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Disclosures

- We have an investigator-initiated grant from Organon on the impact of policy change on contraceptive access
- I lead an expert panel on Complicated Implant removals in Oct 2023
- I am on the ACOG Contraceptive Equity Expert Group, am the ACOG District VII Contraceptive Access Committee Chair, Am and ABOG certifying examiner, I travel to meetings on stipends for these positions

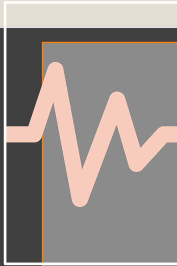
- We will discuss the off-label use of medications

Learning Objectives

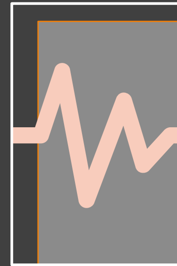
At the end of the presentation, learners should be able to:

1) Demonstrate exact criteria for miscarriage diagnosis
2) Compare expectant, medical and surgical management of miscarriage
3) Propose best practices for emotional care of patients (and partners)
4) Sensitively broach contraceptive needs after a miscarriage

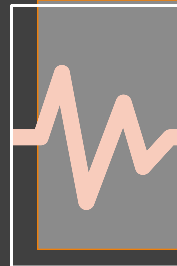
Incidence of Pregnancy Loss In recognized pregnancies



≤ 20 weeks' gestation



12-24% of pregnancies



600,000 to 800,000 annually

Griebel et al 2005.; Everett 1997; Stirrat 1990

Terminology of Early pregnancy failure (EPF)

- ***Anembryonic pregnancy***

  Gestational sac with no yolk sac

- ***Embryonic demise***

  Embryo with **NO** cardiac activity

- ***Threatened abortion***

  Vaginal bleeding, Cervix closed, IUP with FHM

- ***Inevitable abortion***

  Cervix dilated, IUP with FHM

- ***Incomplete abortion***

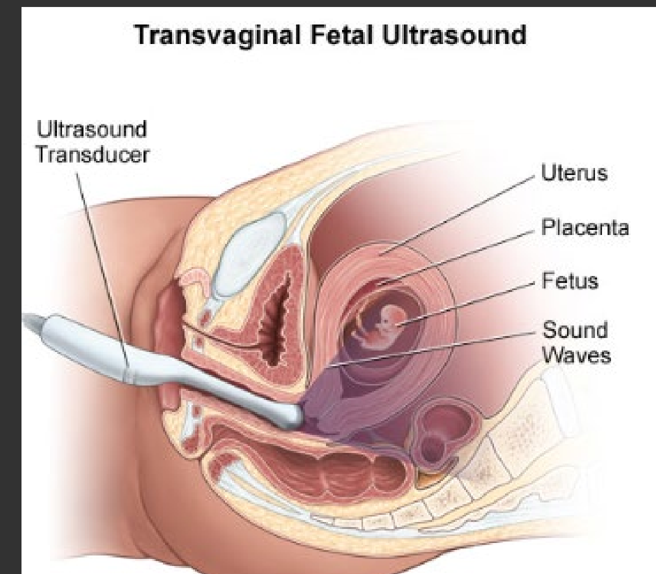
  Incomplete passage of products of conception

Diagnosis

1. Transvaginal ultrasound is ***preferred method***

2. Older criteria had 4-8% false positives

3. Stricter criteria now present

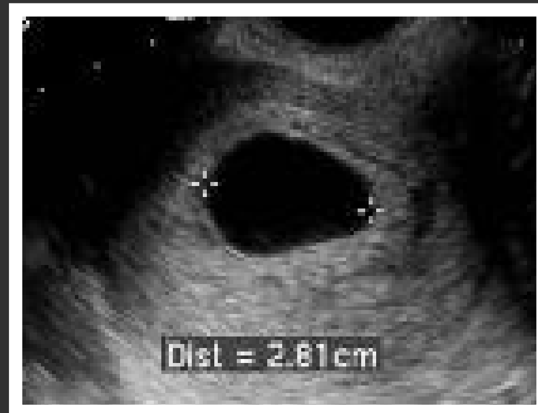


Abdallah Y, Ultrasound OB GYN 2011

Ultrasound Diagnosis
(STRICT CRITERIA)

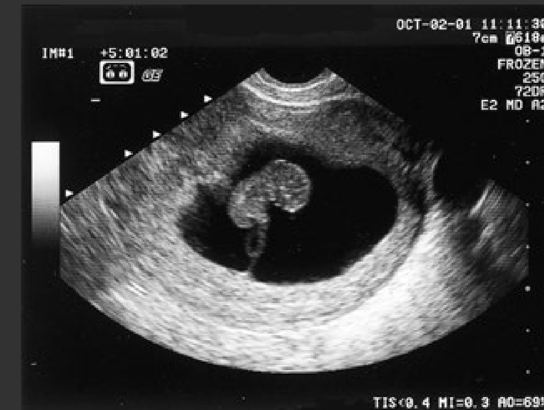
Anembryonic pregnancy

- Mean sac diameter (MSD) >25 mm with no yolk sac
  - Previous Criteria 16mm (4% FPR)



Embryonic Demise

- CRL >7 mm no FHM
  - Previous criteria 5mm (8% FPR)



Doubilet NEJM 2013

If measurement not diagnostic- How long do you wait?

GS and no YS

- Should have cardiac activity in 1-2 weeks
- 1 wk in most OBGYN literature
- 2 wks Society of radiologist panel

GS and a YS

- Should have cardiac activity within 11 days.

** Allow patient centered care within the laws of your state **

Abdallah Y Ultrasound Obstet Gynecol 2011; Doubilet NEJM 2013

What if measurement not diagnostic?

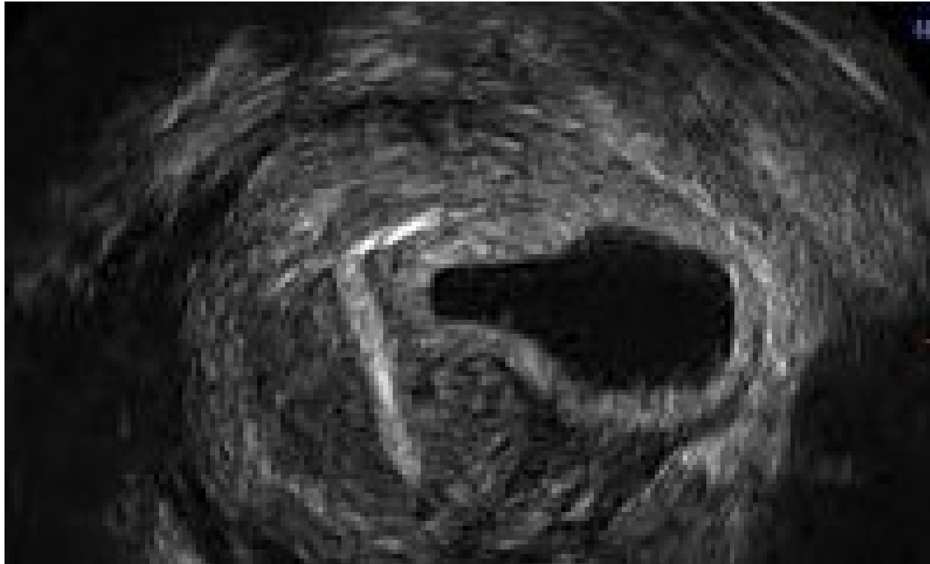
Do you have to wait?

Possible consequences of waiting

- Unpredictable bleeding, pain and passage of tissue
- Unscheduled visits
- Increased patient anxiety

Can you expedite patient care?

- Keep it patient centered
- Protect yourself legally



Word of Caution

- IUD in place and + pregnancy test
  - Higher risk of ectopic
    - High index of suspicion
- Can't assume pregnancy is undesired
- Lots of potential emotions
  - Treat the urgent medical condition
    - Anticipate some anger
    - Anticipate some guilt

Now what?

You have diagnosed a NON-Viable pregnancy…

How do you manage it?

(we will not be discussing ECTOPIC)

Modern options for management of EPF

Do Nothing

- Expectant management
- Repeat ultrasound

Do Something

- Medical management
- Higher success rate

Operate

- Surgical management with vacuum curettage
  - Electric vs Manual
- Highest/fastest success

Expectant management:
Who is an Appropriate candidate?

- Desires expectant management
- Hemodynamically stable (?H/H)
- Not infected
- ? Gestational Age Limit?
- Use ***caution*** in women with:
  - Uterine anomalies
  - Extreme anxiety
  - Extremely young
  - Inability to get back to care if needed quickly

Contraindications to Expectant Management

- Suspicion of ectopic
- Infection
- Molar Pregnancy
- IUD in-situ
- Anti-coagulated

- ***Any condition causing the patient to be medically unstable or at high risk to become unstable quickly***

Expectant management: Anticipatory Counseling

- Moderate to heavy bleeding
- Number for on-call provider
- Strict instructions for **WHEN** to call or go to ER
  - **Written guidance recommended**
- Most expulsions within 2 weeks of diagnosis
- Acceptable and *safe* to wait 4 weeks post-dx
  - With monitoring/follow-up

- *But they **MAY NEED SURGERY***

ACOG Practice Bulletin #200

How do you determine completed SAB?

- Commonly ultrasound
  - No Gestational sac

  And

  - ≤ 3cm endometrial thickness (ET)

No increased morbidity with thicker strip

Recommended:

- Absence of sac on ultrasound
- Neg HCG 2-6 wks after perceived passage of sac

Zhang NEJM 2005; Creinin 2004 Int J GYN OB; ACOG Practice Bulletin #200

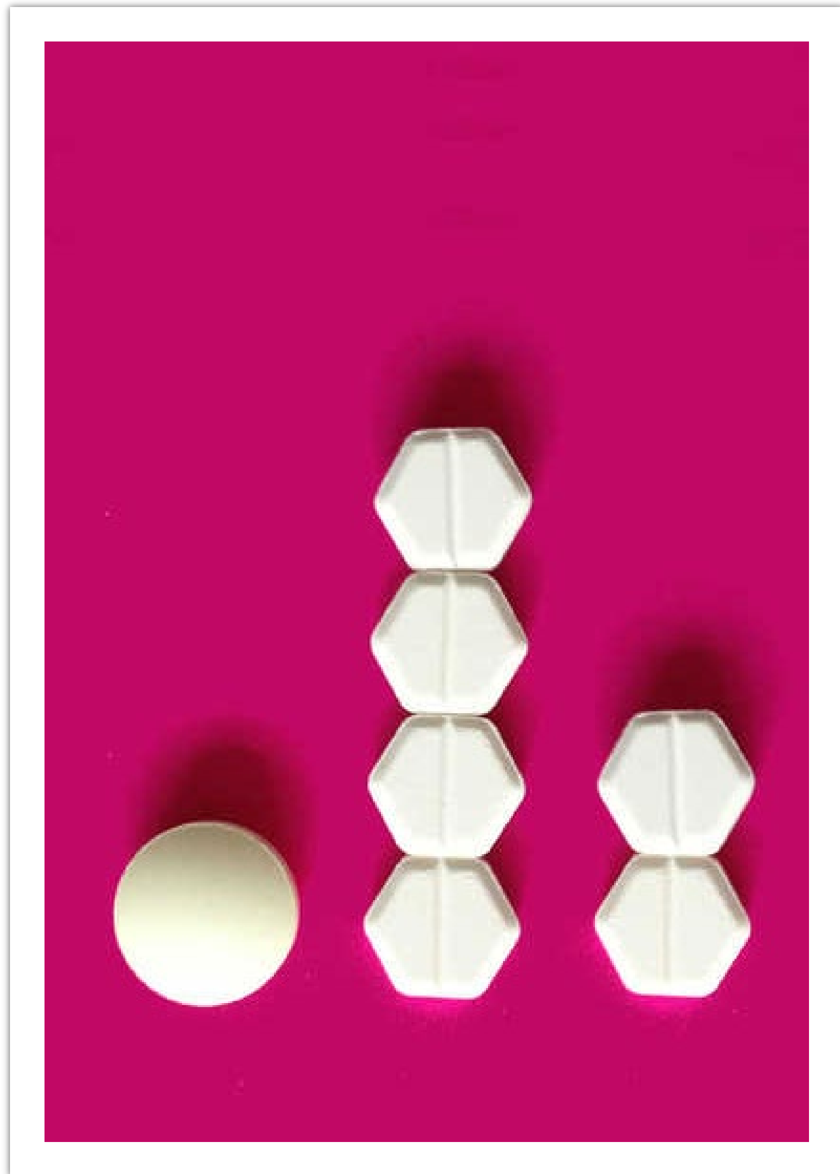
Expectant management: When to intervene

- Vaginal bleeding and pos. UPT can continue for 2-4 weeks
  - Not good measures of success
  - Need to assess bother vs danger
- Continued gestational sac
- Clinical symptoms
- Patient preference
- Time (?)

Success rates of Expectant management

- Overall success rate of 81%
- Vary by type of miscarriage (followed for up to 4 weeks)
  - 91% for incomplete/inevitable abortion
  - 76% with embryonic demise
  - 66% with anembryonic pregnancies

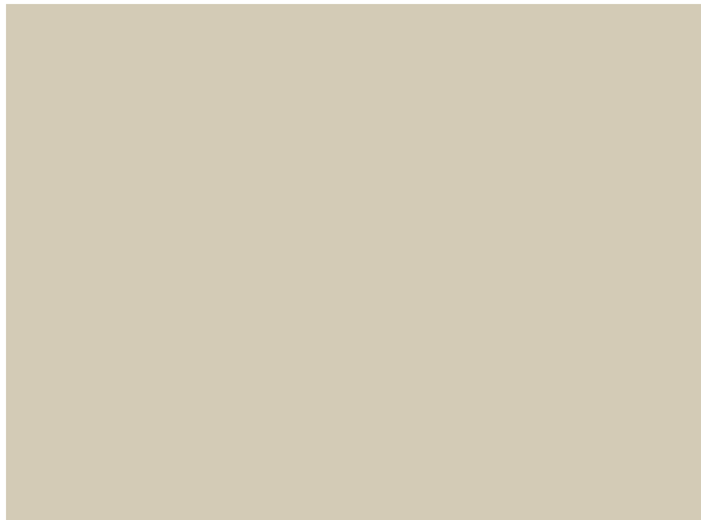
Luise C; BMJ 2002



Medical Management

- Misoprostol
- Mifepristone plus Misoprostol

- *There is no medical regimen for management of early pregnancy loss that is FDA approved.*

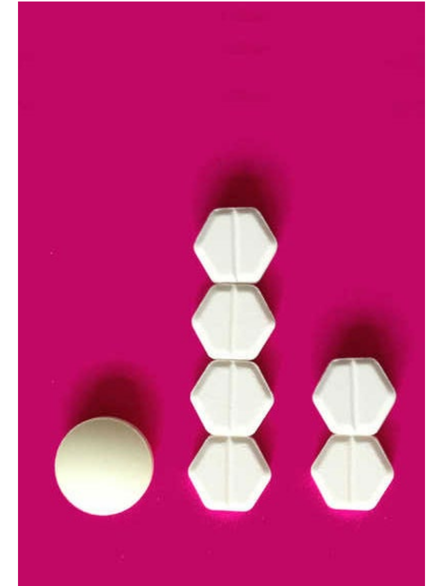


Appropriate Candidate?

- Same as for expectant
- Except **they chose** *medical management*.

Misoprostol: Bottom Line

- Various doses and routes studied
- Misoprostol 800mcg vaginally, sublingual, buccal
  - Sublingual miso causes more diarrhea
- Repeat dose on day 2-7, consider changing route
- Intervene with Suction D&C if:
  - Expulsion incomplete
  - Patient preference
  - Heavy bleeding



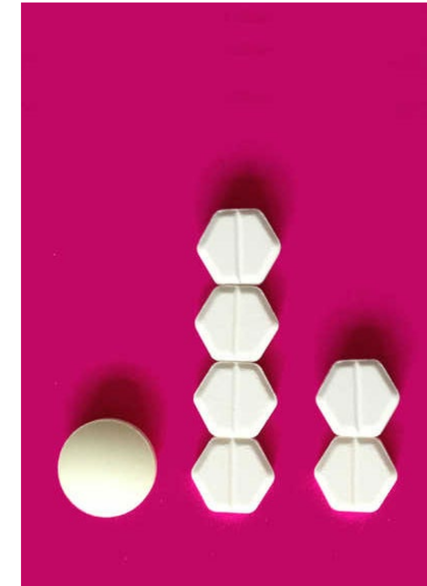
Zhang NEJM 2005; ; Neilson Cochrane Database 2006; Creinin 2006

Misoprostol treatment success by EPF type

- Success rate varied by type of EPF

Embryonic or fetal death	88
Anembryonic gestation	81
Incomplete or inevitable abortion	93

- A Secondary analysis of same data
  - Didn’t show this effect
  - So maybe not as important for medical
  - Vaginal bleeding and nulliparity were predictors of success



Zhang NEJM 2005; Creinin Obstet Gynecol 2006

Mifepristone & Miso vs Miso Alone

Mife (200mg) and Miso (800mcg) are more effective than Miso (800mcg) alone.

- Effectiveness: 84% vs. 67% (2-3 days)
  - (87 vs 71 @ 8 days; 91 vs 75 @ 30 days)
- Less surgical aspiration
  - 8.8% vs 23.5
- No difference in:
  - Bleeding or pain
  - Serious adverse events
- Number needed to treat is 6

Schreiber NEJM 2018;
ACOG Practice Bulletin #200

ACOG Recommended Dosing for Medical Management

- Mifepristone 200mg orally
  - **If available**
- Followed by Misoprostol 800mcg vaginal 24 hours later
- Repeat Miso dose day 2-7 if needed

ACOG Practice Bulletin #200; Schreiber NEJM 2018

Breastfeeding and Medical Management

- Limited information
- Extremely low levels of mife and miso in breast milk
  - Amounts of ingested are trivial
  - Would not be expected to cause any adverse effects
- No special precautions

Surgical Management

Recommended for patients who are:

- *infected*
- *bleeding heavily*
- *unstable*

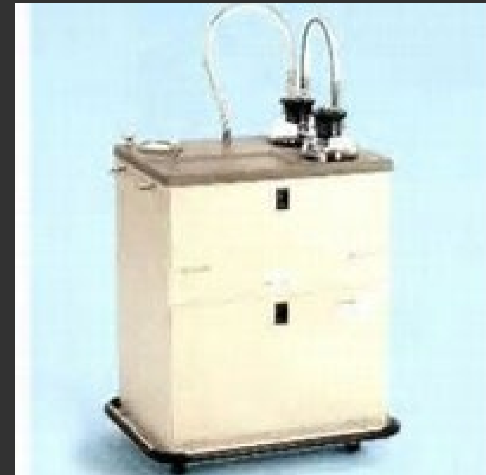
Preferred for patients who are:

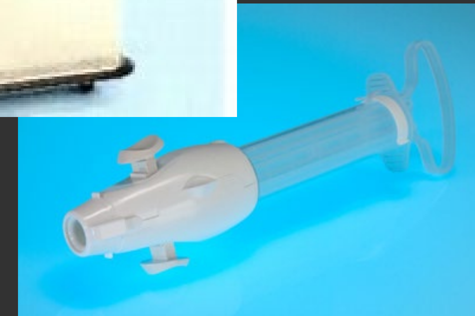
- *anemic*
- *anticoagulated*
- *anybody who should not have unsupervised pain and bleeding*
- *anybody who prefers*

Surgical Management: Suction D&C

Suction is superior to Sharp Curettage alone; Share Curettage is rarely needed

- Manual Vacuum aspiration (MVA) and Electric vacuum aspiration
  - same efficacy
  - same complication rate
- Ideally, if low risk, offer in the ER or Clinic
  - Cost savings
  - Decrease risk of anesthesia
  - Follow patient preference

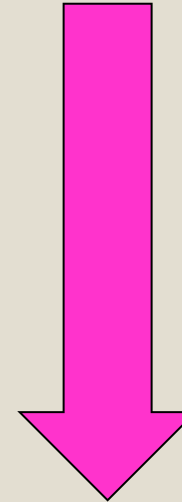




Overall Efficacy of Options

- Complete expulsion at 30 days
  - Expectant
    - 70-80% *
  - Misoprostol (800mcg PV)
    - 84%
  - Mife and Miso
    - 91%
  - Vacuum aspiration
    - 97%

Least



Most

* Comparisons are challenging as it varies for type of pregnancy loss, Definition of success or how long follow-up

Luise BMJ 2002; Zhang NEJM 2005; Schreiber NEJM 2018

Miscarriage Management Comparison

	MISO ALONE	SURGERY
Called MD	19%	6%
Fainted	8%	2%
Dropped Hgb 2 pt or more	9%	4%

SURGERY MORE CONTROLLED OPTION THAN MEDICAL MANAGEMENT

To give Antibiotics or not to give Antibiotics

Expectant

Has not shown a benefit

Medical

Benefit is unknown

For medication abortion, Abx is typically given

Surgical

Single dose of preoperative doxycycline 200mg is recommended

Oral is cheaper than IV and equally effective

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Alloimmunization Prevention

Early first trimester bleeding

Unlikely to sensitize

- In early first tri without surgery
- Some countries don't check

United States

- *Watch for updating recommendations*
- Check Rh
- If negative and NOT sensitized
  - 50mcg of Rhogam sufficient thru 12 wks
  - 300 mcg is fine

JAMA | Original Investigation

Induced Abortion and the Risk of Rh Sensitization

Sarah Horvath, MD, MSHP; Zhen-Yu Huang, MD, PhD; Nathanael C. Koelper, MPH; Christian Martinez, BA; Patricia Y. Tsao, MD, PhD; Ling Zhao, MD, PhD; Alisa B. Goldberg, MD, MPH; Curtiss Hannum, MSN; Mary E. Putt, PhD, ScD; Eline T. Luning Prak, MD, PhD; Courtney A. Schreiber, MD, MPH

Management of Threatened AB

No benefit to:

- Bedrest
- Vaginal progesterone

Insufficient data to support:

- Following HCG, Tocolytics, Vitamin supplementation, Chinese herbal meds

Management of Complete Abortion

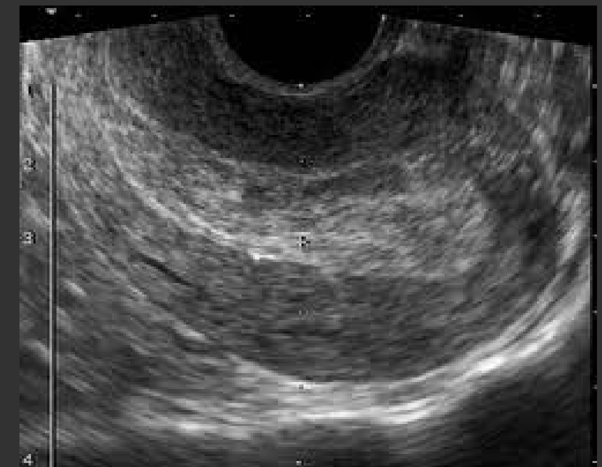
1. Hemodynamically stable

2. No RPOC

3. No infection

4. Rhogam if RH neg
   (keep an eye out for new data)

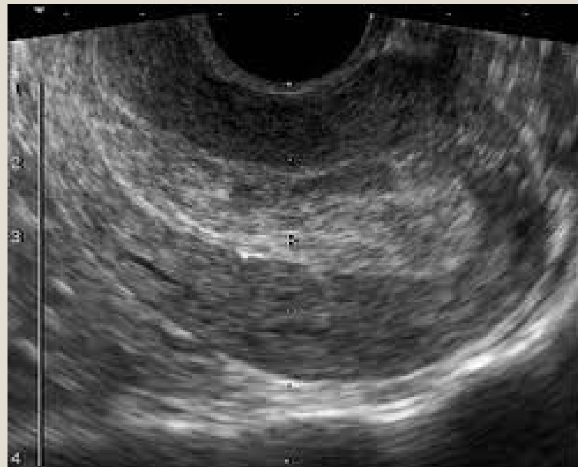
5. Not missing an ectopic



? Complete Abortion: Challenges

Was this an IUP

- Good history
- Follow with BHCG
- Ultrasound
- EPL talk



Are their Retained POC??

- Hard to tell
- Suspect
  - Irregularly shaped EMS
  - Bleeding increases or persists for >2 weeks
- Offer watchful waiting if stable

? Complete Abortion: Do they need a D&C

USUALLY NO!

- *But no high-quality data
- Minimize unnecessary risk of
  - Anesthesia
  - Asherman's and perforation

Reserve Suction D&C for:

- Excessive bleeding
- If infected and clear RPOC
- Prolonged bleeding and patient frustrated

Septic Abortion

much more common in places where abortion is restricted or illegal

Uncommon

Stabilize: IVF +/- Blood

Broad spectrum IV antibiotics

Evacuate promptly after Abx

- Carefully – with suction D&C/ USG guidance

Obtain

Culture

Hysterectomy ONLY if –

- Fail to respond or
- Suspect Clostridial and myonecrosis if GAS

SHARED DECISION MAKING

- **One size DOES NOT fit all**
- Patients have strong preferences for that way in which EPF is managed
- Higher satisfaction when treated according to these preferences

Choice is very important

- RCT on Quality-of-Life Scores (HRQL)
- **305 *refused*** randomization

- Findings/conclusion:
  - Women who ***chose*** their own treatment had the best HRQL over time
  - If no preference
    - Encourage to start with expectant management – no rush, shock

M. Wieringa-De Waard, E.E. Hartman, W.M. Ankum, J.B. Reitsma, P.J. Bindels, G.J. Bonsel
Expectant management versus surgical evacuation in first trimester miscarriage: evacuation in first trimester miscarriage: health-related quality of life in randomized and non-randomized patients
Hum Reprod, 17 (2002), pp. 1638–1642

Perinatal loss

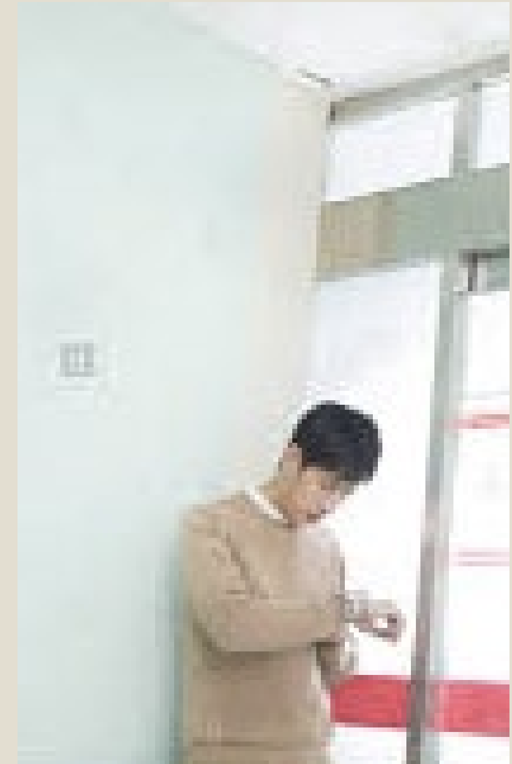
- Grief can be complex
  - Guilt and myths
    - 76% due to stress
    - 64% lifting heavy object
    - 28% prior IUD use
    - 22% prior OCP use
  - Loss
    - Profound, mild or non-existent
  - Immediate or delayed
  - Believe it is rare because not talked about

Bardos J, Obstet Gynecol 2015

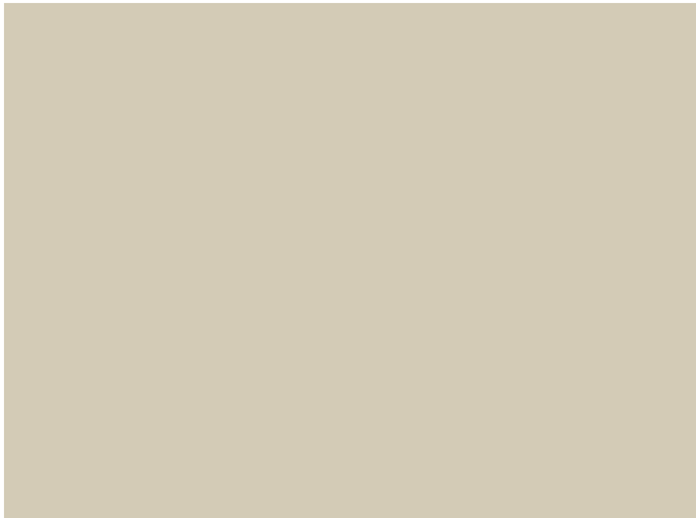
Men's Experience

- Often feel marginalized
- Lack of support
- Fear and shock
- Helpless and frustrated
- Anxiety about their relationship

"People kept asking me how Christine was, but not how I was feeling. It was as if having a baby was a couple thing but having a miscarriage was just for women."



Miscarriage Assoc 2011



Perinatal loss

- Dispel Myths and Educate
  - EPF is common
  - They didn’t cause this
  - Gentle about modifiable Risk Factors
  - Very culturally dependent
- Assess their emotional status
- Include men
- Reassure them as much as you can
  - Future fertility
- Provide Support

What is the preferred timing of Family Planning Counseling?

- Should I offer birth control?
- During the miscarriage v at follow-up?

- Is that insensitive?
- Is it irresponsible NOT to offer birth control??

Don't offer birth control … Ask …

Acceptable to broach Family Planning at time of miscarriage

- "Is this an okay time to discuss your thoughts about future pregnancies?

Any form of birth control is acceptable immediately

- Including IUD's
- No difference in expulsion

Flink-Bochacki; The Forum 2017; oral presentation; U.S. Medical Eligibility Criteria

What we learned

- Criteria for diagnosing
- Expectant, medical and surgical management are all safe in appropriate patients
- Efficacy
  - Surgery > Medical > Expectant
  - Mife/Miso is better than Miso alone
- Honoring patient choice is the most important factor when possible
- Educate and dispel myths
- Ask how they feel and include partner
- Ask if they want to talk about Contraception

QUESTIONS?