

# **PPH EMERGENCY CARE USING A BUNDLE APPROACH**

## **THE PPH EMERGENCY RESPONSE**

# PPH Emergency Response Overview – Day 1

## **Part I:** Clinical Instruction

Review of PPH non-surgical management using a bundle approach

## **Part II:** Skills Stations

Develop and refine skills including use of uterine balloon tamponade (UBT) and the Non-pneumatic anti-shock garment (NASG)

## **Part III:** Simulations

Practice and refine PPH emergency care skills using an obstetric rapid response team

# Quality PPH Emergency Care



# PPH Emergency Response

AMTSL

CALL FOR HELP!

## First Response Bundle

Uterine Massage



IV Fluids



Uterotonics



Tranexamic Acid



## SUPPORTIVE MEASURES

Treat tears



Empty bladder

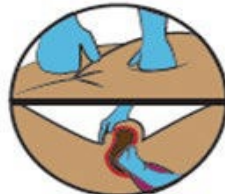


Empty uterus



## Refractory PPH Interventions

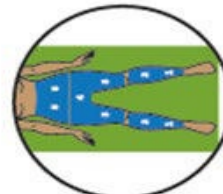
Compression



Uterine Balloon



Anti-shock Garment



## SUPPORTIVE MEASURES

Transfusion



Referral



Surgery



# WHY USE BUNDLES?

## PPH Emergency Response

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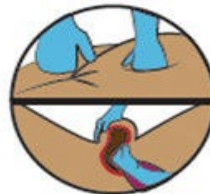


Empty uterus

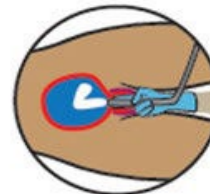


### Refractory PPH Interventions

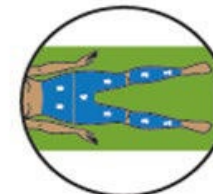
Compression



Uterine Balloon



Anti-shock Garment



### SUPPORTIVE MEASURES

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Referral



Surgery







Any bleeding from birth of a rate or amount that *has the potential to* deteriorate the condition of the mother and cause hemodynamic instability and shock.

A useful clinical definition of Postpartum Hemorrhage

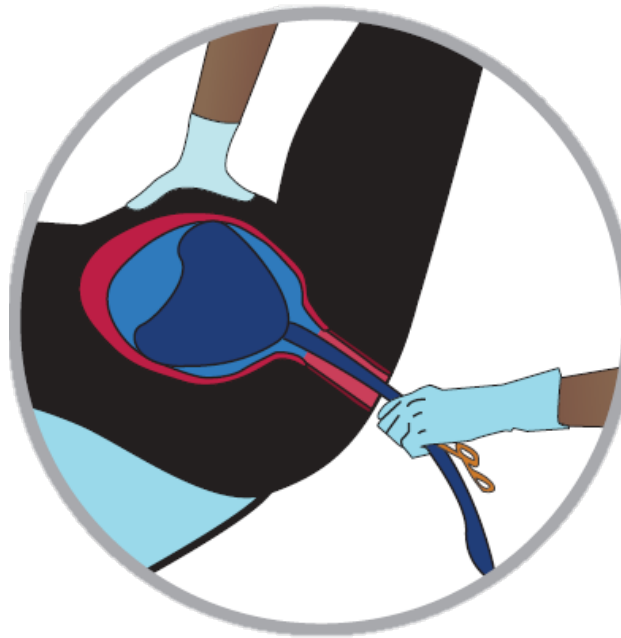
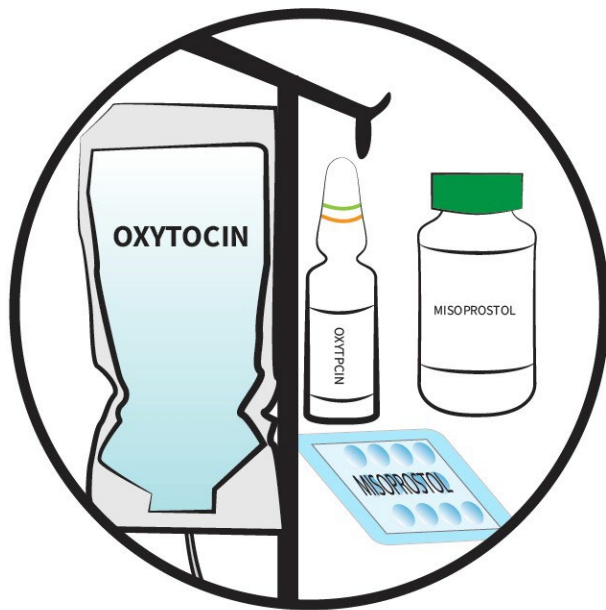
**What causes  
postpartum  
hemorrhage?**



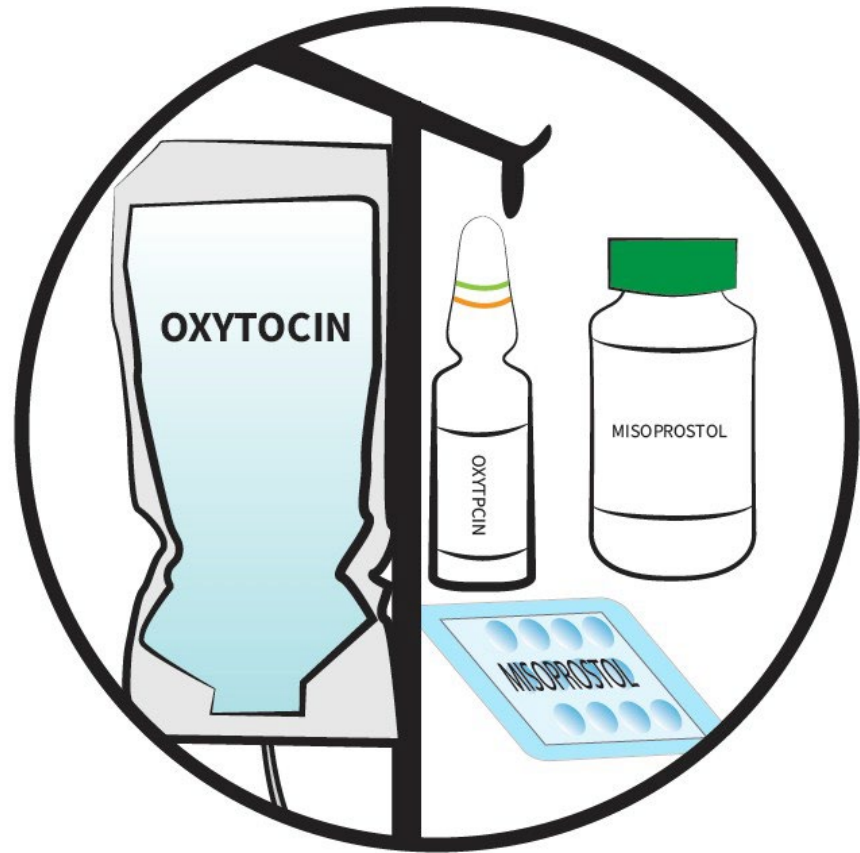
# “The 4 T’s”

1. Tone
2. Trauma
3. Tissue
4. Thrombin

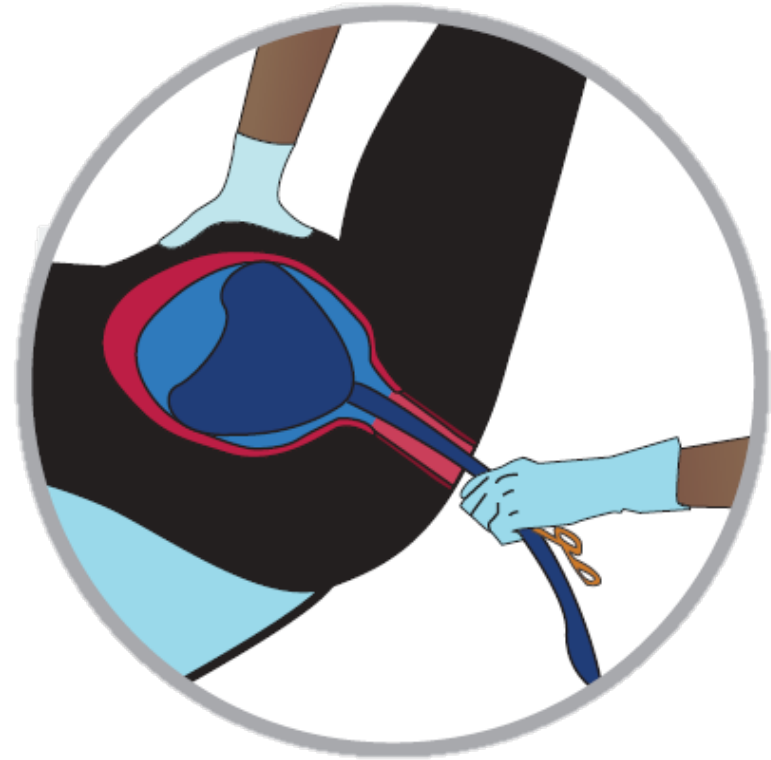
# Active Management of the Third Stage of Labor (AMTSL)



# Prophylactic Uterotonic Medications



# Controlled Cord Traction



# Uterine Massage

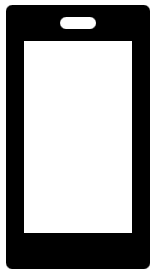




# Routine Postpartum Care for Hemorrhage Prevention



# CALL FOR HELP!



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Treat tears



Empty bladder

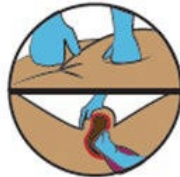


Empty uterus

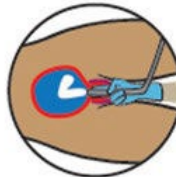


## Refractory PPH Interventions

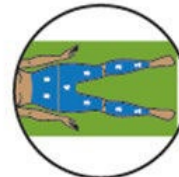
Compression



Uterine Balloon



Anti-shock Garment



## SUPPORTIVE MEASURES

Transfusion



Referral



Surgery



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# First Response Bundle

**Uterine Massage to  
contract the uterus  
and express clots**

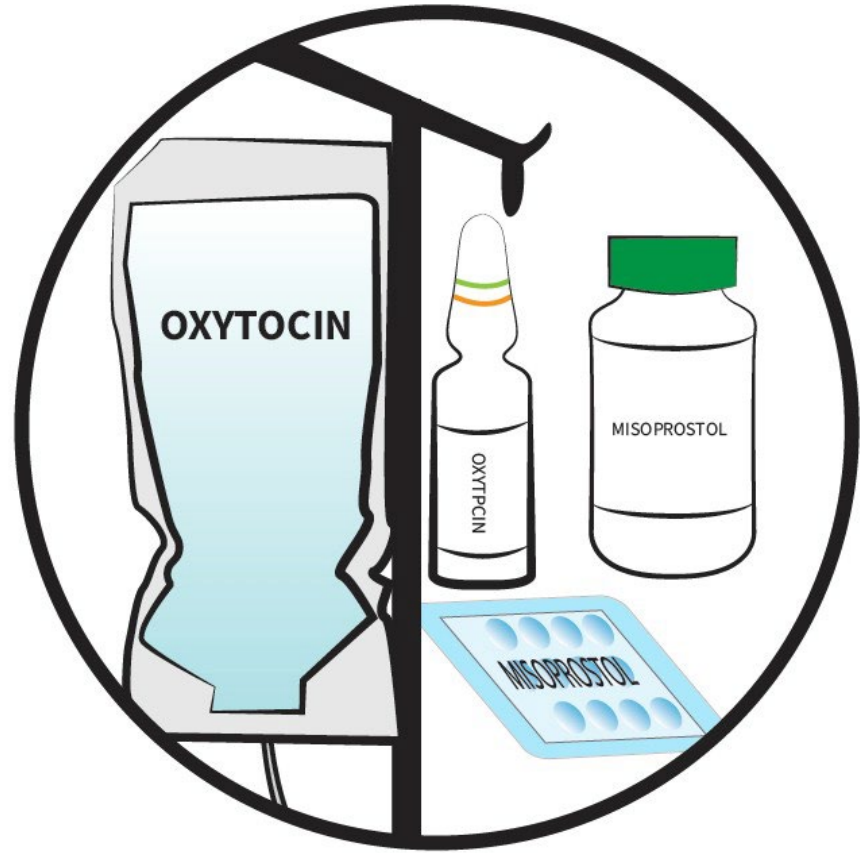


# IV Fluids

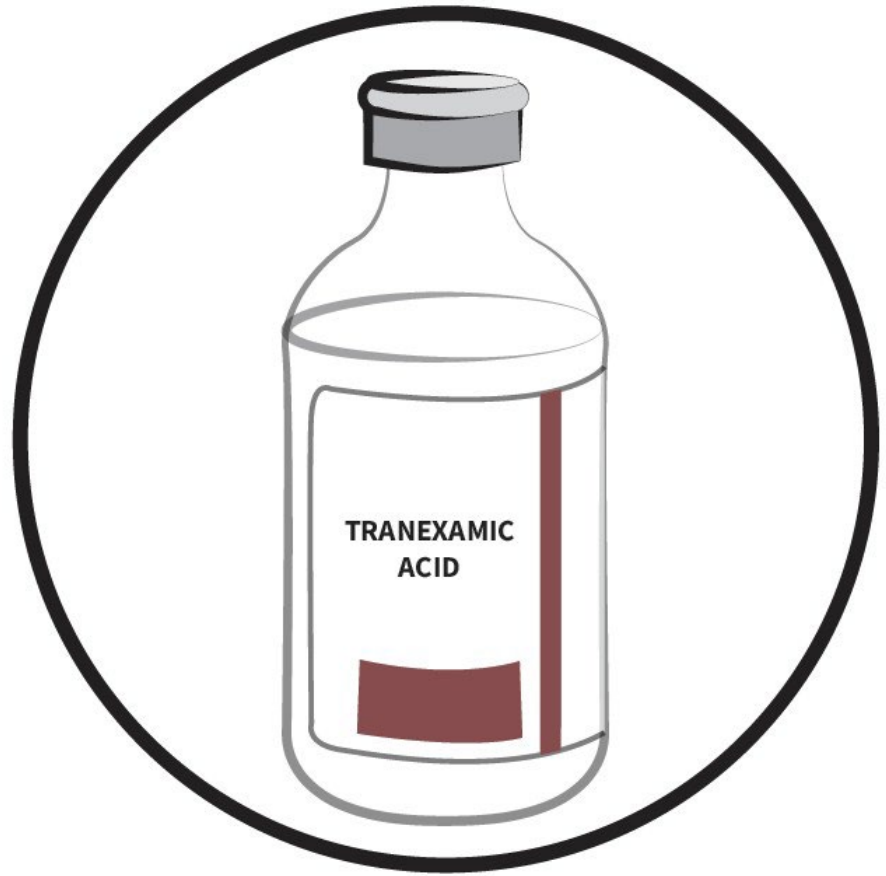




# Uterotonic Medications



# Tranexamic Acid



# Supportive Measures

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Uterotonics



Tranexamic Acid

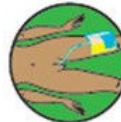


### SUPPORTIVE MEASURES

Treat tears



Empty bladder

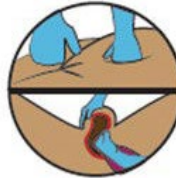


Empty uterus



### Refractory PPH Interventions

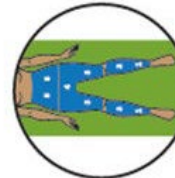
Compression



Uterine Balloon



Anti-shock Garment



### SUPPORTIVE MEASURES

Transfusion



Referral



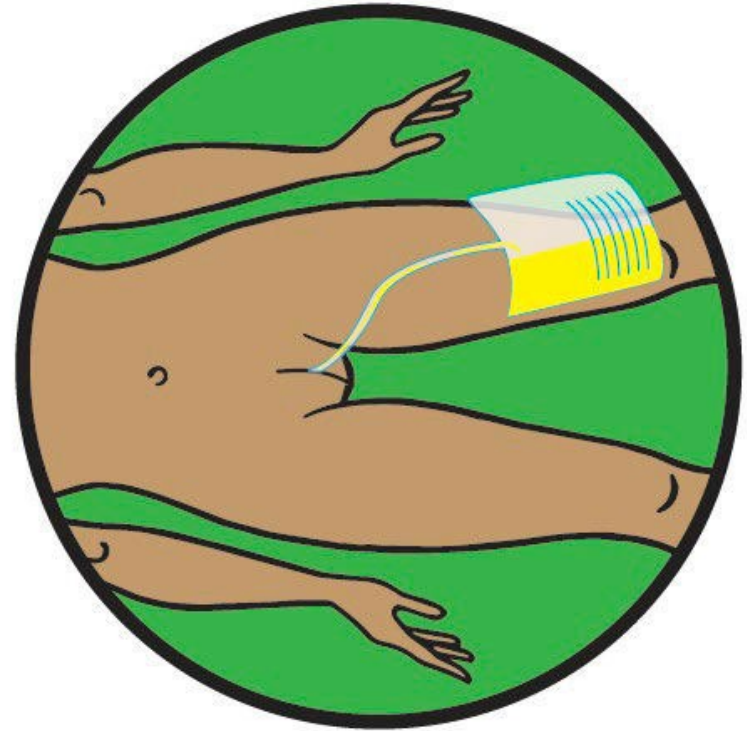
Surgery



**Check for  
tears and  
repair**

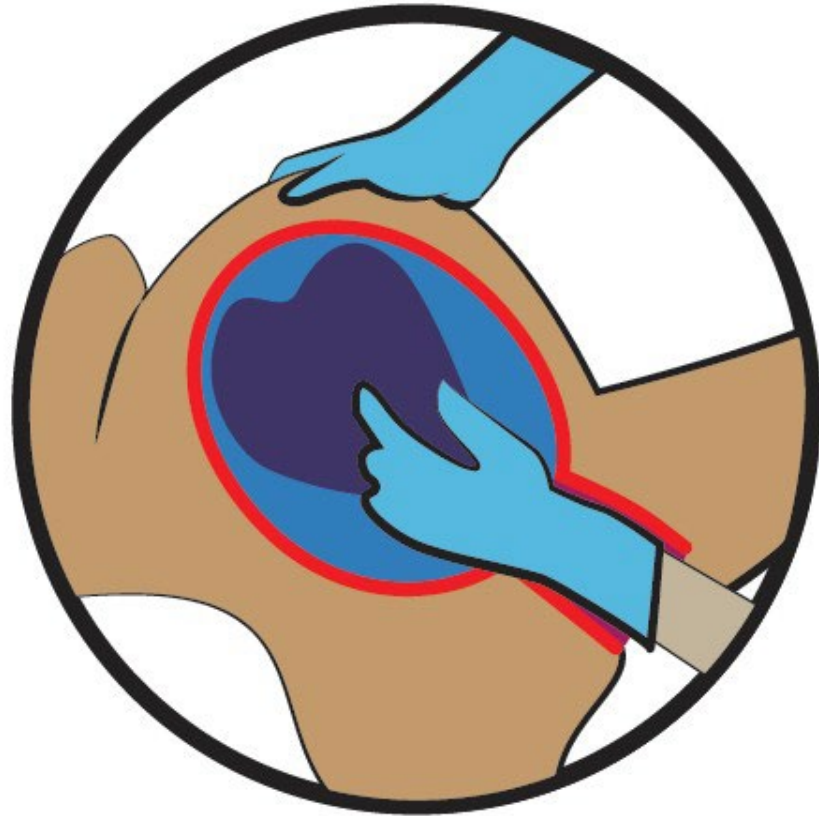


# Empty the bladder





# Empty the uterus



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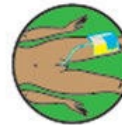


### SUPPORTIVE MEASURES

Treat tears



Empty bladder



Empty uterus

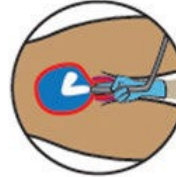


### Refractory PPH Interventions

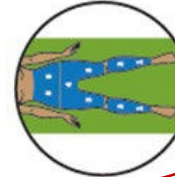
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### SUPPORTIVE MEASURES

Transfusion



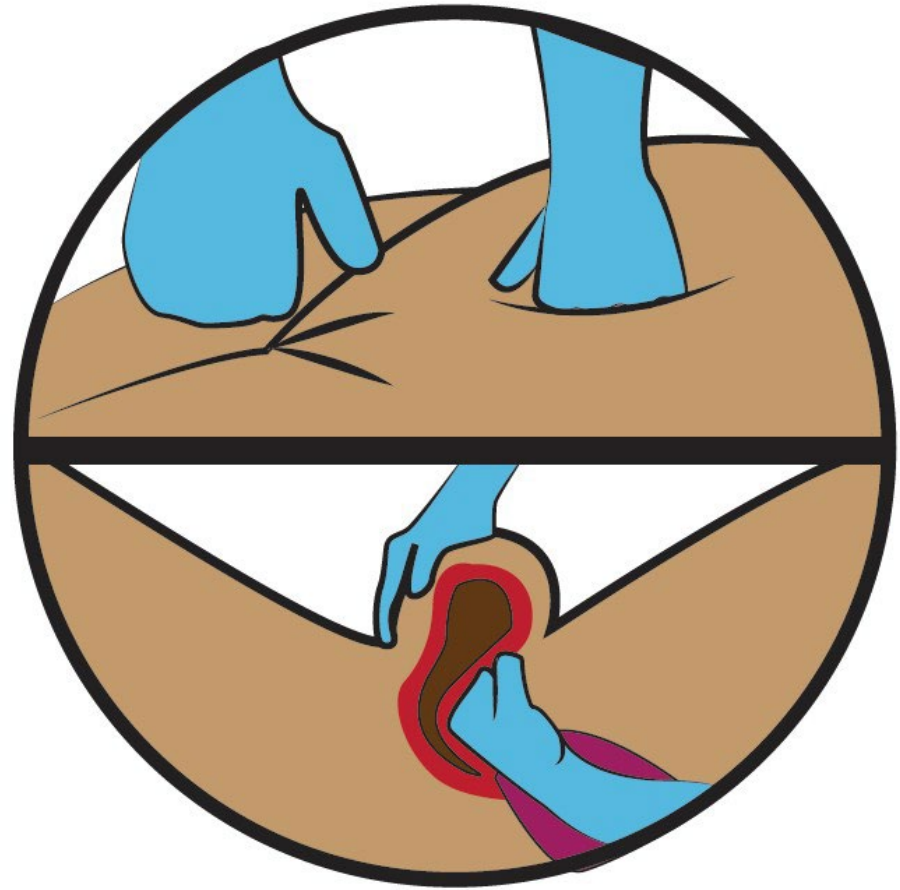
Referral



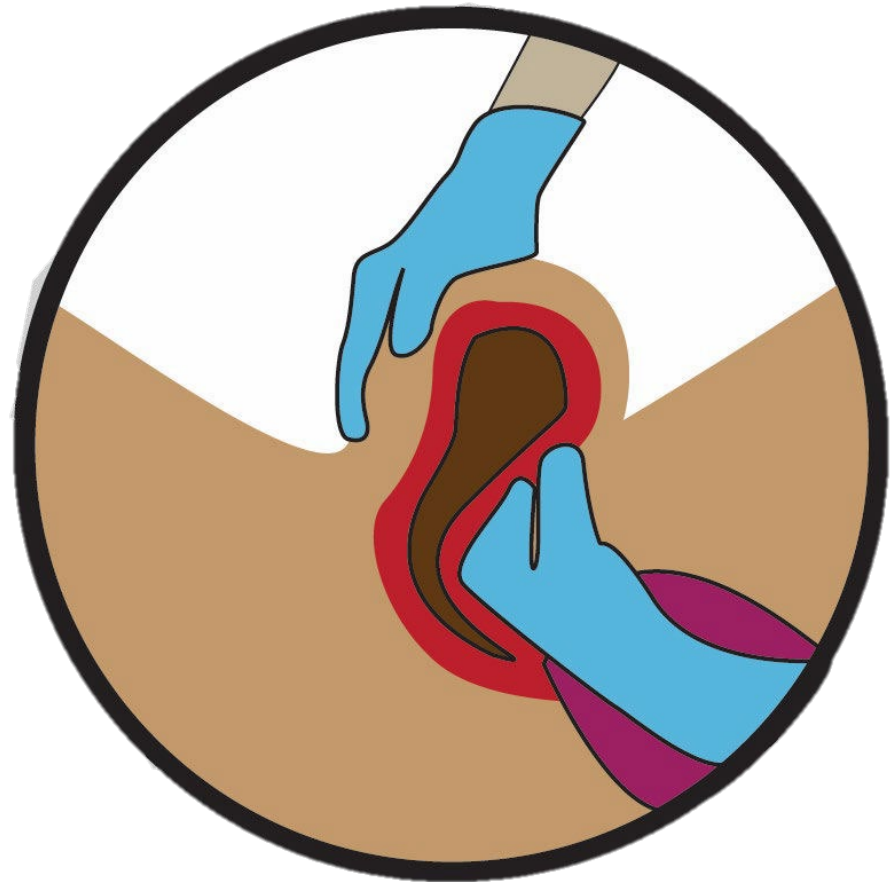
Surgery



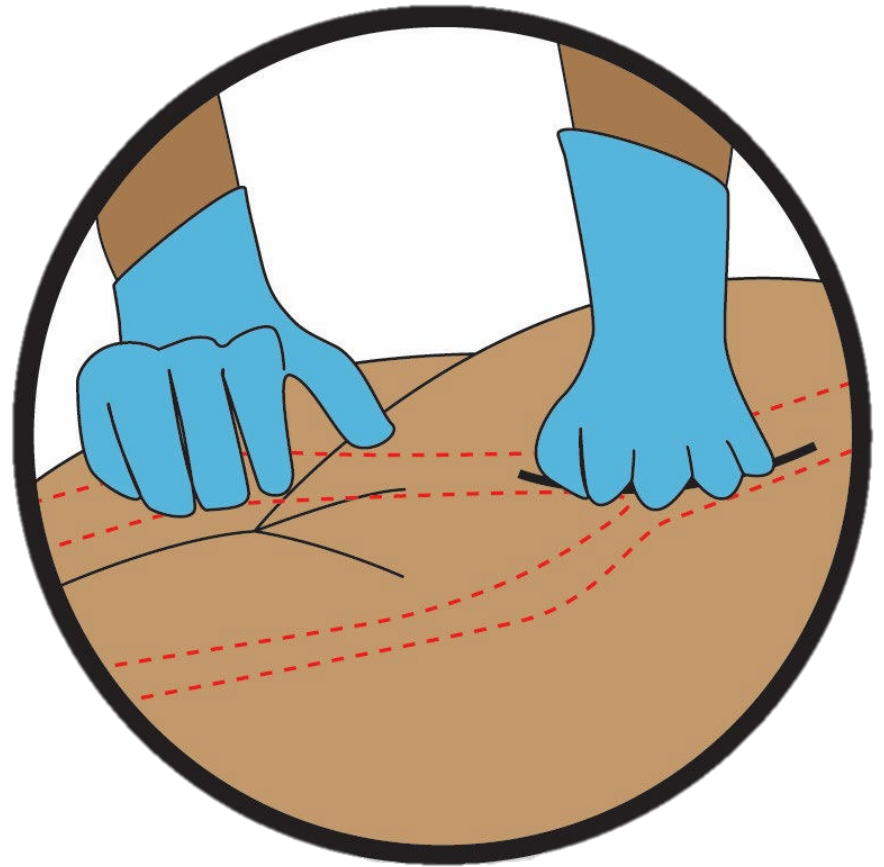
# Compression Maneuvers



# Bimanual Compression



# Abdominal Aortic Compression

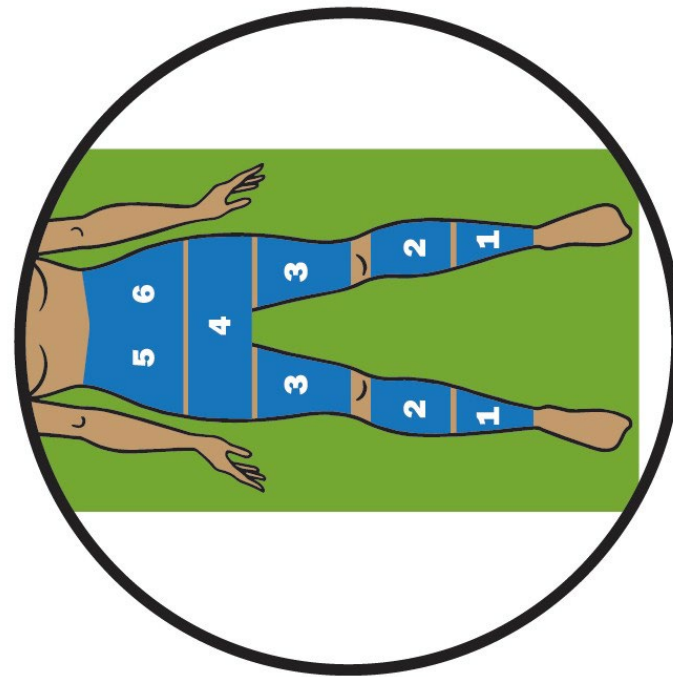
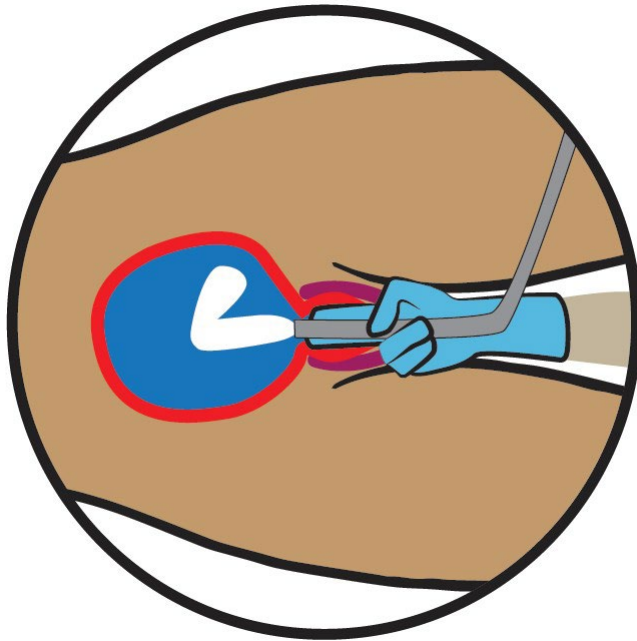


A photograph of Prof. Staffan Bergström, an elderly man with white hair and glasses, wearing a white short-sleeved button-down shirt. He is standing in a hospital ward. In the background, there are several hospital beds with blue privacy curtains. To the left, there are wooden doors and a cardboard box on a shelf. The lighting is bright and clinical.

Prof. Staffan Bergström  
Karolinska Institutet, Sweden



# Uterine Balloon Tamponade (UBT) and the Non-pneumatic Anti-shock Garment (NASG)





# Refractory PPH Interventions

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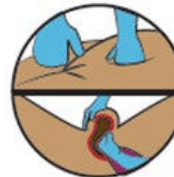


Empty uterus

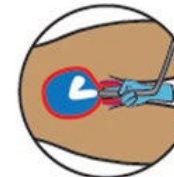


### Refractory PPH Interventions

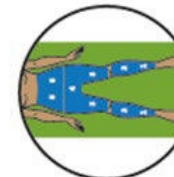
Compression



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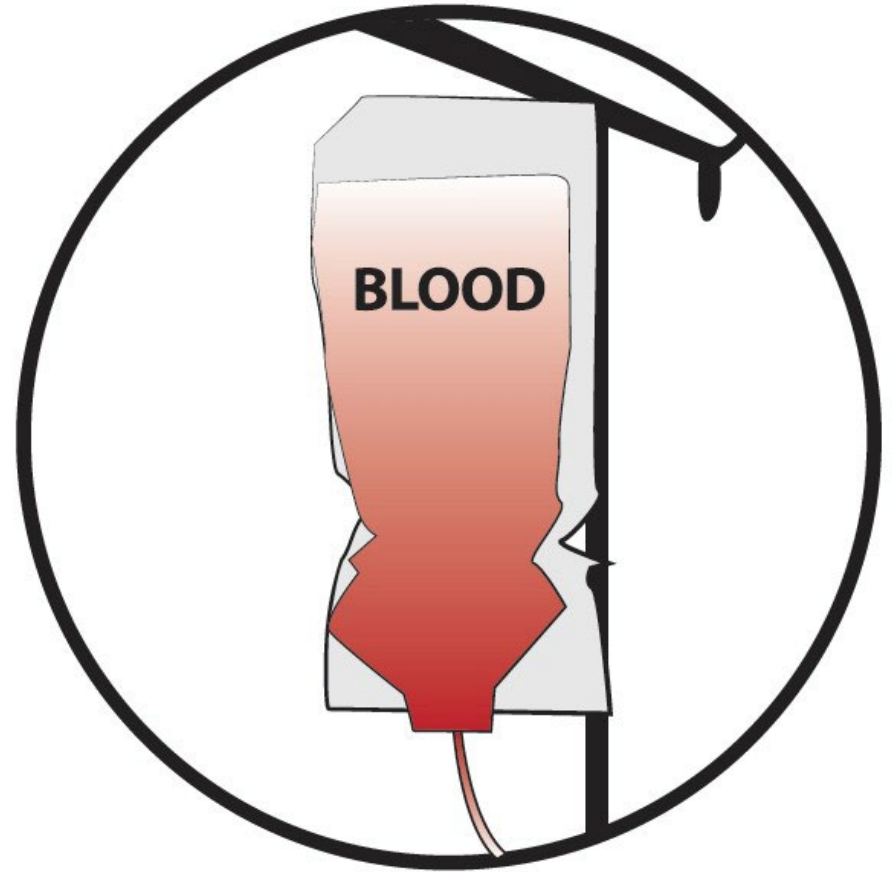
Surgery



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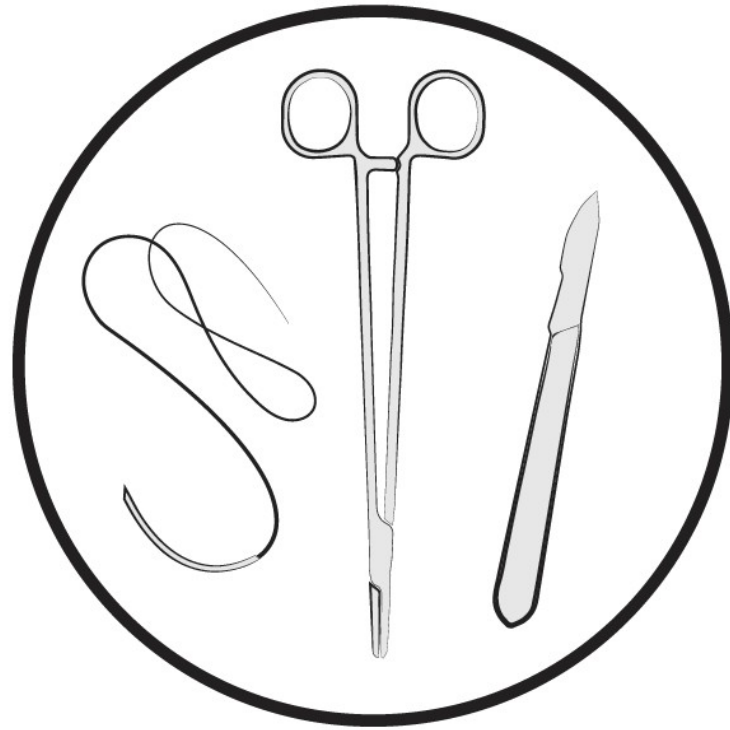
# Blood Transfusion



**Transfer to a  
higher level of  
care**



# Surgery



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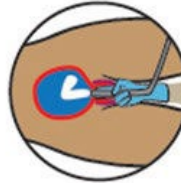


## Refractory PPH Interventions

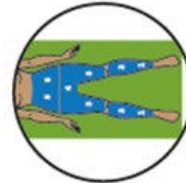
Compression



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## Additional Best Clinical Practices

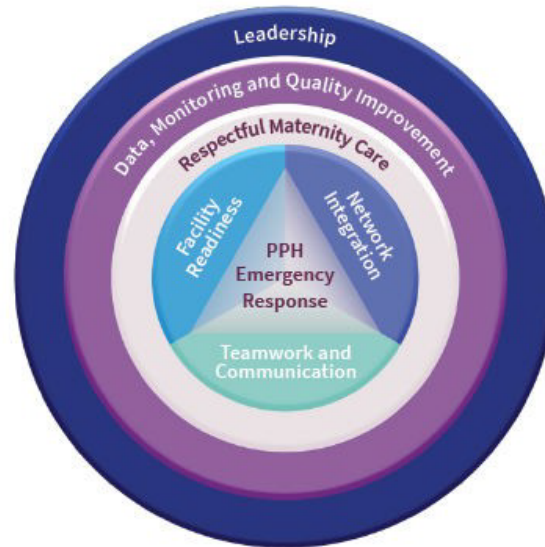
### PPH Prevention

- ▶ Anemia prevention and early detection
- ▶ Malaria prevention, detection, and control
- ▶ HIV status and treatment if necessary
- ▶ Identification of previous and current co-morbidities
- ▶ Birth planning and complication preparedness

### First Response

- ▶ Early recognition of excessive bleeding
  - ▶ Monitor vital signs (pulse, BP, temperature, and respirations), volume and rate of blood flow, level of consciousness or anxiety, skin color, and response to treatments
  - ▶ Laboratory Testing for Hgb/HCT, clotting factors (or bedside clotting test), and Type and Cross match
  - ▶ If Placenta delivered, was it intact, or is it retained?
  - ▶ Reassurance to woman and her family that everything is being done
- ### Response to Refractory PPH
- ▶ Inform woman and her family of treatment options, provide reassurance
  - ▶ Continue monitoring for status and development of shock, if shock suspected begin shock management
  - ▶ Surgical Management
    - Uterine compression sutures
    - Uterine or utero-ovarian artery ligation
      - Begin with conservative management, try to spare the uterus
    - If woman continues to bleed, perform hysterectomy

## Quality PPH Emergency Care



# References

1. Clarkson, Douglas McGregor. 2013. “The Role of ‘Care Bundles’ in Healthcare.” *British Journal of Healthcare Management* 19 (2): 63–68. doi:10.12968/bjhc.2013.19.2.63.
2. Lertbunnaphong, Tripop, Numporn Lapthanapat, Jarunee Leetheeragul, Pussara Hakularb, and Amporn Ownon. 2016. “Postpartum Blood Loss: Visual Estimation versus Objective Quantification with a Novel Birthing Drape.” *Singapore Medical Journal* 57 (6): 325–28. doi:10.11622/smedj.2016107.
3. American College of Obstetricians and Gynecologists. 2017. “Practice Bulletin No. 183: Postpartum Hemorrhage.” *Obstetrics and Gynecology* 130 (4): 168-e186. doi:10.1097/AOG.0000000000002351.
4. World Health Organization. 2012. “WHO Recommendations for the Prevention and Treatment of Postpartum Haemorrhage.” [https://apps.who.int/iris/bitstream/handle/10665/75411/9789241548502\\_eng.pdf?sequence=1](https://apps.who.int/iris/bitstream/handle/10665/75411/9789241548502_eng.pdf?sequence=1).



# Additional Resources

1. World Health Organization. 2012. “WHO Recommendations for the Prevention and Treatment of Postpartum Haemorrhage.”  
[https://apps.who.int/iris/bitstream/handle/10665/75411/9789241548502\\_eng.pdf?sequence=1](https://apps.who.int/iris/bitstream/handle/10665/75411/9789241548502_eng.pdf?sequence=1).
2. Lalonde, André. 2012. “Prevention and Treatment of Postpartum Hemorrhage in Low-Resource Settings.” *International Journal of Gynaecology and Obstetrics: The Official Organ of the International Federation of Gynaecology and Obstetrics* 117 (2): 108–18.  
doi:10.1016/j.ijgo.2012.03.001.
3. American College of Obstetricians and Gynecologists. 2006. “Practice Bulletin No. 76: Clinical Management Guidelines for Obstetrician-Gynecologists.” *Obstetrics and Gynecology* 108 (4): 1039-1047. doi:10.1097/00006250-200610000-00046.