### 14b. General and systemic examination

### Unit 14(b): General and Systemic Examination (Stree Rugna Parīkṣaṇa)

## **Learning Goals**

By the end of this chapter, you should be able to:

- set up a safe, dignified environment for gynaecology patients and obtain consent;
- perform a structured general examination (vitals, anthropometry, head-to-toe signs);
- conduct focused systemic examinations (breast, thyroid, CVS, RS, abdomen, neuro-musculoskeletal) with gynaecology-specific inferences;
- document findings and identify red flags that need urgent referral or targeted investigations.

A gynaecological examination is done to assess the overall health of the female reproductive system. During the exam, the gynaecologist will look at the external and internal reproductive organs, as well as at the breasts, to determine whether there are any problems or conditions present.

# 1) Preparation, Consent, Dignity

- Environment: single patient, curtains/door closed, adequate light, hand hygiene.
- Chaperone: offer one for all intimate examinations.
- Consent: explain sequence—general check first, then systemic; pelvic exam (if needed) will be explained separately.
- Comfort: warm hands/instruments; allow questions; stop anytime on request.
- Safety: ask about pain, pregnancy possibility, allergies to antiseptics/latex.

# 2) General Survey (First Impressions Count)

Appearance & distress: sick-looking, comfortable, anxious, dyspnoeic, in pain?

**Build, posture, gait:** cachectic/obese, antalgic gait (pelvic pain), kyphosis (osteoporosis).

**Hygiene & odour:** poor hygiene may contribute to recurrent vulvovaginal infection; **fruity odour** suggests uncontrolled diabetes.

### **Anthropometry**

- Height, weight, BMI (kg/m²). Asian cut-offs (useful in India):
  - o Normal: 18.5-22.9; Overweight: 23.0-24.9; Obesity: ≥25.
- Waist circumference: central obesity if ≥80 cm in women (South Asian cut-off)—metabolic risk/PCOS clue.
- Waist-hip ratio: ≥0.85 suggests central adiposity.

#### Vital signs (sitting, then supine if needed)

- Pulse: rate/rhythm/volume. Tachycardia with HMB may indicate anaemia; thready pulse with pain → shock (ectopic/PID).
- **Blood pressure:** both arms if first visit; orthostatic change suggests dehydration/anaemia.
- **Temperature:** fever with pelvic pain → PID/abscess.
- **Respiratory rate & SpO2:** tachypnoea may indicate sepsis/PE (postoperative, postpartum).

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## 3) Head-to-Toe General Signs

- Pallor (conjunctiva, nail beds): common in AUB; grade and plan CBC/iron profile.
- Icterus: contraceptive-related cholestasis, viral hepatitis, hemolysis (rare).
- Cyanosis & clubbing: chronic cardiopulmonary disease; consider hypoxia risk in major surgery.
- **Oedema:** pitting pedal oedema—cardiac/renal/hepatic disease, hypothyroidism; unilateral calf swelling—**DVT** (post-op, pregnancy, OCP use).
- Lymphadenopathy: inguinal nodes (vulvar/cervical infections, neoplasia).
- **Dehydration:** dry mucosa, poor skin turgor (HG, sepsis).
- Skin, hair, nails:
  - Acanthosis nigricans (neck/axilla)—insulin resistance (PCOS).
  - Hirsutism (chin, upper lip, chest, linea alba, thigh). Use modified Ferriman-Gallwey (mFG) score (0-4 at 9 sites; ≥8 suggests clinical hirsutism).
  - o Acne, androgenic alopecia—hyperandrogenism; purple striae, moon face—Cushingoid.
  - **Vitiligo**—autoimmunity (check thyroid).
  - **Bruising**—coagulopathy (AUB since menarche).
- Face & habitus:
  - **Hypothyroid:** puffy face, dry skin, slow reflexes.
  - **Hyperthyroid:** lid lag, fine tremor, warm moist skin.
  - Turner stigmata (short stature, webbed neck)—primary amenorrhoea clue.
- Eyes: pallor/ icterus; galactorrhoea crust on lashes suggests hyperprolactinaemia (ask breast discharge).
- Oral cavity & dentition: poor dentition (pregnancy gingivitis), thrush (diabetes, antibiotics).
- Spine/pelvis: scoliosis/kyphosis (osteoporosis), pelvic asymmetry (past trauma).

# 4) Breast Examination (Systemic—but essential in Gynaecology)

Why: contraception counselling, lactation issues, mastalgia, screening; galactorrhoea points to prolactin excess.

Steps (explain and obtain permission; expose to clavicle level only as needed)

- 1. Inspection (sitting, arms by side → raised → hands on hips pressing): symmetry, contour, skin changes (peau d'orange), scars, nipple inversion/discharge.
- 2. Palpation (supine, ipsilateral arm behind head): use flat finger pads; systematic quadrant + axillary tail; note site/size/shape/consistency/mobility/tenderness; check axillary and supraclavicular nodes.
- 3. **Discharge test:** compress areola around the duct; document colour (bloody unilateral discharge is red flag).
- 4. **Documentation:** clock position and distance from nipple; BIRADS referral if imaging required.

**Red flags:** hard irregular fixed lump; skin dimpling; bloody discharge; axillary node enlargement; constitutional symptoms.

# 5) Thyroid Examination

Relevance: menstrual irregularity (both hypo/hyperthyroid), infertility, pregnancy risk.

#### Steps

- Inspect for goitre/scars—ask to swallow (lobe moves).
- Palpate from behind—each lobe + isthmus; note size, nodules, tenderness, bruit (to auscultate in hyperthyroid).
- Look for signs: tremor (hands outstretched), pulse, lid lag, reflexes (delayed in hypothyroid).

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# 6) Cardiovascular and Respiratory Systems

- **CVS:** apex beat, added sounds/murmurs (rheumatic MS/MR—AUB anticoagulation implications, pregnancy risk); peripheral pulses; **signs of heart failure** (raised JVP, oedema).
- **RS:** chest expansion, breath sounds; crackles/wheeze; **post-op** atelectasis/PE risk; chronic smokers—anaesthesia risk.

## 7) Abdominal Examination (Core for Gynaecology)

Position: supine, knees flexed, bladder emptied; stand on right side.

#### Inspection

- Shape/distension, visible peristalsis; scars (Pfannenstiel/LSCS, laparoscopy ports), striae; prominent veins (portal hypertension, IVC obstruction).
- Umbilicus: everted (ascites/mass), Sister Mary Joseph nodule (metastasis).
- Masses: central vs lateral; movement with respiration; visible fetal movement (if pregnant).

#### Palpation (start away from pain)

- Superficial palpation for tenderness/guarding.
- **Deep palpation** for masses:
  - **Uterine mass** (fibroid/gravid uterus): **midline, firm, regular**, **arises from pelvis** (lower border not felt), moves with cervix (see below).
  - Ovarian mass: usually lateral, cystic, restricted vertical but good horizontal mobility; lower border may be felt if large.
- Cervico-mass relationship (Fothergill sign): a fibroid arising from uterus moves with the cervix; an ovarian mass moves independently.
- **Organomegaly:** hepatosplenomegaly (malignancy, infection).
- Hernial orifices: cough impulse; post-op incisional hernia.

#### **Percussion**

- Shifting dullness/fluid thrill—ascites in advanced ovarian malignancy/tuberculosis.
- Note mass dullness vs surrounding resonance.

#### Auscultation

- **Bowel sounds** (obstruction?); **bruit** over large fibroids (rare).
- Foetal heart (if pregnancy suspected) to avoid missteps in non-obstetric procedures.

### **Special tests**

- Pregnancy test before invasive pelvic procedures in reproductive age.
- **Cullen sign** (periumbilical ecchymosis) in hemoperitoneum (rare but exam favourite).

**Red flags on abdomen:** acute peritonism, rapidly increasing girth, nodular liver, ascites with weight loss, fixed irregular pelvic-abdominal mass.

# 8) Neurological and Musculoskeletal Screen

- Reflexes: delayed relaxation (hypothyroid).
- Peripheral neuropathy: diabetes, B12 deficiency (gait instability).

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• Back & pelvic girdle: sacroiliac tenderness (endometriosis), pelvic floor dysfunction (ask cough stress test for leakage if relevant).

## 9) Lower Limb & Vascular

- Varicose veins (multiparity, pelvic mass compression); trophic skin changes.
- **DVT screen:** calf tenderness, swelling, Homan sign is unreliable—use **Wells criteria** in doubt; urgent Doppler if high risk (OCPs, post-op, postpartum).

# 10) From Signs to Syndromes—Gynaecology Lens

Finding	Likely associations (Gyn-relevant)	Next steps
Pallor, tachycardia	AUB-HMB, fibroids, adenomyosis, coagulopathy	CBC, ferritin; pelvic USG
Acanthosis, central obesity, hirsutism	PCOS, metabolic syndrome	Fasting glucose/OGTT, lipids; mFG score; pelvic USG
Galactorrhoea, headaches	Hyperprolactinaemia	Prolactin, TSH; MRI if very high
Goitre/tremor or puffiness	Thyroid disease	TSH, FT4; adjust contraception/pregnancy planning
Ascites, weight loss, early satiety	Ovarian carcinoma (advanced), TB	USG/CT, CA-125 (with caution), referral
Hard fixed breast lump, bloody discharge	Breast malignancy	Imaging (USG/mammography), core biopsy
Unilateral leg swelling/tenderness	DVT (OCPs/post-op/pregnancy)	Urgent Doppler, anticoagulation pathway
Firm midline pelvic mass moving with cervix	Uterine fibroid/gravid uterus	Pregnancy test; USG pelvis
Lateral cystic mobile mass, independent of cervix	Ovarian cyst/tumour	USG pelvis; tumour markers as indicated

# 11) Documentation—How to Write It So It's Useful

- Vitals/anthropometry with Asian cut-offs.
- **General signs** (pallor++, icterus-, cyanosis-, clubbing-, oedema +/-, nodes).
- Targeted systems (breast/thyroid/CVS/RS/abdomen/neuro).
- Abdominal mass: site, size (cm), shape, surface, consistency, mobility, tenderness, relation to cervix, borders, percussion note, ascites.
- Working impressions + red flags + initial tests agreed with patient.

## 12) Safety & Ethics Pearls

- PMB = cancer until proved otherwise.
- Always exclude pregnancy before AUB interventions.
- Explain what an unexpected finding means and the plan; never alarm without a pathway.
- Respect privacy during breast and abdominal exams; expose only the examined area; re-drape promptly.

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## 13) Integrative Note for BAMS Students

The general exam aligns with Ayurvedic emphasis on **prakṛti-vikṛti parīkṣā** and **doṣa-dhātu-mala** status. For example, **medovṛddhi** patterns (central adiposity, acanthosis) correlate with **PCOS/metabolic syndrome**, while **raktakṣaya** signs map to iron-deficiency anaemia in AUB. Use these correlations to strengthen counselling on **āhāra-vihāra** alongside precise modern diagnostics.

# 14) Ten High-Yield Revision Points

- 1. Start with consent, chaperone, dignity.
- 2. Anthropometry using Asian cut-offs helps unmask PCOS/metabolic risk.
- 3. **mFG score** (0-4 at 9 sites; ≥8 suggests hirsutism) supports hyperandrogenism assessment.
- 4. Breast exam is systemic but indispensable in gynaecology.
- 5. **Thyroid** disease commonly disturbs cycles—always screen on history/signs.
- 6. **Fothergill sign** helps distinguish uterine fibroid from ovarian mass.
- 7. Ascites + weight loss → suspect ovarian malignancy; look for umbilical/ supraclavicular nodes.
- 8. **DVT clues** matter in OCP users/post-op patients—don't miss unilateral calf swelling.
- 9. **PMB** and **bloody nipple discharge** are red flags—fast-track.
- 10. Document mass characteristics **systematically**—site, size, surface, consistency, mobility, relation to cervix.

### **Assessment**

### A) MCQs (one best answer)

1. The **Asian** waist circumference cut-off for central obesity in women is:

A. 70 cm B. 80 cm C. 88 cm D. 102 cm

Answer: B

2. A firm midline mass that moves with the cervix suggests:

A. Ovarian cyst B. Gravid uterus/fibroid uterus C. Renal mass D. Mesenteric cyst

Answer: B

3. **Acanthosis nigricans** in a young woman most strongly points to:

A. Hypothyroidism B. Cushing syndrome C. Insulin resistance (PCOS) D. Chronic liver disease

Answer: C

4. The most appropriate **first step** before evaluating AUB in a 28-year-old is:

A. Pelvic USG B. Prolactin level C. Endometrial biopsy D. Pregnancy test

Answer: D

5. Bloody unilateral nipple discharge should be considered:

A. Benign eczema B. **Red flag for malignancy** C. Galactorrhoea only D. Duct ectasia alone

Answer: B

6. A woman on OCP presents with unilateral calf swelling and tenderness. The immediate concern is:

A. Cellulitis B. Varicose veins C. **DVT** D. Lymphoedema

Answer: C

7. **mFG score** assesses:

A. Acne severity B. **Hirsutism** C. Alopecia D. Skin phototype

Answer: B

8. Shifting dullness on percussion suggests:

A. Pregnancy B. Fibroid C. Ascites D. Full bladder

Answer: C

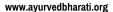
9. A hard irregular breast lump with skin dimpling requires:

A. Reassurance only B. Antibiotics C. Urgent imaging and biopsy D. Vitamin E

Answer: C

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Puffy face, bradycardia, delayed ankle reflex suggests:
 A. Hyperthyroidism B. Cushingoid state C. **Hypothyroidism** D. Addison's **Answer:** C

#### B) Short Answer Questions (3-5 lines each)

- 1. Write the steps of breast examination, including positions.
- 2. How do you perform and interpret the **Fothergill sign**?
- 3. Enumerate **general signs of anaemia** and list first-line investigations.
- 4. Describe the modified Ferriman-Gallwey scoring and its clinical threshold.
- 5. Document a **pelvic-abdominal mass** in a standardised manner.

### C) Long Answer Questions

- 1. Describe a **structured general and systemic examination** for a gynaecology patient. Correlate at least **ten signs** with their likely gynaecology aetiologies and list the **first-line investigations** each should trigger.
- A 36-year-old obese woman with oligomenorrhoea and hirsutism presents to OPD. Write the complete general
  and systemic examination, explain the pathophysiological links to PCOS, and outline the initial work-up
  and counselling.

### D) OSCE Stations (checklists)

• Station 1: General survey + vitals (3 min)

Candidate measures BMI (Asian cut-offs), waist, pulse, BP; states two gynaecology implications of abnormal values.

Station 2: Breast exam (5 min)

Candidate obtains consent, positions correctly, performs inspection/palpation, documents a quadrant-based finding, states two red flags.

• Station 3: Abdominal mass differentiation (4 min)

On model, candidate demonstrates palpation, comments on relation to cervix (Fothergill), states likely uterine vs ovarian origin.

• Station 4: Thyroid screen (3 min)

Candidate inspects/palpates thyroid, elicits one sign of hyper- and one of hypothyroidism, and states one menstrual implication of each.

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