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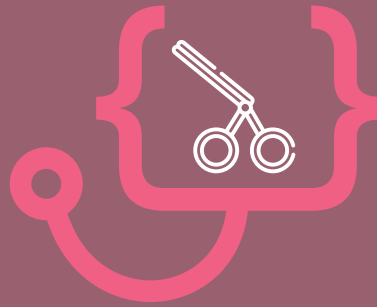
Department of Health Research

Ministry of Health and Family Welfare, Government of India



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2019 Edition, Vol. I

# STANDARD TREATMENT WORKFLOWS *of India*

**PARTNERS**

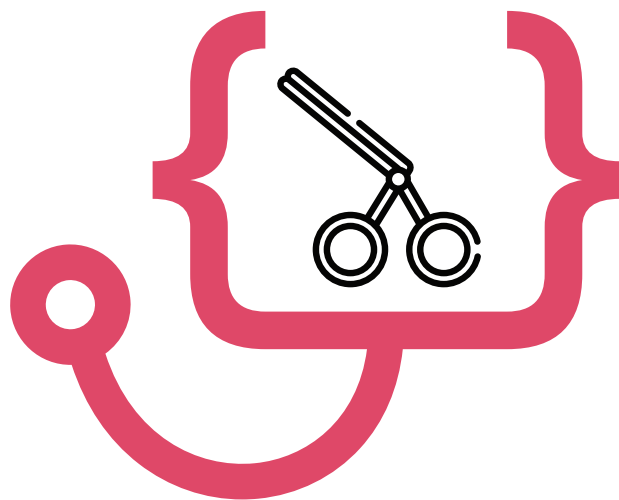


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STANDARD  
**TREATMENT**  
WORKFLOWS  
*of India*



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These STWs have been prepared by national experts of India with feasibility considerations for various levels of healthcare system in the country. These broad guidelines are advisory, and are based on expert opinions and available scientific evidence. There may be variations in the management of an individual patient based on his/her specific condition, as decided by the treating physician. There will be no indemnity for direct or indirect consequences. Kindly visit our web portal ([stw.icmr.org.in](http://stw.icmr.org.in)) for more information. © Indian Council of Medical Research and Department of Health Research, Ministry of Health & Family Welfare, Government of India.

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# INTRODUCTION

## GOAL

To empower the primary, secondary and tertiary care physicians/surgeons towards achieving the overall goal of Universal Health Coverage with disease management protocols and pre-defined referral mechanisms by decoding complex guidelines

## OBJECTIVES

### Primary Objective:

To formulate clinical decision making protocols for common and serious medical/surgical conditions for both OPD and IPD management at primary, secondary and tertiary levels of healthcare system for equitable access and delivery of health services which are locally contextual

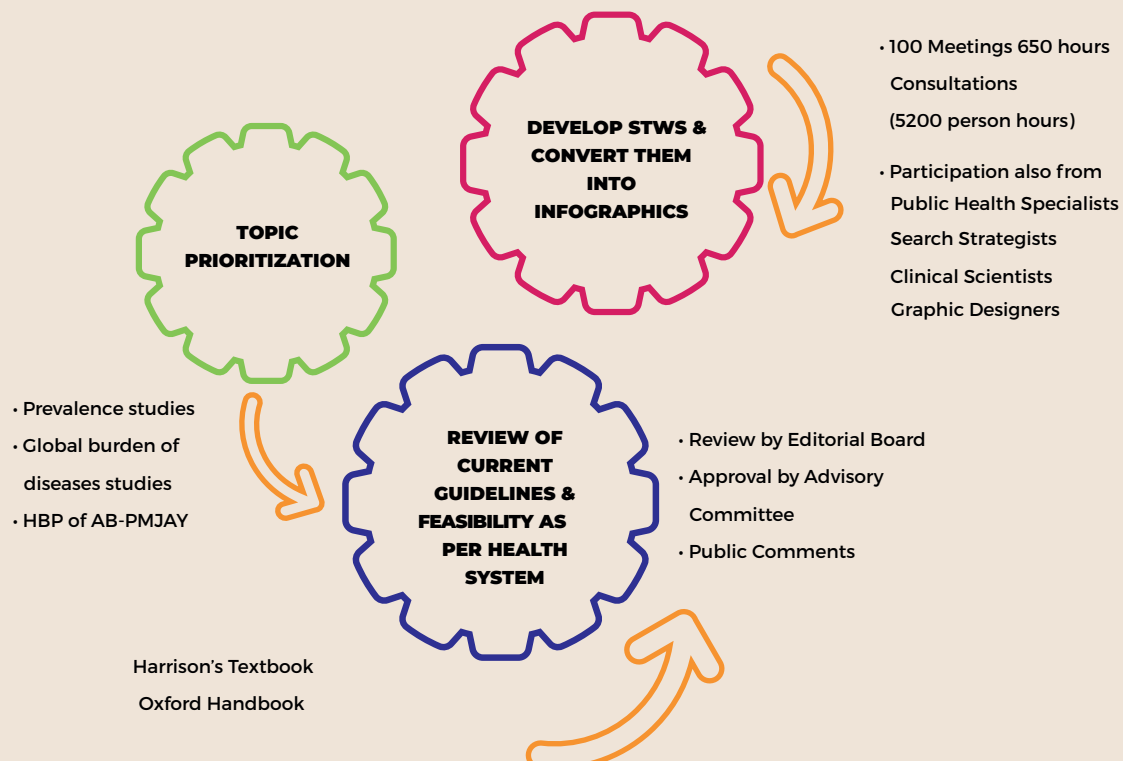
### Secondary Objective:

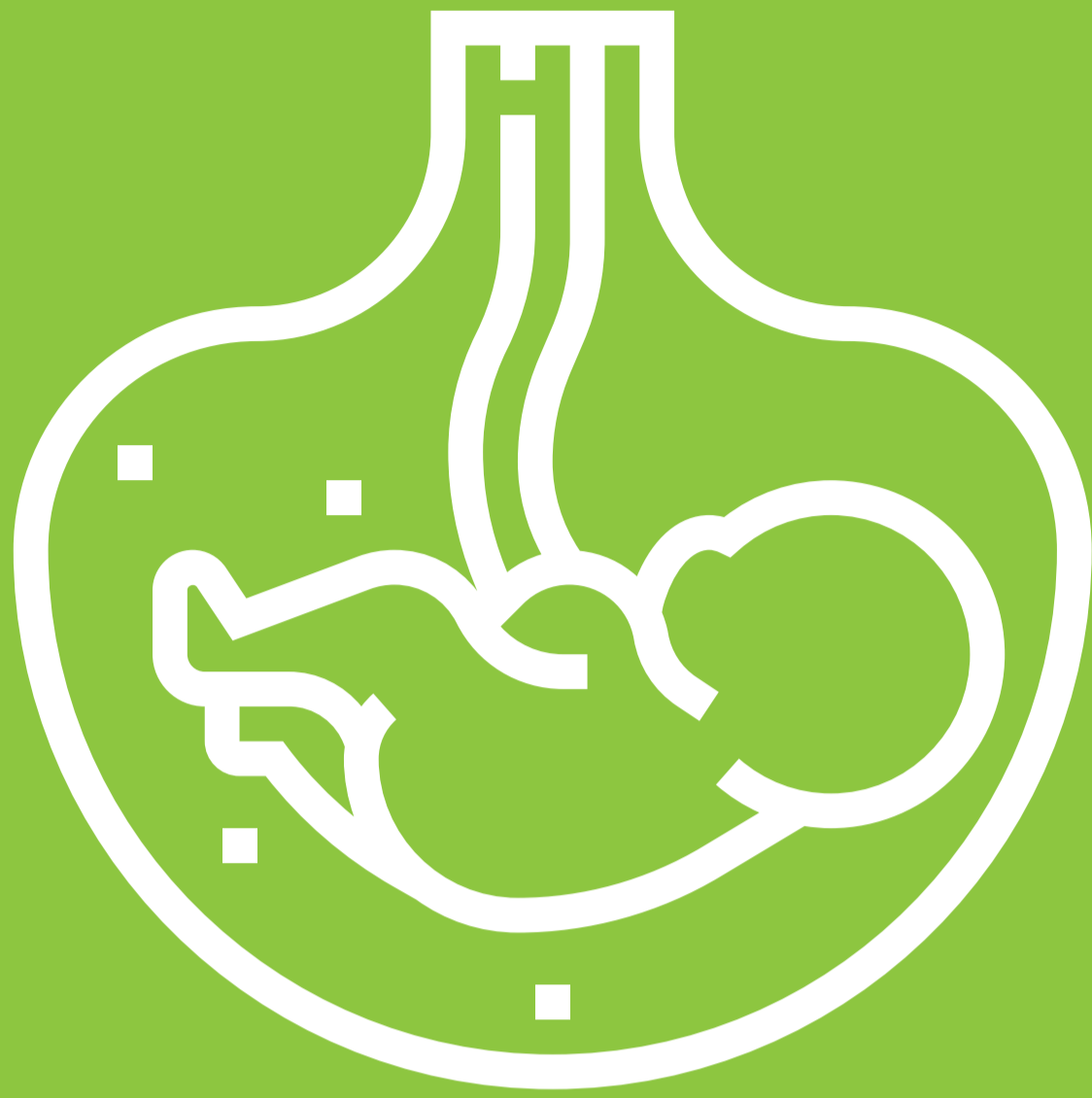
To facilitate PMJAY arm of Ayushman Bharat with secondary and tertiary level management of all surgical and medical conditions covered under the scheme.

## METHODOLOGY



## PROCESS OVERVIEW





**OBCG**



## Standard Treatment Workflow (STW) for ANTE-NATAL MANAGEMENT OF NORMAL PREGNANCY

### FIRST VISIT (PREFERABLY IN FIRST TRIMESTER)

| ASK  | EXAMINE   | INVESTIGATIONS  | DO  |
|--|---|---|---|
| <ul style="list-style-type: none"> <li>Age</li> <li>LMP</li> <li>Parity &amp; obstetric history</li> <li>Any complaints especially excessive nausea &amp; vomiting/ bleeding PV</li> <li>H/o medical illness : diabetes, hypertension, cardiac problem, epilepsy or any other chronic illness</li> <li>Consanguinity, multiple pregnancy</li> <li>H/o blood transfusion and H/o prior surgical intervention</li> <li>Personal history : tobacco/ alcohol intake</li> <li>Family history : diabetes, hypertension, genetic disorders/ congenital problems, multiple pregnancy, infections including tuberculosis</li> </ul> | <ul style="list-style-type: none"> <li>Height, weight</li> <li>Calculate BMI</li> <li>Pallor, Jaundice, Pedal edema</li> <li>Pulse, BP, RR, temperature</li> <li>Thyroid</li> <li>Breast</li> <li>Respiratory and CVS examination</li> <li>P/A examination, P/S and P/V examination</li> <li># If woman presents with bleeding per vaginum do P/A &amp; P/S to confirm amount of bleeding &amp; rule out local causes. All such cases to be referred to CHC or higher centre</li> </ul> | <p><b>ESSENTIAL TESTS</b></p> <ul style="list-style-type: none"> <li>Hemoglobin</li> <li>Urine R &amp; M</li> <li>ABO &amp; Rh grouping</li> </ul> <p><b>DESIRABLE TESTS</b></p> <ul style="list-style-type: none"> <li>VDRL/ RPR</li> <li>HIV</li> <li>HBsAg</li> <li>WHO OGTT/ DIPSI test for diagnosis of GDM</li> <li>TSH in high risk cases (BOH, goiter, obesity or residing in iodine deficiency prone areas)</li> </ul> <p><b>OPTIONAL TESTS*</b></p> <ul style="list-style-type: none"> <li>Aneuploidy screen* by USG &amp; double marker</li> </ul> | <ul style="list-style-type: none"> <li>UPT if in doubt</li> <li>Fill up MCH protection card or ANC card, make entry on RCH portal &amp; generate RCH number (in public sector)</li> <li>Give filled MCH protection card &amp; safe motherhood booklet to woman</li> <li>Give Tab Folic Acid daily</li> <li>Give first dose of tetanus toxoid</li> </ul> |

### SECOND VISIT (SECOND TRIMESTER)

| ASK   | EXAMINE   | INVESTIGATIONS  | DO   |
|---|---|---|--|
| <ul style="list-style-type: none"> <li>Any complaints since last visit</li> <li>Quickening and/ or fetal movements</li> <li>Adherence to medications</li> </ul> | <ul style="list-style-type: none"> <li>Weight</li> <li>Pallor</li> <li>Pedal edema</li> <li>Pulse, BP in sitting position</li> <li>P/A examination for fundal height</li> </ul> | <p><b>ESSENTIAL TESTS</b></p> <ul style="list-style-type: none"> <li>Hemoglobin</li> <li>Urine albumin</li> </ul> <p><b>DESIRABLE TESTS</b></p> <ul style="list-style-type: none"> <li>USG ( Level II between 18-20 weeks for gross congenital malformations)</li> <li>WHO OGTT/ DIPSI test if &gt;24weeks &amp; at least 4 weeks have elapsed after 1st test</li> </ul> <p><b>OPTIONAL TESTS*</b></p> <ul style="list-style-type: none"> <li>Quadruple test as per availability</li> </ul> <p>*Should be performed only if adequate counselling facilities are available</p> | <ul style="list-style-type: none"> <li>IFA tablet one (if Hb &gt;11g%) or twice ( if Hb &lt;11g%) daily with water or lemon juice</li> <li>Calcium carbonate 500 mg with vitamin D 250 mcg tablet twice daily with meals.</li> <li>Calcium Carbonate and IFA not to be given together</li> <li>Single dose of Albendazole 400mg</li> <li>Ensure compliance for investigations and treatment</li> <li>Discuss birth preparedness</li> <li>Give second dose Tetanus Toxoid at least four weeks after first dose</li> </ul> |

### THIRD (28 – 34 WEEKS) AND FOURTH VISIT (36 - 40 WEEKS)

| ASK                  | EXAMINE  | INVESTIGATIONS  | DO   |
|----------------------|--|---|--|
| <p>Same as above</p> | <ul style="list-style-type: none"> <li>Same as above</li> <li>Auscultate FHS</li> <li>Measurement of abdominal girth and Symphysiofundal Height</li> </ul> | <ul style="list-style-type: none"> <li>Hemoglobin</li> <li>Urine albumin</li> <li>Optional USG for fetal growth and liquor</li> </ul> | <ul style="list-style-type: none"> <li>Continue IFA and calcium tablets and ensure compliance</li> <li>If non compliant or Hb &lt; 9g% give parenteral iron sucrose therapy (not &gt; 200mg at one time &amp; not &gt; 3 times a week) and refer patient with Hb &lt; 7g% to higher centre</li> <li>Refer to higher centre if any discrepancy between fundal height and period of gestation</li> </ul> |

### DANGER SIGNALS FOR PATIENT TO REPORT TO HEALTH FACILITY

- Fever
- Persistent vomiting
- Abnormal vaginal discharge
- Palpitations, easy fatigability and breathlessness at rest and/ or on mild exertion.
- Generalized swelling of the body/ puffiness of the face
- Vaginal bleeding
- Decreased or absent fetal movements at > 28 weeks gestation
- Leaking of watery fluid per vaginum (P/V)
- Severe headache/ blurring of vision/ convulsion
- Passing lesser amounts of urine and/ or burning sensation during micturition
- Itching all over the body

### HIGH RISK PREGNANCY

- Any H/o medical illness, previous caesarean section, past obstetric mishap or congenital malformation
- Past H/o PPH
- Age > 35 years or < 19 years or parity > 4
- Malnourished (BMI < 18.5 kg/m<sup>2</sup> or > 30 kg/m<sup>2</sup>)
- Hemoglobin < 7g%
- BP > 140/90mm Hg on 2 occasions 6 hours apart
- APH
- Discrepancy between fundal height and period of gestation > 4 weeks
- GDM/ overt DM
- Multiple pregnancy
- Malpresentation at term
- Previous uterine surgery

\* High risk pregnancy to be delivered at district hospital/medical college  
\* Preferably to have antenatal care also at these centres

### COUNSELLING AT ALL LEVELS FOR :

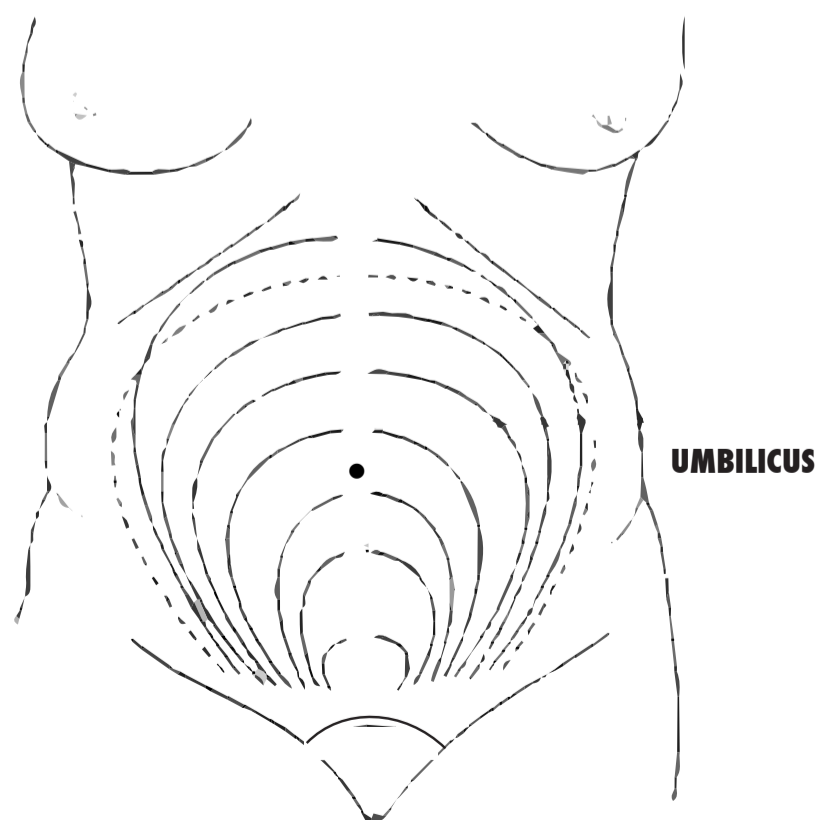
- Timing and place of next ANC visit based on presence or absence of risk factor
- Rest, nutrition, balanced diet and exercise
- Counselling for HIV testing
- Danger signs
- Institutional delivery
- Birth preparedness
- Early & exclusive breastfeeding for six months
- Post partum contraception

### BIRTH PREPAREDNESS MUST INCLUDE IDENTIFICATION OF THE FOLLOWING :

- Facility for delivery
- Support persons
- Birth companion
- Means of transport in emergency
- Blood donors (if required in emergency)

### ASSESSMENT OF FUNDAL HEIGHT & ITS CORRELATION WITH GESTATIONAL AGE

- At 12<sup>th</sup> week : Just palpable above the symphysis pubis
- At 16<sup>th</sup> week : At lower one-third of the distance between the symphysis pubis and umbilicus
- At 20<sup>th</sup> week : At two-thirds of the distance between symphysis pubis and umbilicus
- At 24<sup>th</sup> week : At the level of umbilicus
- At 28<sup>th</sup> week : At lower one-third of the distance between the umbilicus and xiphisternum
- At 32<sup>nd</sup> week : At two-thirds of the distance between the umbilicus and xiphisternum
- At 36<sup>th</sup> week : At the level of xiphisternum
- At 40<sup>th</sup> week : Sinks back to the level of the 32<sup>nd</sup> week, but the flanks are full, unlike that in the 32<sup>nd</sup> week



**COUNSELLING IS AN IMPORTANT ADJUNCT TO MANAGEMENT**

**KEEP A HIGH THRESHOLD FOR INVASIVE PROCEDURES**

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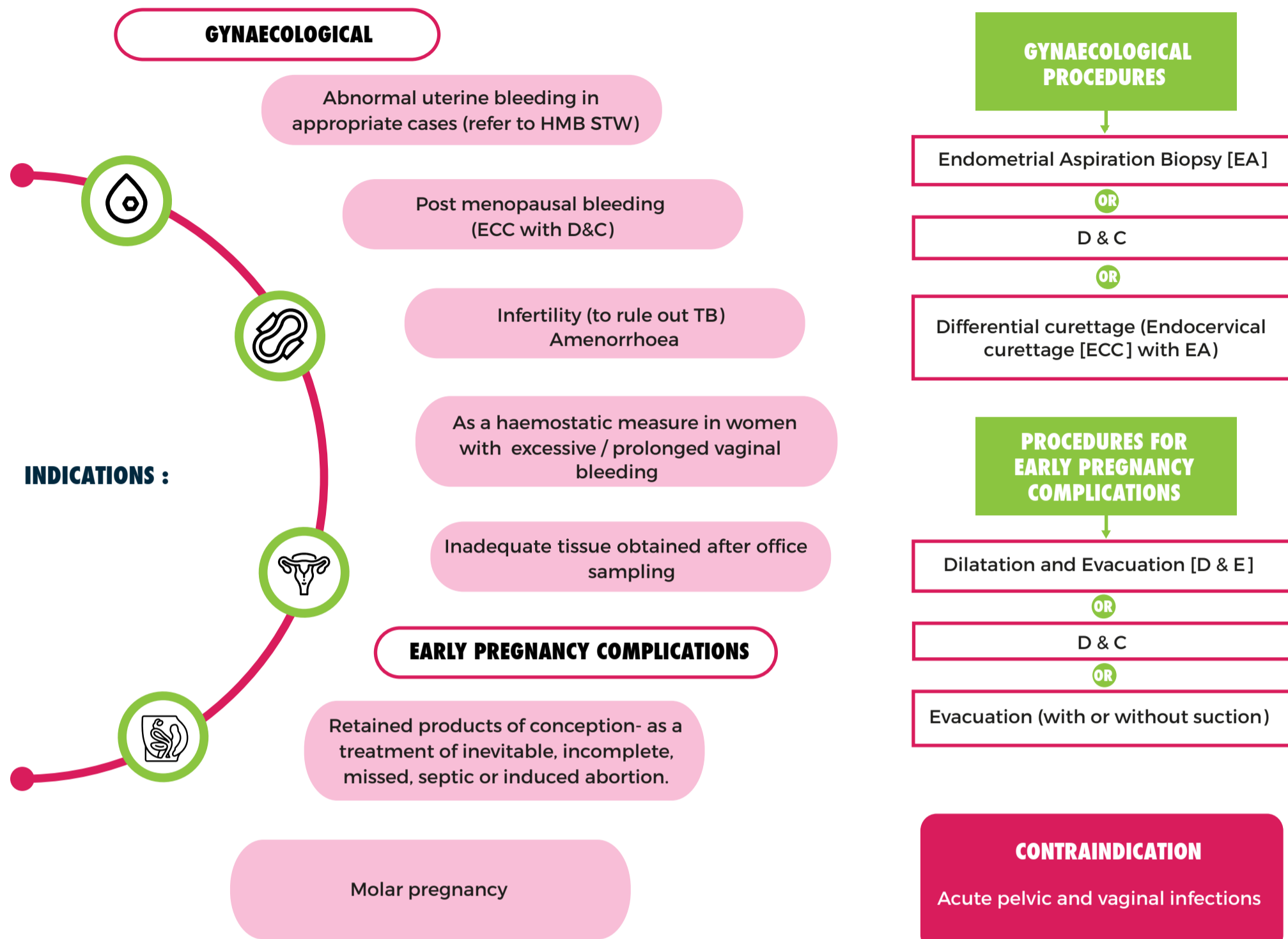
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## Standard Treatment Workflow (STW) for DILATATION AND CURETTAGE (D&C)

- Mostly done for gynaecological indications, but may also be considered in early pregnancy complications
- Though office endometrial biopsy using either thin flexible or Karman cannula or office hysteroscopy has obviated the need for traditional D&C in gynaecological cases, it still has a place when other modalities are not available or do not yield adequate tissue



### WHERE CAN IT BE PERFORMED?

- In secondary or tertiary healthcare centres preferably where facilities for anaesthesia and operation theatre are available to deal with procedure related complications, if any.
- Endometrial aspiration biopsy is usually done as an outpatient procedure in non pregnant cases.

### ALL TISSUE REMOVED MUST BE SENT FOR HISTOPATHOLOGICAL EXAMINATION

#### PRE- OPERATIVE REQUISITES

Presence of a valid indication

General medical fitness & no contraindication

A written informed consent

#### ANESTHESIA (ANY OF THE FOLLOWING)

- General anesthesia
- Regional anesthesia
- Paracervical block with 1% xylocaine
- IV sedation
- IM/oral analgesia

**Strict asepsis to be maintained. Antibiotics to be used judiciously and decided as per need of individual case.**

#### POST PROCEDURE CARE & FOLLOW UP

- Observe the patient for minimum two hours after the procedure for haemorrhage or any other symptoms or signs of complications prior to discharge
- Patient can be discharged as soon as she is comfortable and alert.
- Most common side effect is abdominal cramps which can be managed by oral analgesics.
- **Warning signals to report back** are to be explained at the time of discharge - severe pain, bleeding, foul smelling discharge or fever.
- Follow up is done after a week with histopathology report for further advice.

#### COMPLICATIONS

- Excessive bleeding
- Cervical laceration
- Perforation of the uterus
- Injury to bowel and bladder
- Pelvic infection
- Post-operative intra uterine adhesions

#### DO'S

- Evacuation of urinary bladder before procedure.
- Safety checklist
- Dorsal/lithotomy position
- Bimanual pelvic examination prior to the procedure
- Sounding to measure uterocervical length ONLY in non pregnant women.
- Sample to be sent for histopathology and microbiology (where indicated)
- **REFER in case of a complication**

#### DONT'S

- Over abduction of legs
- No sounding in cases of pregnant uterus.
- No forceful insertion of any instrument
- Abandon the procedure in case of suspected perforation and refer to higher centre.
- Insertion of the dilator should be just beyond the internal os and NOT till the fundus

D&C is a blind procedure and may miss the pathology in some cases. In cases where focal pathology is suspected, tissue should be obtained under hysteroscopic visualization.

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# Standard Treatment Workflow (STW) for the Management of HEAVY MENSTRUAL BLEEDING (HMB)

ICD-10-H90.5

## TO DO AT ALL LEVELS

### HISTORY

- Age
- Parity
- Detailed menstrual history including irregularities
- Other medical illness: thyroid disorder, coagulopathy, jaundice etc
- IUCD use
- Lactation
- Drug intake

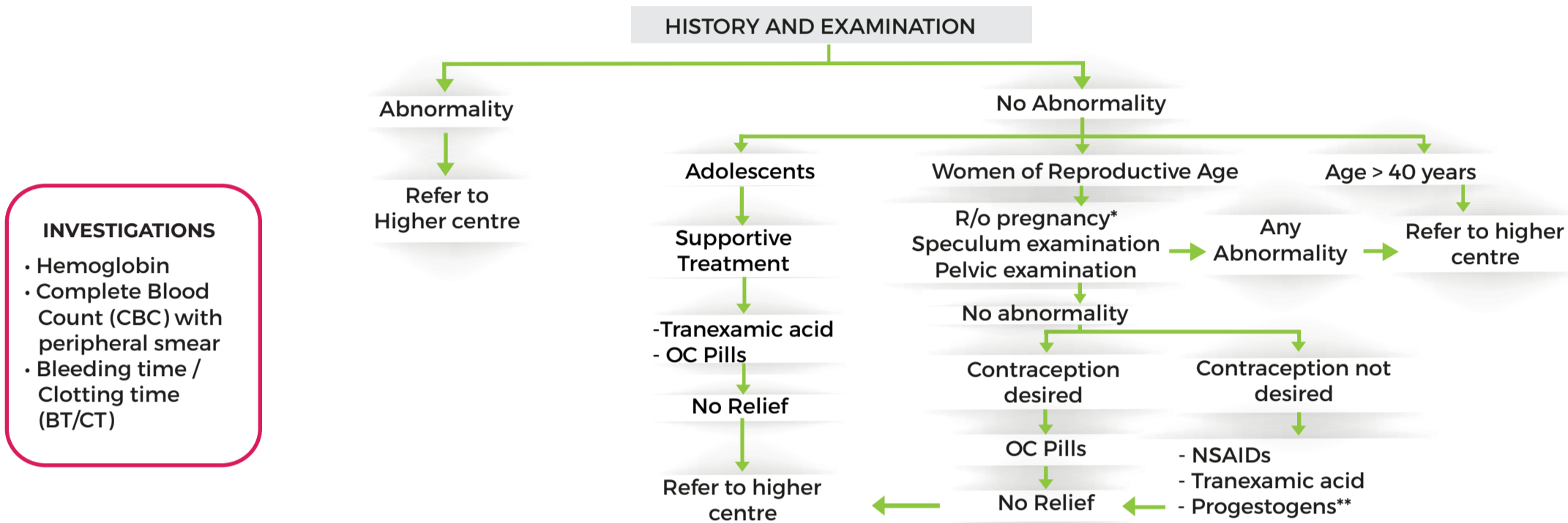
### EXAMINATION

- **General**  
Evaluate pallor  
Calculate BMI
- **Systemic**  
CVS, RS and hepatosplenomegaly
- **Local examination** (where indicated and feasible) P/S and P/V

### SUPPORTIVE TREATMENT

- Reassurance
- Hematinics
- Tranexamic acid during episode of heavy bleeding

## MANAGEMENT OF HMB AT PRIMARY LEVEL

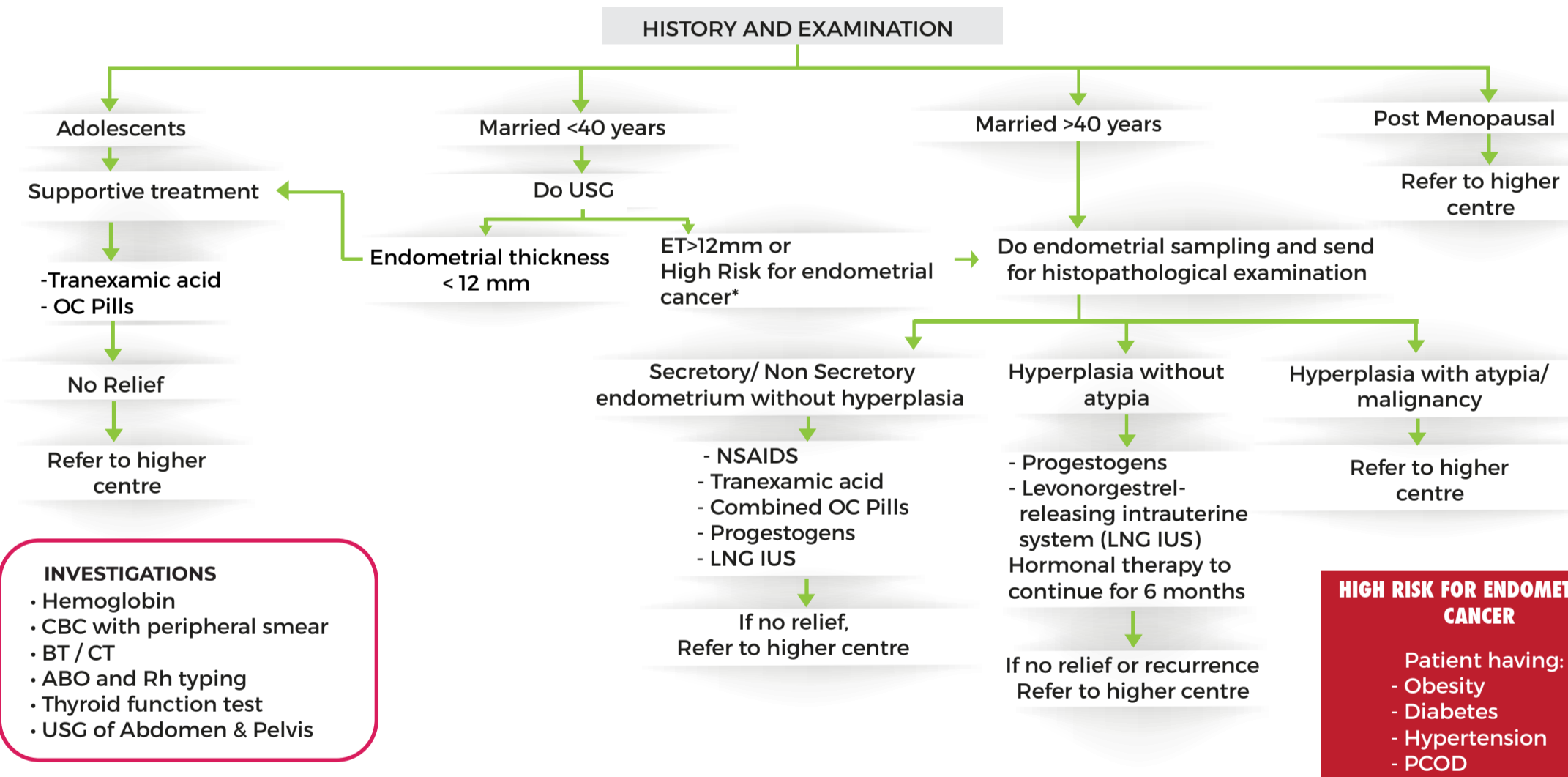


**INVESTIGATIONS**

- Hemoglobin
- Complete Blood Count (CBC) with peripheral smear
- Bleeding time / Clotting time (BT/CT)

\* R/o Pregnancy in doubt especially in all women of reproductive age group after appropriate consent  
\*\* Amongst progestogens Norethisterone provides the best hemostasis

## MANAGEMENT OF HMB AT SECONDARY LEVEL (CHC)



**INVESTIGATIONS**

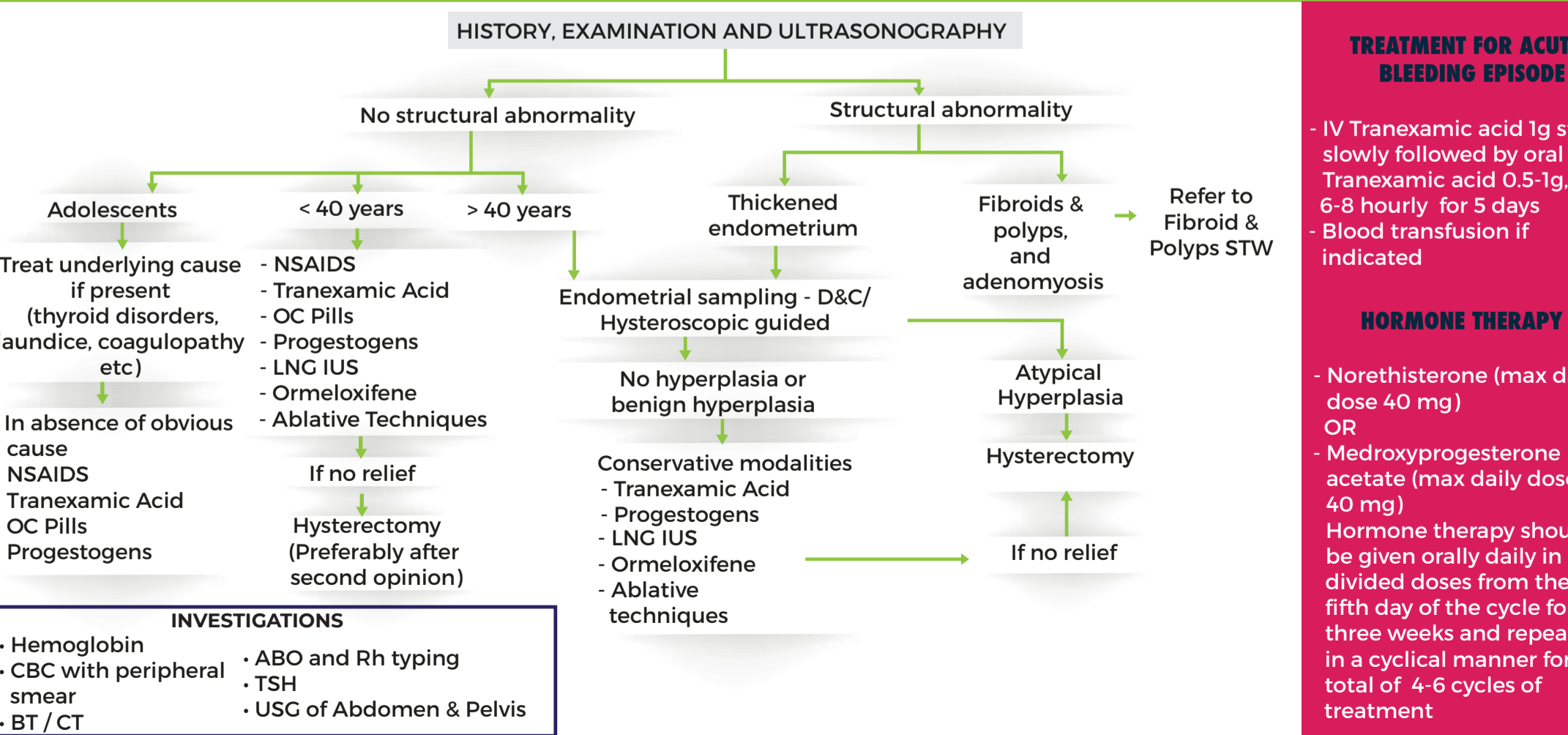
- Hemoglobin
- CBC with peripheral smear
- BT / CT
- ABO and Rh typing
- Thyroid function test
- USG of Abdomen & Pelvis

**HIGH RISK FOR ENDOMETRIAL CANCER**

Patient having:

- Obesity
- Diabetes
- Hypertension
- PCOD

## MANAGEMENT OF HMB AT TERTIARY LEVEL



**INVESTIGATIONS**

- Hemoglobin
- CBC with peripheral smear
- BT / CT
- ABO and Rh typing
- TSH
- USG of Abdomen & Pelvis

**TREATMENT FOR ACUTE BLEEDING EPISODE**

- IV Tranexamic acid 1g stat slowly followed by oral Tranexamic acid 0.5-1g, 6-8 hourly for 5 days
- Blood transfusion if indicated

**HORMONE THERAPY**

- Norethisterone (max daily dose 40 mg)
- OR
- Medroxyprogesterone acetate (max daily dose 40 mg)

Hormone therapy should be given orally daily in divided doses from the fifth day of the cycle for three weeks and repeated in a cyclical manner for total of 4-6 cycles of treatment

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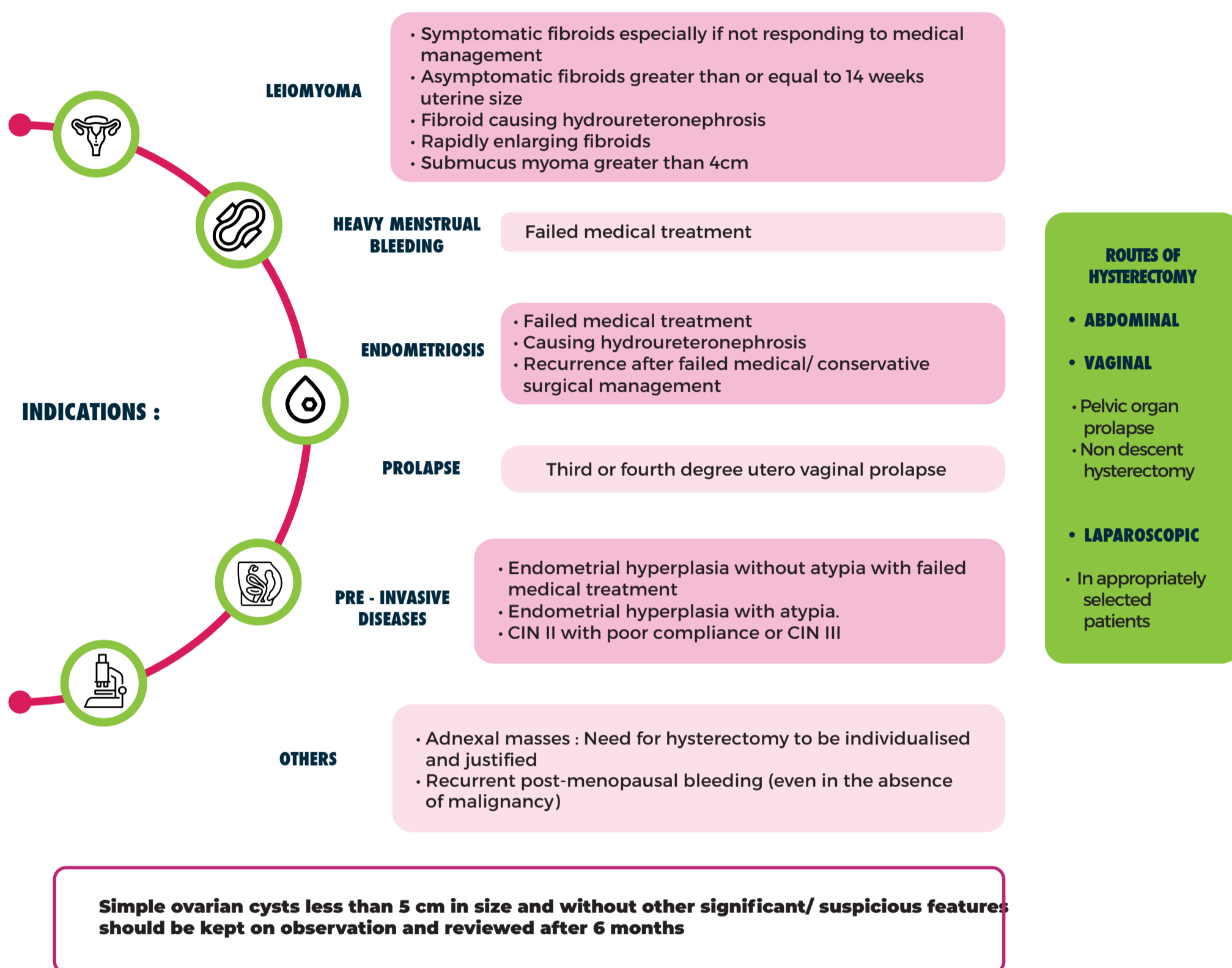
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## Standard Treatment Workflow (STW) for HYSTERECTOMY FOR BENIGN GYNAECOLOGICAL CONDITIONS

IN WOMEN AGED LESS THAN 40 AND/OR LOW PARITY IT IS **MANDATORY** TO HAVE A SECOND OPINION FROM A QUALIFIED GYNAECOLOGIST

**HYSTERECTOMY TO BE CONSIDERED ONLY WHEN CHILD BEARING IS COMPLETED & RARELY IN YOUNGER PATIENTS**



### HYSTERECTOMY SHOULD **NOT** BE DONE FOR

White discharge per vaginum

Cervicitis

Non specific abdominal or pelvic pain

Minor degree of utero vaginal prolapse

Fibroids which are small (less than 5 cm) or Asymptomatic (less than 12 weeks size uterus)

Simple ovarian cyst less than or equal to 5 cm

### COMPONENTS OF PRE OPERATIVE COUNSELLING AND INFORMED CONSENT

- Need for hysterectomy
- Alternative treatment options
- Risks and benefits
- Potential complications of the procedure
- Removal/ conservation of ovaries & tubes
- Route of hysterectomy
- Possible need for post operative Hormone therapy in selected cases

### INVESTIGATIONS

- Complete Blood Count
- Blood grouping & cross matching
- Fasting Blood Sugar & Post Prandial Blood Sugar
- Renal Function Test
- Liver Function Test
- Urine Routine & Microscopy
- Electrocardiogram
- X ray chest
- Others as indicated

### COMPLICATIONS TO BE EXPLAINED

- Risk of Infection
- Bleeding (primary/ reactionary/ secondary)
- Injury to bladder/ bowel/ ureter
- Pain
- Fever
- Hernia (rare and late complication)

### FOLLOW UP

- **Discharge summary with operative details**
- **Review for histopathology report**
- **Report if there is fever, bleeding or any other symptoms**
- Avoid lifting heavy weight for 8 weeks
- Abstinence for eight weeks
- Adequate iron and calcium & Vitamin D3 supplements
- Evaluate need for hormones in very selected patients

- **Ovaries should be preserved in most pre-menopausal women unless diseased or removal specifically indicated**
- While doing hysterectomy for benign gynaecological conditions in pre-menopausal women, it is recommended to combine it with bilateral salpingectomy with a view to minimise the risk of subsequent development of ovarian malignancy <sup>1,2</sup>

1. Pérez-López FR et al, Interventions to reduce the risk of ovarian and fallopian tube cancer: A European Menopause and Andropause Society Position Statement. Maturitas. 2017

2. Darelus A et al, Efficacy of salpingectomy at hysterectomy to reduce the risk of epithelial ovarian cancer: a systematic review. BJOG. 2017 .

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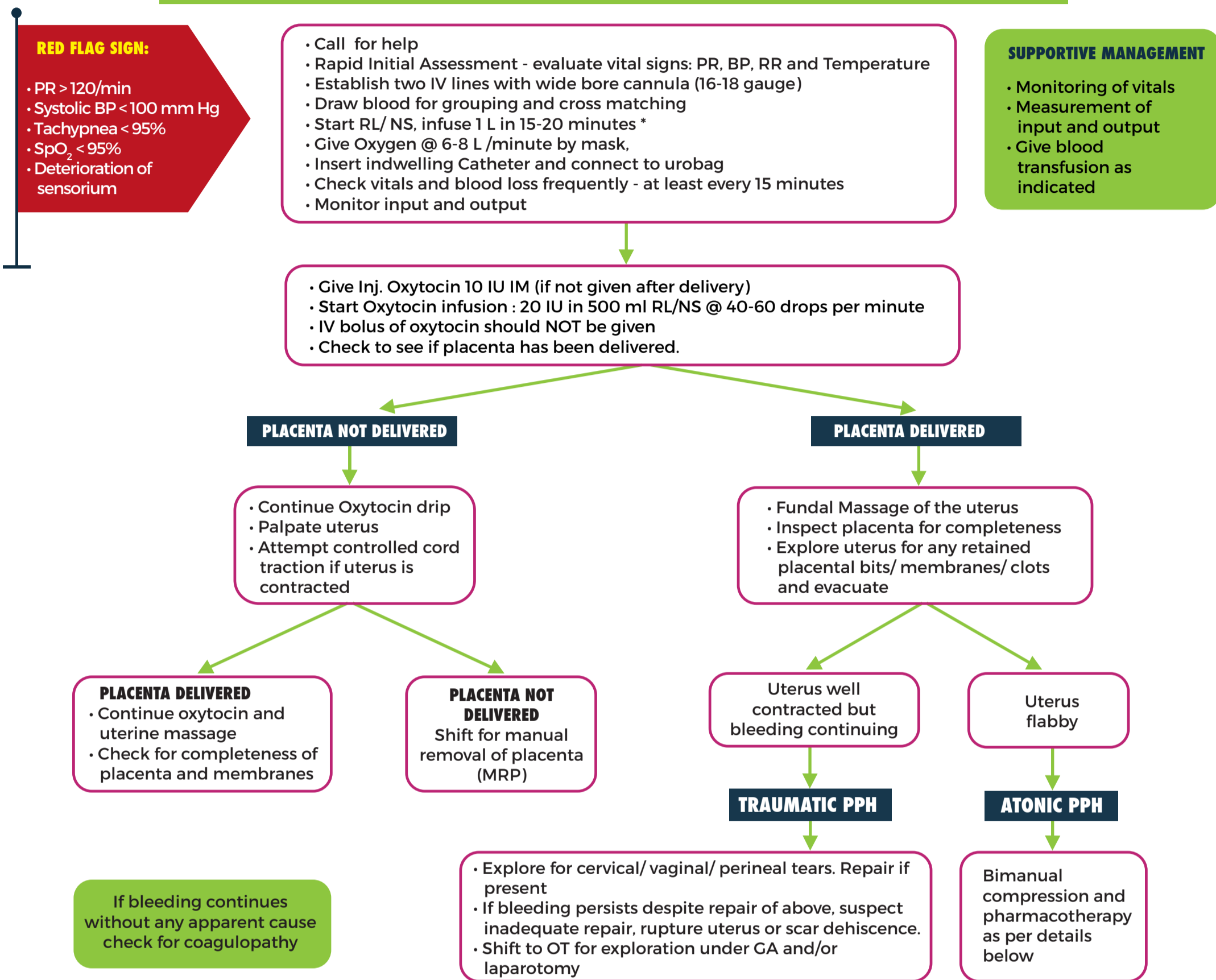
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## Standard Treatment Workflow (STW) for the Management of POSTPARTUM HAEMORRHAGE (PPH)

ICD O72

**More than 500 ml of blood loss or any amount of bleeding which causes derangement of vital parameters is PPH**



\* Arrange for blood / blood product at the earliest

3 ml of crystalloid solution should be used to replace every ml of blood lost during the initial part of the acute bleeding phase

### MANAGEMENT OF ATONIC PPH

#### PHARMACOTHERAPY

ANY OF THE FOLLOWING OPTIONS CAN BE USED EITHER ALONE OR COMBINATION AS PER AVAILABILITY

Inj Methyl Ergometrine 0.2 mg IM or IV slowly  
• Contraindicated in hypertension, severe anemia, heart disease  
• Can be repeated after 15 minutes to a maximum of 5 doses (1mg)

Or Tab Misoprostol (PGE1) 800 µg  
Per rectal or sublingual

Inj Carboprost (PGF2 alpha) 250 µg IM  
• Contraindicated in asthma  
• Can be repeated every 20 minutes to a maximum of 8 doses (2 mg)

Bleeding not controlled

Explore uterus for retained bits

Continue bimanual compression & Oxytocin infusion @10-20 units /hr

Bleeding not controlled

• Check for coagulation defects  
• If present give blood and blood components

Intra uterine balloon tamponade using condom catheter

Bleeding still not controlled

Surgical intervention  
• Uterine compression sutures  
• Systematic uterine devascularisation by doing Uterine → Ovarian → Internal Iliac artery ligation  
• Hysterectomy

Bleeding controlled

• Repeat uterine massage every 15 minutes for first two hours  
• Monitor vitals every 10 minutes for 30 minutes, every 15 minutes for next 30 minutes and every 30 minutes for next 3-6 hours or until stable  
• Continue Oxytocin infusion @5-10 units /hr (total Oxytocin not to exceed 100 IU in 24 hours)

Tranexamic Acid (1g slow IV) has recently been recommended as an adjunctive treatment for PPH to be used as early as possible irrespective of cause but definitely within three hours of delivery. It can be repeated after 30 minutes if bleeding persists. Standard treatment for PPH must continue meanwhile<sup>1,2</sup>

1 The WOMAN trial, The Lancet, 2017  
2 WHO update on Tranexamic Acid, 2017

**Timely Referral** to a higher centre must be considered if facilities for blood transfusion or exploration and surgical intervention are not available. Patient must be transported with I/V fluids containing oxytocin on flow and preferably with uterine/vaginal tamponade in situ.

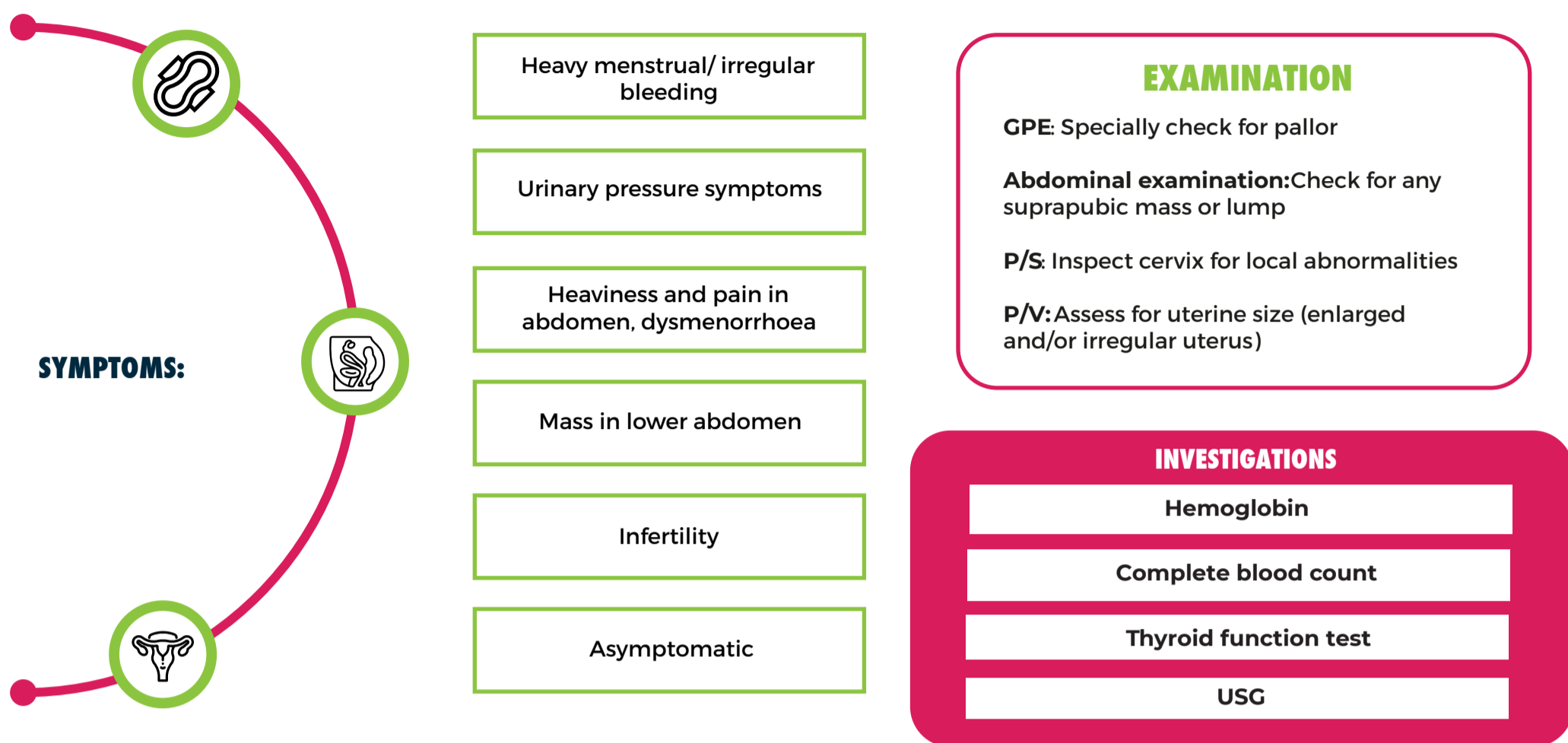
- Aortic compression may be used as a short time measure to reduce blood loss while awaiting definitive steps.
- Non-pneumatic anti-shock garment (NASG) should be used during transport if available
- Uterine artery embolization may be offered in selected patients if facilities are available

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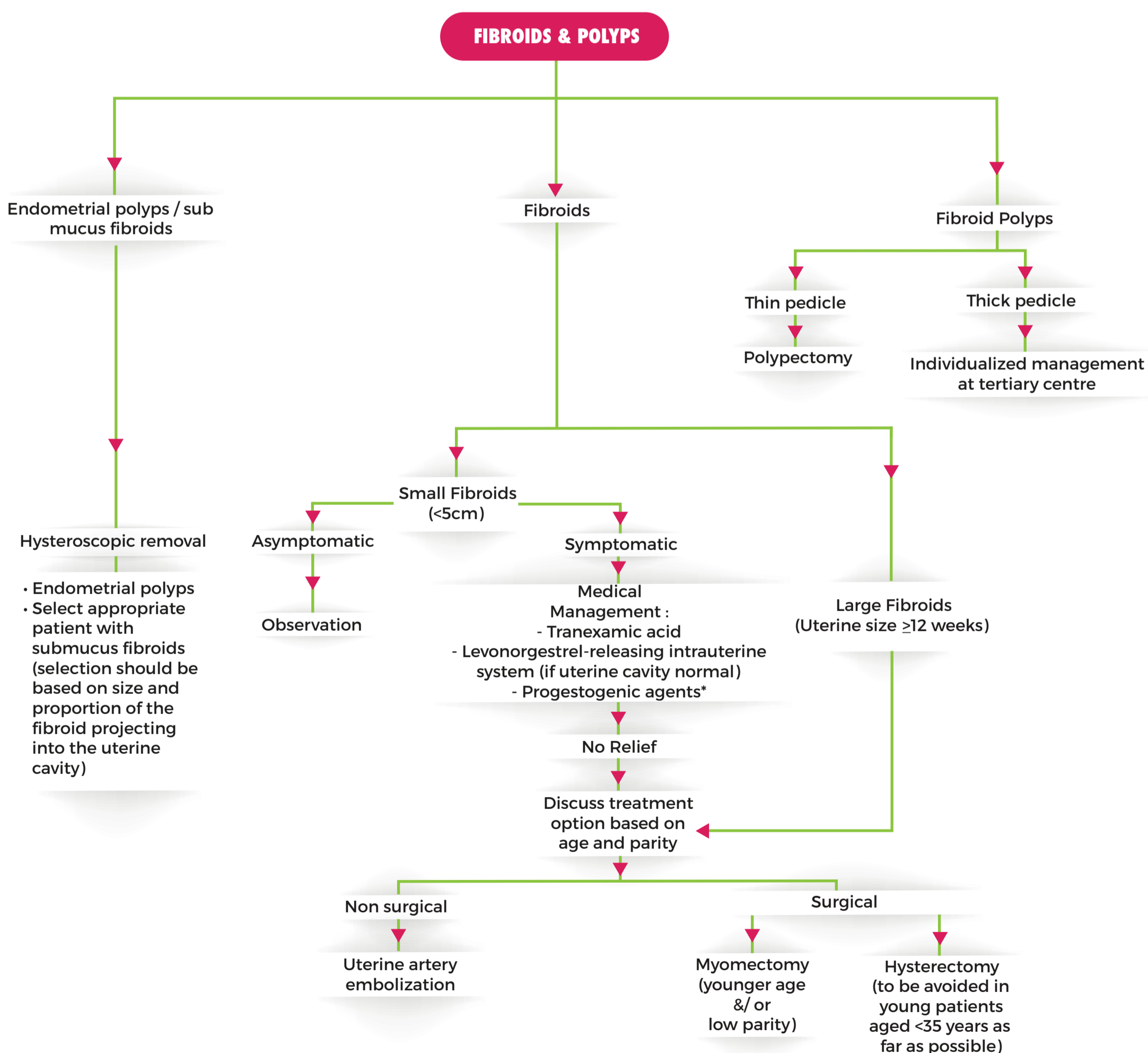
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## Standard Treatment Workflow (STW) for the Management of **UTERINE FIBROIDS AND POLYPS** ICD-10-D25 & N84



**ASYMPTOMATIC FIBROIDS <5CM DO NOT NEED TO BE TREATED**



\*Norethisterone (max daily dose 40 mg) OR Medroxyprogesterone acetate (max daily dose 40 mg). Any hormone should be given orally daily in divided doses for a duration of three weeks and repeated in a cyclical manner for total of 4-6 cycles of treatment

**ALL THERAPUTIC OPTIONS NEED TO BE EXPLAINED TO THE PATIENT INCLUDING JUST KEEPING THE PATIENT ON OBSERVATION. ALL PATIENTS OF FIBROID UTERUS DO NOT NECESSARILY NEED HYSTERECTOMY.**

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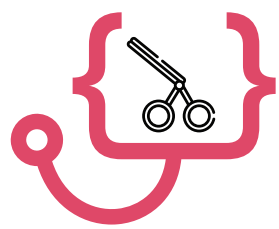
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