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.

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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):
  - **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 & SpO_2:** 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).
    - **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).

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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.

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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.

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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.

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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.

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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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10. 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.
2. 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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