Genitourinary History and Examination (Female)

All patients presenting with genitourinary symptoms require a focused history and thorough examination. The easy availability of genitourinary imaging should not replace the clinical skills which lead to a possible diagnosis and list of differential diagnoses. It is these that point the clinician towards appropriately focused tests delivered with appropriate urgency.

Symptoms must be assessed in the context of the patient's medical, surgical and gynaecological background, obstetric history, family history, sexual history and risk factors both general and specific. Remember also that symptoms apparently localised to the genitourinary system may occasionally be referred from elsewhere - eg, urinary symptoms may be caused by metabolic, neurological or psychological problems. Moreover, symptoms which appear initially to relate to other systems may be produced by genitourinary pathology (eg, lower back pain in upper urinary tract infection, or iliac fossa pain in ectopic pregnancy.

The following account lists important elements of the history and examination, and provides some diagnostic pointers. The article refers mainly to adult women. However, paediatric genitourinary history and examination are also referred to and important aspects particular to children are outlined.

The separate partner article Genitourinary History and Examination (Male) covers detail specific to male patients.

Female genitourinary history

A clear and focused history is essential. Patients may feel awkward or even reluctant to give a full account of some aspects of the history, and may need prompting with specific questions. It is the skill of the clinician to obtain the relevant history. The history-taking should be conducted with sensitivity, but details should be pursued according to the importance and relevance to the presenting problem.

Be sensitive but unembarrassed. A statement such as 'I am sorry to ask you such an embarrassing question' may make the patient feel worse, as it suggests that the doctor may also be embarrassed. Try instead to explain that you need to ask some questions which may feel personal in order to try to get to the bottom of the problem. If necessary explain why you are asking the question: for example, if asking about positional pain during intercourse, explain that this can give you an idea of which internal structures or organs are producing the pain.

History of presenting complaint

All history-taking starts with an exploration of the problem, initially allowing the patient to talk freely, with open questions and a facilitative form of questioning. Phrases such as 'Tell me more,' and 'What did you think it was?' may help clarify the patient’s ideas and concerns.

Be sure that before moving on to the specific history items below you have discovered the following.

The presenting complaint

Pain

- Onset - establish how, when and where.
- Duration of pain.
- Note whether pain is intermittent or constant.
- If it is intermittent, establish the frequency.
- Severity of pain.
- Ask whether pain is getting worse, better or staying the same.
- Note the exacerbating and relieving factors for the pain.
- Ask whether the patient has had any previous investigation or treatment.
- Discuss relationship to menses (eg, dysmenorrhoea, Mittelschmerz).
- Discuss relationship to intercourse (see 'Dyspareunia', below).
- Determine the effect of the pain on life and work.
- Discuss the patient's ideas, concerns and expectations.

Dyspareunia

- Determine whether this is superficial (eg, vaginismus, episiotomy scar) or deep (uterine, cervical or adnexal).
- Note whether there is radiation.
- Ask whether it is preventing penetration or full intercourse.
- Ask whether libido and foreplay are sufficient.
- Discuss positional factors. Pain relating to deep penetration may come from the ovaries.
- Ask whether there is dryness/atrophy.
- Note whether there is any rash.
- Ask whether it is intermittent/recurrent or always present.
- Establish the degree of distress.
• Note whether there is evidence of mood disorder.
• Discuss relationship to menses. Note whether the patient is postmenopausal.

**Urinary symptoms**

• If pain is a *urinary symptom*, discuss relationship to micturition.
• Establish whether there is urethral discharge.
• Discuss frequency of micturition (day and night).
• Establish urgency.
• Urge incontinence - note whether this leads to partial or total voiding.
• Stress incontinence - note what provokes this and whether it leads to partial or total voiding.
• Discuss whether there is restriction on normal activities and plans.
• Ask whether symptoms are intermittent/recurrent or always present.

**Vaginal discharge**

• Establish the colour of vaginal discharge and whether or not it is bloodstained.
• Note: physiological discharge is usually scanty, mucoid and pale/colourless; it should not be offensive. Therefore, discuss with the patient:
  - Discharge odour.
  - Consistency of discharge.
  - Whether there is associated itch, burn or fever.

• Discuss use of gels, douches, vaginal deodorants or perfumed bath additives.
• Ask whether there is associated localised tenderness (eg, Bartholinitis).

**Abnormal vaginal bleeding**

• Note whether the patient has clotting and/or flooding.
• Establish whether there is *intermenstrual* or *postcoital* bleeding.
• Establish periodicity.
• Discuss relationship to menses and relationship to coitus.
• Ask whether there is possibility of pregnancy.

Having obtained all relevant information regarding the presenting complaint, ask the patient about their:

• Ideas about the problem.
• Concerns or anxieties regarding the cause.
• Expectations from the consultation.

Then move systematically through the history covering the areas below, and focusing on those that are relevant to the case.

**Menstrual history**

• Age at menarche:
  - Average age in the UK is 12 years 11 months, with racial variation.
  - Body weight is a factor (average weight at onset 48 kg).
  - If there is concern about abnormal puberty (precocious puberty, delayed puberty) ask about onset of other secondary sexual characteristics and thelarche (onset of breast development).
  - Ask whether the patient is sexually active and, if so, when last active. Ask about contraceptive method and whether they are trying for a baby.
• In *primary amenorrhoea*:
  - Look for presence of secondary sexual characteristics.
  - Consider imperforate hymen (very rare).
  - Look for features suggesting genetic abnormality - eg, Turner syndrome.
  - Look for features of hyperandrogenism.

• Consider relevant causes of *secondary amenorrhoea*:
  - Physiological: pregnancy, lactation (the only pre-menopausal patient who cannot be pregnant is one who has not been having intercourse).
  - Psychological: look for mood abnormalities.
  - Record BMI (low BMI suggesting anorexia nervosa).
  - Extrinsic hormonal causes: drugs such as the contraceptive pill, and progestogen-only contraceptive methods.
  - Intrinsic hormonal causes: hypothyroid, pituitary, thyroid and adrenal disorders.
  - Ovarian factors: polycystic ovaries, ovarian tumours, ovarian infection, primary ovarian failure.
The pattern of the menstrual cycle. Record:
- First day of last normal menstrual period.
- Days of blood loss.
- Length of cycle.
- Whether blood loss was heavy: number of tampons and/or pads, whether clots were present.
- What form of contraception is used.
- Any discharge other than the menses.

The normal menstrual cycle:
- Range is 21 to 35 days and average is 28.
- Most healthy, fertile women have regular cycles with 1 or 2 days of variation.
- Blood loss is 50-200 mls and averages 70 mls.
- Guide to loss is use of pads and tampons.
- Passage of large clots suggests excessive bleeding.

Abnormal patterns of bleeding:
- Polymenorrhoea: unusually frequent periods.
- Oligomenorrhoea: unusually infrequent or scanty periods (common around puberty).
- Menorrhagia: unusually heavy periods.
- Menometrorrhagia: prolonged, excessive and irregular uterine bleeding.
- Intermenstrual bleeding (bleeding between periods):
  - Breakthrough bleeding on the pill.
  - Diseases of the uterus and cervix.
  - Mucosal disorders.
  - Postcoital bleeding (usually local cervical or uterine disease).

- Postmenopausal bleeding: bleeding occurring over 12 months after amenorrhoea of menopause.
- Dysfunctional uterine bleeding:
  - Abnormal bleeding that cannot be ascribed to pelvic pathology.
  - Regular pattern suggests ovulation occurring.
  - Irregular pattern suggests anovulatory cycles.
Psychosexual history
This needs to be conducted sensitively. It requires experience, knowledge and good clinical judgement to recognise and define underlying psychosexual problems and differentiate them from other causes of symptoms (dyspareunia, low abdominal or pelvic pain, for example). A history should include enquiry about:

- Relationship details, including issues of sexuality.
- Intercourse and sexual practices.
- Libido.
- Orgasm.
- Association of other symptoms.
- If it seems relevant/there are cues, ask about previous negative sexual experiences

Obstetric history
- Ask whether the patient has ever been pregnant.
- Record completed and unsuccessful pregnancies.
- Take details of gestation at time of any miscarriages or terminations.
- Note complications of pregnancy, particularly gestational diabetes, hypertension, HELLP syndrome - a condition related to pre-eclampsia and characterised by:
  - H aemolysis
  - EL (elevated liver) enzymes
  - LP (low platelet) count
- Ask about features of labour which might encourage weakness of the pelvic floor, resulting in stress incontinence:
  - Note length of labour and whether there was any prolonged pushing.
  - Note size of babies - a larger baby, particularly if there was shoulder dystocia - may increase the chances of later stress incontinence.
  - Ask whether any methods of assisted delivery were required (forceps, caesarean section).
  - Ask whether there was postpartum haemorrhage.
- Note complications in the puerperium - eg, depression.

Other symptoms
- Loin pain; urinary calculi can cause ureteric obstruction and lead to severe loin pain which radiates to the symphysis pubis and groin. The sudden onset of pain in renal colic or acute urinary retention contrasts with the gradual build-up of pain from a renal tumour or the slow development of urinary symptoms from outflow obstruction. Ask about associated features such as pain, haematuria or incontinence.
  - Urinary incontinence; may be stress incontinence, detrusor instability, detrusor underactivity or urethral obstruction.
  - Urethral discharge may occur as a result of a sexually transmitted disease.
  - Systemic symptoms of acute kidney injury or chronic kidney disease - eg, anorexia, vomiting, fatigue, pruritus and peripheral oedema.
  - Some patients have no symptoms but abnormalities are discovered on measuring blood pressure or abnormalities on routine urinalysis, renal function or serum biochemistry.

Occupational history
- Exposure to chemical carcinogens such as 2-naphthylamine or benzidine in the chemical or rubber industries (these may induce bladder cancer many years later).

Foreign travel
- Travel to Egypt or Africa may result in exposure to schistosomiasis.
- Dehydration during time in a hot climate may lead to development of kidney stones.

Family history
- Any family history of chronic kidney or polycystic kidney disease

Past medical history
- Neurological diseases may cause abnormal bladder function - eg, Parkinson's disease, multiple sclerosis or cerebrovascular disease.
- Any previous kidney disease, hypertension, diabetes, gout or back injury may be relevant. Abdominal or pelvic surgery can cause denervation injury to the bladder.
- Previous surgery - eg, for urinary incontinence.
- Ureteric injury may occur following abdominal or gynaecological operations.

Medication history
- A full current and past medication history is important.
- Past history of prolonged analgesic use may be a cause of chronic kidney disease.
- Dosages of some drugs may need to be adjusted or stopped in chronic kidney disease.
Female genitourinary examination

Preparation for the examination

- Equipment should have been prepared beforehand.
- Taking the history can help establish rapport and help patients prepare for the intrusive examination which may follow.
- Most patients will be prepared for an examination if their symptoms suggest that such examination is likely to be required.
- Nevertheless, time should be taken to explain any examination: you need to explain exactly what you are about to do, and why.
- Make sure that you have clear consent to proceed.
- Patients should be warned about discomfort or pain when and if this is likely.
- Advise patients that if at any point during the examination they are uncomfortable or would like you to stop then they need to indicate this and you will stop at once.
- Ensure comfort and privacy are maintained with basic facilities for undressing.
- Offer chaperones, preferably nurses, who are qualified to assist and reassure the patient. Ideally the chaperone should speak the patient's language, as this avoids misunderstanding. Failing this, consider offering a translator outside or inside the curtain as the patient wishes, in addition to the nurse chaperone. If none is available offer to postpone the examination unless you feel it is clinically urgent and cannot wait.
- Encourage patients to empty their bladder before the examination.

General examination

This should detect conditions which may either present or complicate genitourinary disease. Examples include:

- **Hirsutism** and/or acne, reflecting possible endocrine disorders.
- Anaemia, which commonly accompanies menstrual disorders.
- Conditions which are associated with menstrual symptoms:
  - Thyroid disease
  - Cushing's syndrome
  - Anorexia nervosa
  - Other chronic diseases
- Breast examination.
- Lymphadenopathy, especially inguinal nodes.
- Assessment of secondary sexual characteristics.
Abdominal examination
The uterus, vagina and adnexa lie within the pelvis but findings relevant to the genitourinary system may be visible, palpable and percussible in the abdomen. Careful abdominal examination may detect:

- Abdominal masses arising from the pelvis:
  - Large ovarian cysts, which can be detected by abdominal percussion revealing central dullness.
  - Pregnancy (often used to equate the size of other pelvic tumours):
    - 12 weeks - palpable above the pubic bone.
    - 16 weeks - palpable midway between the pubic bone and umbilicus.
    - 20 weeks - just below the umbilicus.
    - 28 weeks - just midway between the umbilicus and xiphisternum.
    - 34 weeks - just below the xiphisternum.

- Palpable bladder in urinary retention.
- Tender bowel loops suggesting irritable bowel disease or other gut pathology. This is an important cause of dyspareunia.
- Renal angle tenderness suggesting a renal cause for pain.
- Ascites: percussion reveals lateral dullness and a tympanic central abdomen.

Examining external genitalia

Prepare for examination:

- Position the patient with help of a chaperone on to the couch (supine, flexed hips and knees with heels together, thighs abducted).
- Cover the patient's abdomen with a sheet.
- Position lighting to give a clear view of external genitalia.
- Put on disposable gloves.

Examination of the vulva

- Explain the procedure to the patient.
- Systematically examine the labia majora, labia minora, introitus, urethra and clitoris.
- Bartholin's glands are not normally tender or palpable.
- Assess atrophic changes in the menopause and in pubertal development in teenagers.

Examination of the vagina

- It is next appropriate to assess whether further examination (both digital and speculum) is appropriate or possible. If the patient has never been sexually active (note the hymen is normally always perforate, even in babies, despite the opinion of many courts of law) and is not using tampons, further internal examination would be inappropriate.
- The practice of rectal examination to assess the genitalia indirectly (although technically possible) is rarely necessary or appropriate. It should not be performed in children and is often distressing and unacceptable in adults. The advent of ultrasound makes such an intrusive procedure unnecessary.
- Separation of the labia and asking the patient to 'bear down' will allow the examiner to visualise the vestibule and to identify:
  - Cystocele.
  - Rectocele.
  - Uterine descent or prolapse.

Examination of the cervix

- Clear explanation of procedure should again be offered.
- Vaginal wall and cervical examination is achieved using a speculum.
- The speculum also allows access for swabs and the taking of cervical smears.
- A single-use disposable speculum is now the norm.
- If a smear is to be taken, any lubricant other than tepid tap water should be avoided. This is also true in some circumstances for other samples - eg, in forensic examinations following rape.
- A bivalve or Cusco's speculum is usually used. The lateral position and Sims' speculum may be used further to assess prolapse.
- Position of the cervix relates to uterine position (anteverted, axial or retroverted).
- Cervical os shape relates to whether the patient is parous or not.
- The cervix may be bluish in early pregnancy (Chadwick's sign).
- Although the squamocolumnar junction can be visualised, cytology is necessary to diagnose and exclude cervical cancer.
- Taking of cervical smears and swabs should be in accordance with local laboratory guidelines and instructions.
- The speculum should be removed carefully and without discomfort to the patient.

Internal examination of the uterus

Offer explanation of the bimanual examination required to examine the uterus, Fallopian tubes and ovaries internally.

- Expose introitus, holding the labia apart with a gloved hand.
- Introduce lubricated right index and middle fingers.
- Palpate the uterus between abdominal (left) hand and internal (right) hand.
- Identify the cervix and uterus. The right and left adnexa are not normally palpable.
- Assess size, consistency and mobility of organs felt. Identify tenderness.
- In pregnancy the cervix softens (Hegar's sign).
Cervical excitation may occur with infection or inflammation of either the uterus or adnexa. Discuss findings in more detail when the patient is dressed and prepared to take in information.

The genitourinary history and examination in children

This should involve parents and be done sensitively and carefully. Genitourinary disease in children is more varied and complex (for example, ambiguous genitalia) than in adults. Developmental aspects may be important in both the history and examination. Aspects of this are covered in other separate articles - for example, Normal and Abnormal Puberty, Paediatric History and Paediatric Examination.

History

In general medical practice the history will usually focus on presenting complaints but, in babies particularly, will involve screening for disease as well. Some of the history overlaps with that for adults but an understanding of normal growth and development, particularly of normal pubertal development, is essential in paediatric practice. The possibility of child sexual abuse should be considered with genitourinary symptoms. It is important to think of foreign bodies (FBs) where there is offensive and profuse discharge, remembering though that there is an association between vaginal FBs in children and abuse. Pre-pubertal children do not usually insert objects into the vagina and indeed are not normally ‘aware’ that it is there.

Examination

This must be conducted with a clear understanding of normal development. Sensitive handling is essential and intrusive and intimate examinations are rarely appropriate. Ultrasound and other investigative techniques can now be used to assess internal organs. Inspection is often all that is required - where more detailed examination is needed it is best done by paediatricians, both for their greater experience and also so that the child is only examined once.

Children who need vulval examination may like to hold a soft toy.

Rectal examination to assess the genitilia is unacceptable in children and should not be performed.

In children with vulvo-vaginal discharge note:

- Toileting - establish whether they are going by themselves and their direction of wiping - whether they have been taught to wipe front to back.
- Whether they take showers or baths.
- Whether they experience any scratching, which might indicate worms.
- Whether there is any sign of a primary skin condition such as psoriasis, affecting the vulva.
- Signs of candidal skin infection. Note: vaginal thrush is uncommon in pre-pubertal girls, as the higher pH of the vagina at this stage does not encourage candidal growth. Vaginal discharge caused by streptococcus B colonisation is, however, more common.
- Determine whether there might be suspicion of sexual abuse. Note: vulvovaginal discharge is common in small girls, and sexual abuse is an uncommon cause of it but must nevertheless be considered.
- With careful explanation and guidance, and depending on age, some children or their parents may take a low vaginal or vulval swab for you.

Further reading & references

- Heavy menstrual bleeding; NICE Clinical Guideline (January 2007)
- Management of Vaginal Discharge in Non-Genitourinary Medicine Settings; Faculty of Sexual and Reproductive Healthcare (Feb 2012)
- 2013 UK national guideline for consultations requiring sexual history taking; British Association for Sexual Health and HIV (2013)
- Ectopic pregnancy and miscarriage: diagnosis and initial management; NICE Clinical Guideline (December 2012)
- Standards for the management of sexually transmitted infections; British Association for Sexual Health (BASHH) and HIV and Medical Foundation for HIV & Sexual Health (MEDFASH) (January 2014)

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