



اولین دوره توانمند سازی متخصصین طب ایرانی در حیطة زنان و ناباروری

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با همکاری:
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برگزار کننده: دانشکده طب سنتی دانشگاه علوم پزشکی و خدمات بهداشتی درمانی شهید بهشتی



نام مدرس: خانم دکتر محبوبه والیانی
نام مبحث: خونریزی پس از زایمان (زودرس و دیررس)
تاریخ برگزاری: ۱۴۰۲/۲/۶

فهرست: خونریزی زودرس پس از زایمان، خونریزی دیررس پس از زایمان
در پایان این جلسه شما قادر خواهید بود:

خونریزی زودرس یا اولیه پس از زایمان را تعریف کنید

خونریزی دیررس یا ثانویه پس از زایمان را تعریف کنید

علل خونریزی زودرس پس از زایمان را بیان نمایید

علل خونریزی دیررس پس از زایمان را بیان نمایید

عوامل موثر بر بروز خونریزی های پس از زایمان را توضیح دهید

راههای تشخیص خونریزی زودرس و دیررس را شرح دهید

راههای کنترل خونریزی زودرس پس از زایمان به مرحله به مرحله برشمارید

راههای کنترل خونریزی دیررس پس از زایمان را مرحله به مرحله برشمارید

مراقبت های اورژانسی مرتبط با کنترل خونریزیهای زودرس پس از زایمان را بدانید

مراقبت های اورژانسی مرتبط با کنترل خونریزیهای دیررس پس از زایمان را بدانید



Definition

- Blood loss > 500 ml at vaginal delivery
> 1000 ml at Cesarean
- Severe PPH > 1000 ml loss at vaginal delivery

ACOG: 10% drop in hematocrit need for blood transfusion

Any amount of blood loss causes:

Hypovolemic and Hemorrhagic Shock

- Tachycardia
- Hypotension
- Reduced urine output

What is a postpartum hemorrhage?

Postpartum hemorrhage (PPH) is heavy bleeding after birth:

Primary PPH is when you lose more than 500 ml (a pint) of blood within the first 24 hours after birth. It is common, affecting 5 in 100 women. Severe hemorrhage (more than 2 litres or 4 pints) is much less common, affecting only 6 in 1000 women after birth.

Secondary PPH occurs when you have abnormal or heavy vaginal bleeding between 24 hours and 12 weeks after the birth. It affects fewer than 2 in 100 women.

What is a postpartum hemorrhage?

PPH can be primary or secondary:

Primary PPH is when you lose 500 ml (a pint) or more of blood within the first 24 hours after the birth of your baby. Primary PPH can be minor, where you lose **500–1000 ml** (one or two pints), or major, where you lose **more than 1000 ml** (more than two pints).

Secondary PPH occurs when you have abnormal or heavy vaginal bleeding **between 24 hours and 12 weeks after the birth.**

Who is at risk?

Risk factors for primary PPH Before the birth

- Having had a PPH in a previous pregnancy
- Having a BMI (body mass index) of more than 35
- Having had four or more babies before
- Carrying twins or triplets
- South Asian ethnicity
- Having a low-lying placenta (placenta praevia)
- The placenta coming away early (placental abruption)
- Pre-eclampsia and/or high blood pressure
- Anaemia

Risk factors for primary PPH In labour

Delivery by caesarean section

Induction of labour

Retained placenta

Episiotomy (a surgical cut to help delivery)

Forceps or ventouse delivery

Labouring for more than 12 hours

Having a big baby (more than 4 kg or about 9 lbs)

Having your first baby if you are more than 40 years old

Why PPH is important?

PPH remained one of the top 3 causes of direct maternal deaths.

Incidence: 4% after vaginal delivery

6,5% after CS delivery

We have 4 problems

- **Problem 1:** almost 50% of deliveries lose >500 ml of blood.
- **Problem 2:** estimated blood loss is often less than half the actual blood loss.
- **Problem 3:** Most of the serious causes of “PPH” have origins prior to the end of the 3rd Stage of labor.
- **Problem 4:** PPH, as defined, is technically misdiagnosed and clinically irrelevant.

Measuring Blood Loss

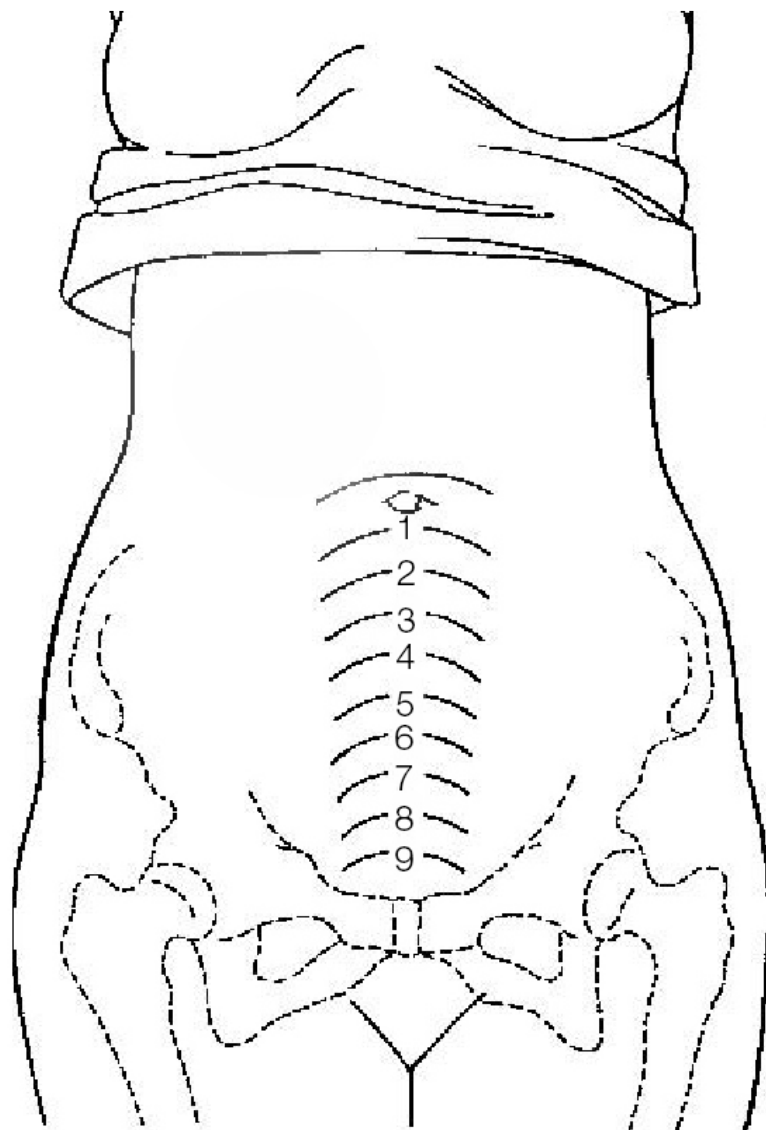
A key step to EFFECTIVE TREATMENT.....

Underestimation leads to delayed intervention.

Visual estimated amounts of blood loss are far from accurate by as much as 30-50%: especially for very large amounts.

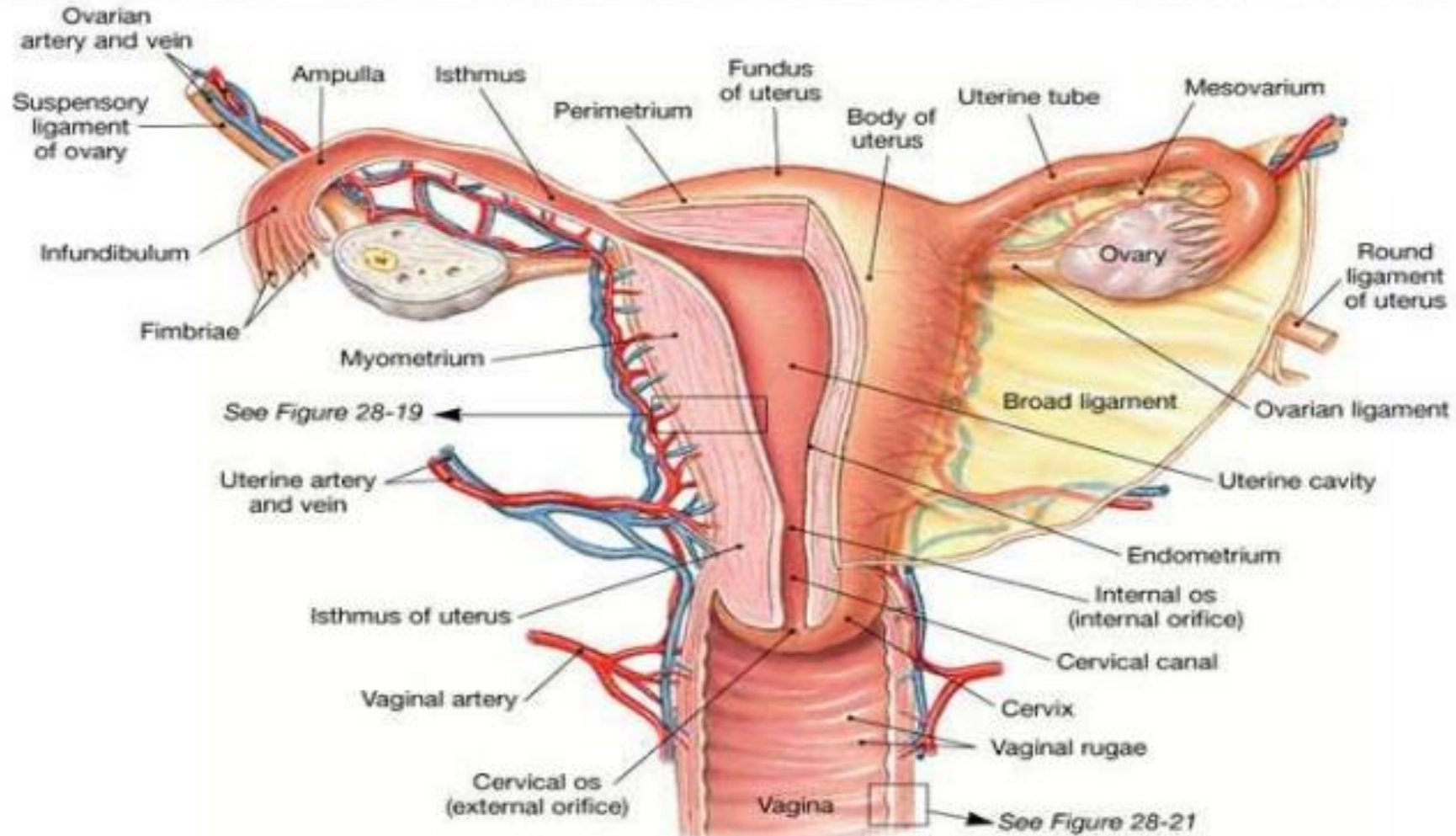
Old methods for estimating blood loss tend to be complex.

include weighing soaked clothes and pads, collection into pans etc., Acid haematin techniques, Spectrophometric technics and measuring plasma volume changes



A diagram showing the position of the fundus at day 1 through to day 9 after birth.

SURGICAL ANATOMY OF UTERUS



(c) Posterior view

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Measuring Blood Loss in PPH

THE BRASSS-V DRAPE



CAUSES OF PPH

FOUR "T"s

TONE

TRUAMA

TISSUE RETENSION

THROMBIN

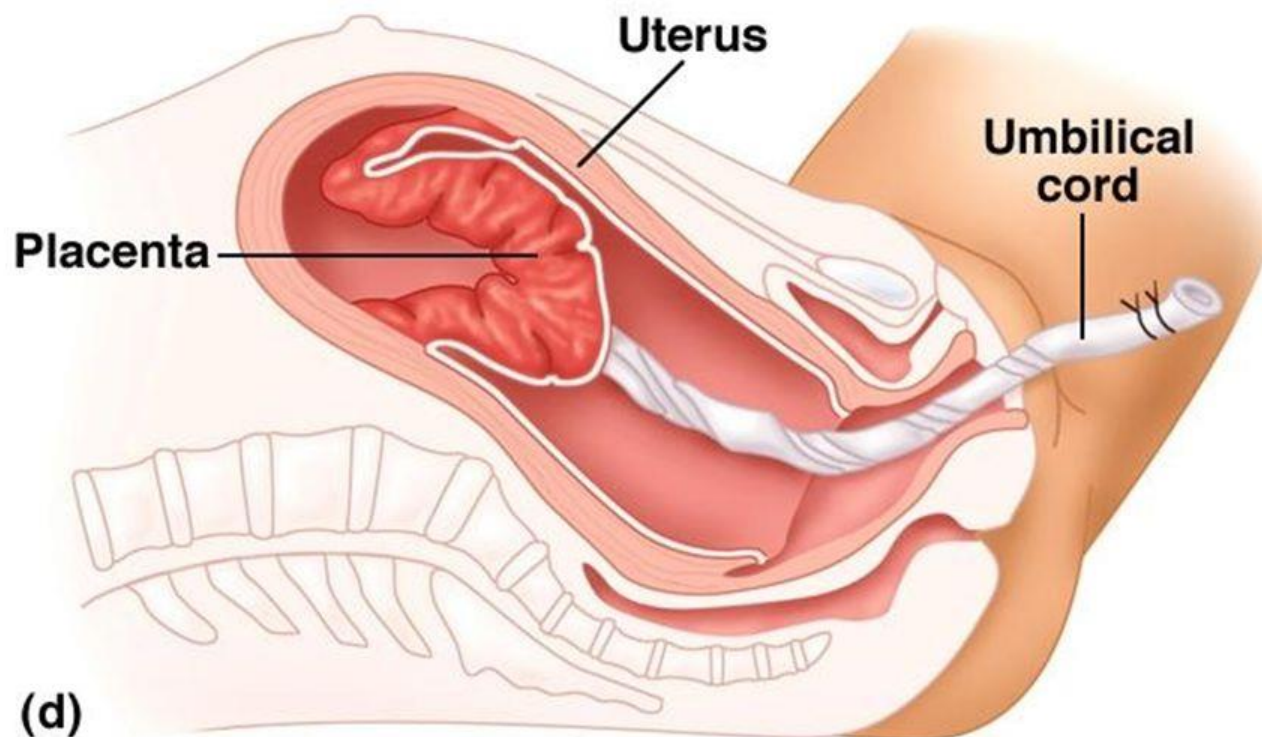
BUT MOST IMPORTANT IS

Tone "Uterine Atony"



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Birth Process — Stage 3



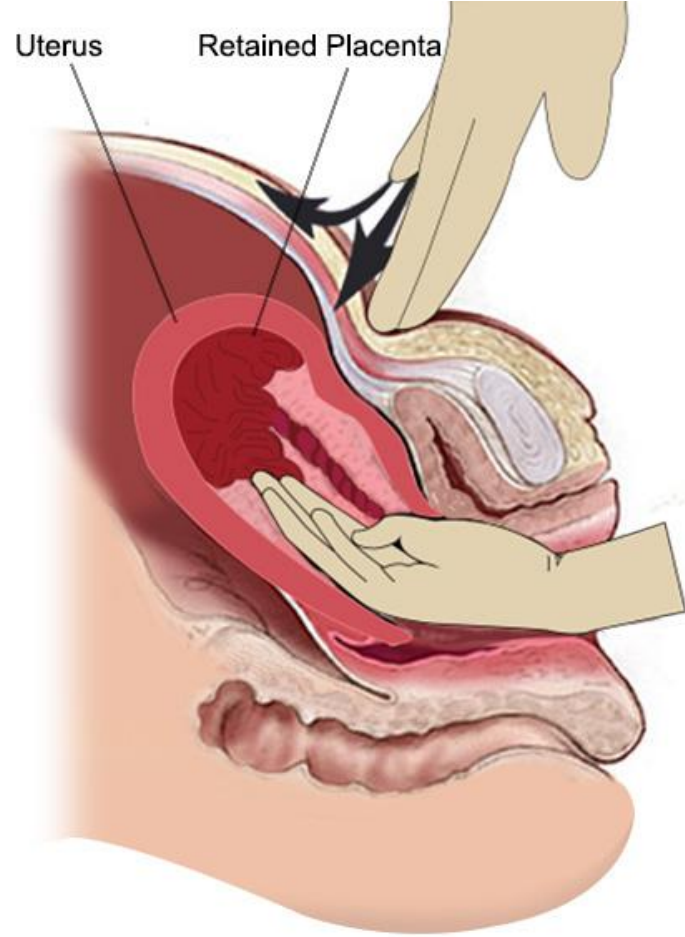
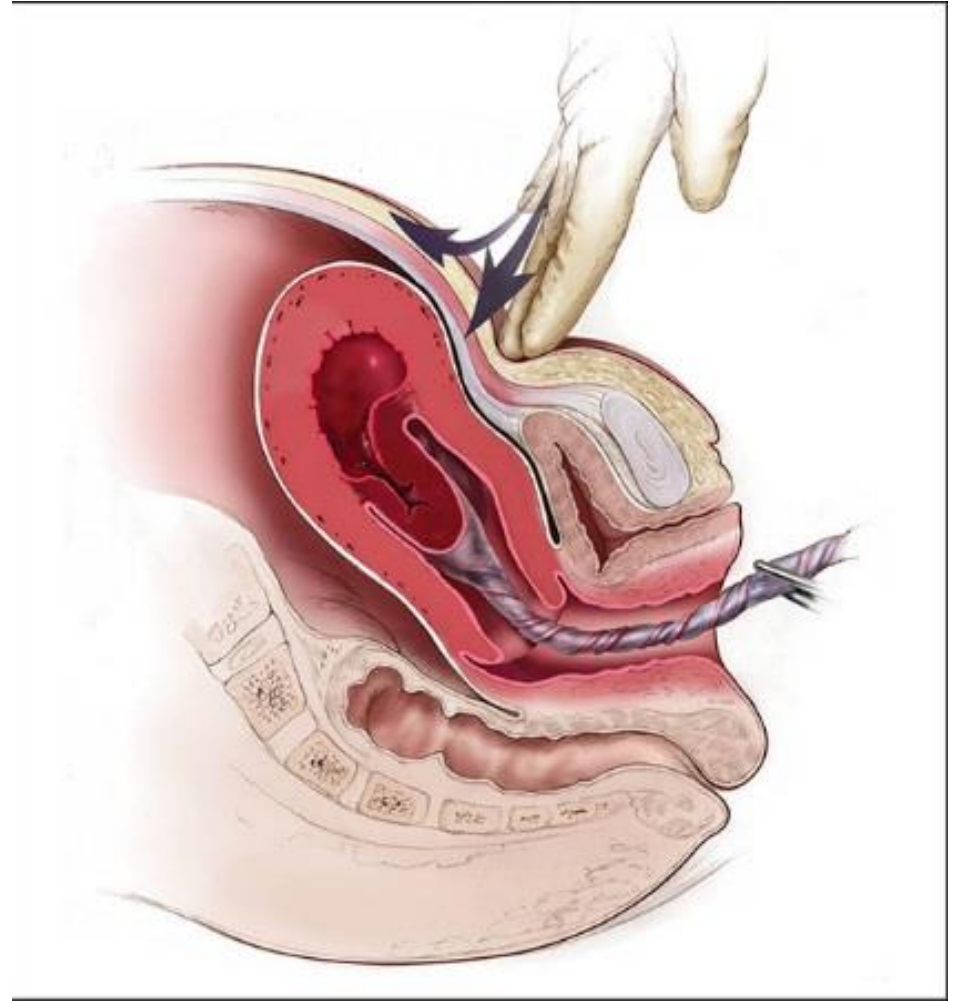
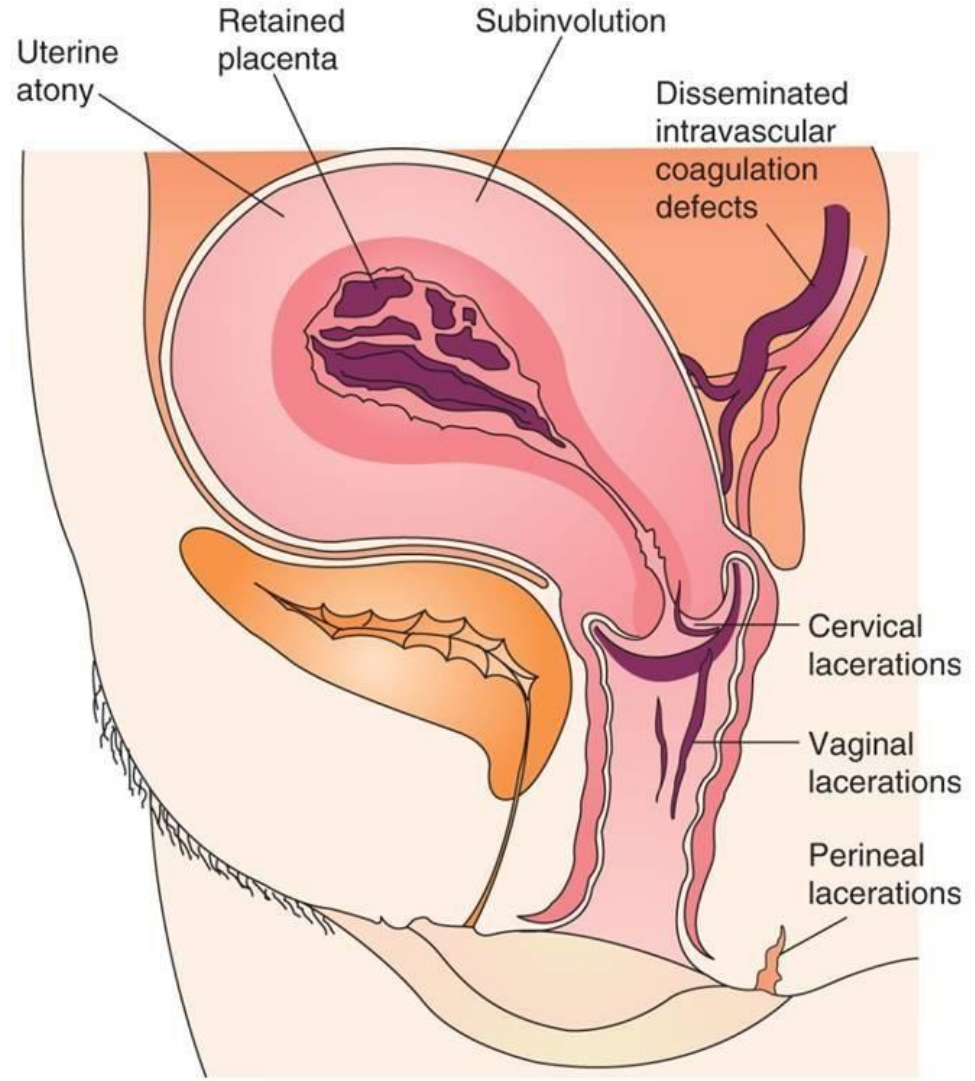
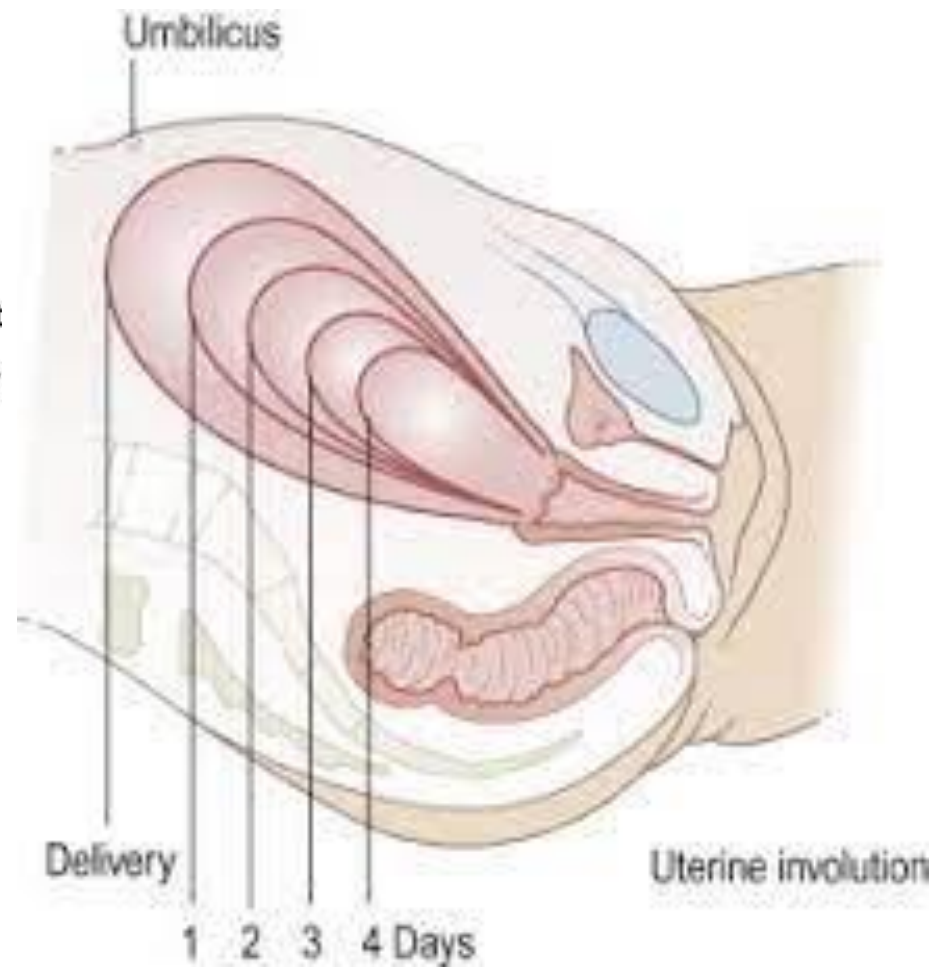
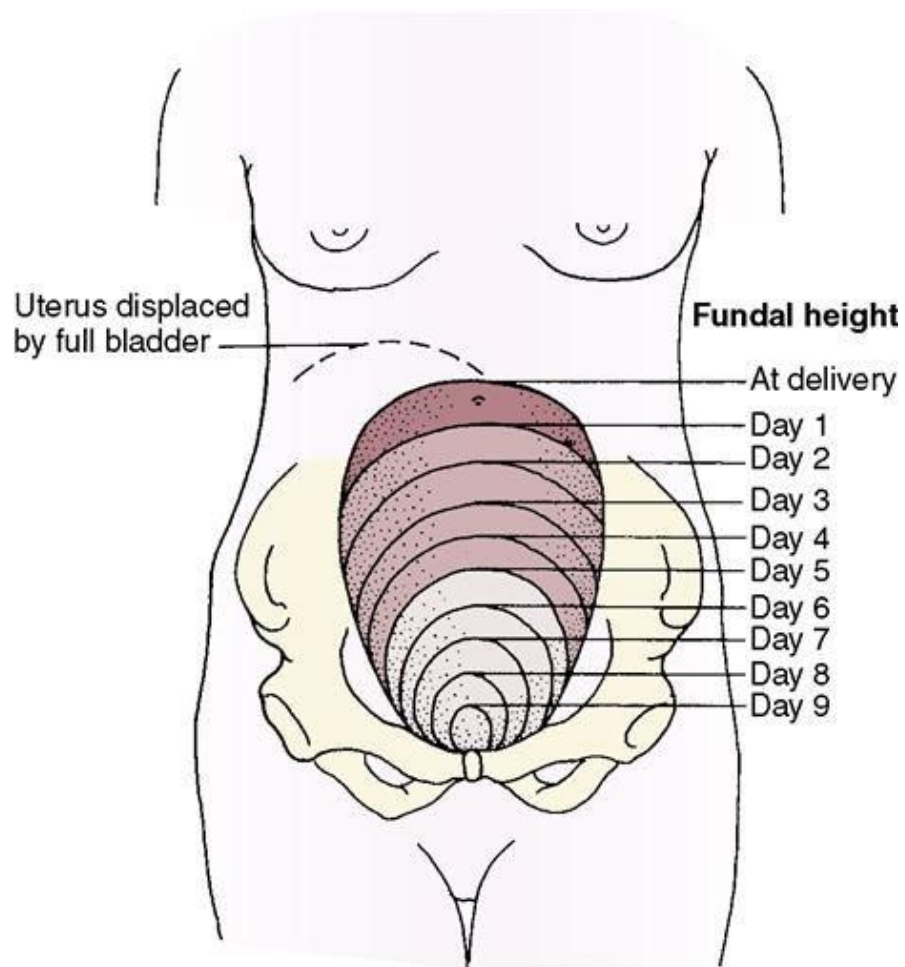


Illustration of Doctor Separating Placenta from Uterus







Tone “Uterine Atony”

90%of causes

Uterine over distension

- Polyhydramnius, Multiple gestations, Macrosomia

Prolonged labor: “uterine fatigue”

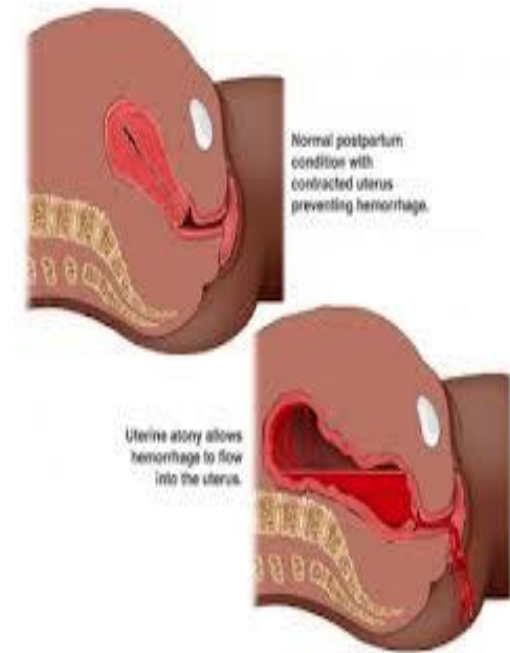
Precipitatory labor

High parity

Chorioamninitis

Retained product of conception

Halogenated anesthetic



TRUMA “Obstetric OR OPERATIVE” “7% of causes”

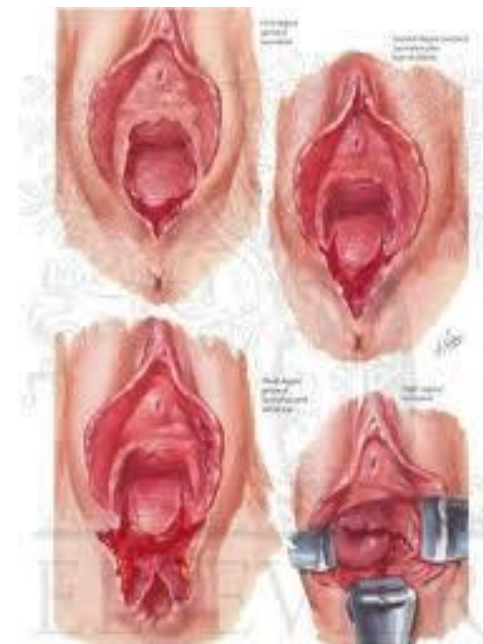
7% of causes

Obstetric Trauma

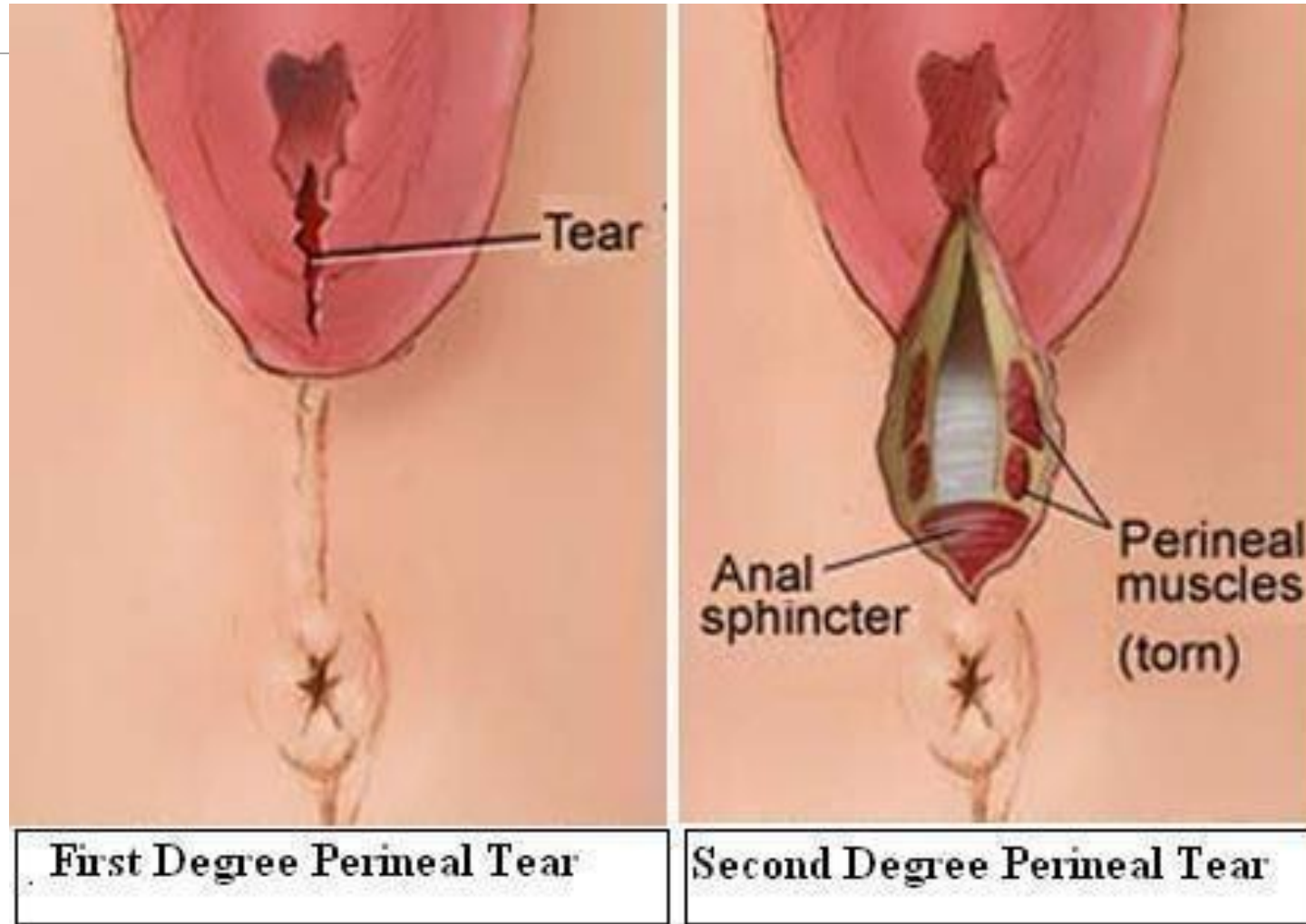
- Uterine Rupture
- Lacerations of the Birth Canal

Operative Trauma

- Cesarean sections
- Episiotomies
- Forceps, Vacuums, Rotations

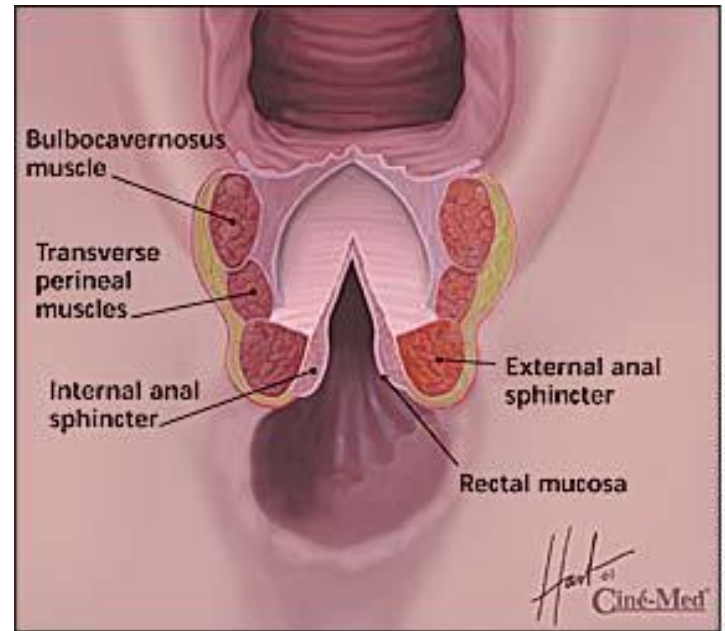
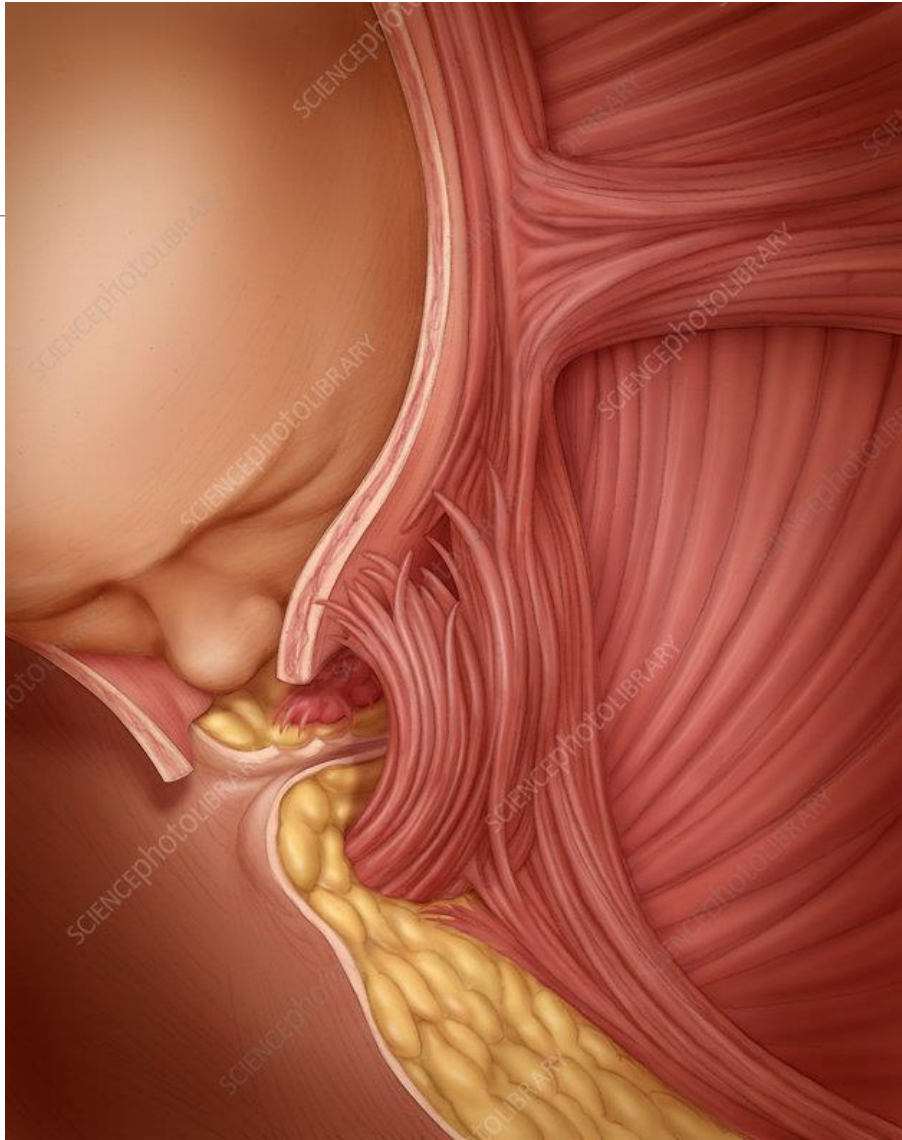


Laceration



First Degree Perineal Tear

Second Degree Perineal Tear



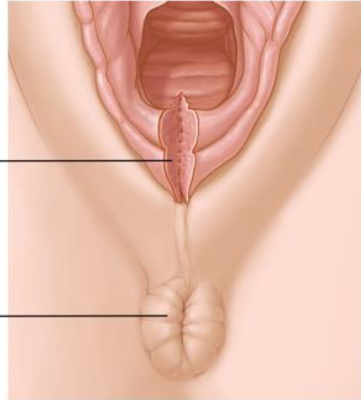
© 2003 BROOKS HART

Laceration

1st Degree

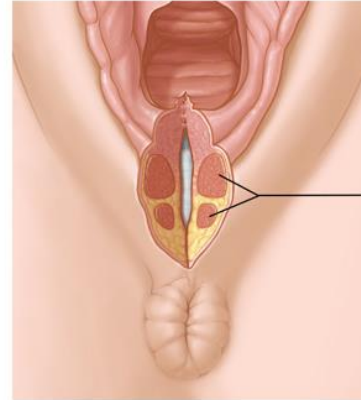
Vaginal
mucosa
torn

Anus



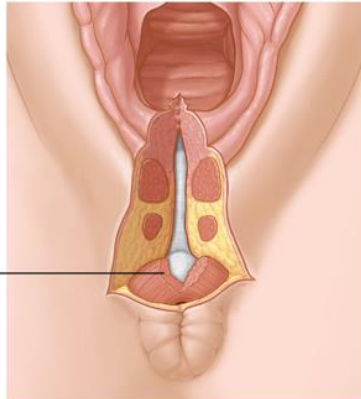
2nd Degree

Perineal
muscles
torn



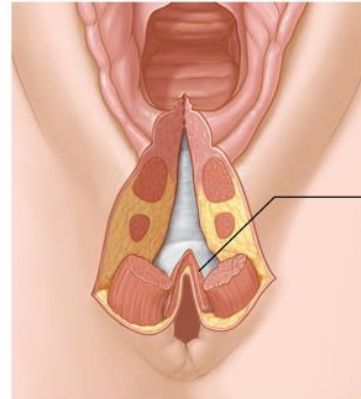
3rd Degree

Anal
sphincter
torn

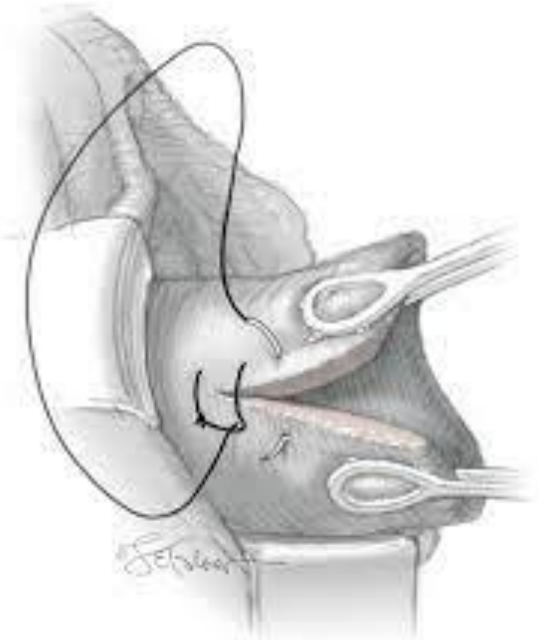
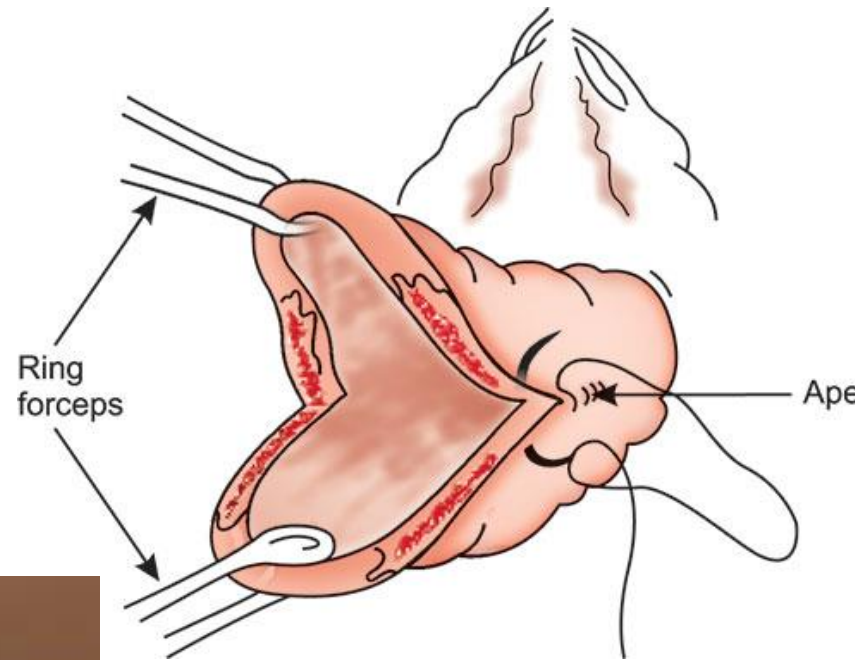


4th Degree

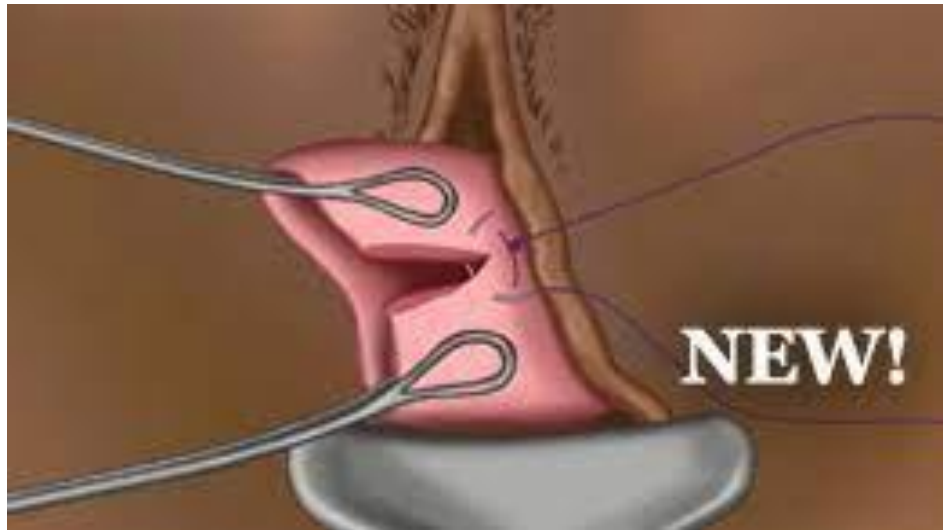
Rectum
torn



Repair of cervical laceration



Source: E.R. Yeomans, B.L. Hoffman, L.C. Gistrap III, P.G. Cunningham: Cunningham and Gilstrap's Obstetric Gynecology, Third Edition - www.gogyn.mhmedical.com Copyright © McGraw-Hill Education. All rights reserved.



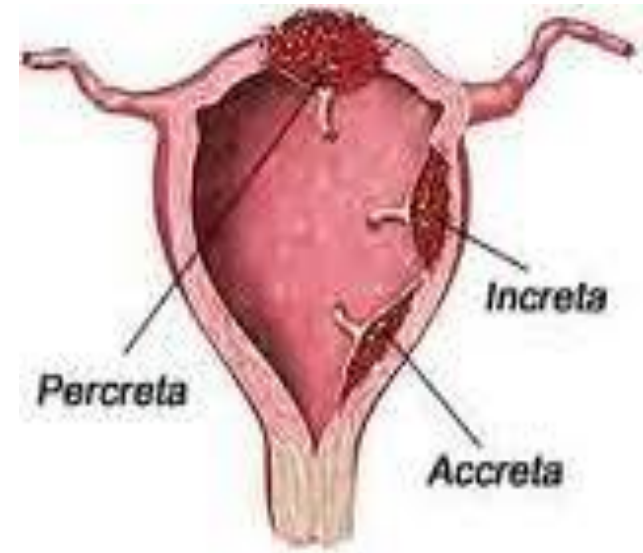
Tissue Retention “Abnormal placentation”

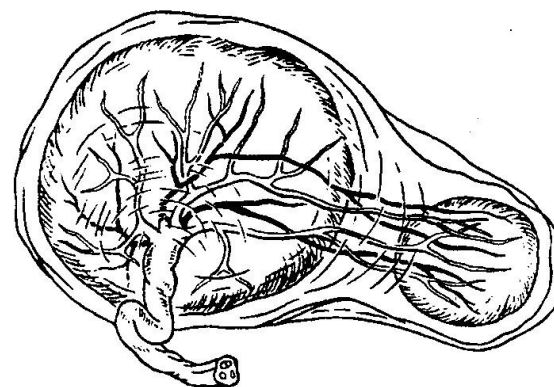
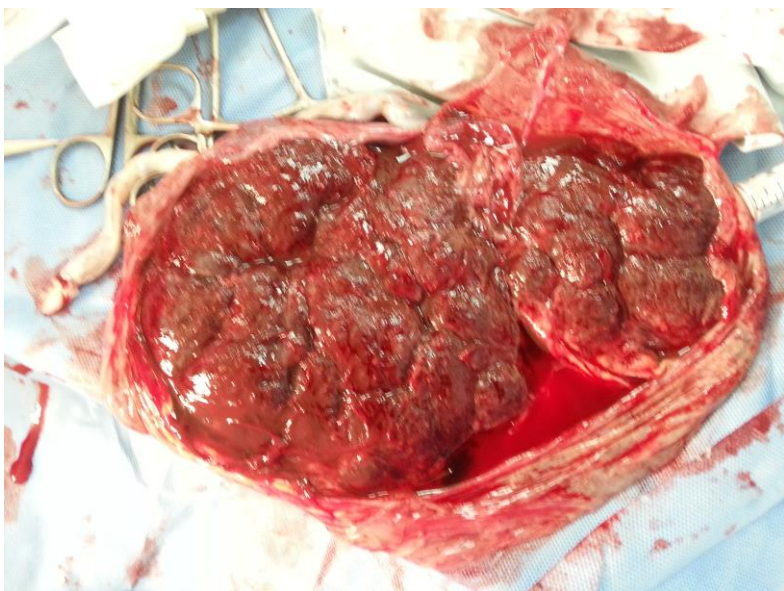
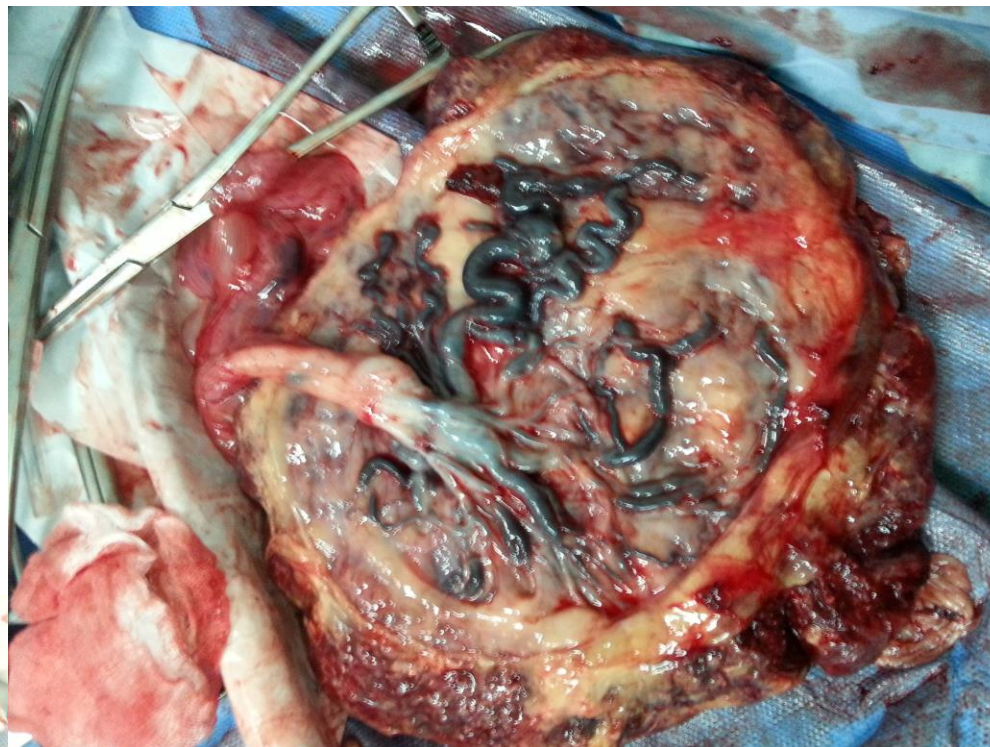
Placenta Previa

Abruptio Placenta

Accreta, increta, percreta

Vasa previa



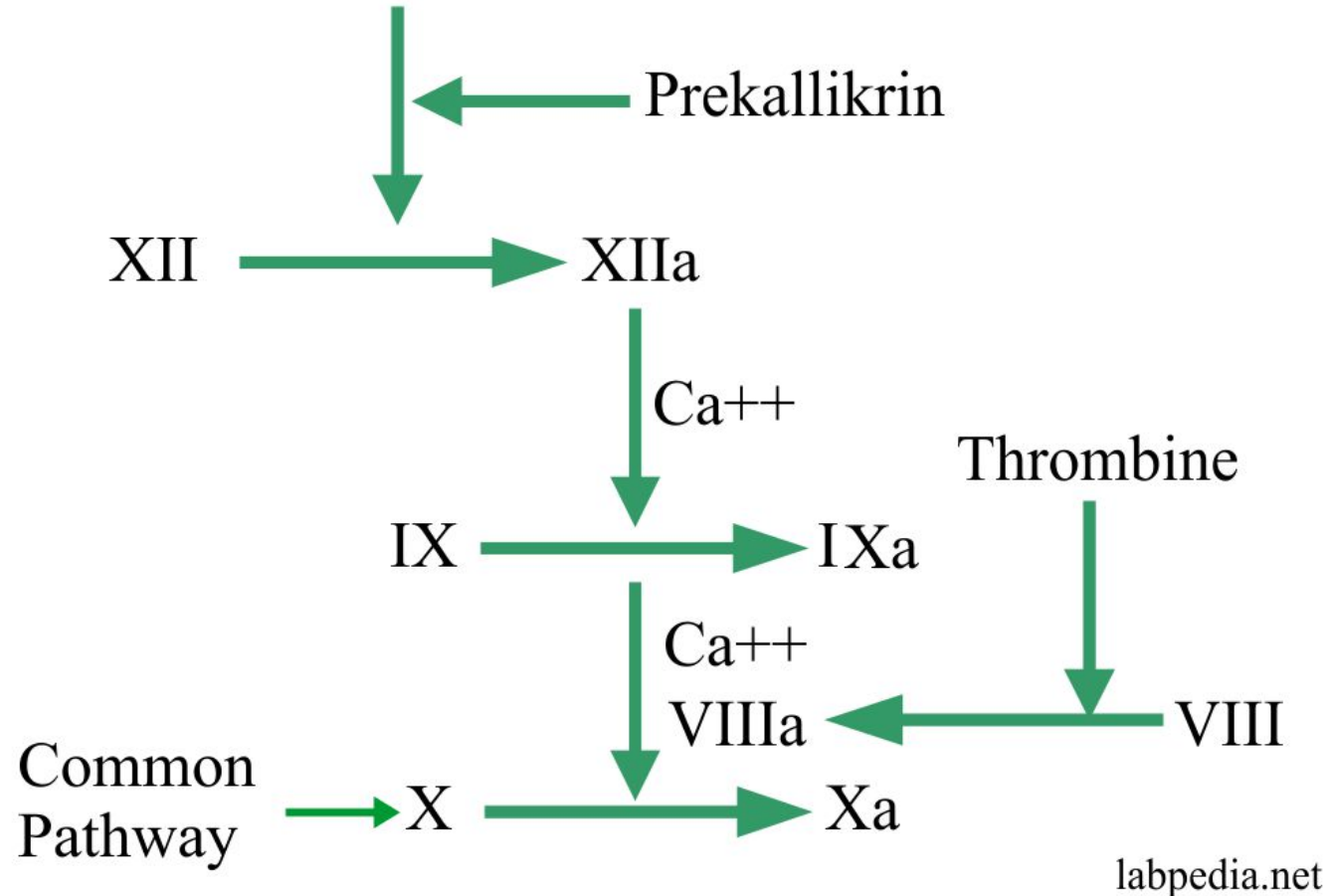


Thrombin “Coagulation Defects”

- Sepsis
- Amniotic Fluid Embolism
- Abruptio Placentae associated coagulopathy
- HELLP Syndrome
- Dilution Coagulopathy
- Inherited Clotting Disorders
- Anticoagulant Therapy

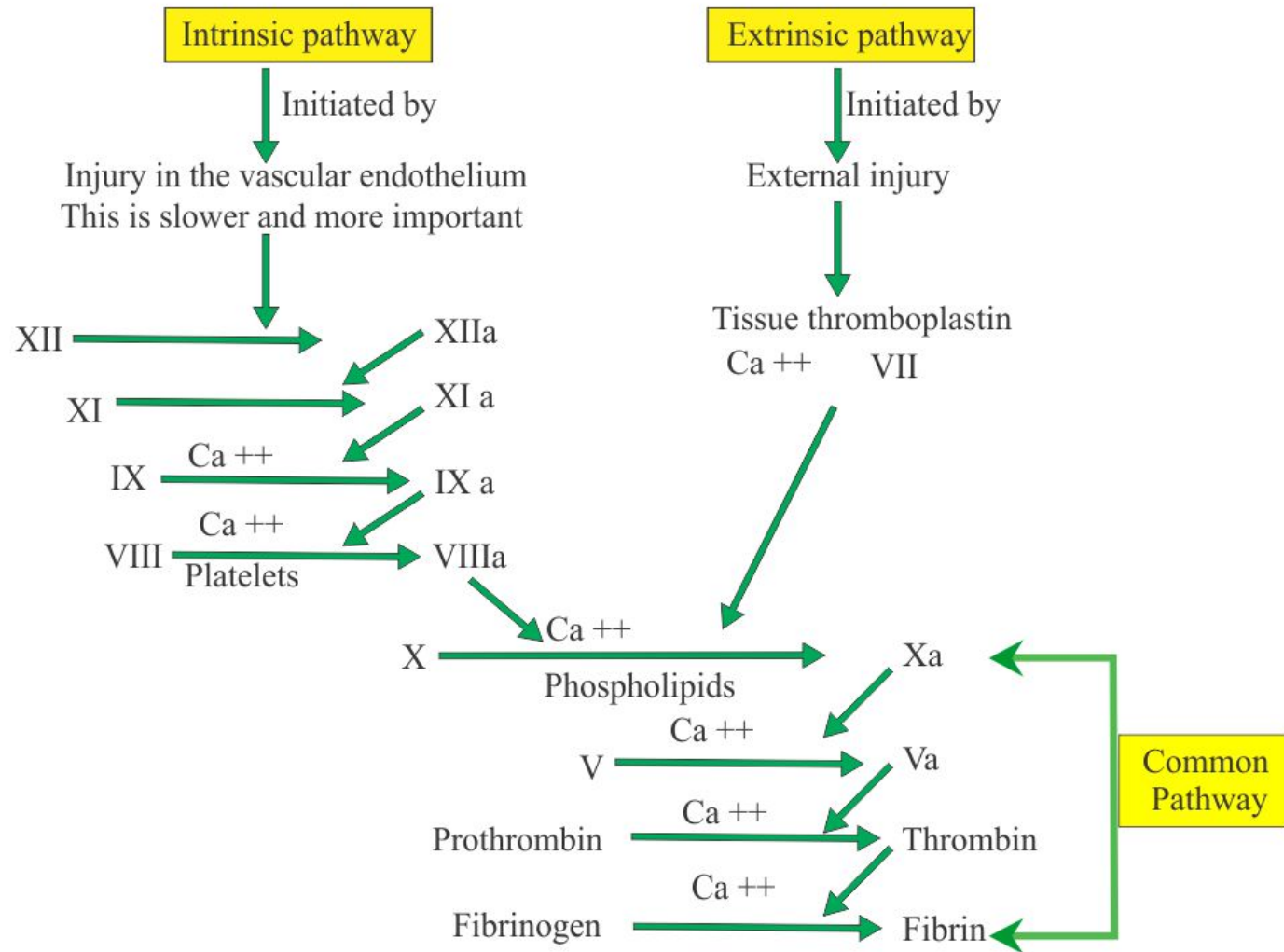
Intrinsic pathway

Trauma or
contact with collagen,
subendothelium or phospholipids

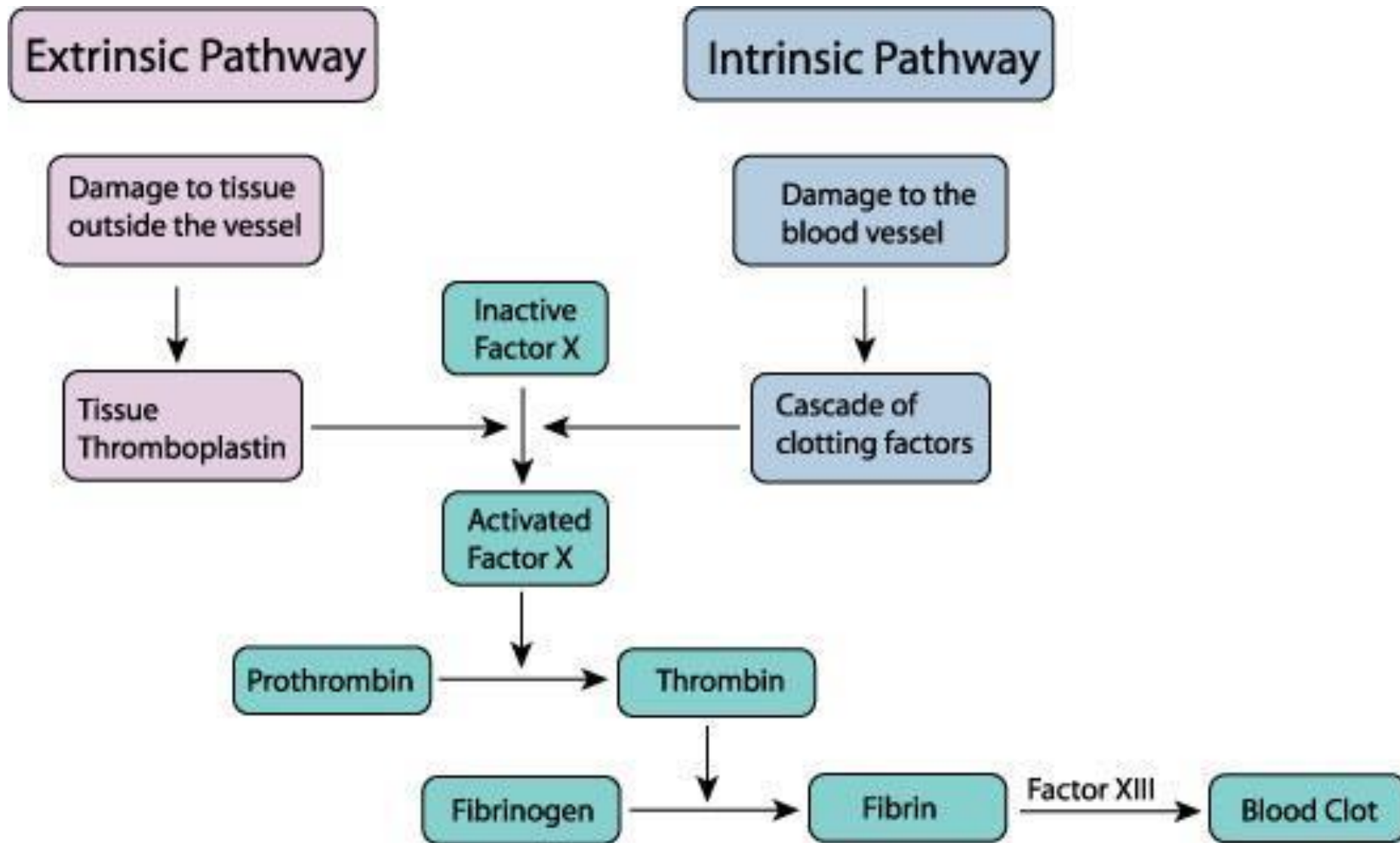


labpedia.net

Coagulation pathway



labpedia.net



Postpartum Hemorrhage Prevention: Active Management of Third Stage (AMTSL)

Oxytocin

- With or soon after delivery

Cord Traction

- Continuous tension
- Gentle Pull with contraction

Uterine Massage after Placenta Delivers

Goals of Treatment

- Maintain the following:
 - Systolic pressure >90 mm Hg
 - Urine output >0.5 mL/kg/h
 - Normal mental status
- Eliminate the source of hemorrhage
- Avoid overzealous volume replacement that may contribute to pulmonary edema

Management Protocol

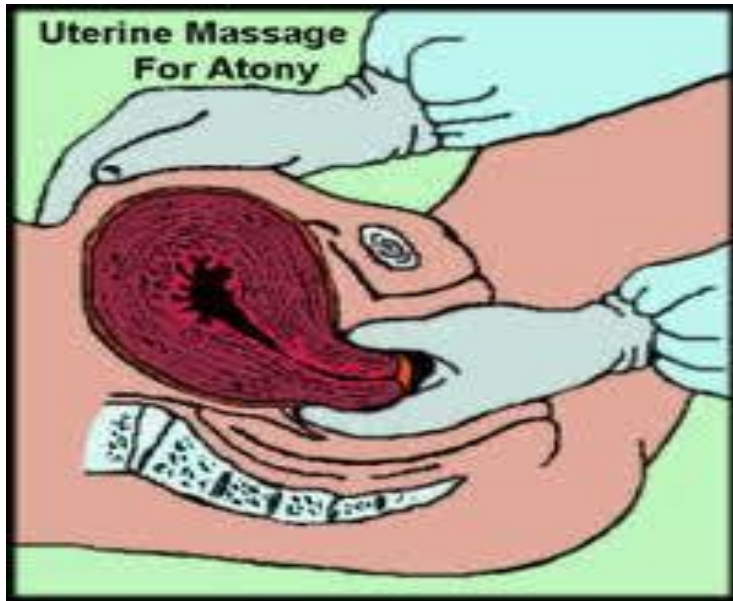
- Examine the uterus to rule out atony
- Examine the vagina and cervix to rule out lacerations; repair if present
- Explore the uterus and perform curettage to rule out retained placenta

On recognition of Hemorrhage

1. Initiate volume replacement with lactated ringers or normal saline.
2. Alert blood bank and surgical team.
3. Control the blood loss.
4. Initiate decisive therapy.
5. Monitor for complications.

MANAGEMENT of Uterine atony

1. Explore uterus for retained placental tissue
2. Uterine massage
3. Firm bimanual compression



Management of Uterine Atony

4. Uterotonic Agents”

- Oxytocin infusion, 40 units in 1 liter of D₅RL
- Methergine 0.2 mg IM
- 15-methyl prostglandin F_{2a}, 0.25 to 0.50 mg intramuscularly; may be repeated
- PGE₁ 200 mg, or PGE₂ 20 mg are second line drugs in appropriate patients

Vaginal exploration

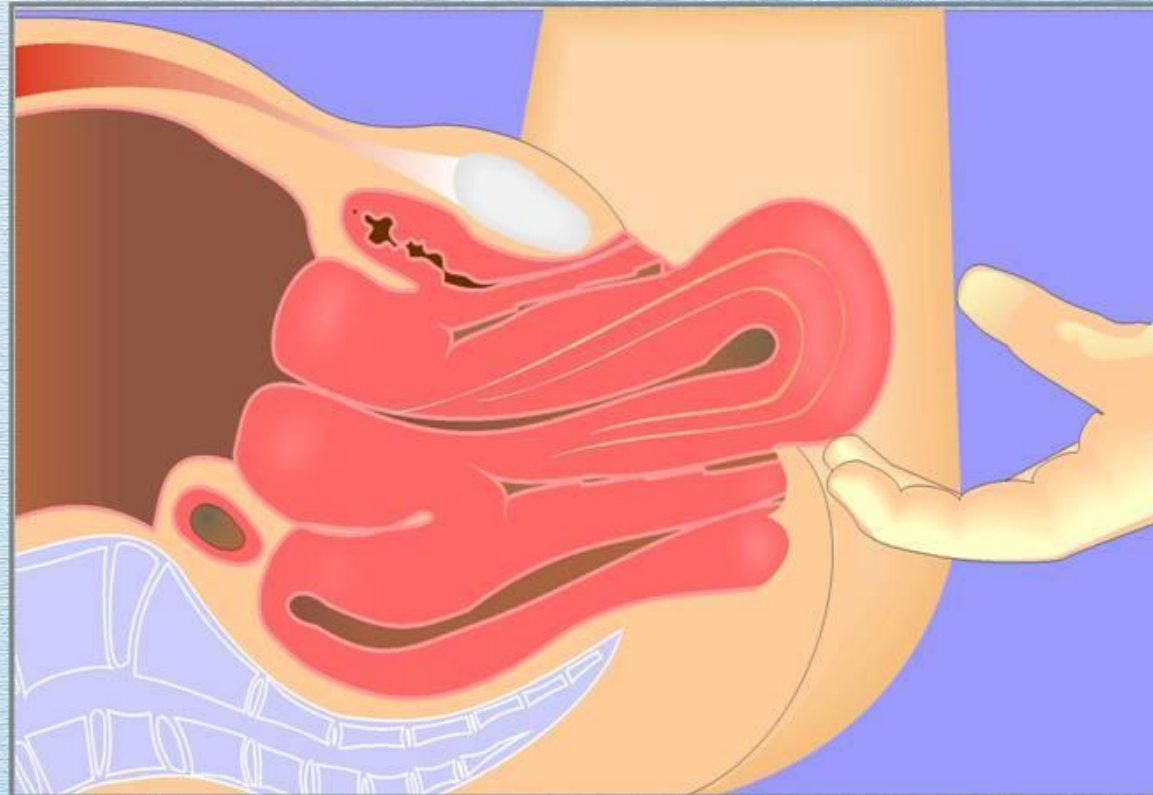
General anesthesia usually best

Uterine cavity manual exploration for retained placenta / uterine rupture



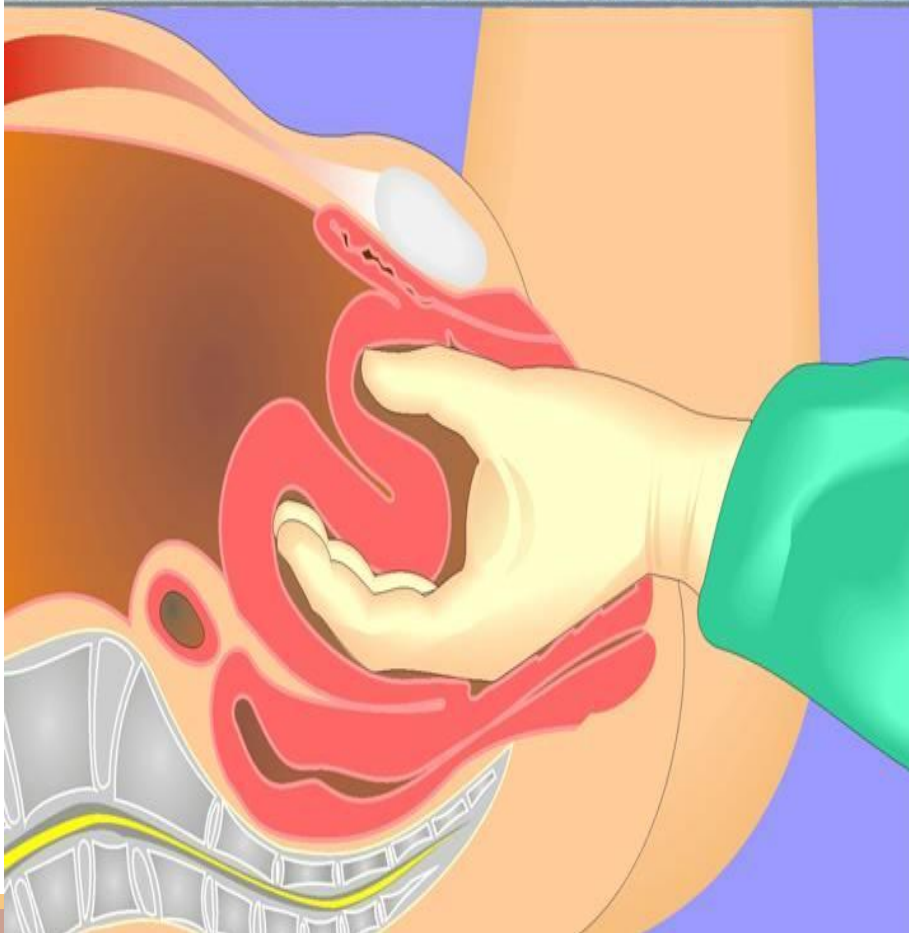
Vaginal exploration

Uterine Inversion: Recognition

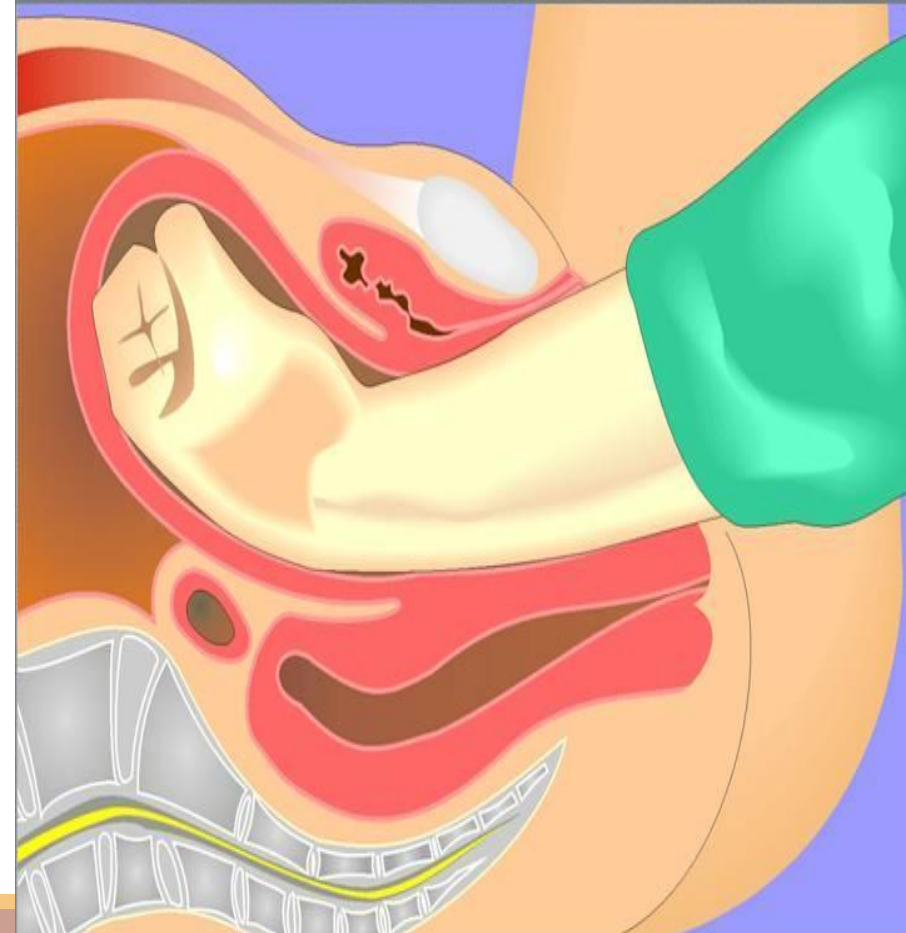


Uterine inversion restitution

Uterine Inversion: Replace Through Cervix



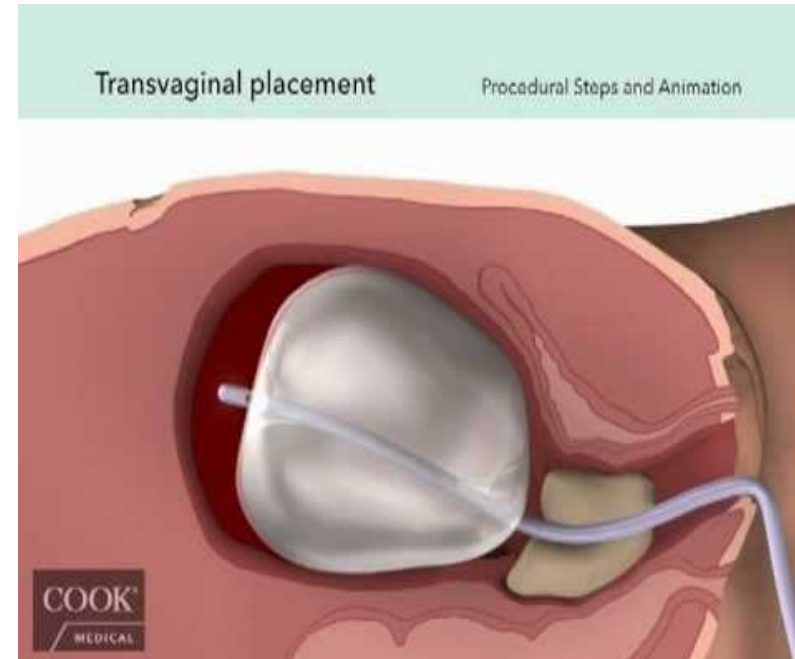
Uterine Inversion: Restitution



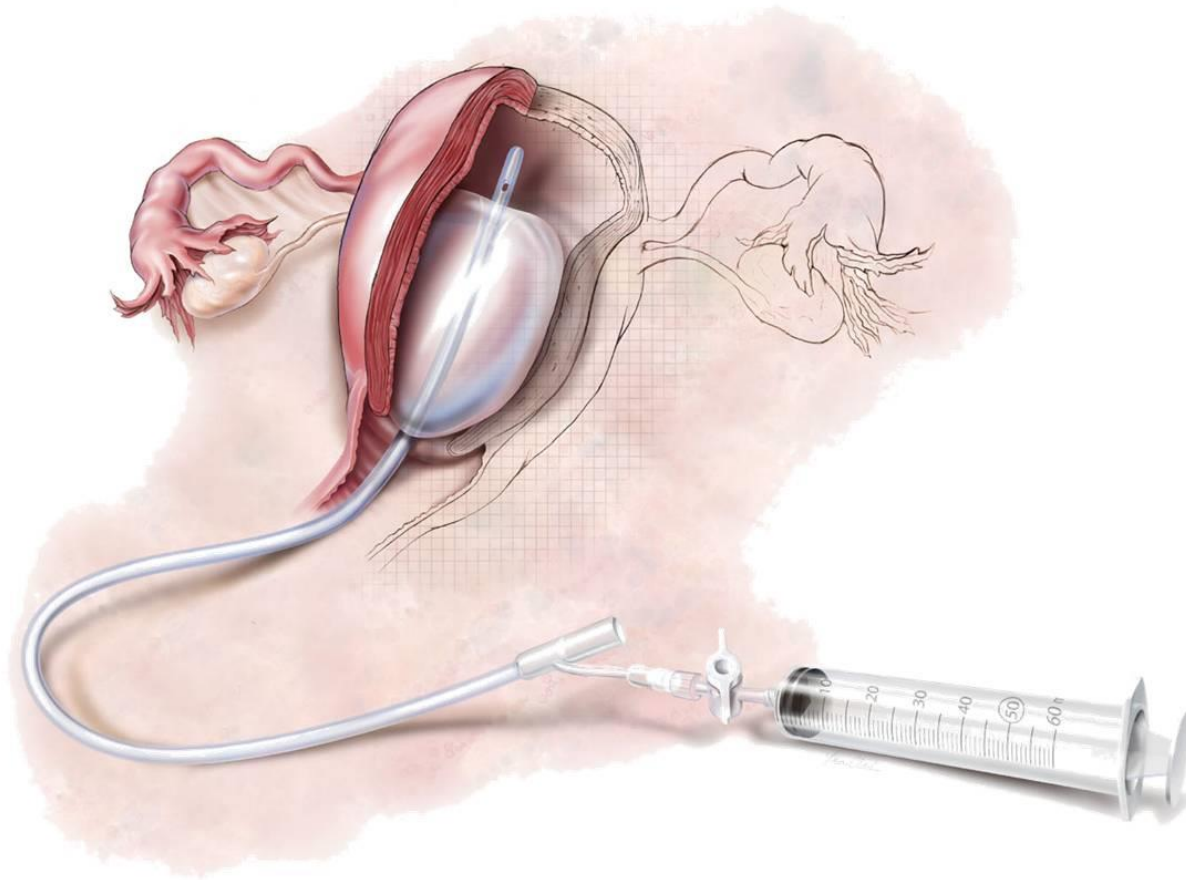


Vaginal exploration

Intrauterine balloon Catheter



Bakri Balloon is a tamponed technique that can be used for PPH.



When medical management fails

SURGICAL MANAGEMENT

- Uterus conserving : NEED OF TIME
- Definitive - Hysterectomy



MANAGEMENT

If Hemorrhage is not controlled by medications, massage, manual uterine exploration, or suturing lacerations in the birth canal, then surgical or radiological options must be considered.

At this time, start:

- 1. Packed red blood cell transfusion**
- 2. Foley catheter and monitor urine output**

Selective Arterial Embolization

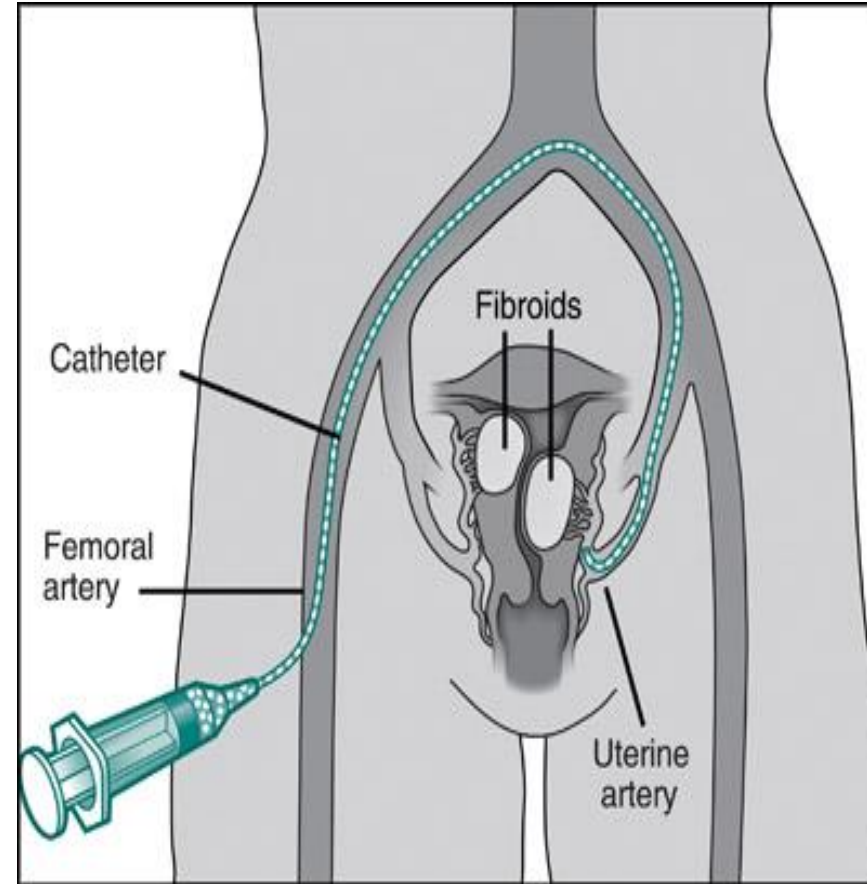
**If the patient is stable
and bleeding is not “torrential”,
and if interventional radiology is available,
then pelvic arteriography may show the site of blood loss
and therapeutic arterial embolization may suffice to stop
the bleeding.**

Uterine Artery Embolization

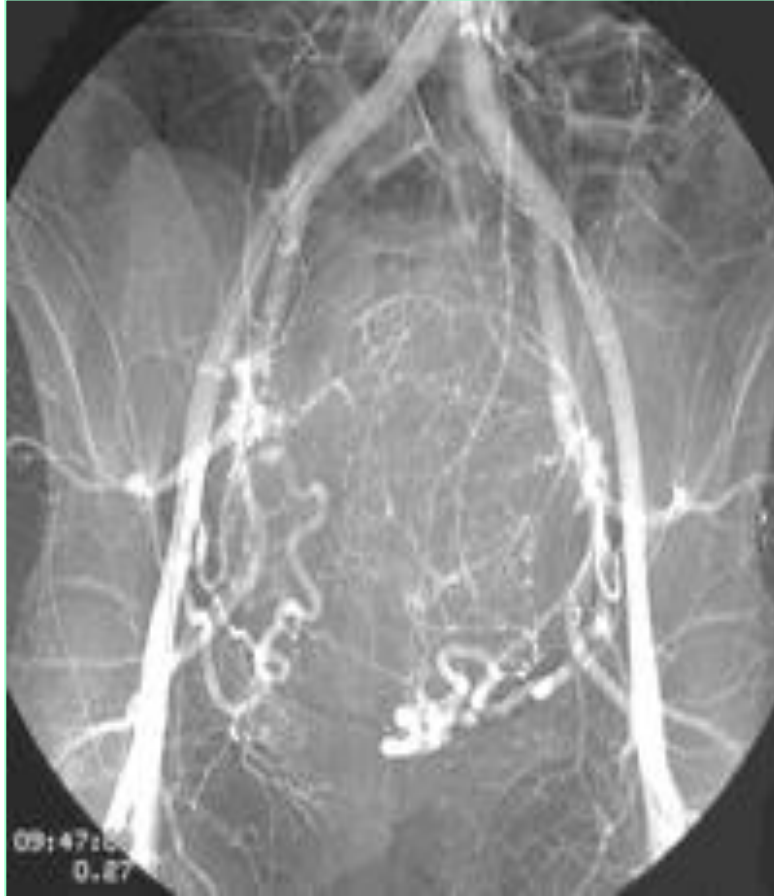
Real time X-Ray (Fluoroscopy)

Gelatin Sponges are injected into the bleeding vessel until stasis of flow in target vessel is achieved.

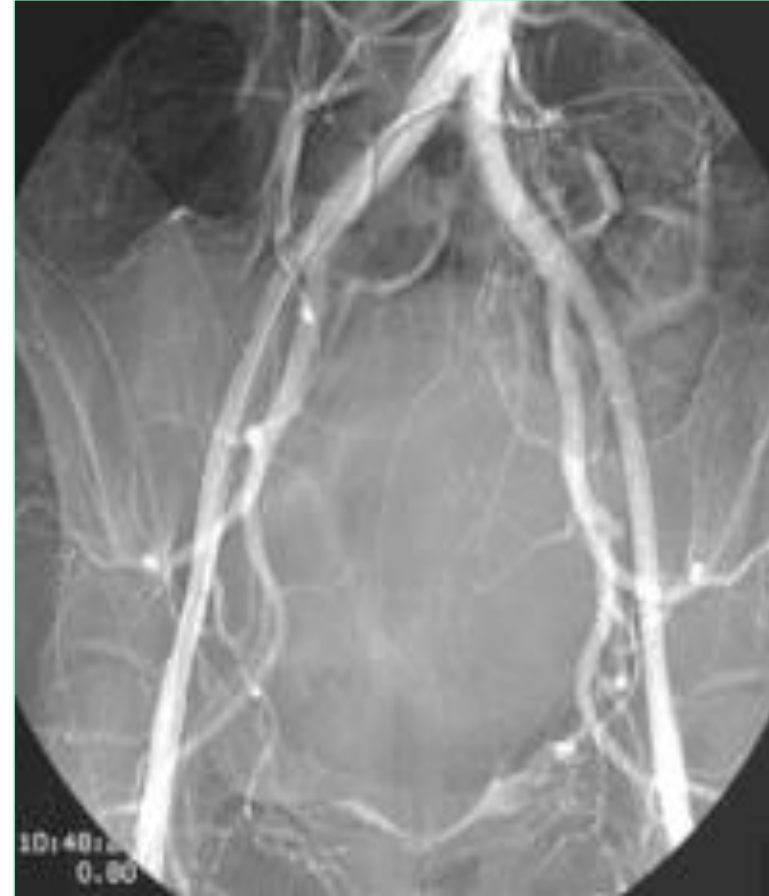
Access via RT femoral artery to internal iliac and subsequently the uterine arteries



Pre embolization vs. post embolization



Pre Embolization

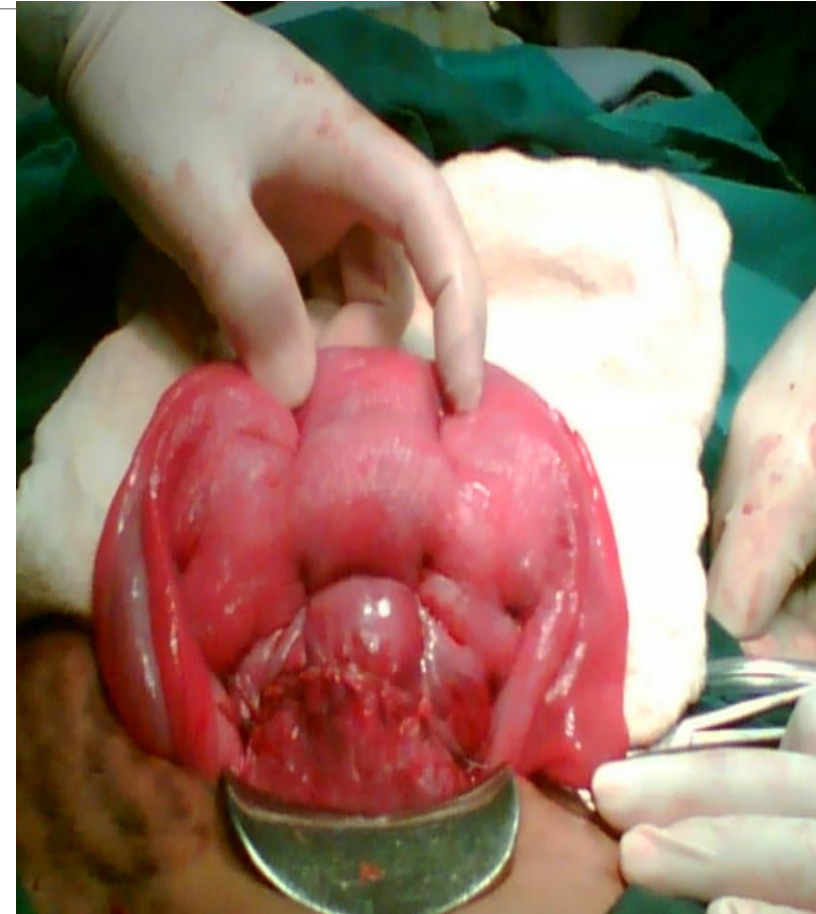
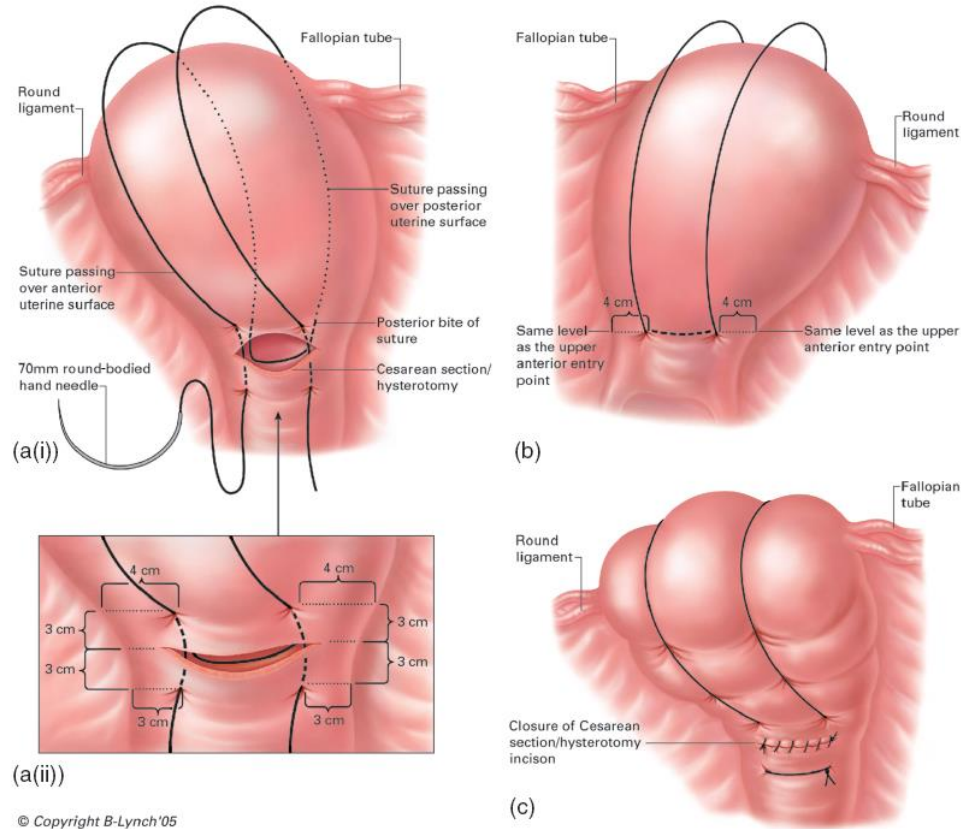


Post Embolization

Laparotomy for Obstetric Hemorrhage

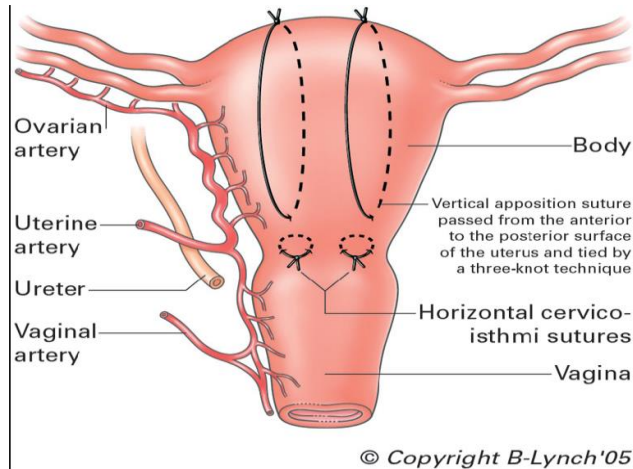
- Bleeding at Cesarean section
- “Torrential” Hemorrhage
- Pelvic hematoma (expanding)
- Bleeding uncontrolled by other means

B-Lynch suture vs Modified B-Lynch Suture

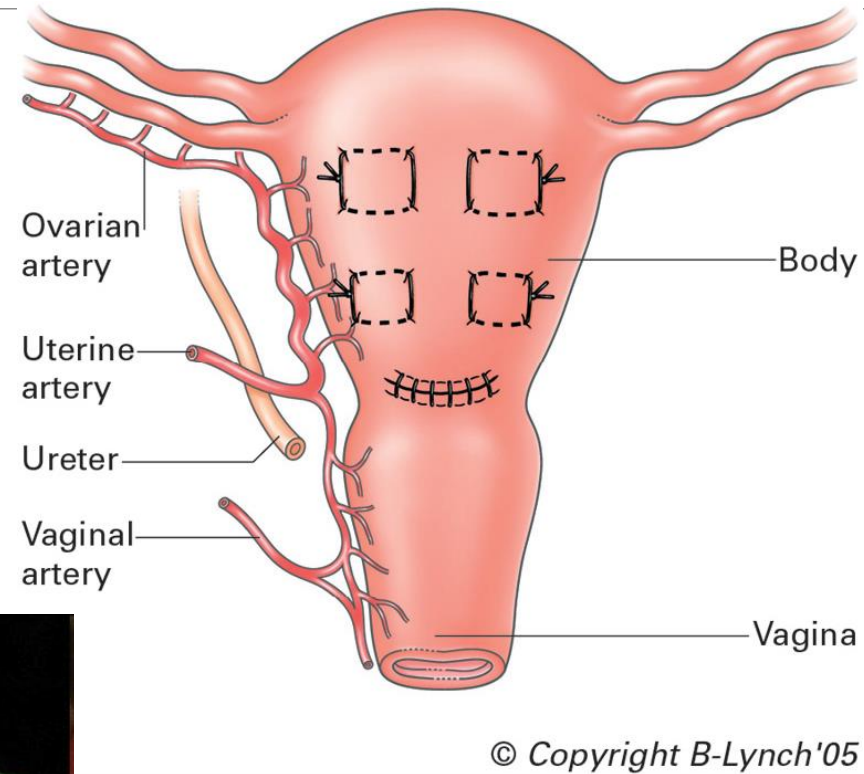


OTHER COMPRESSION SUTURES

Hayman Uterine Compression Suture



CHO'S MULTIPLE SQUARE SUTURE



Global Stitch By
Dr. Gunasheela
Bangalore



Uterine Rupture

- **Prior Cesarean section = 1-2%**
- **Modern obstetrics = 1/10,000 to**

1/20,000 in unscarred uterus

**In “Neglected labors”, this accounts
for many maternal deaths where
modern obstetrical care is not available.**



Classic Symptoms of Uterine Rupture

Fetal distress

Vaginal bleeding

Cessation of labor

Shock

Easily palpable fetal parts

Loss of uterine catheter pressure

Management of Uterine Rupture

Laparotomy

- Debride and repair in 2-3 layers of Maxon/PDS
- Subtotal Hysterectomy
- Total Hysterectomy

Military Anti-Shock Trousers (MAST)

- Increases pelvic and abdominal pressure to reduce bleeding
- Can use at any point in the procedure
- Used when exploration is to be avoided



Secondary PPH

Defined as excessive bleeding 24 hrs to 12 weeks postpartum.

Incidence is about 1 percent of women.

Theory is that thought to be atony or subinvolution of placental site from retained products or infection.



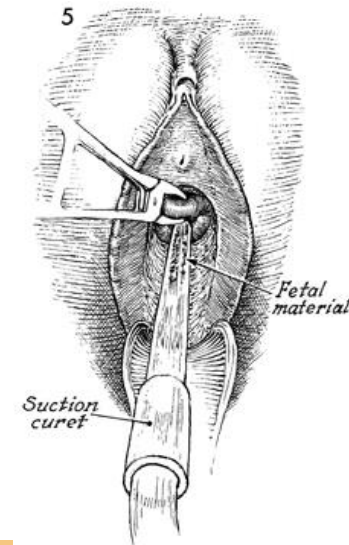
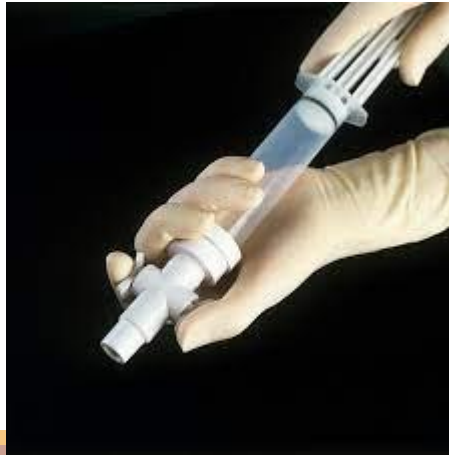
Management of Secondary PPH

Evaluate for underlying disorders (coagulopathies).

For atony give uterotonics.

If large amount of bleeding, fever uterine tenderness, or foul smelling discharge treat for endometritis.

Consider suction curettage.





دختر سالم

مادر سالم جامعہ سالم

