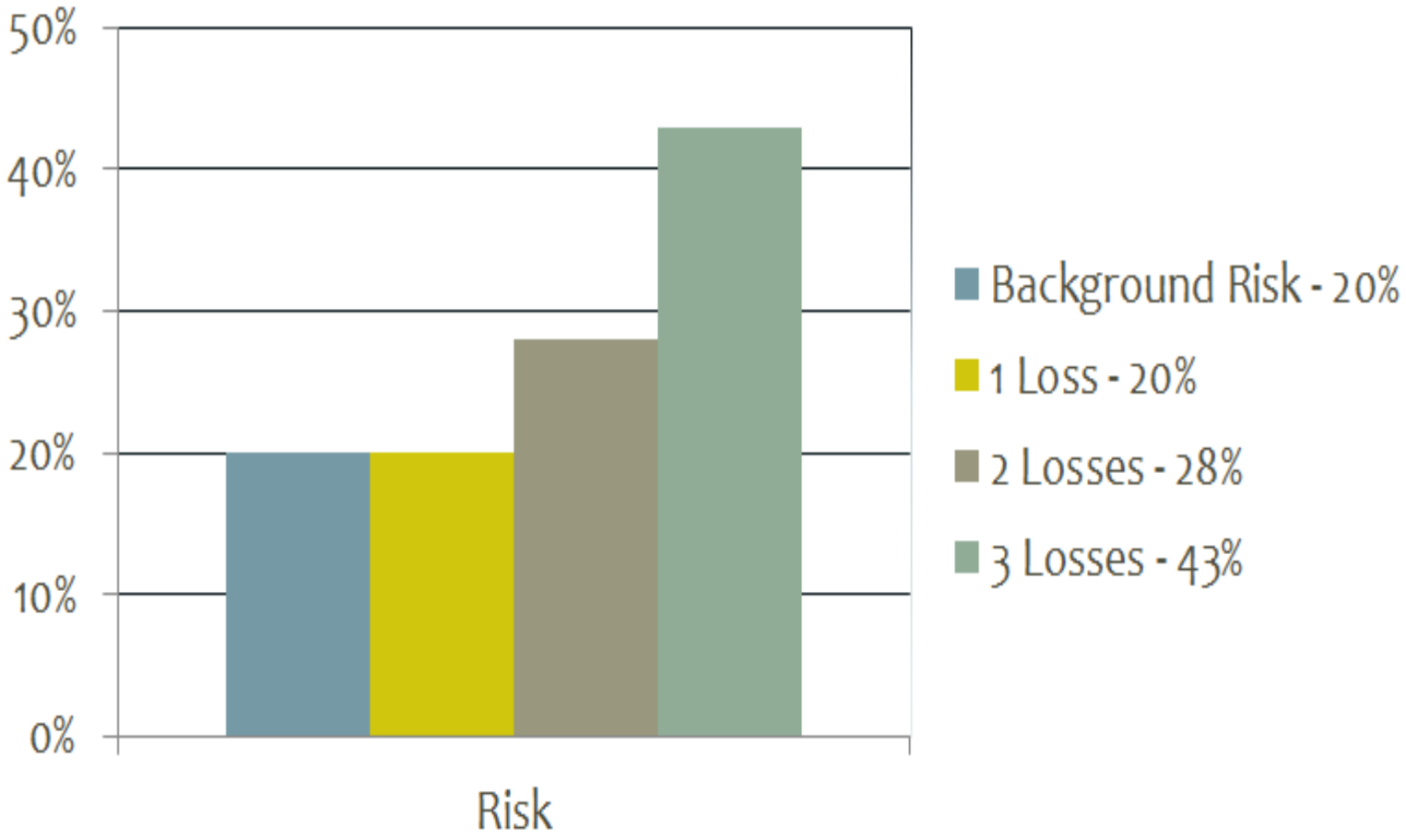
Brown S, Miscarriage and its associations. Sem Repro Med.

Emotional Care

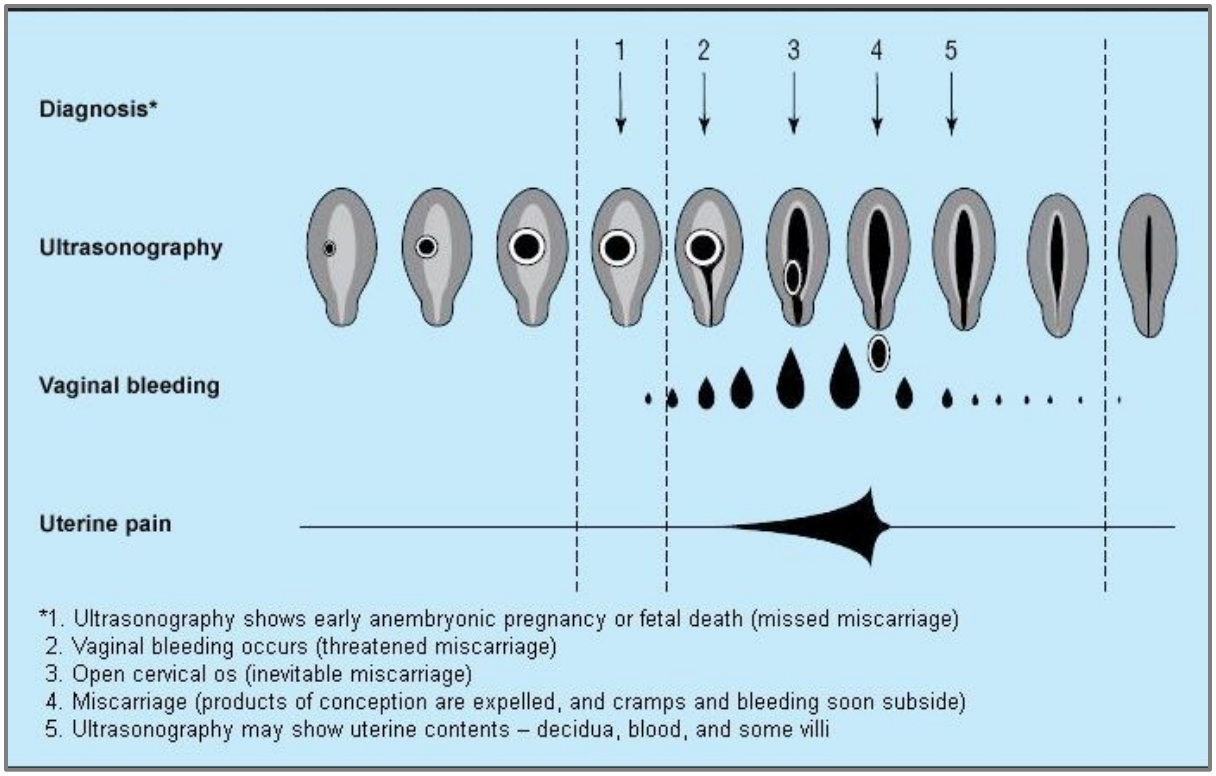
- What did this pregnancy mean to your client?
- What is their support system like?
- What are their and their partner's individual needs? How can they meet them together and separately?
- Normalizing emotions
- Empower them with information and options
- What are their plans for future pregnancy? How will they prevent another pregnancy until they are emotionally ready?

(Prine, 2011; Swanson, 1999; Wallace, 2010)

Future Miscarriage Risk

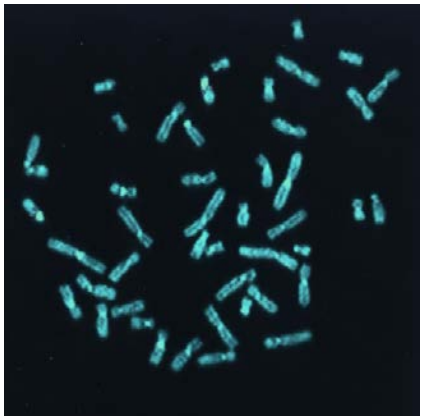


Natural History of Miscarriage



(Ankum, 2001)

Etiology

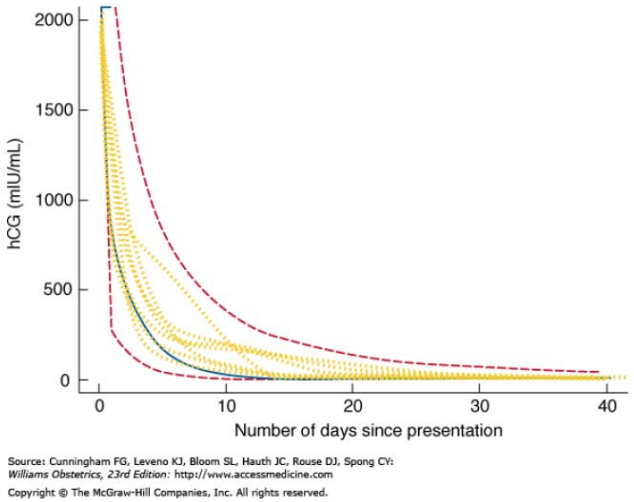


- 33% anembryonic
- 50% due to chromosomal abnormalities
- Host factors
- Unexplained
- Paternal factors?

(Cunningham, et al. 2013; Prager, 2013)

Clinical Presentation of EPL

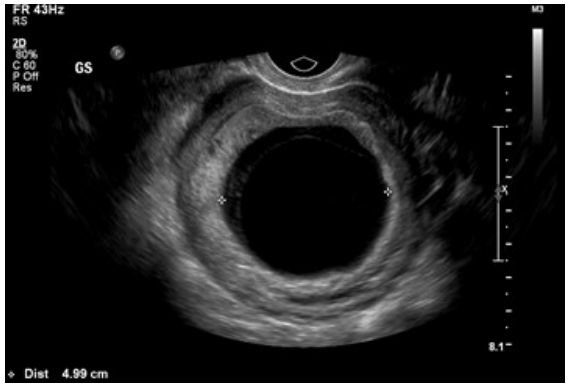
- Bleeding
- Pain/cramping
- Falling or abnormally rising ßhCG
- Decreased symptoms of pregnancy
- On exam
  - Dilation
  - Pregnancy tissue
- No symptoms at all!

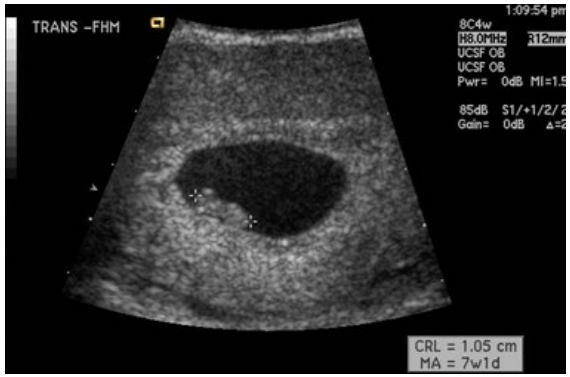


Source: Cunningham FG, Leveno KJ, Bloom SL, Hauth JC, Rouse DJ, Spong CY: *Williams Obstetrics, 23rd Edition*: http://www.accessmedicine.com

(Cunningham, et al. 2013)

Ultrasound Findings of EPL





- Anembronic Pregnancy
  - No fetal pole with mean sac diameter 16-25 mm
- Embryonic Demise

(Mishell , 2007)

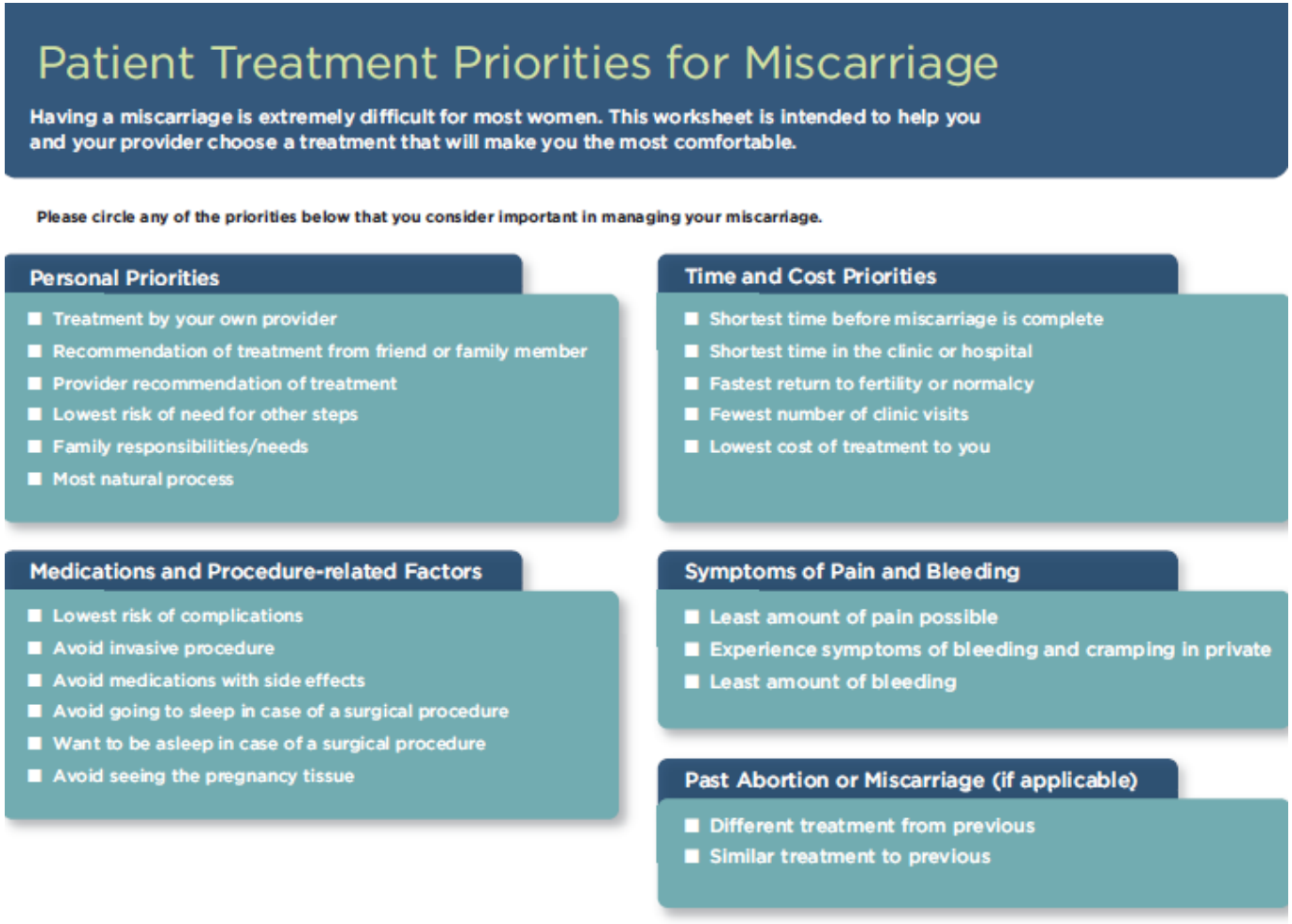
Management Options

- Outpatient
  - Expectant Management
  - Medical Management
  - Procedural Management
- Surgical/OR
  - MVA/EVA/D&C in the OR
  - Most often with general anesthesia

(Godfrey, 2009; Prine, 2011)

Patient Preference and Satisfaction

Patients demonstrate highest levels of satisfaction when they are counseled on all of the management options and able to choose the method that is right for them.



Patient Treatment Priorities for Miscarriage

Having a miscarriage is extremely difficult for most women. This worksheet is intended to help you and your provider choose a treatment that will make you the most comfortable.

Please circle any of the priorities below that you consider important in managing your miscarriage.

Personal Priorities

- Treatment by your own provider
- Recommendation of treatment from friend or family member
- Provider recommendation of treatment
- Lowest risk of need for other steps
- Family responsibilities/needs
- Most natural process

Time and Cost Priorities

- Shortest time before miscarriage is complete
- Shortest time in the clinic or hospital
- Fastest return to fertility or normalcy
- Fewest number of clinic visits
- Lowest cost of treatment to you

Medications and Procedure-related Factors

- Lowest risk of complications
- Avoid invasive procedure
- Avoid medications with side effects
- Avoid going to sleep in case of a surgical procedure
- Want to be asleep in case of a surgical procedure
- Avoid seeing the pregnancy tissue

Symptoms of Pain and Bleeding

- Least amount of pain possible
- Experience symptoms of bleeding and cramping in private
- Least amount of bleeding

Past Abortion or Miscarriage (if applicable)

- Different treatment from previous
- Similar treatment to previous

Bixby Center for Global Reproductive Health

UCSF University of California San Francisco

(Wallace, 2010)

Counseling Steps

- Inform
- **Verbal** and **written** instructions
- Rule out ectopic
- Recommendation for Rhogam
- Provide contact information
- Warning signs
- Indicators of completion
- Follow up

(TEAMM, 2014)

Expectant Management

*Candidates:

*<13 weeks gestation

*by sure, regular LNMP or US

*Stable vitals

*No evidence of infection

*No increased risk of excessive bleeding

*Rule out ectopic and molar

*Willing to have aspiration if complications arise

Expectant Management

- Process
  - Wait for pregnancy to miscarry naturally
  - Can take 1-2 months
  - Bleeding should lighten and lessen after 3-5 hours of miscarriage
  - May elect medication or aspiration option at any time
  - May not complete naturally and need aspiration
  - Check in by phone during expectant period
  - Recommend 1-2 week follow up after complete

(TEAMM, 2014)

What is Success?

- Definitions used in studies
  - ≤ 15 mm endometrial thickness (ET) 3 days to 6 weeks after diagnosis
    - No clear rationale for this cut off
  - No vaginal bleeding
  - Negative urine ßhCG
  - Absence of gestational sac

(Harwood, 2001; Reynolds, 2005)

When to Intervene for Expectant Management?

- Continued gestational sac
- Clinical symptoms
- Patient preferences
- Time

- When not to intervene:
  - Vaginal bleeding and positive UPT are possible for 2-4 weeks
  - ET >15mm
    - Poor measures of success

(Prager, 2013)

Medication Management

- Prerequisite for treatment
  - <13 weeks gestation
  - Stable vital signs
  - No evidence of infection
  - No allergies to medications used
  - Adequate counseling and patient acceptance of side effects
  - Aspiration if complications arise

(TEAMM, 2014)

Medication Management

- Misoprostol
  - Increases uterine contractility and cervical softening
  - Prostoglandin E1 analogue
  - Not FDA approved specifically for EPL
  - Used off-label for many OB/GYN indications
  - Designated essential medication by WHO
- Mifepristone & Misoprostol
- Methotrexate & Misoprostol

(Chen, 2007)

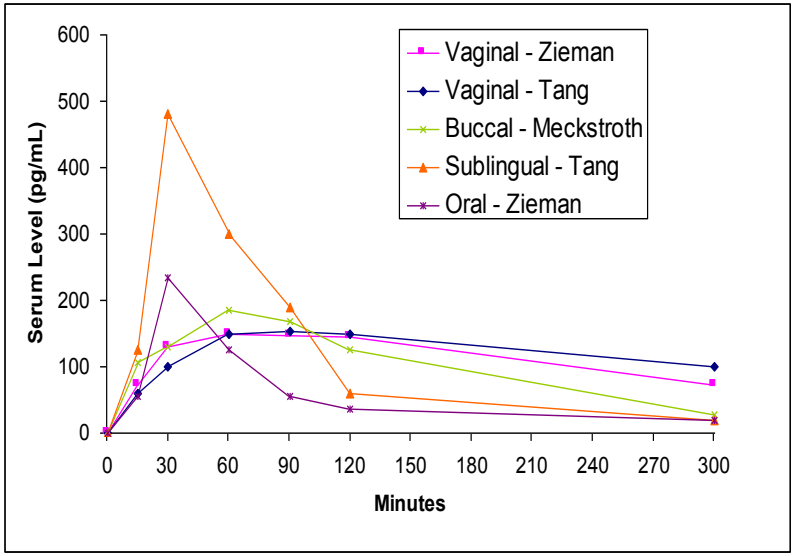
Medication Management

- Process
  - Patient can take 1-2 doses 800 mcg misoprostol to accelerate miscarriage (12-24 hours apart)
  - Can control timing to a degree
  - Expected to complete within 24 hours after miso
  - May elect aspiration at any time
  - Medication effective ~90% of the time, may need additional dose of medication or aspiration to complete
  - Recommend 1-2 week follow-up

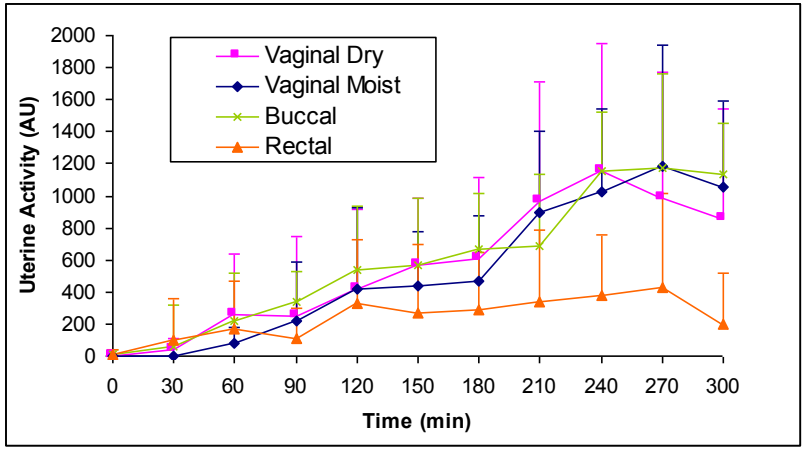
(TEAMM, 2014)

Misoprostol by Route of Administration

Serum Level Comparison



Uterine Activity Over 5 Hours



(Meckstroth et al., 2006)

Side Effects and Complications

- Misoprostol vs. Placebo
  - Nausea, vomiting, and diarrhea – increased with miso
  - Pain – increased analgesics
  - Hemoglobin Concentration – no difference
  - Infection: 0% for placebo vs. 0.2-4.7% for misoprostol
  - No benefit with repeat dosing within 3-4 hours
  - Improved outcome with 1 repeat dose at 24 hours if incomplete
  - 90% found medical management acceptable and would elect same treatment again

Wood SL, Obstet Gynecol 2002; Bagratee JS, Hum Reproduct 2004; Blohm F, BJOG: Int J Obstet Gynecol 2005

Medication Management: Bottom Line

- Medical Management
  - Misoprostol 800 mcg pv (or buccal)
  - Repeat x 1 at 12–24 hours, if incomplete
    - Occasionally repeat more than once
  - Infection prophylaxis:
    - Doxycycline 200 mg #1 or azithromycin 1g (500 mg x #2)
  - Pain control:
    - Ibuprofen 800 mg and advise PO q 6-8 hours PRN #30
    - Hydrocodone/acetaminophen 5/325 mg PRN #12
    - OR oxycodone/acetaminophen 5/325 mg PRN #12
  - Measure success as with expectant management

(TEAMM, 2014)

When to Intervene for Medication Management?

- Continued gestational sac
- Clinical symptoms
- Patient preferences
- Time

- When not to intervene:
  - Vaginal bleeding and positive UPT are possible for 2-4 weeks
  - ET >15mm and relatively homogenous
    - Poor measures of success

(Prager, 2013)

Outcomes

Rates of successfully completed miscarriage using expectant management or misoprostol by subcategory of early pregnancy loss from **DAY OF DIAGNOSIS**:

	Completed miscarriage with EXPECTANT management			Misoprostol
Subcategory of EPL	By day 7	By day 14	By day 46	By day 8
Incomplete abortion	53%	84%	91%	93%
Embryonic demise	30%	59%	76%	88%
Anembryonic gestation	25%	52%	66%	81%
All categories	40%	70%	81%	84%

(adapted from Luise, 2002 & Zhang, 2005)

Uterine Aspiration

- Who should have aspiration management:
  - Unstable
  - Significant medical morbidity
  - Infected
  - Risk for heavy bleeding
  - Anyone who wants it

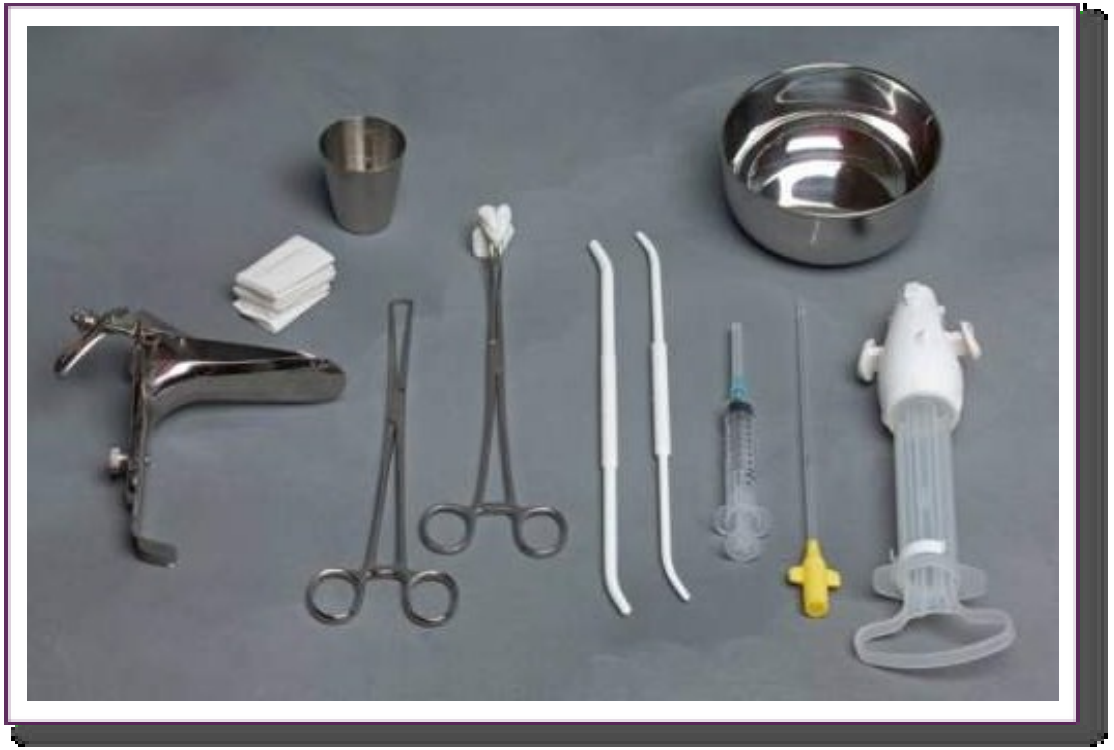
(TEAMM, 2014)

Uterine Aspiration

- Who is eligible for outpatient management:
  - <13 weeks gestation
  - Stable vitals
  - No evidence of infection
  - No increased risk of excessive bleeding
  - Rule out ectopic
  - BMI <50 and <350 lbs.
  - No uterine anomalies
  - Psychologically stable
    - refer severe anxiety for OR management

(TEAMM, 2014)

Uterine Aspiration

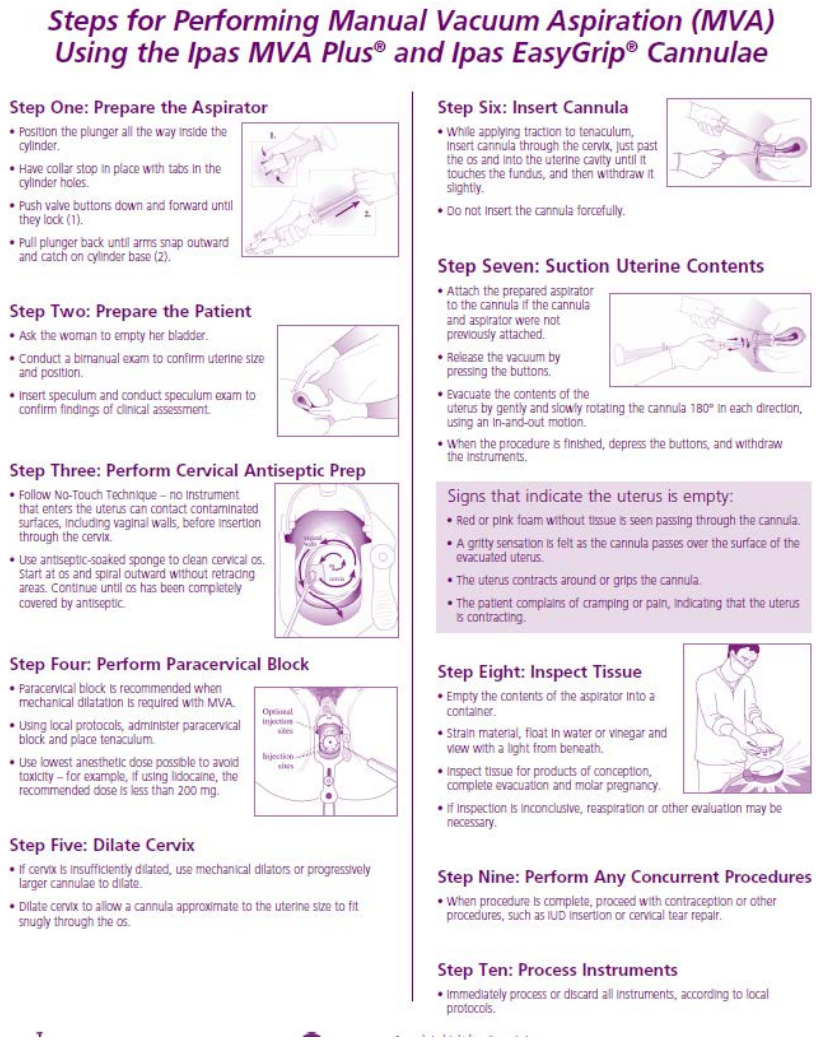


Uterine Aspiration

- Process:
  - Actual aspiration procedure takes 2-5 minutes
    - Ipas guide
  - Infection prophylaxis:
    - Doxycycline 200 mg #1 or azithromycin 1g (500 mg x #2)
  - Pain control:
    - Ibuprofen 800 mg and advise PO q 6-8 hours PRN #30
    - Hydrocodone/acetaminophen 5/325 mg PRN #12
    - OR oxycodone/acetaminophen 5/325 mg PRN #12
  - Anxiolytic:
    - Ativan 2 mg x #2
    - Xanax 1 mg x #1

(TEAMM, 2014)

Steps for Performing MVA



Steps for Performing Manual Vacuum Aspiration (MVA) Using the Ipas MVA Plus® and Ipas EasyGrip® Cannulae

Step One: Prepare the Aspirator

- Position the plunger all the way inside the cylinder.
- Have collar stop in place with tabs in the cylinder holes.
- Push valve buttons down and forward until they lock (1).
- Pull plunger back until arms snap outward and catch on cylinder base (2).

Step Two: Prepare the Patient

- Ask the woman to empty her bladder.
- Conduct a bimanual exam to confirm uterine size and position.
- Insert speculum and conduct speculum exam to confirm findings of clinical assessment.

Step Three: Perform Cervical Antiseptic Prep

- Follow No-Touch Technique – no instrument that enters the uterus can contact contaminated surfaces, including vaginal walls, before insertion through the cervix.
- Use antiseptic-soaked sponge to clean cervical os. Start at os and spiral outward without retracing areas. Continue until os has been completely covered by antiseptic.

Step Four: Perform Paracervical Block

- Paracervical block is recommended when mechanical dilatation is required with MVA.
- Using local protocols, administer paracervical block and place tenaculum.
- Use lowest anesthetic dose possible to avoid toxicity – for example, if using lidocaine, the recommended dose is less than 200 mg.

Step Five: Dilate Cervix

- If cervix is insufficiently dilated, use mechanical dilators or progressively larger cannulae to dilate.
- Dilate cervix to allow a cannula approximate to the uterine size to fit snugly through the os.

Step Six: Insert Cannula

- While applying traction to tenaculum, insert cannula through the cervix, just past the os and into the uterine cavity until it touches the fundus, and then withdraw it slightly.
- Do not insert the cannula forcefully.

Step Seven: Suction Uterine Contents

- Attach the prepared aspirator to the cannula if the cannula and aspirator were not previously attached.
- Release the vacuum by pressing the buttons.
- Evacuate the contents of the uterus by gently and slowly rotating the cannula 180° in each direction, using an in-and-out motion.
- When the procedure is finished, depress the buttons, and withdraw the instruments.

Signs that indicate the uterus is empty:

- Red or pink foam without tissue is seen passing through the cannula.
- A gritty sensation is felt as the cannula passes over the surface of the evacuated uterus.
- The uterus contracts around or grips the cannula.
- The patient complains of cramping or pain, indicating that the uterus is contracting.

Step Eight: Inspect Tissue

- Empty the contents of the aspirator into a container.
- Strain material, float in water or vinegar and view with a light from beneath.
- Inspect tissue for products of conception, complete evacuation and molar pregnancy.
- If inspection is inconclusive, reaspiration or other evaluation may be necessary.

Step Nine: Perform Any Concurrent Procedures

- When procedure is complete, proceed with contraception or other procedures, such as IUD insertion or cervical tear repair.

Step Ten: Process Instruments

- Immediately process or discard all instruments, according to local protocols.

- A step-by-step poster is available from the manufacturer of a popular MVA device to guide clinicians through the procedure.

MVA Complications

- MVA in the absence of contraindications and by a trained provider is a safe procedure
- MVA is 98-99% successful
- Rare complications in first trimester
- Risk of complications increase with advancing gestation
- Compared to complications in pregnancy

(Prager, 2013; TEACH, 2014; TEAMM, 2014)

Aspiration Management
Early Pregnancy Loss

BENEFITS

Convenient timing

Observed therapy

High success rates (almost 100%)

RISKS

Infection (1/200)

Perforation (1/2000)

Cervical trauma

Uterine synechiae (very rare)

Post-miscarriage Care

- Rhogam scheduled at time of diagnosis or procedure
- Pelvic rest for 2 weeks
- Initiate contraception upon completion of procedures (even IUD's!)
- Expect light-moderate bleeding for ~2 weeks
- Menses return after 6 weeks
- Negative ßhCG values after 2-4 weeks
- Appropriate grief counseling and resources

(Goldstein, 2002; Prager, 2013; Wyss, 1994)

Scope of Practice

- Who can do what to whom, in what settings and under what conditions
- Varies by state and country
- Core foundation of
  - Individual education, experience, training
  - Professional organization standards
  - Legal and regulatory

Expectant Management of First Trimester Miscarriage: A Practice Guideline for Licensed Midwives in WA State

- Commonly used terms defined
- Signs/Symptoms of early pregnancy loss
- Diagnosis
- Management options & how to explain them to clients
- Good candidates for EM
- Contraindications for EM
- Pros & potential Cons for EM
- Routine clinical care for EM including suggestions on office visits & phone contacts

Guideline

- Recommendations for ritual after loss
- Follow up care
- Complications that midwife & client should watch for
- Spectrum of expected & potentially complicated grief reactions
- Emotional support
- Referral & co-management resources
- Sample client handout explaining EM
- Allopathic & CAM options

Guideline

- How long is too long for EM?
  - Much of the research followed the '2-week rule,' but in the absence of complications, and a desire by the woman to continue expectant management, there is no time limit to waiting for the body to naturally expel a spontaneous first trimester miscarriage.

  - If the process of expelling the POC has not started by 8 weeks after diagnosis of a nonviable pregnancy then the client & midwife should review management options again. If menstrual periods have resumed, the miscarriage can be considered complete. If there is any question or confusion about this, an ultrasound could confirm completion.

Complications requiring consultation & referral

- Severe or prolonged emotional distess, depression or grief reaction
- Infection
  - Fever (>100.4F)
  - Uterine tenderness
  - Foul smelling discharge or blood
- Hemorrhage (soaking more than 2 menstrual pads in 1 hour, or passing several clots larger than a golf ball
- Severe pain anywhere
- Extreme pain not controlled by OTC pain medications

OTC & CAM Options

- Suggestions of things to try for:
  - Pain management
  - Sleep
  - Stress/Anxiety
  - Promoting expulsion
  - Bleeding
  - Fear

Resources

- *Training, Education & Advocacy in Miscarriage Management (TEAMM):* miscarriagemanagement.org
- *Managing Early Pregnancy Loss* modules: http://www.innovating-education.org/professionalism/managing-early-pregnancy-loss/
- *Ipas US Start-up Kit for Integrating Manual Vacuum Aspiration (MVA) for Early Pregnancy Loss into Women's Reproductive Health-care Services*: http://www.ipas.org/en/Resources/Ipas%20Publications/Ipas-U-S--start-up-kit-for-integrating-manual-vacuum-aspiration--MVA--for-early-pregnancy-.aspx

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Expectant Management of First Trimester Miscarriage:
A Practice Guideline for Licensed Midwives in WA State

Written by Marnie Raelene

June 5, 2015

Table of contents:

I. DEFINITIONS:

Anembryonic Pregnancy: Presence of a gestational sac without development of an embryo. 33% of early pregnancy losses are anembryonic making them the second most common reason after chromosomal abnormalities. Previously used term = blighted ovum.

Complete miscarriage/abortion: Completed expulsion of fetal & placental tissues from the uterine cavity. Uterus can be confirmed empty via ultrasound imaging.

Ectopic Pregnancy: About 1 in every 50 pregnancies develops outside of the uterine lining and these are called ectopic pregnancies. Ectopic pregnancies can present with severe abdominal or pelvic pain (usually on one side), fainting, and/or shoulder pain with or without vaginal bleeding and they are usually not viable because they cannot continue to grow where they are implanted. The biggest health risk with an ectopic pregnancy is rupture which can lead to internal bleeding and be life threatening. Once an ectopic pregnancy is diagnosed, medical referral is indicated; medical management with methotrexate may be recommended, or surgery may be necessary.

Embryonic Demise: Embryo developed, but fetal cardiac activity either did not develop normally or stopped at some point and the pregnancy is no longer viable.

Incomplete Abortion/Miscarriage: The process of expelling the miscarriage has begun, cervix has dilated and some of the products of conception have passed, but not all. Tissue may be visible at cervical os or inside vaginal vault or in uterus by sonogram without evidence of viable gestation.

Inevitable Miscarriage: Cervix has dilated and membranes may be ruptured but passage of products has not occurred. This type of miscarriage is unavoidable and usually includes vaginal bleeding.

Miscarriage = Spontaneous Abortion: Death of embryo or fetus before viability. This practice guideline (PG) addresses 1st trimester miscarriage defined as up to 13 weeks + 0 days gestation.

Missed abortion: Intact gestational sac (with or without an embryo), no fetal cardiac movement, cervix closed and may present with or without vaginal bleeding. Pregnancy determined to not be viable, but process of expelling pregnancy has not started yet. May also be referred to as embryonic or fetal demise, or delayed miscarriage.

Molar Pregnancy: Also referred to as gestational trophoblastic disease (GTD) or hydatidiform mole. Molar pregnancies occur when the egg has been fertilized but instead of developing an embryo the placenta turns into an abnormal mass of cysts as a result of a genetic error during the fertilization process. Molar pregnancies occur in about 1 in 15,000 pregnancies in the US. In the most serious cases of molar pregnancies the abnormal tissue can become cancerous. Therefore, immediate medical/surgical management is indicated with quantitative human chorionic gonadotrophin (hCG) follow up.

Products of Conception (POC): Medical term used to describe the tissue and fluids resulting from the union of egg & sperm.

II. DIAGNOSIS OF EARLY PREGNANCY LOSS

Physiology: upon death of embryo/fetus, withdrawal of pregnancy hormones (estrogen, progesterone, HCG) and production of other hormones (prostaglandins) help the body detach and expel the POC. The spontaneous process may take days or weeks, producing uterine cramping to open the cervical os and bleeding as POC is expelled. The pathophysiology of spontaneous abortion is not well-researched.

If a woman presents with these signs/symptoms in the first trimester, miscarriage and ectopic pregnancy should be considered and further investigation is necessary:

- Spotting/Bleeding
- Passing blood clots or tissue
- Abdominal pain, low back ache, menstrual like cramping, contraction like cramping
- No fetal heart tones heard with Doppler (audio ultrasound) after 10 weeks LMP
- Size/Dates discrepancy on bimanual exam
- Drastic and sudden decrease in pregnancy symptoms

There are three main ways to diagnose early pregnancy loss:

1. Transvaginal ultrasound is the most common and reliable way
2. A speculum exam can be considered diagnostic if POC are visualized in the cervical os or vaginal vault
3. A set of serial blood draws for hCG levels over several days can also determine if a pregnancy is no longer viable if the hCG levels are dropping

III. MANAGEMENT OPTIONS FOR EARLY PREGNANCY LOSS:

- **Expectant Management (EM):** The process of waiting for the pregnancy to pass on it's own without pharmaceutical medical management or uterine aspiration. EM is also referred to as "wait and see" or "the natural method". EM could possibly include the use of CAM remedies and over-the-counter (OTC) allopathic medications. EM may take days or several weeks to expel the pregnancy.

- **Pharmaceutical/Medical management**: Use of medications taken orally and/or vaginally to cause the cervix to dilate and the uterus to contract in order to expel the pregnancy. The medication misoprostol (Cytotec), or a combination of misoprostol with mifepristone or methotrexate may be used in the U.S. Generally, bleeding (and likely cramping) should start within 4 hours after taking the medication if it is going to work. Sometimes more than one dose and/or more than one medication is necessary.

Note: none of the medications used for medical management of miscarriage are FDA approved for that use.

- **Uterine Evacuation (sometimes referred to as surgical management):** Evacuation of retained POC with a manual vacuum aspiration (MVA) device or an electronic suction device (electronic vacuum aspiration = EVA). For first trimester pregnancy loss, uterine evacuation management can happen in an out-patient clinic or in a hospital operating room. The procedure itself only takes about 5 minutes but including intake and after care may add up to several hours at a clinic or hospital.

    - **Dilation & Curettage (D&C)**: Dilation of the cervix by a medical provider with or without pharmaceutical assistance and scraping of the uterine lining with a curette device to remove POC. The use of an electronic suction devise, anesthesia and a paracervical block may also be included. A D&C procedure using an electronic suction device may or may not be done under ultrasound guidance. If a manual vacuum aspiration (MVA) device is used for a D&C ultrasound could be used but is not mandatory. The term D&C is used loosely and also may include MVA.

    - **Manual vacuum aspiration (MVA):** Use of non-electrical suction with a MVA device that has a plastic suction tube. This procedure can happen quickly (5 minutes) in an out-patient clinic. Usually involves oral pain medication, a paracervical block and sometimes light IV sedation. The MVA suction syringe is used for gestations up to 12 weeks 6 days determined by last menstrual period (LMP). There is debate on whether a MVA is considered a surgical procedure because no surgical equipment is necessary and using an MVA for miscarriage management is within the scope of practice for providers who do not perform surgical procedures such as: Family medicine physicians (MD, DO), Advanced Nurse Practitioners (ARNP), Certified Nurse Midwives (CNM), and Physician Assistants (PA).

IV. CANDIDACY & CONTRAINDICATIONS FOR EM

Good Candidates for EM:

Women who have a confirmed first trimester nonviable intrauterine pregnancy	Not currently bleeding heavily
No fever	No signs of infection
No abnormal smelling discharge	Client expresses desire for EM
Competent enough to monitor own temperature	Competent enough to monitor blood loss

Sur & Raine-Fenning, 2009

*Further considerations may include: access to 24-hour transportation to a hospital if needed and living in close range of a hospital with 24-hour care in case complications arise and emergency surgical evacuation is indicated.

Contraindications for EM:

Uncertain diagnosis	Severe bleeding
Severe pain uncontrolled by OTC medications	Signs of infection: fever, chills, uterine tenderness, abnormal smelling discharge or blood
Diagnosed molar pregnancy	Ectopic pregnancy
Miscarriage of unknown location (pregnancy not seen in ultrasound inside uterus)	Suspected gestational trophoplastic disease (hydatidiform mole or "molar" pregnancy)
Indicated karyotyping or histological diagnosis	Gestation beyond 13 weeks
Twin pregnancy (*EM may be okay if only one fetus has passed and the other is still viable)	History of anemia or coagulopathies

El-Sayed et al., 2009 and Oliver & Overton, 2014

Note: Choosing EM is a personal choice and therefore shared decision making is essential. Each woman experiences miscarriage in her own way, influenced by her culture, personal history, the meaning of the pregnancy to her, and so forth. Although she may be a good candidate for EM based on meeting criteria for the indications and contraindications listed above, a woman's lack of interest in trying EM is a contraindication to this management option. Women should be reassured that all of the miscarriage management options are safe and that the choice of treatment will not affect her future fertility.

V. PROS AND CONS OF EM

Pros of EM:

As long as there is no hemorrhage, fever or infection, there is no time limit to how long it is safe to wait for a miscarriage to occur naturally
Inexpensive
Non-invasive. Avoidance of anesthesia & surgical risks
Some women feel this option gives them more control of the situation
There is always the option to seek medical management, uterine aspiration or D&C if desired
High success rate (most successful in the case of incomplete miscarriage)
Low complications rate

El-Sayed, Mohamed & Jones, 2009; Prine & Macnaughton, 2011; Sur & Raine-Fenning, 2009

Potential Cons of EM:

It may take weeks to complete the passage of the tissues
May experience ongoing heavy bleeding and cramping
Passage of the products of conception, bleeding and cramping is unpredictable
Follow up appointment is important to assess completion of miscarriage
The emotional toll of prolonging the completion of a miscarriage can be significant
Possibility of infection developing while waiting for completion of miscarriage

El-Sayed, Mohamed & Jones, 2009; Sur & Raine-Fenning, 2009

VI. ROUTINE CLINICAL CARE for EM

The basics of EM are:

- Anticipatory Guidance: Midwife explains what to expect with the client:
    - Pain related to a miscarriage can be as severe as labor, but subsides quickly once POC has passed
    - Review of warning signs/symptoms that they should inform the midwife about
    - The woman can go about her daily life, letting her body take care of expelling the pregnancy
- The midwife must make himself or herself available for support during and for some time after the process.
- Emotional support is important - the midwife should recognize when referral is necessary for psychological and emotional issues that are beyond their skill and scope to manage independently.
- It is essential that ectopic and molar pregnancies be ruled out before starting expectant management, as these types of pregnancies need immediate referral for special care.

Note: The management options for each kind of intrauterine spontaneous abortion are the same. However, the success rate with EM often depends on the type of miscarriage a woman is experiencing.

Incomplete/inevitable miscarriage	91% complete with EM only
Embryonic demise	76% complete with EM only
Anembryonic pregnancy	66% complete with EM only

Prager, 2013

EM Clinical Care

Pre-expulsion Phase

- ***How long is too long for EM?*** Much of the research followed the '2-week rule', but in the absence of complications, and a desire by the woman to continue expectant management there is no time limit to waiting for the body to naturally expel a spontaneous first trimester miscarriage.
    - If the process of expelling the POC has not started by 8 weeks after diagnosis of a non-viable pregnancy then the client & midwife should review management options again. If menstrual periods have resumed, the miscarriage can be considered complete. If there is any question or confusion about this, an ultrasound could confirm completion.

Frequency of contact:

- During the pre-expulsion phase an initial visit in person to review options, offer emotional support, and agree upon a plan is suggested. Client & midwife will decide if an in person visit is necessary. Phone discussion may be adequate.

- Give or email the client who chooses EM a handout that clearly outlines what to expect, warning signs/symptoms and instructions on when to contact midwife. (see Appendix A)
- Obtain labs for Hct/Hgb and blood type if not already documented in the client's chart.
- Discuss CAM therapies if the client is interested. (see Appendix C)
- Encourage clients to tell someone in their life what they are going through and check in with them about emotional support.
- Offer weekly phone calls to check in on the client's emotional well-being as well as reviewing her physical symptoms.

Rh(D) immune globulin (RhIG) (50 mcg dose for <12 wks) should be given to Rh Negative (Rh-) women within 72 hours of the first incidence of bleeding after an informed consent discussion. If it is not given in this time, it should still be offered. If the 50 mcg dose is unavailable, the standard more available 300 mcg dose is also appropriate (ACOG, 2015).

Note: Although there is no strong evidence to support the need for RhIG in early pregnancy loss, it remains the standard of care in the US.

During Expulsion

- Advise woman to notify midwife once the cramping & bleeding begins.
- Remind the woman to take her temperature every 4 hours (or more often if she feels feverish) during the expulsion process.
- Explain the difference between normal bleeding and excessive bleeding; remind the client to refer to the handout she was given.
- Acknowledge that she will likely experience pain and can use OTC pain medication and CAM options as needed. (see Appendix B)
- Strongly encourage her to not be alone during expulsion.
- Once expulsion process is complete remind the woman to take her temperature twice daily or more often if she feels feverish.

Post-Expulsion Phase

1st 72 hours-

- Optional in person visit once expulsion process is complete. Evaluate well-being: blood pressure, temperature, pulse, amount of bleeding, emotional status, support system evaluation, review of danger signs.
- If the client is Rh- and has not yet gotten RhIG, administer ideally within 72 hours after first incidence of bleeding.
- Discuss the option of getting an ultrasound to confirm expulsion is complete – this is considered based on the clinical picture and the client's preferences.
- Recommend "pelvic rest" - no vaginal sexual activity or tampons for 2 weeks.
- It may be difficult for a woman to return to the clinic where she had her prenatal care especially if she is likely to see other pregnant women and new babies while waiting. Depending on the situation a home visit may be appropriate.

Follow-Up Contacts
Optional weekly phone calls to discuss:

- Physical symptoms
- Support system
- Emotional well-being
- Answer questions

Optional final post miscarriage in-person follow up care (usually 2 weeks post-expulsion) may include, depending on the clinical picture:

- Ultrasonography to confirm uterus is empty if indicated – persistence of pregnancy symptoms, ongoing vaginal bleeding/spotting, client need for reassurance.
- Lab work to confirm an 80% drop in the b-HCG levels – this should occur by one week following complete passage of tissues. By 6 weeks post expulsion b-HCG levels should be negligible or absent.
- Lab work for Hgb, Hct, or CBC to evaluate for anemia and suggest supplements if needed.
- Emotional support to process the experience, including the co-parent if indicated*
- Altered grieving and depression evaluation to determine if a counseling referral may be appropriate.
- Contraception/Family Planning per the client's preference.
- Anticipatory guidance for attempting pregnancy in the future, per the client's preference.

**Recommendations for rituals after loss*: It may be a good idea to encourage clients to have a ceremony and light a candle for the baby that they lost. Other suggestions are to write a letter to the baby, make artwork, get a memorial piercing or tattoo, plant a tree or special flower in the baby's memory. It may be helpful for the midwife to address that grief may return around the time of the estimated due date and/or if she experiences another pregnancy in the future. Remember to be culturally sensitive while discussing grief & loss.

This is also a good opportunity for the midwife to point out the wisdom and amazing capacity of the human body because it knows when and how to end a nonviable pregnancy. An estimated 30% of all pregnancies end in miscarriage and 50% of those are due to chromosomal abnormalities. Helping the person experiencing pregnancy loss put some trust in their body that it did exactly what it was supposed to do (even if we don't get to know the reasons why) may help with the healing process.

VII. COMPLICATIONS

Consultation &/or referral is indicated:

Severe or prolonged emotional distress, depression, or grief reactions
Infection: • Fever (>100.4 F) • Uterine tenderness • Foul smelling discharge or blood
Hemorrhage (soaking more than 2 menstrual pads in 1 hour, or passing several clots larger than a golf ball)
Severe pain anywhere
Extreme pain not controlled by OTC pain medications

Signs/symptoms the midwife & client should watch for*

Excessive bleeding (soaking more than 2 menstrual pads in 1 hour or actively bleeding with a steady stream)
Infection (any of the following): • Fever (>100.4 F) • Tender uterus (possible endometritis) • Foul smelling discharge or blood

*If these complications arise immediate uterine aspiration is recommended.

- Gynecological infection rates related to miscarriage are rare (2-3% overall) no matter what type of management is used. Midwife & client must monitor for signs of infection (listed above) and seek uterine aspiration options if these signs arise.
- Hemorrhage associated with EM is rare, but the midwife needs to counsel and monitor for this complication.
    - a steady stream of blood loss or soaking 2 menstrual pads in 1 hour might require a call to emergency medical services.
- Severe or prolonged emotional distress is one reason that women decide to change their management route from EM to a quicker option. Help clients understand that once EM is chosen they have the option to change management plans with full support from their midwife.

Spectrum of expected and potentially complicated grief reactions:

Normal grief responses (usually temporary):	**Complicated grief reactions (consistent, disruptive, pervasive, long-lasting)**:
Retreating from social activities	Feelings of guilt and self-blame
Intrusive thoughts that subside with time	Child envy
Feelings of yearning for what they lost	Feeling like their body failed them
Numbness that subsides with time	Feelings that their femininity has been sabotaged
Impairment of day-to-day functioning	Major changes in eating, sleeping, hygiene, self-care

Kersting & Wagner, 2012

*Note: grief and loss experiences and expressions vary depending on culture, religion, family, and personal history. Evaluation and care must be individualized.

VIII. REFERRAL & CO-MANAGEMENT RESOURCES

Referral options for physical care:

- Medical physicians (MD, DO): gynecologists, obstetricians, or family physicians with uterine evacuation capabilities
- Advanced practice clinicians (CNM, ARNP, PA, NP, CRNA): may or may not have uterine evacuation capabilities, so find out services provided before referral
- Hospital emergency department: should have an obstetric provider on call.
- Naturopathic doctor (ND): may or may not have uterine evacuation capabilities, but can support the miscarriage process with professional evaluation and treatment with naturopathic treatments
- Traditional Chinese Medicine (TCM) practitioner: acupuncturist or herbalist to support the miscarriage process

Referral sources for emotional / mental health care:

- Psychotherapists
- Psychologists
- Psychiatrists (can prescribe medications)
- Spiritual counselors
- Full spectrum doulas with experience in miscarriage
- Physicians or advanced practice clinicians with counseling skills (can prescribe medications)
- NDs (can prescribe medications and CAM remedies)
- Acupuncturists

Internet support:

- http://nationalshare.org/
- http://www.miscarriageassociation.org.uk/support/
- http://www.miscarriagesupport.org.nz/
- http://stillstandingmag.com/
- http://www.stillbirthday.com/

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APPENDIX A: Sample Client Handout

(Practice name & contact info)

Expectant Management of First Trimester Miscarriage

Expectant management of miscarriage is the process of waiting for a non-viable pregnancy to pass on it's own without pharmaceutical (medication) or uterine aspiration methods of removal. It's normal for expectant management to take several days or weeks for the miscarriage to be completed.

What to expect:

1. Once the active phase of the miscarriage starts you will experience strong menstrual like cramping (some compare it to labor contractions) and bleeding. These cramps could be intense for a few hours while the body is expelling the pregnancy, but afterwards they should subside.
1. Bleeding will likely be similar to a heavy menstrual period. Passing a few blood clots (smaller than a golf ball) & tissue is normal. Bleeding can last 2-4 weeks after the miscarriage is complete.
2. Once the cramping & bleeding starts you should monitor your temperature every 4 hours and report any readings >100.4 F (or 38 C) to your midwife.
3. Be sure to practice good self-care during this process and pay attention to getting enough to eat & drink, and also you need your sleep.
4. If your blood type is Rh Negative, you can discuss with your midwife if you should get a "RhoGAM" injection.
5. Once the miscarriage is complete it is advised to avoid tampons, douching and vaginal sexual activity for 2 weeks to reduce the chance of infection.
6. Before starting sexual relations, talk to your midwife about birth control (contraception) or, if you want to get pregnant again right away, how to decide when you and your body are ready.

REASONS TO CALL YOUR MIDWIFE IMMEDIATELY, DAY OR NIGHT:

Excessive bleeding may include: • Soaking 2 menstrual pads in 1 hour • Actively bleeding with a steady stream • Passing several blood clots the size of a golf ball or larger
Fever (>100.4 F or 38 C)
Extreme pain uncontrolled by over-the-counter pain medications
Uterus feels tender, sore or you are experiencing sharp pains in your abdomen
Foul (bad) smelling discharge or blood

Pain management:

Ibuprofen (Advil, Motrin) *this type of medication is most effective for uterine cramping	800 mg first dose, then 600 mg every 6 hours until miscarriage is complete. Do not exceed 2400 mg in 24 hours. Take with food.
Naprosyn/Naproxen/ Naproxen Sodium (Aleve) * this type of medication is most effective for uterine cramping	500 mg (Naproxen) or 550 mg (Naproxen Sodium) every 12 hours. Do not exceed 1250 mg in 24 hours. Take with food.

*Take one or the other; do not use both at the same time

Pain management:

Acetaminophen (Tylenol) *may use if allergic to Ibuprofen or Naprosyn, but does not work as well as those medications for this type of pain	650-1000 mg every 4-6 hours. Do not exceed 3000 mg in 24 hours.
Cramp Bark tincture	Take as directed on bottle.

What if I change my mind? Once expectant management is started you have the option to change management plans if you desire. If complications arise during expectant management uterine evacuation methods will likely be necessary. Your midwife will refer you to an advanced practice clinician that can help you. Please note that the medical term for "miscarriage" is "spontaneous abortion" or "SAB" – you might hear the nurses and doctors use this phrase when they talk to you. Here are your other options and what to expect:

- **Pharmaceutical/Medical management**: Use of prescription medications taken orally and/or vaginally to cause the cervix to dilate and the uterus to contract in order to expel the pregnancy. The medication misoprostol (Cytotec), or a combination of misoprostol with mifepristone or methotrexate may be used. This process can take hours to a couple of days to completely pass the pregnancy. You may need more than one dose of the medication/s.

- **Uterine Evacuation (sometimes referred to as surgical management or D&C):** Evacuation of the pregnancy with a manual vacuum aspiration (MVA) device or an electronic suction device. Evacuation may or may not include pharmaceutical anesthesia sedation and/or numbing medications injected into the cervix. For first trimester pregnancy loss, uterine evacuation management can happen in an outpatient clinic or in a hospital. The procedure itself only takes about 5 minutes but including intake and after care may add up to several hours at a clinic or hospital.

Emotional Care

It is important that you pay attention to the emotional reactions you have to the loss of your pregnancy. It is normal to grieve and feel sad, and every person will have a unique experience. One person's reaction can be really different from another person's reaction, and there is a wide range of normal experiences. Your midwife wants to support you, and people in your life who are close to you may also be valuable resources for you. Some people find information and community online; a few websites are referred to below. If you or your friends/family think your emotional reaction is severe, or going on for a long time, your midwife might recommend that you see a professional counselor or spiritual advisor.

Internet support:

- http://nationalshare.org/
- http://www.miscarriageassociation.org.uk/support/
- http://www.miscarriagesupport.org.nz/
- http://stillstandingmag.com/
- http://www.stillbirthday.com/

APPENDIX B

Allopathic OTC Medications

Pain Management:

Ibuprofen (Advil, Motrin) *works best on uterine receptors	800 mg first dose, then 600 mg every 6 hours until miscarriage is complete. Do not exceed 2400 mg in 24 hours. Take with food.
Naprosyn/Naproxen/Naproxen Sodium (Aleve) *works best on uterine receptors	500 mg (Naproxen) or 550 mg (Naproxen Sodium) every 12 hours. Do not exceed 1250 mg in 24 hours. Take with food.

*Take one or the other; not both at the same time

Acetaminophen (Tylenol) *may use if allergic to Ibuprofen or Naprosyn, but does not work as well as those medications for this type of pain	650-1000 mg every 4-6 hours. Do not exceed 3250 mg in 24 hours.

Epocrates. (2015)

Sleep Medications to help with insomnia caused by anxiety or stress (see also CAM options):

diphenhydramine (Benedryl)	Take 25-50 mg 30 minutes before bed and if needed every 4-6 hours at night. Do not exceed 300 mg in 24 hours.
doxylamine (Unisom)	Take 25-50 mg 30 minutes before bed and if needed every 4-6 hours at night.

APPENDIX C

CAM Support

REMEDY	INDICATION & RECOMMENDATION	SOURCE
Promote expulsion:		
Black & Blue Cohosh tincture	20 drops of each black & blue cohosh tincture every hour to promote uterine contractions & empty the uterus. Do not exceed 5 doses.	Susun Weed
Clary sage essential oil	Apply & massage drops of clary sage topically to lower abdomen to promote uterine contractions and assist in passing remaining tissue.	Stephanie Fritz
Evening Primrose Oil (EPO)	Two 500 mg capsules taken orally twice daily for 2 days & 1500 mg vaginally to help ripen cervix.	Aviva Romm
Mixture of Cotton root bark, black cohosh & blue cohosh	After 24 hours of EPO (listed above) start taking tincture mixture of: 40 mL cotton root bark, 40 mL black cohosh and 20 mL of blue cohosh for a total of 100 mL. Take 2.5 mL of this mixture orally every hour for 4 hours and then discontinue. If no contractions occur try again next day. If again no contractions occur do nothing on day 3. Try same dose of tincture mixture on day 4 and 5 if needed.	Aviva Romm
Pain:		
Cramp Bark tincture	Take as directed on the bottle for pain caused by uterine cramps.	
Stress/Anxiety:		
RESCUE Remedy	RESCUE Remedy flower essence is made up of 5 individual flower remedies that help during the emotional impact of a stressful situation. 1) **Rock rose** is used for terror and panic. 2) **Impatiens** addresses irritation and impatience. 3) **Clematis** is for inattentiveness and a lack of focus. 4) **Star of Bethlehem** is for shock. 5) **Cherry plum** helps with irrational thoughts and a lack of self control. Take as indicated on bottle.	http://www.bachflower.com/rescue-remedy-information/
Ashwagandha	Good for patients with irritability, insomnia, and anxiety. It can also be used for pain, inflammation, infection, as a general tonic to improve mental state, and can give energy for patients experiencing stress-induced illness or exhaustion. Ashwagandha has a calming effect on the nervous system and it is reported to be a hematopoietic, making it useful in the treatment of anemia. Take as indicated on bottle.	Aviva Romm
Rhodiola	Used for the treatment of fatigue, depression, anemia, GI ailments, infections, nervous system disorders and to promote physical endurance, longevity and work productivity. Take as indicated on bottle.	Aviva Romm

REMEDY	INDICATION & RECOMMENDATION	SOURCE
Bleeding:		
Shepherd's purse tincture	10-20 drops under tongue to control excess bleeding as often as needed. *Client should always consult with the midwife before independently undertaking herbal treatments for excessive bleeding.	Susun Weed
Witch hazel bark tincture	10-20 drops under tongue to control excess bleeding as often as needed. *Client should always consult with the midwife before independently undertaking herbal treatments for excessive bleeding.	Susun Weed
Sleep:		
Melatonin	Sleep aid. Take 1-5 mg before bed.	
Calms Forte	Used to temporarily relieve the symptoms of simple nervous tension, restless sleep, and occasional sleeplessness. Take as indicated on bottle.	http://hylands.com/products/hylands-calms-fort%C3%A9%C2%AE

Herbs for Sleep Promotion

Herb	Therapeutic Activity
California Poppy	Tranquilizer & Sedative & Hypnotic
Lavender	Tranquilizer & Sedative
Motherwort	Tranquilizer & Anxiolytic
Chamomile	Tranquilizer & Sedative
Lemon balm	Tranquilizer & Sedative
Passion flower	Tranquilizer & Sedative & Anxiolytic
Kava kava	Tranquilizer & Sedative & Anxiolytic
Hops	Sedative & Hypnotic & Anxiolytic
Skullcap	Sedative & Anxiolytic
Valerian	Sedative & Hypnotic & Anxiolytic

Adapted from Romm, 2010, p. 491

Emmenagogues are herbs that can stimulate menstruation. They are sometimes referred to as abortifacients but there are many reasons that emmenagogues are used that are not related to inducing abortion. An inexperienced LM should consult, co-manage or refer out clients that desire the use of these herbs.

There are several websites online that explain herbal emmenagogues. The LM must be alert for bias and agenda-driven rhetoric while reading because some have an anti abortion agenda.

- http://www.susunweed.com/Article_Herbal_Birth_Control.htm
- http://www.henriettes-herb.com/faqs/medi-3-7-abortives.html
- http://www.sisterzeus.com/Emmeno.htm

Homeopathy

Remedy:	Predisposing factors:	Blood flow:	Gestation:	Process & pain:	Generally/Emotionally:
Aconite	Fright, anger & letting go	Active	Any	N/A	Anxiety, restlessness, fear of death or something bad happening
Apis	Not specific to miscarriage	Profuse, dark	4-16 wks	"Stinging pain in ovarian region becoming more and more frequent until uterine contractions are produced. The flow then begins. Labour-like in uterine region extending to thighs (Geraghty, 1997, p. 51)"	Fear of being alone. Tearful & whining.
Arnica	Shock or injury	Profuse, continuous, bright red, coagulated or serous mucus	Any	"Sore and bruised uterine region (Geraghty, 1997, p. 51)"	
Caulophyllum	Not specific to miscarriage	Scanty, passive	1-12 wks	"Irregular contractions, spasmodic bearing down, cramping in the abdomen centred low down in the pelvis, severe and tormenting back pain (Geraghty, 1997, p. 51)"	Possible history of spontaneous abortion, fear, irritability, apprehensive
Pulsatilla	Injury, fright, grief	1-12 wks	Stops & starts, becomes more profuse when it starts again, black or bright red clots	"Pain predominates haemorrhage alternates with the pains (Geraghty, 1997, p. 52)"	Mild, weepy, apologetic. May want plenty of company to offer their support and sympathy.

Table adapted from: Geraghty, 1997, p. 51-52