# Caesarean Birth

health
Department:
Health
REPUBLIC OF SOUTH AFRICA

ESMOE

2030 NDP

# Ensuring appropriate indication for CB

## Avoid unnecessary CB:

- Good midwifery care in labour (partogram)
- Adequate trial of labour in primigravidas
- External cephalic version for breech
- Avoid induction for uncertain post-term
- Vacuum extraction availability and skills
- Second opinion for decision for CS

# Pre-operative assessment

- Read the patient's file before you start
- Consent includes Hysterectomy as well as Blood transfusion
- Blood and FDP available in hospital
- WHO Surgical safety check-list: assess bleeding risk and confirm pre-op Hb
- Check whether additional procedures to be done eg IUCD, TL
- Most senior surgeon on site to do CS when predict difficulty.
- Doctor providing anaesthesia must be able to perform General as well as Spinal anaesthesia

# Appropriate drugs for CD: prophylactic antibiotics

- Antibiotics should be given to every woman undergoing CD before the first incision is made
- Routinely only 1 dose of prophylactic antibiotics is required
- A first generation cephalosporin is recommended. The dose can be adjusted according to the patient's weight: (eg cefazolin 1g for <60kg, 2g for 61 to 100kg, 3g for >100kg)
- For women having CD in labour or after rupture of membranes, add azithromycin 500mg iv
- For women with penicillin allergy use clindamycin 600mg iv instead of cefazolin

- NB: If choriamnionitis present, therapeutic antibiotics required for 5 days

# Preventing blood loss

- Take your time – don't rush

- Diathermy for connective tissue bleeding
- Identify and restore anatomy
- Ensure adequate exposure
- Identify round ligaments
- Careful delivery baby.
- CCT for placenta, ensure uterus empty
- Deliver uterus for inspection/closure?
- Secure uterine angles of incision before closure
- Prophylactic oxytocin bolus plus infusion

# Bleeding At Caesarean Delivery

**Prevention intra-op**
- 2.5iu oxytocin IV over 30 seconds after delivery of baby, + 7.5 IU in drip.
- Repeat 2.5iu IV if poor uterine contraction
- Delivery of placenta by cord traction
- Good surgical technique

*NB: alternatives for intra-op prevention would be im oxytocin 10iu im or I amp syntometrine im*

**Prevention post-op**
Run oxytocin infusion (20IU per litre for 8hours)
and/or im syntometrine (at risk for PPH)

## Management

Call for more senior help (if available or telephonic advice)

**Diagnosis**
- Visual estimation
- Blood loss in suction bottles >500ml
- ↓BP & ↑HR as detected by anaesthetist

**RESUS / early Rx (anaesthetist)**
- Second IV line
- Maintain BP with fluids and blood
- 20iu oxytocin in 1 litre infusion
- Tranexamic acid 1 gm iv
- Convert to GA

**ARREST HAEMORRHAGE*****
**(surgeon)**

**Atonic Uterus**
- Continue Oxytocin infusion
- Ergometrine 0.2mg IV (not hypertensive/cardiac); rpt x1
  *(or im 0.5mgs ergometrine or im I amp syntometrine)*
- Repeat tranexamic acid x1
- Misoprostol 400 to 600µgm sublingually
- Uterine compression suture +/- balloon tamponade
- Subtotal hysterectomy(STAH)

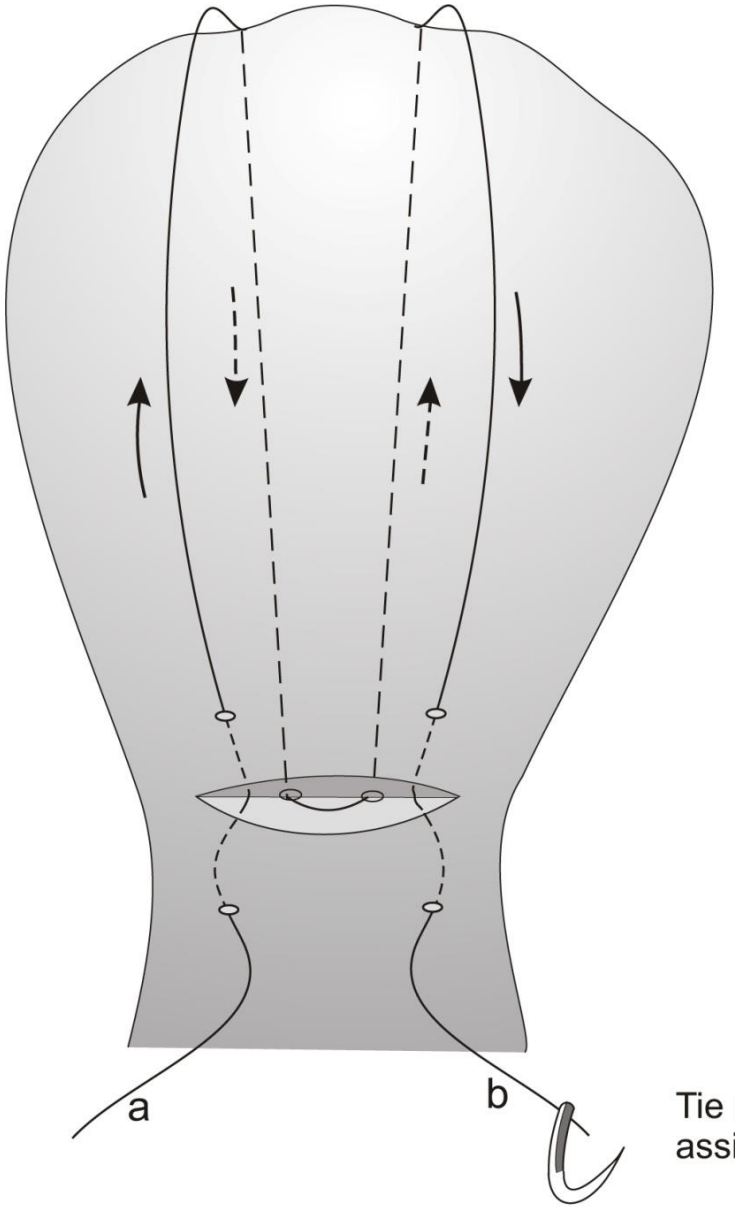
**Tears**
- Lateral tears
  Uterine artery ligation
- Inferior tears
  Secure apex & suture (check ureters are lateral to tear)
- Rupture
  Repair or Subtotal Hysterectomy (STAH) *

**Placental Site Bleeding**
- Mattress suture
- Compression sutures
- Balloon tamponade
- Stepwise uterine devascularisation
- Subtotal Hysterectomy*

*** Proceed immediately to STAH if:
- Uterine rupture (irreparable)
- Placenta percreta

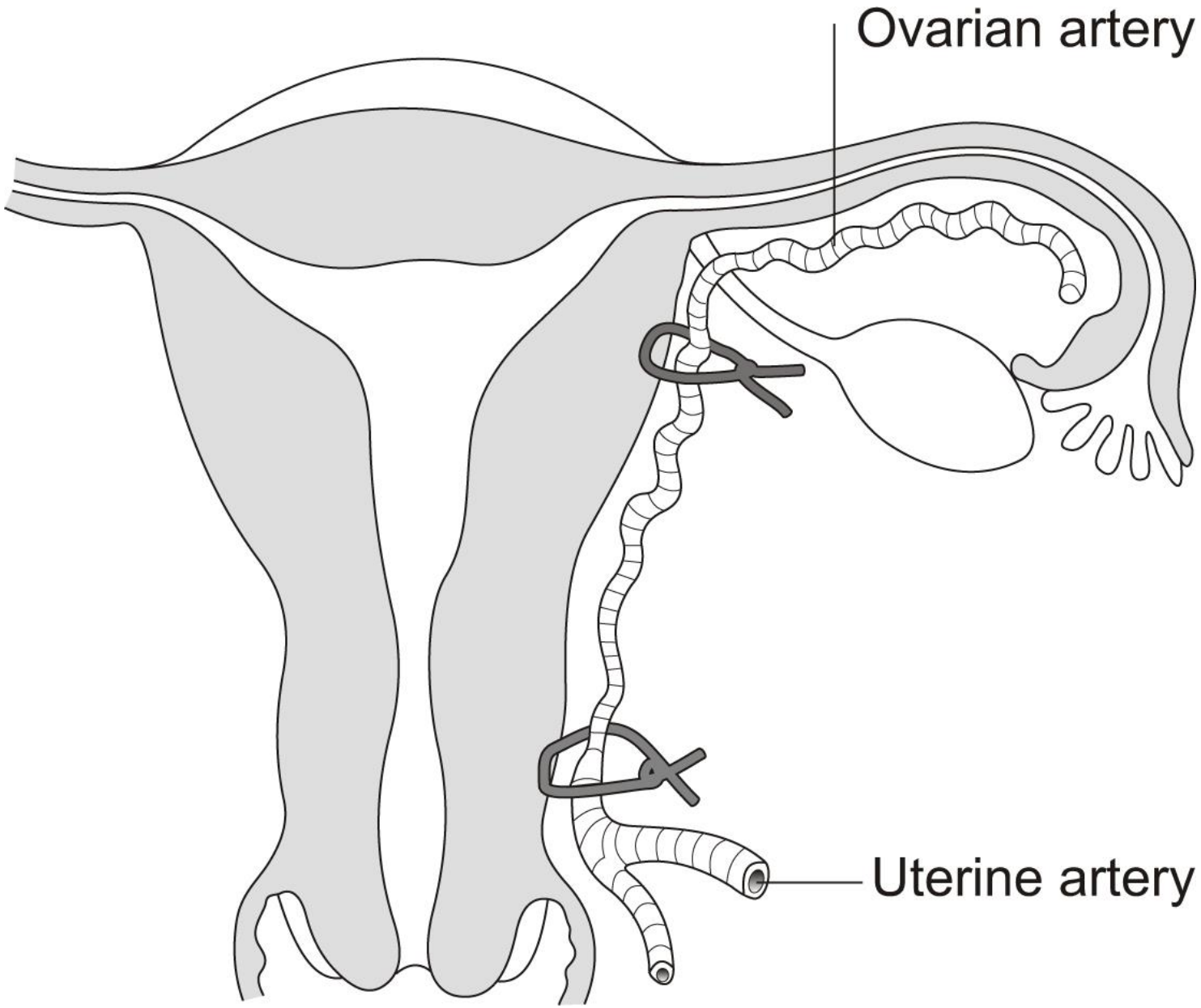
**** If skill for STAH not available, apply uterine tourniquet and refer Anti-shock garment (NASG)** if available*

# Uterine Compression Suture – (B-Lynch)

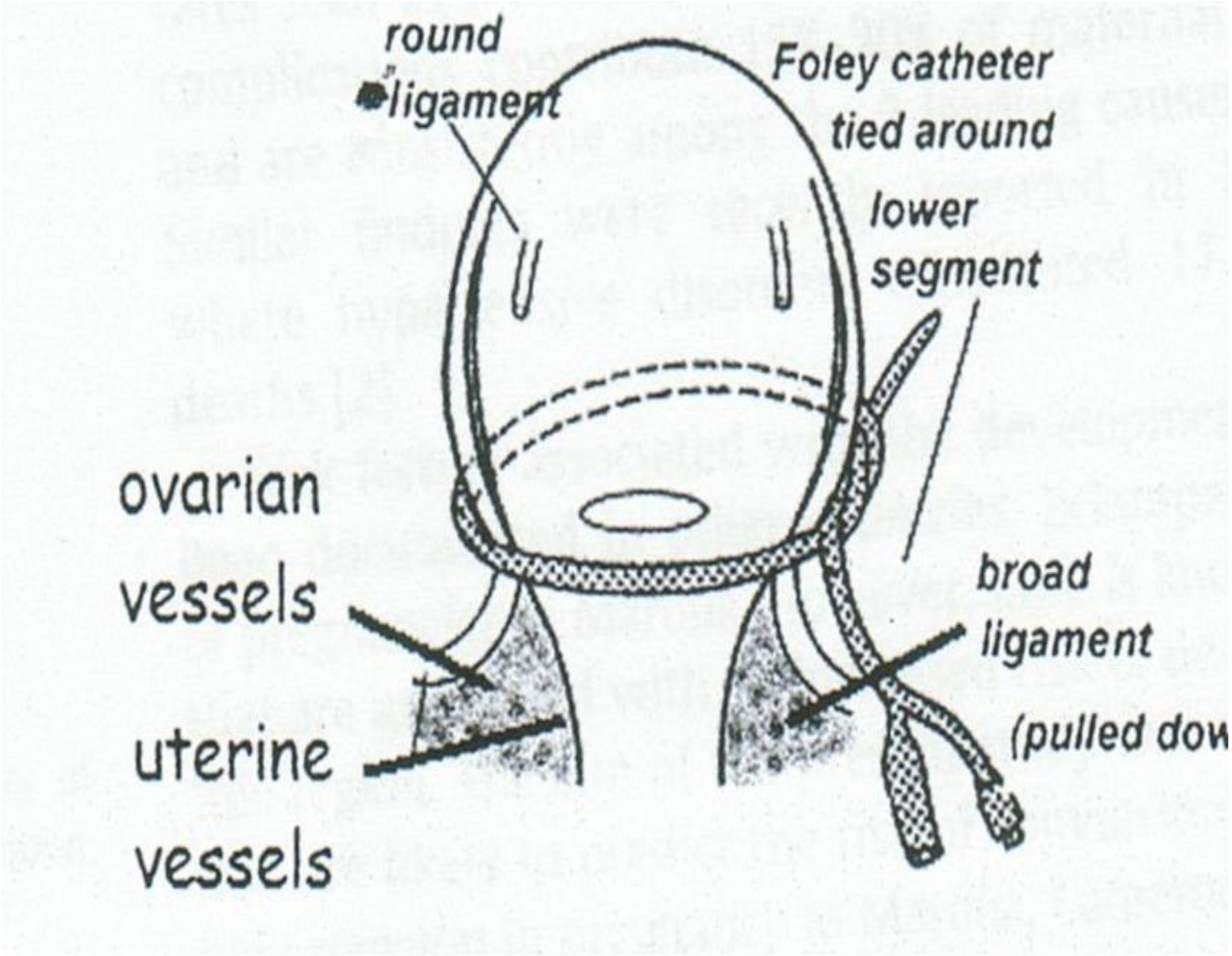



Tie a and b tightly together as assistant compresses uterus

# Stepwise Devascularisation of The Uterus



# Foley Catheter Tourniquet



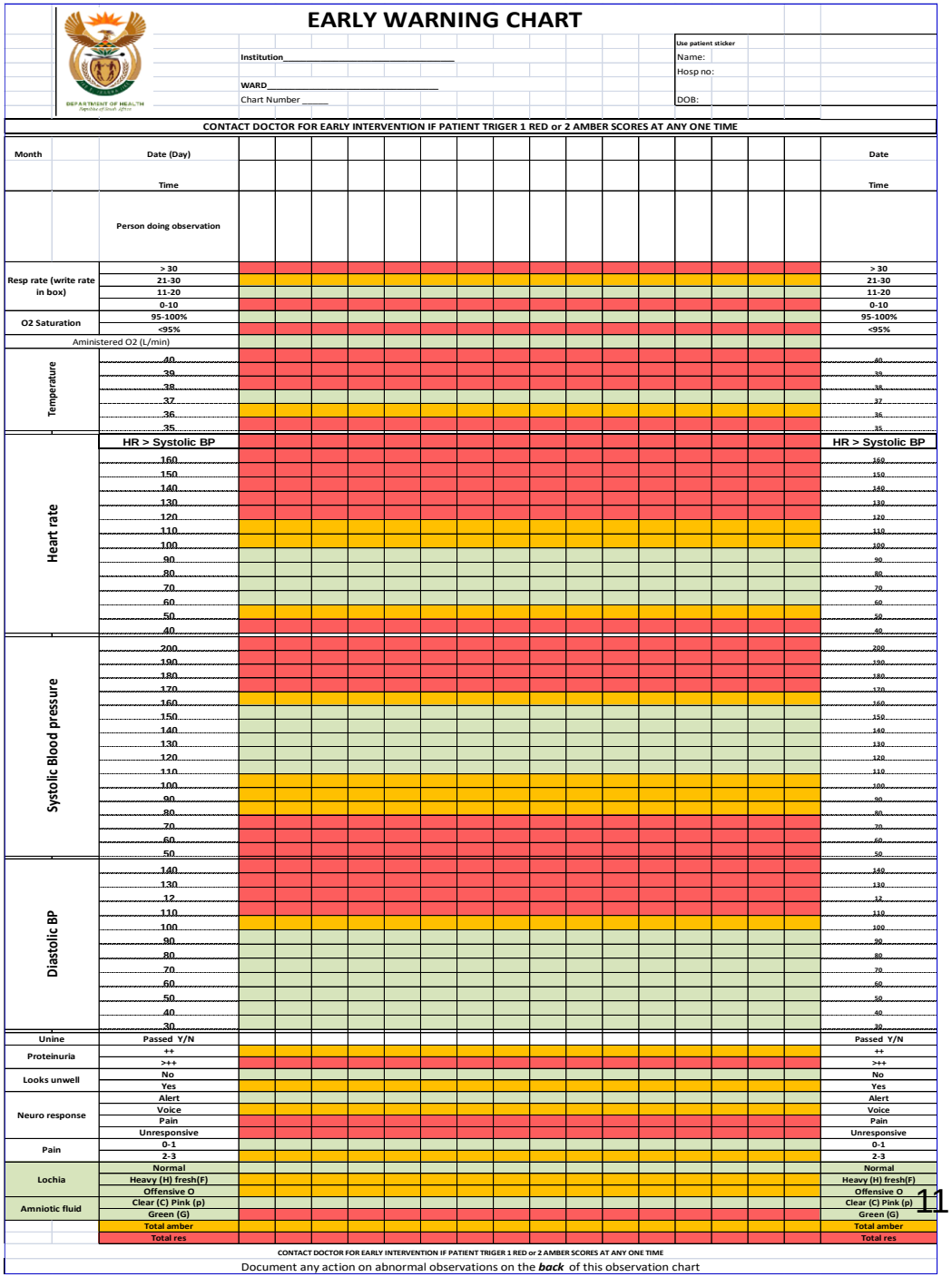

**For district hospitals – intraop transfer for hysterectomy at higher level**

# Postoperative Care After CS

- Write clear notes of operation including assessment blood loss
- Describe surgical difficulties
- Write up oxytocin 20 units in 1 L IV fluid for the first 8 hours (?Heat stable carbetocin?)
- Write up post-op orders or refer to protocol
- High care/refer if massive blood loss (Discuss with senior)

# Department of Health's Early Warning Chart

Haemodynamic changes (low BP, fast HR) may be the first sign of concealed internal bleeding



EARLY WARNING CHART

Institution_____

WARD_____

Chart Number _____

Use patient sticker

Name:

Hosp no:

DOB:

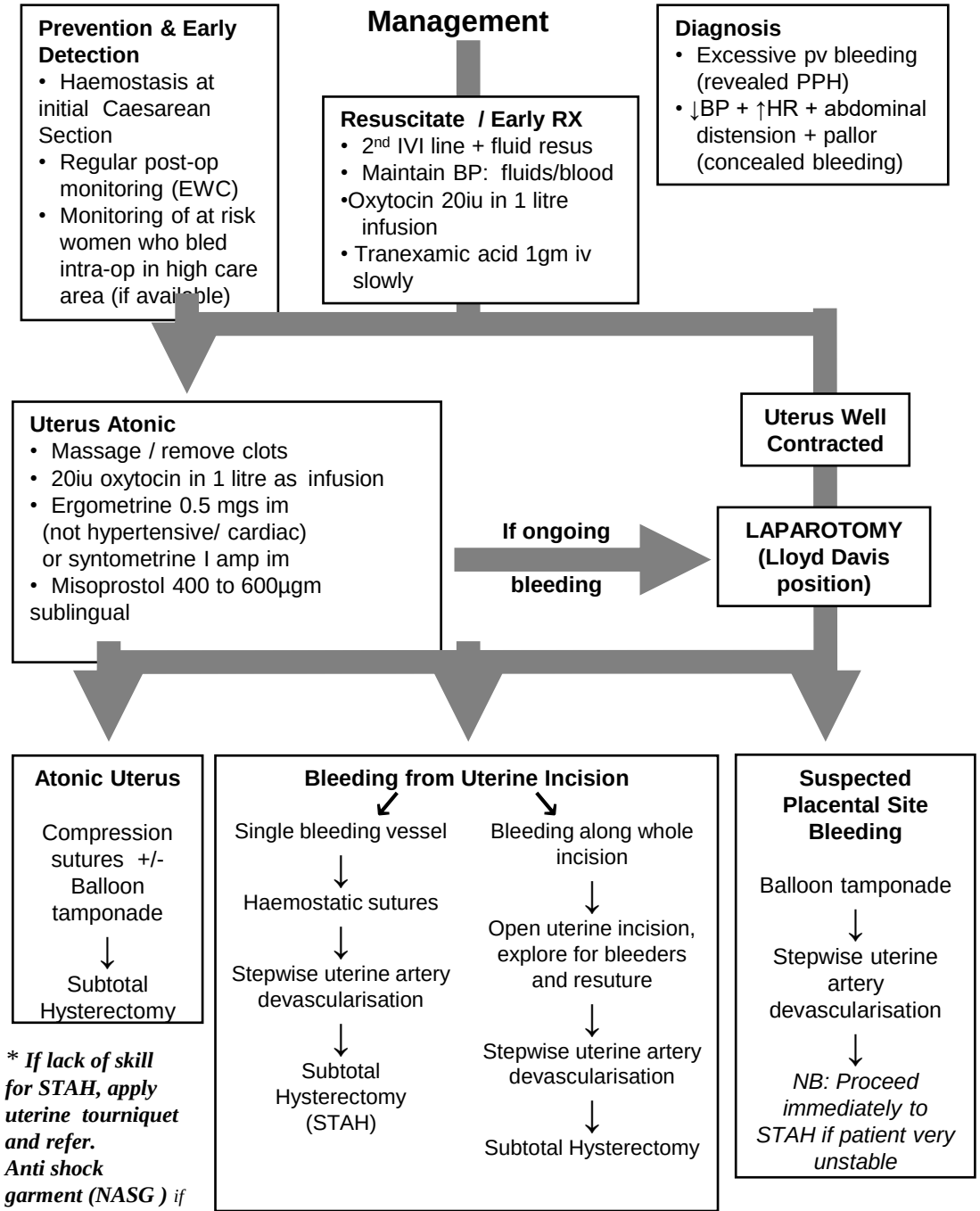
CONTACT DOCTOR FOR EARLY INTERVENTION IF PATIENT TRIGER 1 RED or 2 AMBER SCORES AT ANY ONE TIME

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Month | Date (Day) | | | | | | | | | | | | | | | | | Date |
| | Time | | | | | | | | | | | | | | | | | Time |
| | Person doing observation | | | | | | | | | | | | | | | | | |
| Resp rate (write rate in box) | > 30 | | | | | | | | | | | | | | | | | > 30 |
| | 21-30 | | | | | | | | | | | | | | | | | 21-30 |
| | 11-20 | | | | | | | | | | | | | | | | | 11-20 |
| | 0-10 | | | | | | | | | | | | | | | | | 0-10 |
| O2 Saturation | 95-100% | | | | | | | | | | | | | | | | | 95-100% |
| | <95% | | | | | | | | | | | | | | | | | <95% |
| Aministered O2 (L/min) | | | | | | | | | | | | | | | | | | |
| Temperature | 40 | | | | | | | | | | | | | | | | | 40 |
| | 39 | | | | | | | | | | | | | | | | | 39 |
| | 38 | | | | | | | | | | | | | | | | | 38 |
| | 37 | | | | | | | | | | | | | | | | | 37 |
| | 36 | | | | | | | | | | | | | | | | | 36 |
| | 35 | | | | | | | | | | | | | | | | | 35 |
| Heart rate | HR > Systolic BP | | | | | | | | | | | | | | | | | HR > Systolic BP |
| | 160 | | | | | | | | | | | | | | | | | 160 |
| | 150 | | | | | | | | | | | | | | | | | 150 |
| | 140 | | | | | | | | | | | | | | | | | 140 |
| | 130 | | | | | | | | | | | | | | | | | 130 |
| | 120 | | | | | | | | | | | | | | | | | 120 |
| | 110 | | | | | | | | | | | | | | | | | 110 |
| | 100 | | | | | | | | | | | | | | | | | 100 |
| | 90 | | | | | | | | | | | | | | | | | 90 |
| | 80 | | | | | | | | | | | | | | | | | 80 |
| | 70 | | | | | | | | | | | | | | | | | 70 |
| | 60 | | | | | | | | | | | | | | | | | 60 |
| | 50 | | | | | | | | | | | | | | | | | 50 |
| | 40 | | | | | | | | | | | | | | | | | 40 |
| Systolic Blood pressure | 200 | | | | | | | | | | | | | | | | | 200 |
| | 190 | | | | | | | | | | | | | | | | | 190 |
| | 180 | | | | | | | | | | | | | | | | | 180 |
| | 170 | | | | | | | | | | | | | | | | | 170 |
| | 160 | | | | | | | | | | | | | | | | | 160 |
| | 150 | | | | | | | | | | | | | | | | | 150 |
| | 140 | | | | | | | | | | | | | | | | | 140 |
| | 130 | | | | | | | | | | | | | | | | | 130 |
| | 120 | | | | | | | | | | | | | | | | | 120 |
| | 110 | | | | | | | | | | | | | | | | | 110 |
| | 100 | | | | | | | | | | | | | | | | | 100 |
| | 90 | | | | | | | | | | | | | | | | | 90 |
| | 80 | | | | | | | | | | | | | | | | | 80 |
| | 70 | | | | | | | | | | | | | | | | | 70 |
| | 60 | | | | | | | | | | | | | | | | | 60 |
| | 50 | | | | | | | | | | | | | | | | | 50 |
| Diastolic BP | 140 | | | | | | | | | | | | | | | | | 140 |
| | 130 | | | | | | | | | | | | | | | | | 130 |
| | 12 | | | | | | | | | | | | | | | | | 12 |
| | 110 | | | | | | | | | | | | | | | | | 110 |
| | 100 | | | | | | | | | | | | | | | | | 100 |
| | 90 | | | | | | | | | | | | | | | | | 90 |
| | 80 | | | | | | | | | | | | | | | | | 80 |
| | 70 | | | | | | | | | | | | | | | | | 70 |
| | 60 | | | | | | | | | | | | | | | | | 60 |
| | 50 | | | | | | | | | | | | | | | | | 50 |
| | 40 | | | | | | | | | | | | | | | | | 40 |
| | 30 | | | | | | | | | | | | | | | | | 30 |
| Unine | Passed Y/N | | | | | | | | | | | | | | | | | Passed Y/N |
| Proteinuria | ++ | | | | | | | | | | | | | | | | | ++ |
| | >++ | | | | | | | | | | | | | | | | | >++ |
| Looks unwell | No | | | | | | | | | | | | | | | | | No |
| | Yes | | | | | | | | | | | | | | | | | Yes |
| Neuro response | Alert | | | | | | | | | | | | | | | | | Alert |
| | Voice | | | | | | | | | | | | | | | | | Voice |
| | Pain | | | | | | | | | | | | | | | | | Pain |
| | Unresponsive | | | | | | | | | | | | | | | | | Unresponsive |
| Pain | 0-1 | | | | | | | | | | | | | | | | | 0-1 |
| | 2-3 | | | | | | | | | | | | | | | | | 2-3 |
| Lochia | Normal | | | | | | | | | | | | | | | | | Normal |
| | Heavy (H) fresh(F) | | | | | | | | | | | | | | | | | Heavy (H) fresh(F) |
| Amniotic fluid | Offensive O | | | | | | | | | | | | | | | | | Offensive O |
| | Clear (C) Pink (p) | | | | | | | | | | | | | | | | | Clear (C) Pink (p) |
| | Green (G) | | | | | | | | | | | | | | | | | Green (G) |
| | Total amber | | | | | | | | | | | | | | | | | Total amber |
| | Total res | | | | | | | | | | | | | | | | | Total res |

CONTACT DOCTOR FOR EARLY INTERVENTION IF PATIENT TRIGER 1 RED or 2 AMBER SCORES AT ANY ONE TIME

Document any action on abnormal observations on the ***back*** of this observation chart

# Bleeding After Caesarean Delivery




* ***If lack of skill for STAH, apply uterine tourniquet and refer. Anti shock garment (NASG )*** *if*

# VAGINAL BIRTH AFTER CAESAREAN BIRTH

**Concern:** Women with a previous CD are at risk for ruptured uterus during labour.

**Requisites**

- Antenatal care for a woman with one previous CD may be conducted at a clinic or community health centre, but labour must be managed in hospital with continuous CTG and 24-hour theatre facilities.
- A doctor should preferably see the mother at the first antenatal visit (to review the history) and again at 36 weeks (to plan the mode of delivery).
- The woman must have reliable transport if she chooses to VBAC; or stay in a maternity waiting home close to the hospital to await the onset of labour

**Exclusions for VBAC**

- a previous vertical uterine incision (classical scar or any scar that extends into upper segment)
- previous ruptured uterus
- previous caesarean delivery for a very preterm baby, type of incision unknown
- two or more previous caesarean deliveries
- where the mother requests an elective CD after appropriate counselling
- other obstetric problems, e.g. multiple pregnancy, breech, transverse lie
- an estimated fetal weight >3500 g or a SF of 40 cm or more at term. (relative contraindication)
- maternal BMI> 40 kg/m2 (relative contraindication)

# Management of VBAC

Management is similar to normal labour with the following precautions:

- run an intravenous drip with one litre Sodium Chloride 0,9% at 80-120 mL/hour
- pass a urinary catheter to monitor urinary excretion
- monitor with continuous CTG
- always use a partogram (do two hourly vaginal examinations once in active labour) and intervene timeously
- do not augment labour with oxytocin
- observe carefully for signs of imminent uterine rupture and do an emergency CD immediately if rupture is suspected (any of the following signs): *fetal tachycardia or fetal heart rate decelerations,*
  *significant vaginal bleeding,*
  *macroscopic haematuria,*
  *strong abdominal pain between contractions or pain over the scar,*
  *sudden cessation of contractions*
  *change in maternal vital signs*

. Obtain prior consent for hysterectomy, should this become necessary