Managing Complications of Procedural Abortion

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Prevalence of Abortion Complications

- Abortion complications are infrequent = 0.6%
- Complications from pregnancy are higher than those with abortion
- Deaths associated with legal induced abortion are rare
  - Less than 1 per 100,000 procedures

Case 1: BB (they/them)

- 34yo G4P2 presenting for abortion at 22w4d
- History of two prior cesarean sections
- BMI 35
- Fetus diagnosed with trisomy 18
- Fetal demise 2-3 weeks ago

Key Questions for Assessing Risk

- What complications are they at risk for?
- What measures can you take to decrease their risk of complications?

Risk Factors for Complications

- Increasing gestational age
- Inadequate cervical dilation and needing mechanical dilation
- Prior cesarean section
- General anesthesia
- Nulliparity
- Abnormal placentation (placenta previa, accreta)
- Provider inexperience
- Fetal demise

Pertinent Risk Factors for BB

- Two prior cesarean sections
  - Increases risk of abnormal placentation and inadequate cervical dilation, which can lead to:
    - Hemorrhage
    - Cervical laceration
    - Uterine perforation
    - Additional unplanned procedures (e.g. uterine artery embolization, hysterectomy)

Pertinent Risk Factors for BB

- Higher gestational age
- Fetal demise

Pre-procedure Evaluation

- Ultrasound to confirm:
  - Gestational dating
  - Fetal demise
  - Placental location

Pre-procedure Evaluation: Placentation Location

- Clues for abnormal placentation
  - Placental lacunae → “swiss cheese” appearance
  - Loss of the normal retroplacental hypoechoic space
  - Increased vascularity on doppler
- Confirm with radiology-performed ultrasound or MRI if necessary

Hemorrhage risk group	Prevention and preparation measures

Low risk
• No prior cesarean sections
• Fewer than two prior cesarean sections and no previa or accreta
• No bleeding disorder
• No history of obstetrical hemorrhage
	Measures for all
	• Preoperative hemoglobin or hematocrit (only if history of anemia for first-trimester surgical)
	• Ultrasound for gestational age
	• Cervical preparation
	  o Dilators if >20 weeks
	  o Misoprostol or dilators if >13 weeks
	• Consider vasopressin in paracervical block

Moderate risk • ≥2 cesarean sections • Prior cesarean section and previa • Bleeding disorder • History of obstetrical hemorrhage not requiring transfusion • Increasing maternal age • Gestational age >20 weeks • Fibroids* • Obesity	**All of the above, *and consider…*** • Consider transfusion consent • Uterotonic medications readily accessible • Consider intraoperative ultrasound guidance • Cervical preparation with dilators if >20 weeks
High risk • Accreta diagnosis or concern • History obstetrical hemorrhage requiring transfusion • Any of the “moderate risk” categories may be considered “high risk,” per discretion of the clinician	**All of the above, *and consider…*** • Refer to center with transfusion capability, anesthesia, and interventional radiology • Transfusion and possible hysterectomy consents • Preoperative creatinine, coagulation panel • Type and cross ≥2 units

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Findings: BB's Pre-procedure Evaluation

- Gestational age = 21w6d
- Placenta is fundal (not near the prior cesarean scar)
- Confirmed fetal demise

Reduce BB's Risk of Complications: Pre-procedure Measures

- Obtain preoperative hemoglobin
- Give prophylactic antibiotics
- Cervical preparation with osmotic dilators

Cervical Preparation

- Cervical preparation reduces the risk of complications in >20 weeks of gestation **(Level A)**
- Use osmotic dilators for patients > 20 weeks
- Insufficient evidence to recommend a specific regimen of cervical preparation

Reduce BB's Risk of Complications: Intraprocedure Measures

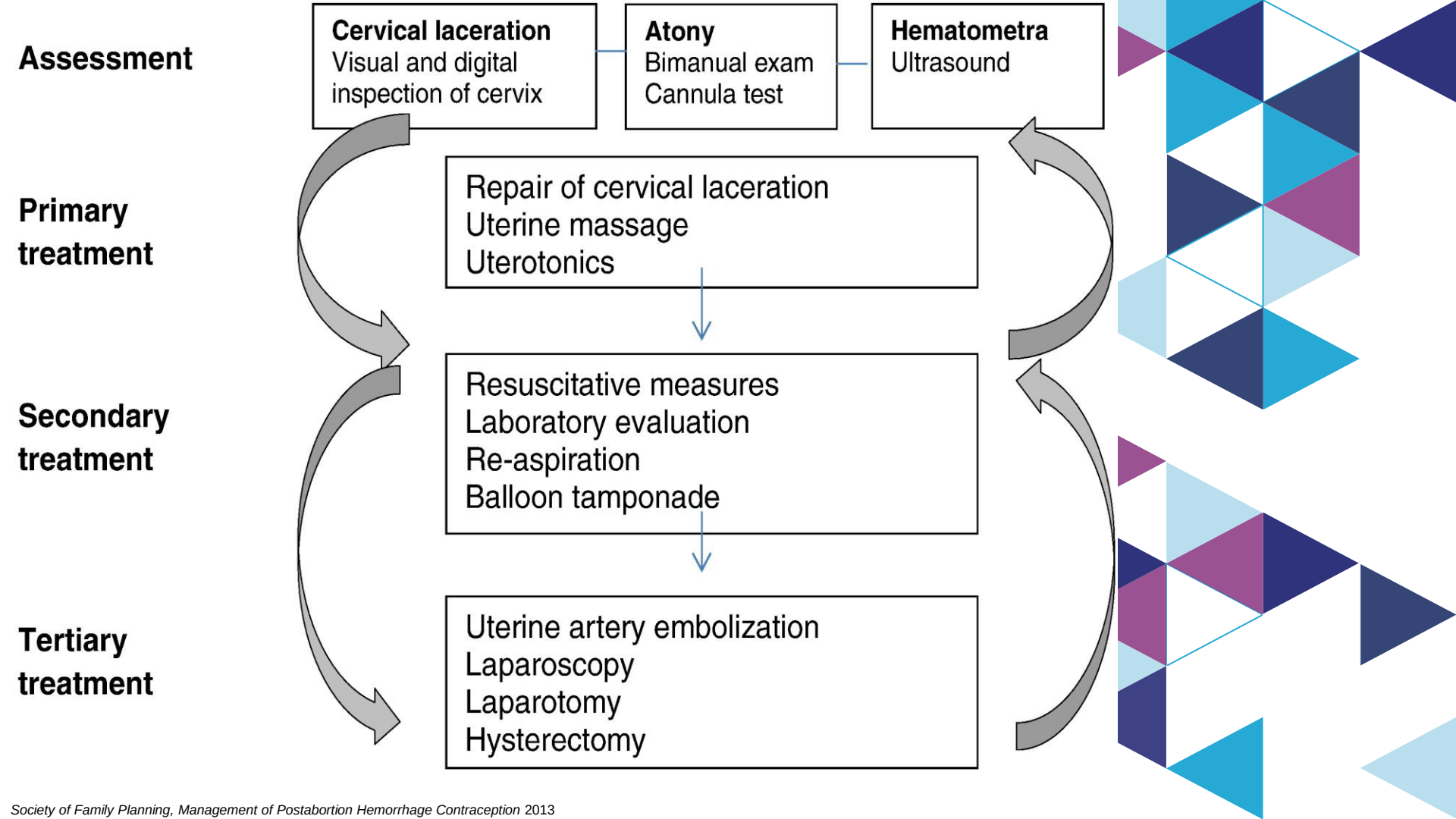
- Adequately trained/supervised providers
- Avoid halogenated anesthetic gases
- Add vasopressin to cervical block
- Intraoperative ultrasound guidance may reduce risk of complications especially in training settings **(Level B)**
  - Insufficient evidence to recommend routine use

Measures Lacking Robust Evidence

- Prophylactic uterine massage
- Prophylactic uterotonics
  - Prophylactic oxytocin for D&E at 18-24 weeks does not lead to lower frequency of interventions for bleeding, but may decrease blood loss and frequency of hemorrhage
  - Prophylactic methylergonovine does not reduce bleeding, and may increase excessive bleeding

Recognizing Complications: Initial Steps

- Ask for additional personnel support in room immediately
- Timely evaluation
- Keep a broad differential diagnosis
- Maintain clear and effective team communication



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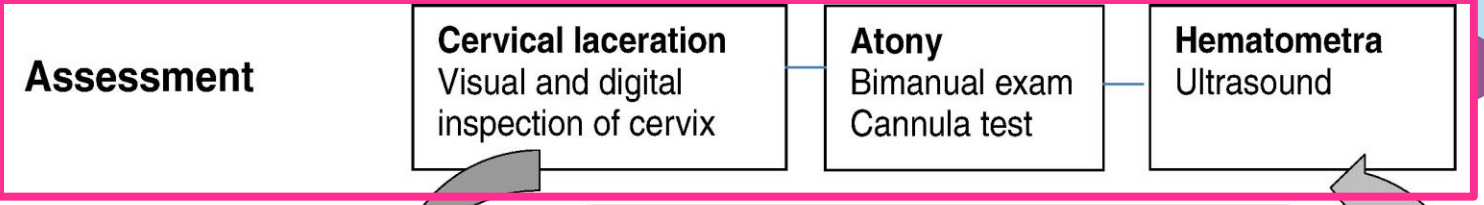

Primary treatment

- Repair of cervical laceration
- Uterine massage
- Uterotonics

Secondary treatment

- Resuscitative measures
- Laboratory evaluation
- Re-aspiration
- Balloon tamponade

Tertiary treatment

- Uterine artery embolization
- Laparoscopy
- Laparotomy
- Hysterectomy

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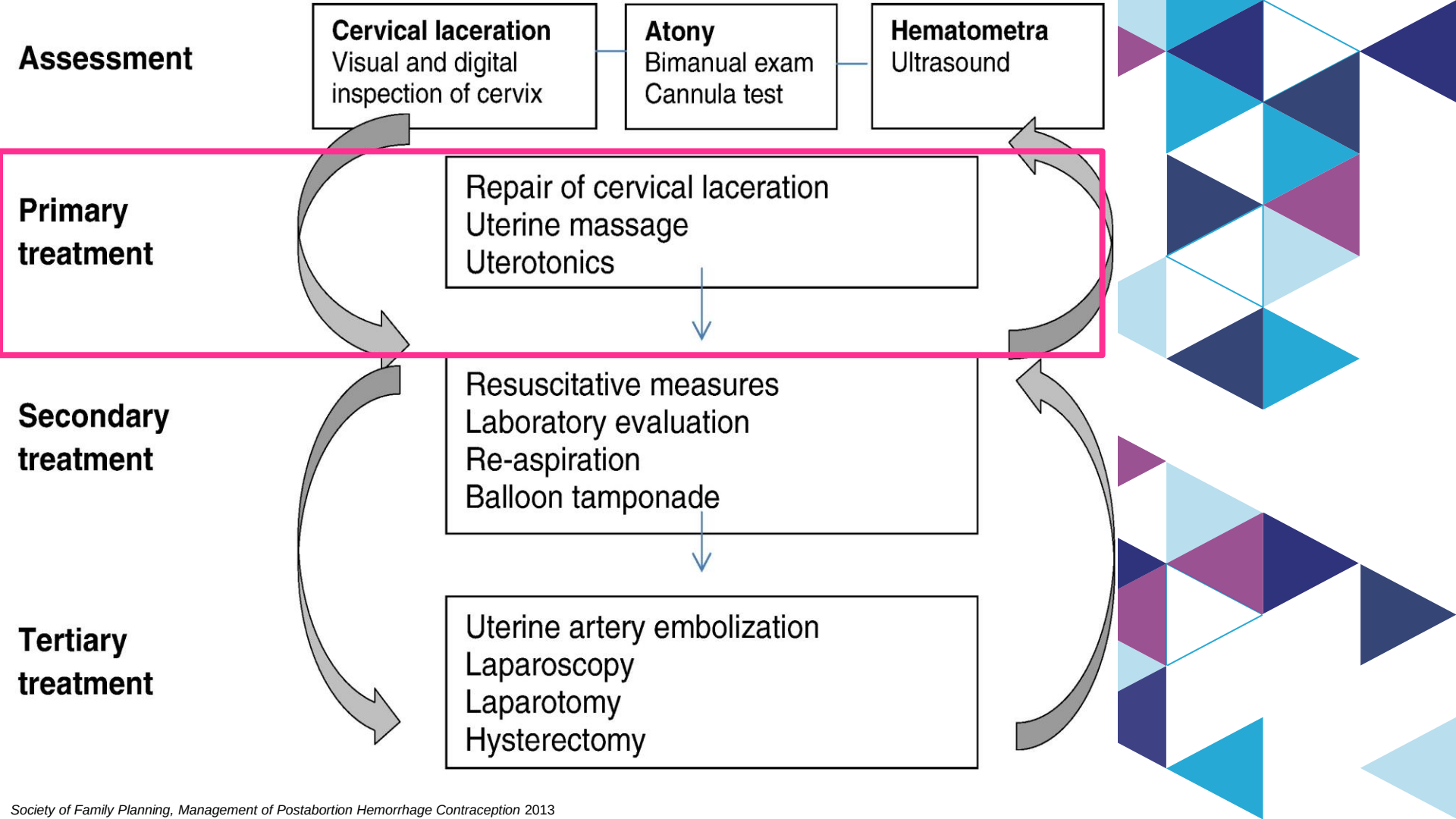

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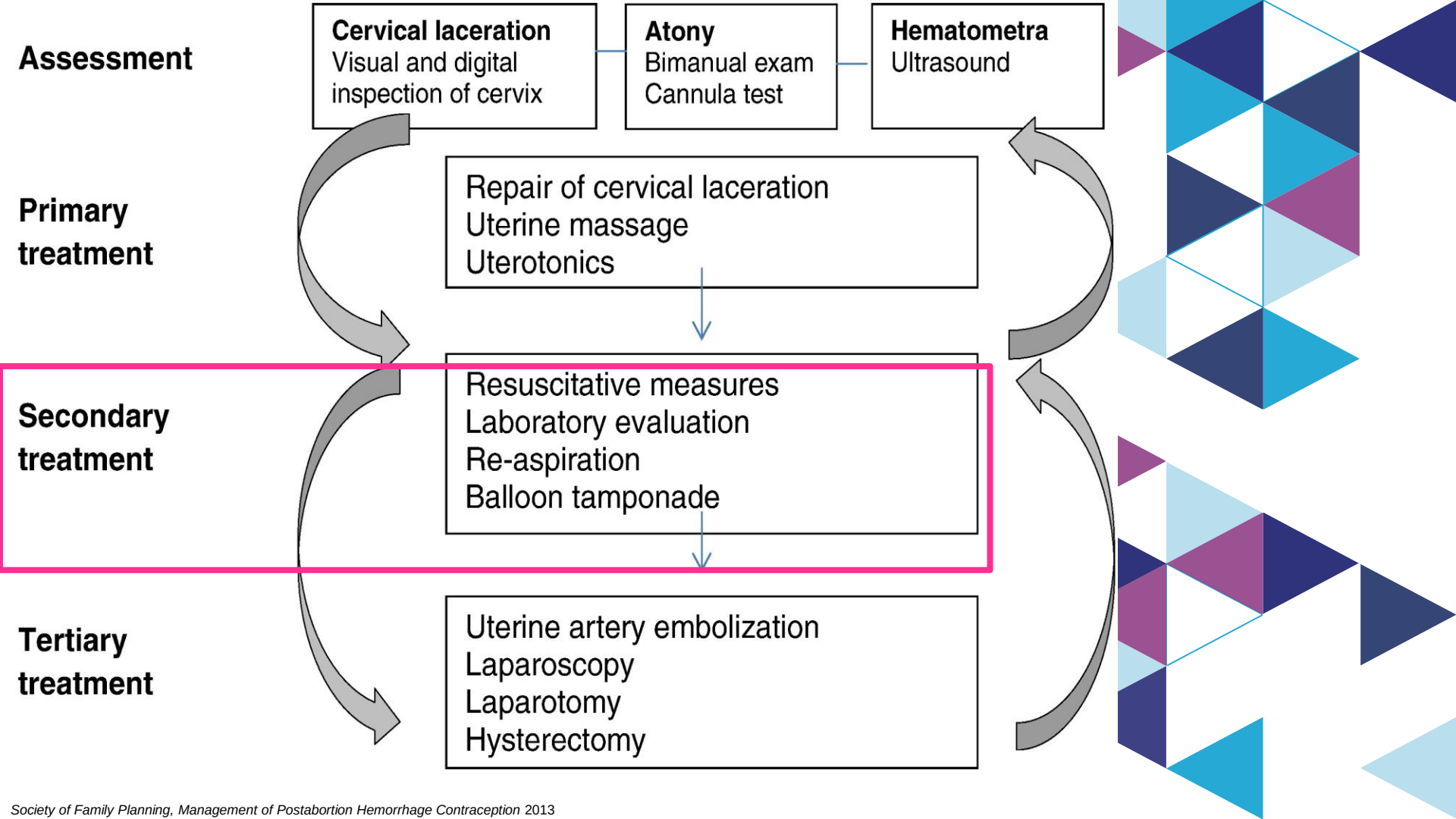
Treating Uterine Atony

- Most common uterotonics: methylergonovine and misoprostol
- Other uterotonics: carboprost, oxytocin
- If a single uterotonic fails, give others and/or repeat doses as necessary

Treating Cervical Lacerations

- Superficial and small lacerations → can use pressure, compression, or hemostatic agents
- Larger lacerations >1cm should be repaired with absorbable sutures
- High cervical lacerations may require balloon tamponade, or rarely embolization



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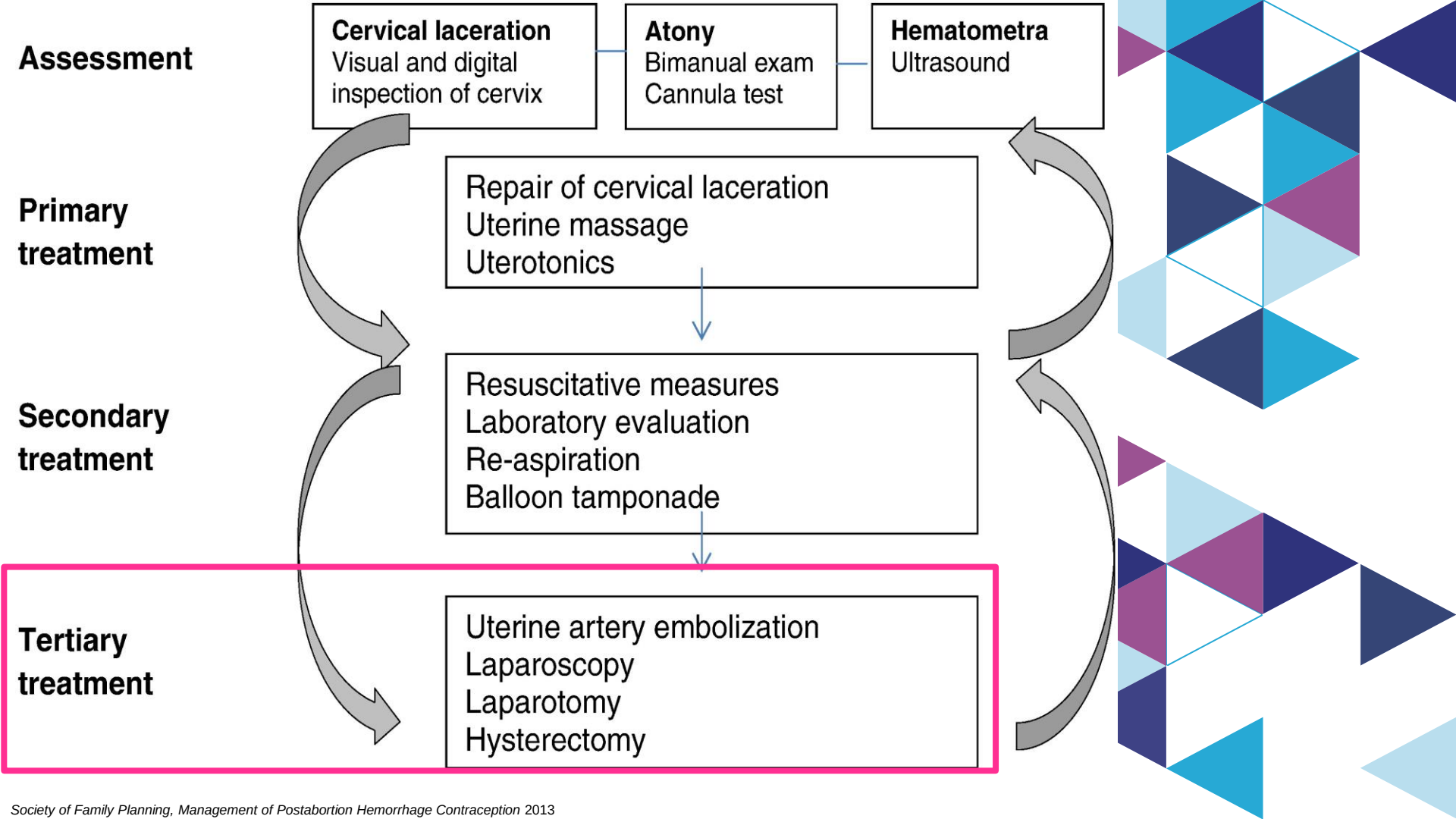
Balloon Tamponade

- Effective for treating atony and lower uterine segment bleeding
- Options for tamponade
  - 30mL Foley balloon filled with up to 60mL of saline
  - Bakri balloon, which has up to 500mL capacity
- Smaller volumes may be needed for 1st trimester or early 2nd trimester procedures
- Can be left in place 2 to 24 hours depending on patient status



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Uterine Artery Embolization

- Effective for:
  - Refractory uterine atony
  - Placental site bleeding
  - High cervical tears that don’t respond to tamponade
- Consider before more invasive surgical procedures if your setting allows and if appropriate based on patient status/clinical presentation

Evaluating for Uterine Peroration

- A clinical diagnosis
- Key considerations:
  - Pain out of proportion to what would be expected after a D&E
  - Vital sign abnormalities
  - Exam findings like significant abdominal distention or peritonitis

Team Communication During Complications

- Maintain clear, closed-loop communication
- Call in for help
- Escalate the patient's care in an efficient fashion
- Debrief with the whole team after complications

Conclusion

- Complications are rare
- Pre-procedure, intra-procedure, and post-procedure measures can decrease risks of complications
- A systematic approach with effective team communication strategies are the cornerstones to managing complications