EARLY PREGNANCY LOSS

Office Evaluation and Management

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Slides developed by the reproductive health access project

THE INSTITUTE FOR FAMILY HEALTH

Learning Objectives

- Understand the **epidemiology** of early pregnancy loss (EPL)
- Discuss **counseling** approaches to support people experiencing EPL
- Conduct a **history and physical** exam for first trimester bleeding to help distinguish normal from abnormal pregnancies.
- Interpret **ultrasound** and **labs** results to diagnose EPL
- Describe the **three options for management** of EPL
  - Expectant management
  - Medical management
  - Surgical management

Terminology

- Miscarriage
- Early pregnancy loss (EPL)
- Spontaneous abortion

Interchangeable for a nonviable pregnancy in the first trimester (<13 weeks of gestation); preferred terminology is early pregnancy loss (EPL)

Additional Terminology

- Threatened Abortion
- Incomplete Abortion
- Missed Abortion
- Anembryonic Pregnancy
- Embryonic or Fetal Demise
- Ectopic Pregnancy
- Pregnancy of Unknown Location (PUL)

Epidemiology

- 1 in 4 women will experience EPL
- Up to 15- 20% of diagnosed pregnancies
- 50% caused by chromosomal abnormalities
- The most common risk factors are advanced maternal age and a previous pregnancy loss

Personal story…..

- Some time ago, my partner had a positive pregnancy test. As one might imagine, we were overwhelmed with joy! We began scheduling doctor appointments and wrestling with what it really meant to be parents.
- Not too long later, those feelings of elation were dashed when the pregnancy didn't come to term. It was a sobering experience; one we'd experience more than once. Each miscarriage came with anxiety and uncertainty. I didn't notice it before, but with every question we received from our peers (e.g. "when y'all gonna have kids?"), a piece of me would sink deeper into myself; drowning in an sea of "what-ifs?" In all of these what ifs, I never stopped to ask what if it were me? After several fertility tests, it was discovered that I have a chromosomal disorder that reduces the chance for a viable pregnancy. I've reconciled ideas about masculinity, unlearning my subconscious equating of manhood to fatherhood.

More stories…..

- Patient with desired pregnancy and EPL, blamed herself for the EPL. Thought it was because she worse spanx.

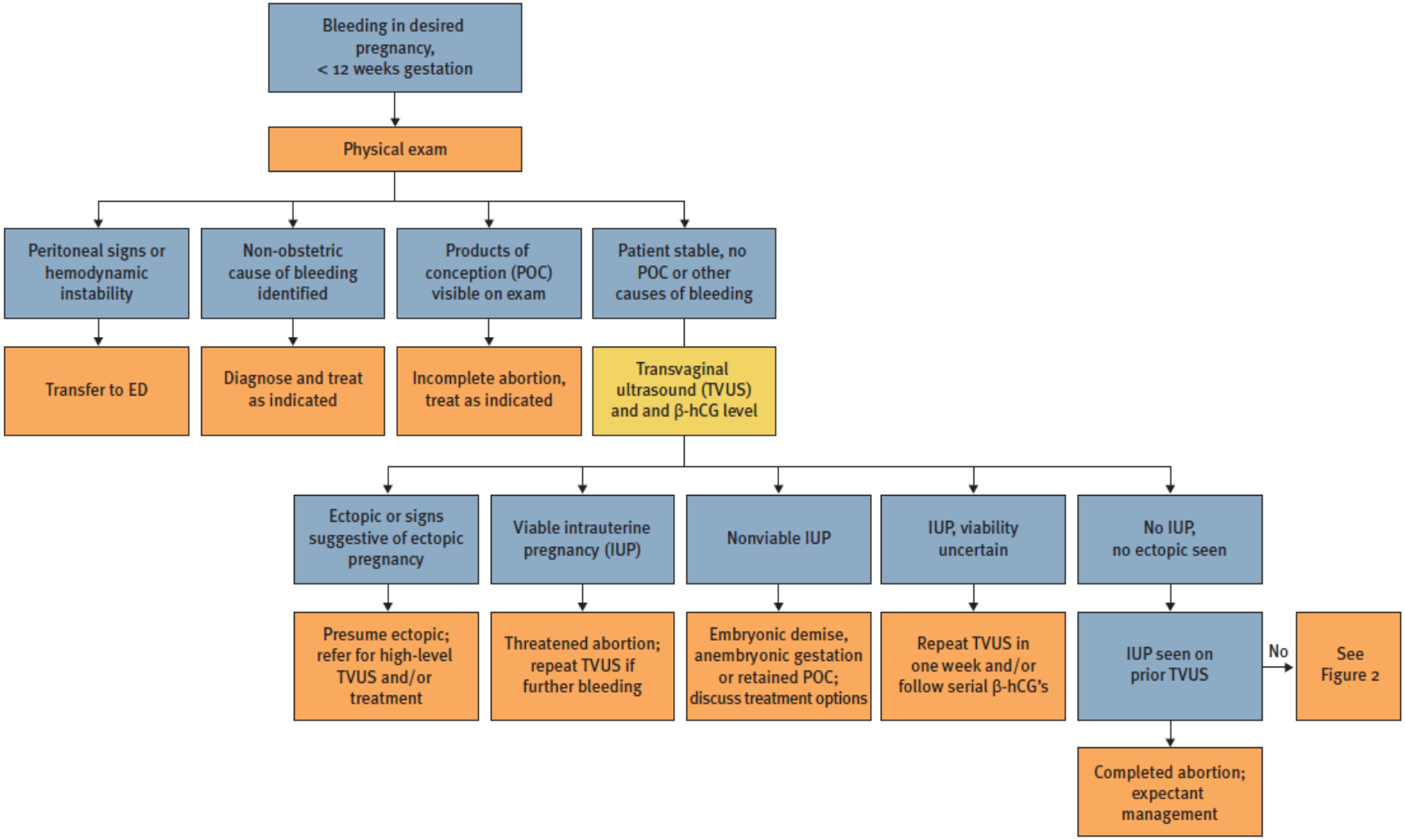
- With counseling explore:
  - Is this a desired pregnancy?
  - How does the patient(s) feel about the pregnancy?
  - What are they hoping for?

  - “It’s not your fault”

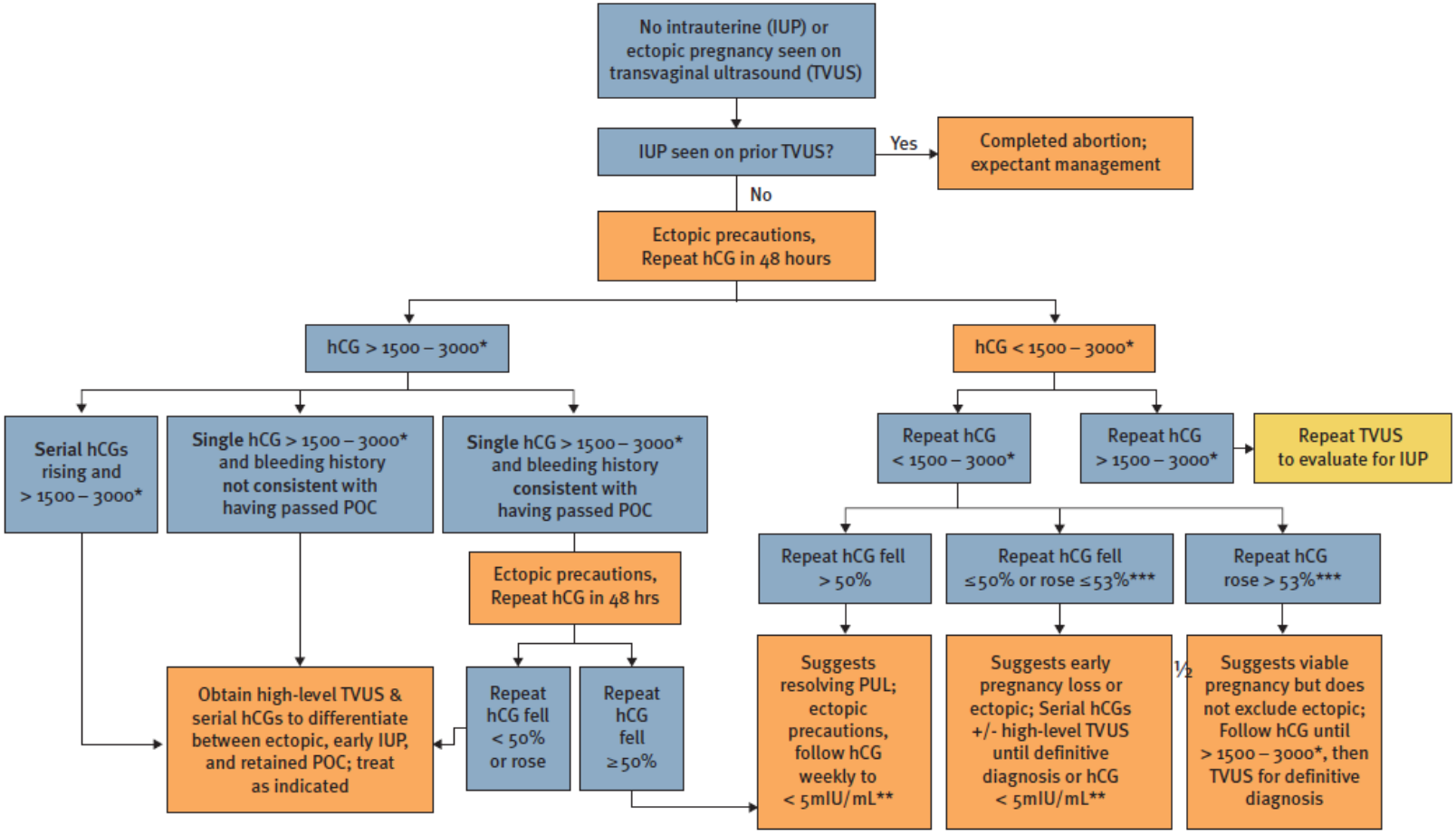
Signs and Symptoms of EPL

- Vaginal bleeding*
- Pelvic pain or cramping*
- Absent fetal heart tones on Doppler when pregnancy should be > 10 weeks
- Size-dates discrepancy on bimanual exam
- POCs seen by physician at cervical os or in vaginal vault on speculum exam

1st Trimester Bleeding Algorithm



Algorithm for Diagnosis of Pregnancy of Unknown Location



* the β-HcG level at which an intrauterine pregnancy should be seen on transvaginal ultrasound is referred to as the discriminatory zone and varies between 1500-3000 mIU depending on the machine, the sonographer, and number of gestations.

** β-hCG needs to be followed to zero only if ectopic pregnancy has not been reliably excluded. If a definitive diagnosis of completed miscarriage has been made, there is no need to follow further β-hCG levels.

*** In a viable intrauterine pregnancy, there is a 99% chance that the β-hCG will rise by at least 53% in 48 hours. In ectopic pregnancy, there is a 21% chance that the β-hCG will rise by 53% in 48 hours. Approximately 1/3 of patients have a rise or fall of β-hCG that is within the normal limits of a viable intrauterine pregnancy or completed early pregnancy loss. Always use clinical judgment in combination with β-hCG values.

Diagnosis – Ultrasound Findings

Table 2. Guidelines for Transvaginal Ultrasonographic Diagnosis of Pregnancy Failure in a Woman with an Intrauterine Pregnancy of Uncertain Viability

Findings Diagnostic of Pregnancy Failure	Findings Suspicious for, but not Diagnostic of, Pregnancy Failure
Crown-rump length of ≥ 7 mm and no heartbeat	Crown-rump length of < 7 mm and no heartbeat
Mean sac diameter of ≥ 25 mm and no embryo	Mean sac diameter of 16-24 mm and no embryo
Absence of embryo with heartbeat ≥ 2 wk after a scan that showed a gestational sac without a yolk sac	Absence of embryo with heartbeat 7-13 days after a scan that showed a gestational sac without a yolk sac
Absence of embryo with heartbeat ≥ 11 days after a scan that showed a gestational sac with a yolk sac	Absence of embryo with heartbeat 7-10 days after a scan that showed a gestational sac with a yolk sac
	Absence of embryo ≥ 6 wk after last menstrual period
	Empty amnion (amnion seen adjacent to yolk sac, with no visible embryo)
	Enlarged yolk sac (> 7 mm)
	Small gestational sac in relation to the size of the embryo (< 5 mm difference between mean sac diameter and crown-rump length)

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Diagnosis – Ultrasound Findings

Classification	Vaginal bleeding	Endometrial thickness	Products of conception seen on ultrasound
Complete early pregnancy loss	Little or none	Any, though typically < 15mm	None
Incomplete early pregnancy loss	Little or none	Any	Heterogenous tissues (with or without a gestational sac) distorting the endometrial midline
Embryonic or fetal demise	Yes or no	Any	Gestational sac with fetal tissue (i.e., fetal pole or yolk sac) present, meeting ultrasound criteria for SAB (i.e. >7 mm with no FH)
An embryonic pregnancy	Yes or no	Any	Gestational sac without fetal tissue (i.e. no fetal pole or yolk sac) present, meeting ultrasound criteria for SAB (i.e. MSD > 25 mm without yolk sac)

Adapted from multiple sources

Outpatient Management

Expectant

Watchful Waiting

Medication

Mifepristone*
+
Misoprostol

Procedure

Manual vacuum aspiration (MVA)

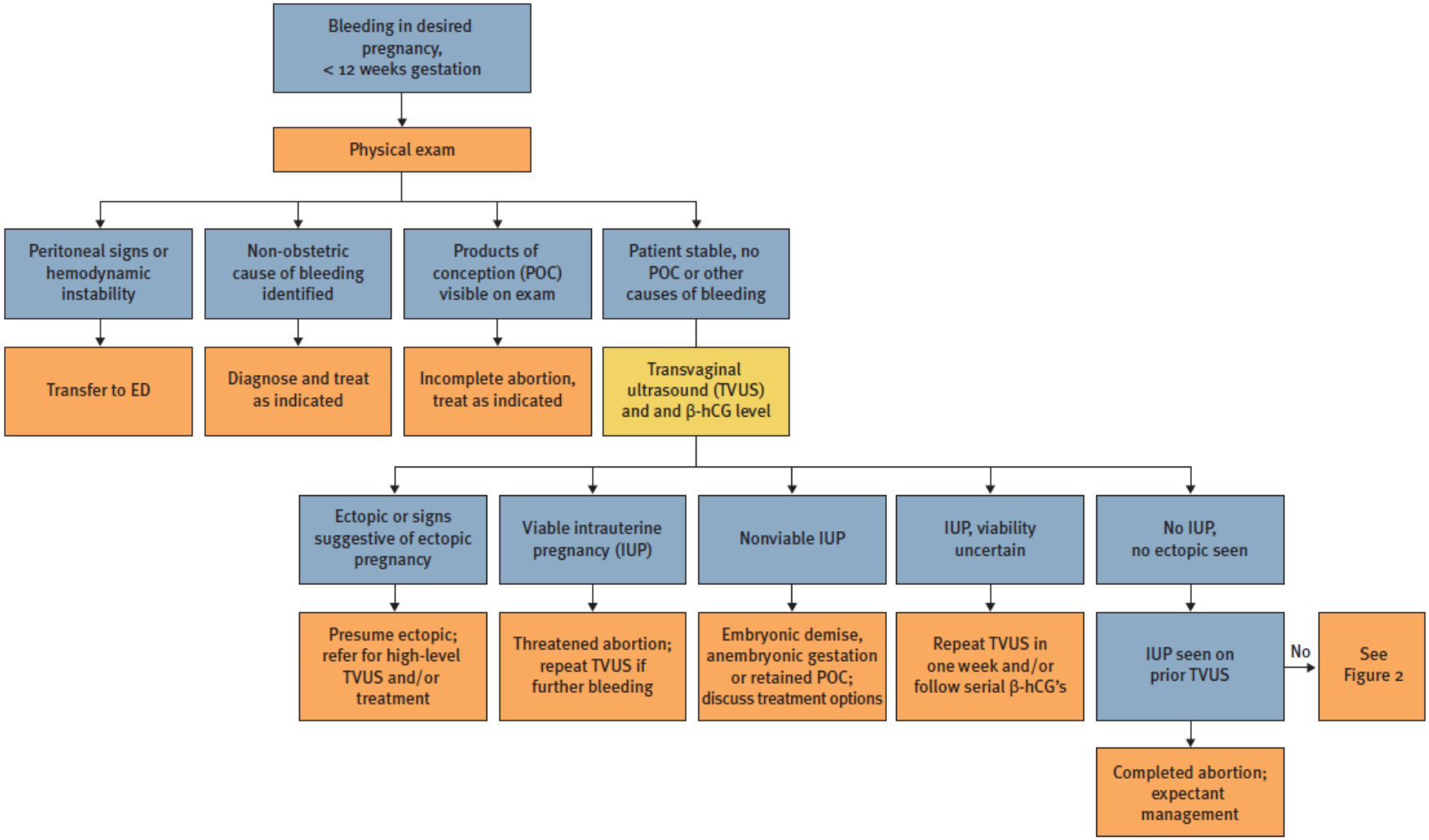
** Mifepristone is not always available. With mifepristone, the success rate is 84% overall. With only misoprostol, the success rate is 67% overall.*

Patient Case: Jennifer

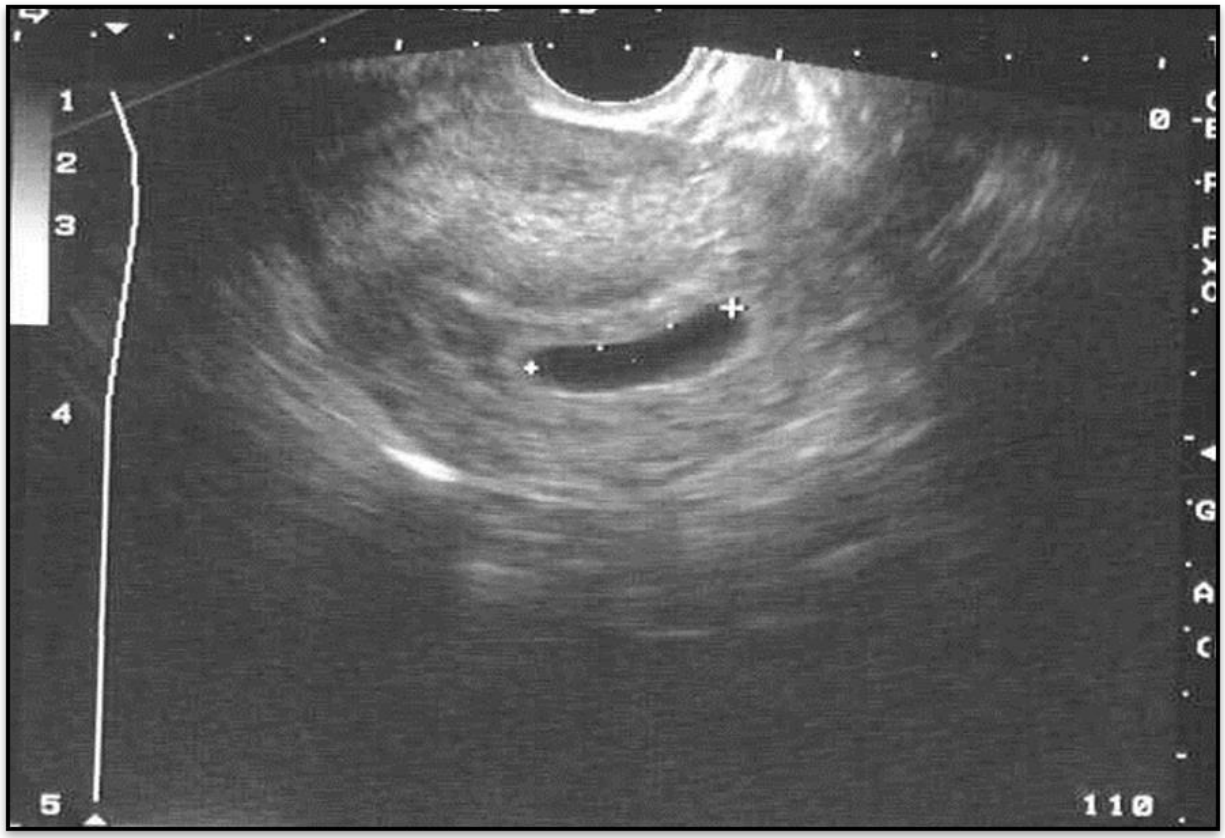
- 22 years old
- LMP was 7 weeks ago
- Positive urine pregnancy
- She is having some vaginal bleeding

Additional history? And on physical?

First Trimester Bleeding



Jennifer's Ultrasound



Anembryonic Gestation

Mean sac diameter >25 mm with no embryo

Diagnosis – Ultrasound Findings

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Back to Jennifer…

What does she need to know?

- This is not her fault
- She can decide on the management option

Expectant Management

Success of Expectant Management

Group	N	Complete Day 7	Complete Day 14	Success Day 49
Incomplete	221	117 (53%)	185 (84%)	201 (91%)
Fetal demise	138	41 (30%)	81 (59%)	105 (76%)
Anembryonic	92	23 (25%)	48 (52%)	61 (66%)
TOTAL	**451**	**181 (40%)**	**314 (70%)**	**367 (81%)**

Luise C, et al. BMJ 2002; 324(7342):873-5.

Risks and Benefits of Expectant Management

Risks

- Timing not predictable
- Less effective
- Infection (rare)
- Need for emergent uterine aspiration (rare)
- Hemorrhage/transfusion (very rare)

Benefits

- Noninvasive
- More private
- More “natural”
- Inexpensive
- No medication side effects
- Availability

Butler et al J Fam Pract 2005 54:889-90

Patient Instructions: Expectant Management

- Expect cramping and heavy bleeding
- Pain control: ibuprofen, low dose narcotic, heating pad
- Call for “heavy bleeding”: soaking through ≥ 2 pads per hour for two hours in a row
- Give contact information for reaching provider
- Patient does NOT need to bring products of conception back to the provider

Medical Management: Mifepristone & Misoprostol

Jennifer gets tired of waiting

Medical Management

Risks

- Side effects from medications
- Infection (rare)
- Need for aspiration (rare)
- Hemorrhage or transfusion (rare)
- Mifepristone not available widely

Benefits

- Timing of bleeding more predictable than expectant management
- Noninvasive
- Private
- Inexpensive
- Flexible timing

Success Rates with Misoprostol Alone vs Mifepristone and Misoprostol

Medical management can be done with misoprostol alone or with the combination of mifepristone followed by misoprostol 24 hours later.

Success Rate (expulsion of gestational sac) by day 2	Misoprostol Alone	Mifepristone and Misoprostol
All subcategories of EPL	67%	84%
Embryonic demise	68%	85%
Anembryonic	65%	80%

Guidelines for Medical Management

1. Candidates

Those with diagnosis of nonviable intrauterine pregnancy less than 12 weeks by ultrasound

2. Labs

- Rh screen (if status is not available)
- Hematocrit
- Quantitative serum hCG (quant not always needed if ultrasound diagnosis is definitive)
- Consider gonorrhea/chlamydia if patient is at risk

3. Consent forms

Danco mifeprex agreement; consider additional evidence-based consent form

Guidelines for Medical Management

1. Mifepristone 200mg (one tab) orally
- Dispensed in the office
- Patient instructed to take when convenient
2. Misoprostol 800mcg (four tabs) vaginally
- If prescribed with mifepristone, use 24 hours following mifepristone
- If prescribed alone, use when convenient
- Repeat misoprostol dose in 24 hours if no bleeding or only light bleeding
3. Pain management
- Ibuprofen 600mg Q6 hours
- A few tablets of narcotics available if needed

Side Effects of Misoprostol

- Bleeding
- Cramping
- Low grade fevers and/or chills
- Nausea and vomiting
- Diarrhea

All side effects should resolve within 24 hours

Patient Instructions

- Lie down for 30 minutes after using misoprostol; okay if medication falls out after 30 minutes
- Warning signs same as for expectant management:
  - Call for “heavy bleeding”, fever, purulent vaginal discharge, or uncontrolled pain not improved with medication
  - Patient does NOT need to bring products of conception back to the provider
  - Contact information for reaching provider

What Do You Need to Start Using Medication for EPL in Your Practice?

- A plan for when medication doesn't work
  - Office aspiration or referral
- Patient handouts
- Danco consent form
- Order mifepristone to stock in office
- Clinical guidelines
- On-call group all familiar with medical management

Resource for handouts: www.reproductiveaccess.org

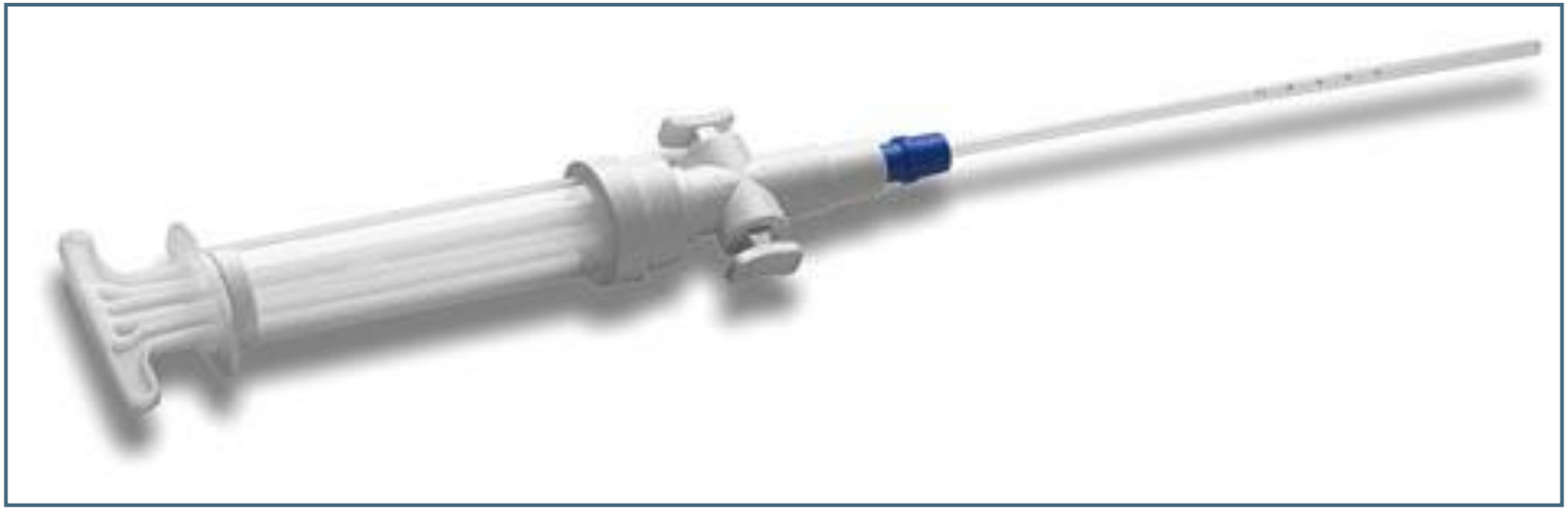
Diagnosing Completion After Medical Management of EPL

- Quant bHCG drop of more than 50% 48 hours or 80% by 7 days
- Vaginal ultrasound with no sac or pregnancy after prior ultrasound documenting intrauterine pregnancy

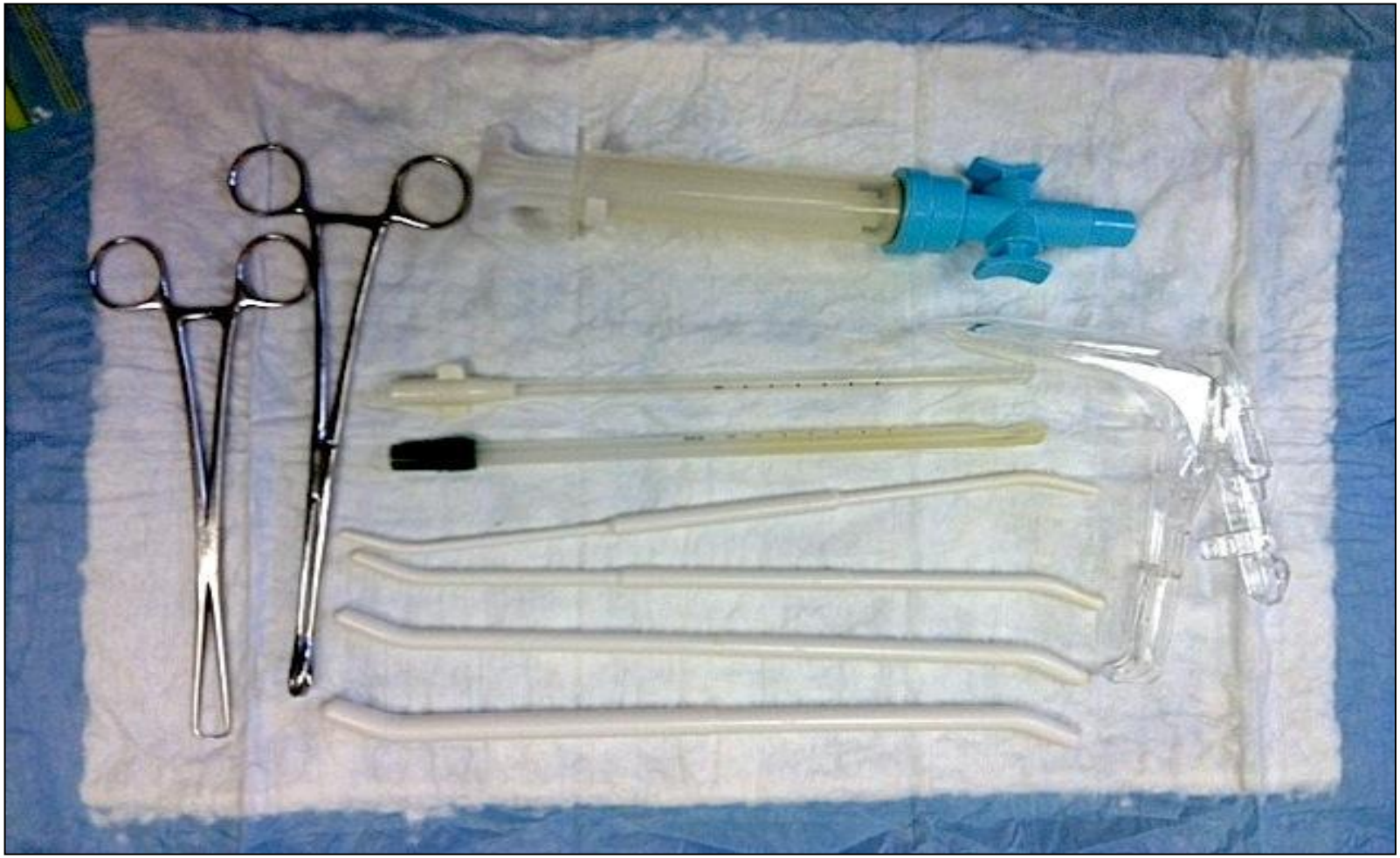
Office Procedure Option

Manual Vacuum Aspiration (MVA)

- Sharp curettage (D and C) no longer an acceptable option due to higher complication rates



MVA Instruments & Supplies



Advantages to Office MVA

- Avoid repeated exams that occur in hospital
- Cost
- Avoid cumbersome OR protocols (NPO requirements, discharge criteria)
- Reduced wait time, OR scheduling difficulties
- Personalized care
- Convenience, privacy, patient autonomy

Key Learning Points

- There are three office options to be offered for miscarriage management:
  - Expectant
  - Medical (mifepristone and misoprostol)
  - Procedure - MVA
- Mental health outcomes for patients are best when they are involved in the decision-making around their care

Resources

PREGNANCY LOSS (MISCARRIAGE)

WHAT IS PREGNANCY LOSS OR MISCARRIAGE?

Pregnancy loss, often called miscarriage, happens when a pregnancy stops growing. This is very common. About 1 in 4 pregnancies miscarry, mostly in the first 3 months.

WHAT CAUSES PREGNANCY LOSS?

A pregnancy loss is almost never caused by something you did. Past abortions, sex, exercise, mild falls, spicy foods, and most medications do not cause miscarriage. There is a higher chance of a miscarriage with older age, some chronic illnesses, some infections, changes in the uterus, and severe injury.

When a pregnancy starts, cells divide fast to make an embryo, and sometimes errors occur. Your body notices this, and the pregnancy stops growing.

Most types of miscarriage don't affect your chances of having a normal pregnancy in the future. If you have more than 2 miscarriages in a row, you may be at a greater risk of future pregnancy loss. You can talk to your clinician about this.

WHAT WILL I SEE AND FEEL WHEN I HAVE A PREGNANCY LOSS?

- Bleeding or spotting from the vagina
- Passing small or large clots
- Cramps or abdominal pain
- Back pressure or pain

These symptoms may be minor or severe. They may last a few days or weeks.

Contact your clinician for a visit as soon as you notice bleeding, cramping, and/or pain.

These symptoms can be part of a normal pregnancy, but it is a good idea to have more tests done. If you have very heavy bleeding or a fever above 100F, go to the emergency room.

WHAT HAPPENS DURING A PREGNANCY LOSS?

During a miscarriage, the pregnancy leaves the uterus through the cervix and the vagina.

A clinician can do an ultrasound image of the uterus to find out what is going on. If a miscarriage has started, it is not possible to stop your body from continuing to pass the pregnancy tissue.

If the pregnancy tissue does not pass on its own, or if you would prefer to help your body pass the pregnancy more quickly, you have options. Your clinician can give you a medication that you can take at home to help pass the tissue. You can also have a procedure in the health center to remove the pregnancy tissue with gentle suction.

AFTER A PREGNANCY LOSS:

Pregnancy loss can be hard. It is okay to give yourself time to heal and check in with your emotions. There is no right or wrong way to feel, and there is no "normal" amount of time that you will need to recover. Your period will return in 4-8 weeks.

Speak with your clinician to learn how to prevent another pregnancy until you are ready, or about becoming pregnant again. If you have a hard time going back to your normal activities, speak with your clinician so that you can get the support you need. You can also call the All-Options Support Talkline toll-free at 1-888-493-0092 for peer-based counseling and support.

What Are My Choices for Early Pregnancy Loss (Miscarriage) Treatment?

	Watch and Wait	Medication	Procedure
How does it work?	You wait for the pregnancy tissue to pass. This happens with cramps and bleeding with clots.	Pills called mifepristone and misoprostol help to make the pregnancy tissue pass. You use these pills at home.	A clinician removes the pregnancy tissue using a simple office procedure. This can be done with local anesthesia or with sedation.
What will happen?	You wait for the cramps and bleeding to happen. This may occur any time. The bleeding and cramps may be much heavier than a period and lasts for a few hours. Lighter bleeding often lasts 1 to 2 weeks. It may stop and start a few times.	You will swallow a mifepristone pill. 24 hours later, you will take pain pills to ease any cramping and bleeding. Then, place the misoprostol pills in your vagina. Misoprostol may cause nausea, diarrhea, and/or a low fever. The bleeding and cramps may be much heavier than a period. This starts about 2 to 6 hours after taking the pills. Lighter bleeding often lasts 1 to 2 weeks and it may stop and start a few times.	The procedure takes place in the office. Your clinician puts instruments in your vagina and uterus to remove the pregnancy tissue. You will have light bleeding and cramping for 3 to 7 days.
How painful is it?	You will have intense cramps. Pain pills and a heating pad can help relieve painful cramps.	You will have intense cramps. Pain pills and a heating pad can help relieve painful cramps.	You may have mild to strong cramps during the procedure.
How well does it work?	This works for 90% of the time. It works better if you have had some bleeding.	Pills work for 85-95% of the time, depending upon the type of miscarriage you have and which pill you use.*	A suction procedure works 98% of the time.
How long does it take?	This may take a few weeks.	Pills empty the uterus in 84% of women within 2 days.*	The uterus is emptied during the procedure, which lasts about 5 to 10 minutes.
What if it takes too long or doesn't work?	If it takes too long, you can return to your clinician's office at any time for pills or a suction procedure.	If it does not work or takes too long, you can return to your clinician's office for a suction procedure or another dose of the pills.	In the rare case that it doesn't work, you can return to your clinician's office for another suction procedure.
Is it safe?	**Yes.** All three treatment options are safe.		
Can I still have children afterwards?	**Yes.** These treatments don't prevent you from getting pregnant or staying pregnant in the future. Once the early pregnancy loss is over you can start trying to get pregnant as soon as you feel ready.		
What caused the early pregnancy loss?	You did not make it happen. A pregnancy loss is nature's way of ending a pregnancy that would not be healthy. Early pregnancy loss is not caused by stress, sports, foods or sex.		

* Mifepristone is not always available. With mifepristone, the success rate is 84% overall by 2 days and 89% by 8 days. With misoprostol alone, the success rate is 67% overall by 2 days and 96% by 8 days.

Reproductive Health Access Project / October 2018 www.reproductiveaccess.org

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