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Female Genital Mutilation

Definition

Female genital mutilation (FGM) refers to any procedure that involves excision or injury to the external female genitalia in absence of medical indications

Classification

Type 1	Clitoridectomy	Partial or total removal of the clitoris ± the prepuce
Type 2	Excision	Partial or total removal of the clitoris and labia minora ± labia majora
Type 3	Infibulation	Narrowing of vaginal orifice by cutting and approximating the labia minora ± labia majora
Type 4	Others	All other procedures e.g. piercing, pricking, incising

Complications

- FGM can be associated with dyspareunia, apareunia and impaired sexual function
- FGM is associated with psychological complications e.g. anxiety, post-traumatic stress disorder

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Management

- **Care team:**
  - A consultant or midwife trained in FGM should be assigned to their care
  - A Specialist multidisciplinary FGM service should be available for care of these patients on self-referral

- **The legal and regulatory responsibilities of health professionals:**
  - FGM Act 2003 in England states that:
    ① FGM is illegal unless medically indicated
    ② Involvement in arrangement of FGM overseas for a UK national or UK resident is illegal
    ③ Diagnosis of FGM in a girl < 18 years should be reported to police
    ④ FGM suspicion in a girl < 18 years indicates referral to social services
  - Female genital cosmetic surgery is prohibited unless medically indicated
  - Re-infibulation is illegal under any circumstances.
  - Responsibilities of health care providers caring of patients with recent FGM:
    - Health care providers should recognize symptoms and signs of recent FGM e.g. pain, infection, haemorrhage, urinary retention
    - If FGM is suspected, examination should be thoroughly documented in conjugation with photography
    - All women and girls with acute or recent FGM require police and social services referral
    - If FGM is diagnosed or suspected in children, they should be referred to child safeguarding service
    - Patients should be informed that they will be documented to HSCIC FGM enhance database

- **Medical management of FGM:**
  - **Gynecological practice:**
    - **Clinical assessment:**
      - ***History:*** All women in communities that practice traditional FGM should be asked directly on history of FGM. Patients may be also referred from a GP or self-referred
      - ***Physical assessment:*** it should include:
        ① Assessment of degree of FGM by inspection of the vulva
        ② Assessment of the need for de-infibulation (e.g. significant narrowing)

③ Assess FGM-related morbidities e.g. epidermoid inclusion cysts.

- ***Psychological assessment:*** should be offered to all women who experienced FGM
- ***Laboratory tests:*** All women with FGM should be tested for hepatitis B, C, HIV along with sexual health screening

- **Management:**
  - ***De-infibulation:***

Indications	De-infibulation may be indicated in women with type 3 FGM. Significant narrowing may prevent cervical cancer screening, genital infection screening, or other gynaecological procedures
Timing	If indicated, it should be offered before first intercourse or before pregnancy
Setting	The procedure may be performed under local anaesthesia in outpatient setting if accepted by the patient

  - ***Clitoral reconstruction:*** it should not be offered as it is associated with high risk of complications without clear benefit

- **Obstetric practice:**

Antenatal care	• All women should be directly asked about history of FGM in their first prenatal visit regardless of country of origin. A positive history indicates referral to a consultant or midwife who is responsible for FGM patients who should discuss and document plan of care • Examination is required in the first visit to determine if de-infibulation is indicated. Indications of de-infibulation are: ① Invisible urethral meatus ② Insufficiently open vagina • Hepatitis C testing should be added to first visit labs • FGM in pregnant women does not need to be reported to police or social service

	• Risk assessment is done using FGM safeguarding risk assessment tool. If there is risk to the unborn child or other children, risk should be reported • Consultant care is generally recommended because of the risk of complications. However, if patients had previous uncomplicated vaginal deliveries, their care can be led by a midwife
Intrapartum care	• If de-infibulation is necessary, it may be performed antenatally, during 1st stage of labor or at the time of delivery using local anesthesia or perioperatively after caesarean section. • Labial tears are treated in the conventional way
Postpartum care	• If de-infibulation was not performed for any reason, it should be offered in outpatient gynecological clinic or FGM clinic. If accepted by the patient, it should ideally be performed before next pregnancy

Pelvic Organ Prolapse

Definition

Pelvic organ prolapse (POP) refers to descent of one or more of pelvic organs below its normal anatomical position due to deficiency of pelvic support

Clinical assessment

- If POP is incidentally found during pelvic assessment by primary care provider, history should be reviewed with the patient, symptoms should be surveys, and examination should be performed to document prolapse and any other associated abnormalities
- If POP is incidentally detected by a secondary care provider, patient should be referred to a specialist with expertise in prolapse
- Specialist evaluation should include:
    - Symptom assessment using validated pelvic floor symptom questionnaire
    - POP-Q classification assessment
    - Assessment of pelvic floor muscles.
    - Assessment of vaginal atrophy
    - Ruling out pelvic masses or other pelvic pathology

  If symptoms are not explained by physical findings, repeat examination at standing or squatting position or at a different time. Imaging is not routinely offered

Investigations

Investigations are not routinely required, and they may be considered only in the presence of one of these symptoms:

- Bothersome urinary symptoms that may warrant surgery
- Obstructed defecation or faecal incontinence

- Pelvic pain
- Other symptoms not explained by physical findings

Management

- **Non-surgical management of POP:**

Life-style modification	• The patient is advised to avoid heavy lifting • Prevention/treatment of constipation • Weight loss if body mass index is above 30
Topical oestrogen	• It is considered in women with POP associated with vaginal atrophy • In women with cognitive or physical impairment, oestrogen-releasing ring may be considered
Pelvic floor muscle training	• Supervised pelvic floor muscle training is the first line of management for stage 1 or 2 prolapse. It should be considered for at least 16 weeks • If it is beneficial, women are advised to continue this management
Pessaries	• Vaginal pessary is considered for symptomatic POP as a sole management or in conjugation with pelvic floor muscle training • Before placing a pessary, provider should: ▪ Consider treatment of vaginal atrophy with topical oestrogen ▪ Explain to the patient that more than 1 pessary may be tried to find the most suitable pessary ▪ Discuss effect of pessary on sexual intercourse ▪ Discuss complications e.g. vaginal discharge, bleeding, difficulty removing pessary, pessary expulsion • Pessary should be removed at least once every 6 months to prevent complications e.g. vaginal erosions • If the patient cannot remove it herself despite education, offer regular appointments in the pessary clinic every 6 months

- **Surgical management of POP:**
  - **Indications:**

    Surgical treatment is offered, if non-surgical management is declined or fails.

- **Patient counselling:**
  - Women who will have surgery for anterior or apical prolapse, should be counselled on risk of postoperative incontinence which may need further treatment
  - If mesh will be used, you should explain the type of mesh and whether it is permanent and ensure that procedure, as well as short- and long-term outcomes are recorded in national registry

- **Surgical options:**

Uterine prolapse	***If the patient is not interested in preserving her uterus:*** offer vaginal hysterectomy with or without vaginal sacrospinous fixation or vaginal sacrospinous hysteropexy with sutures or Manchester repair or Sacrohysteropexy with mesh	***If the patient is interested in preserving her uterus:*** offer vaginal sacrospinous hysteropexy or Manchester repair, if she is not desiring pregnancy Consider Sacrohysteropexy with mesh
Vault prolapse	• Offer the patient vaginal sacrospinous fixation or Sacro colpopexy. • If synthetic mesh is to be used, procedures and outcomes should be collected in a national registry.	
Vault or uterine prolapse in high risk patients	Colpocleisis may be considered in women with vault or uterine prolapse who are not interested in sexual function and at higher surgical risk	
Anterior prolapse	Anterior repair without mesh	
Posterior prolapse	Posterior repair without mesh.	

Do not offer surgery to prevent incontinence in women undergoing prolapse surgery and who do not have incontinence

- **Continence surgery at the time of pelvic organ prolapse repair:**
  - Pelvic floor muscle training (PFMT) is the first-line management for both SUI and mild-to-moderate POP
  - Continence surgeries include:
  - Colposuspension (Burch) at the time of abdominal sacrocolpopexy
  - Synthetic midurethral slings (SMUS) either retropubic tension-free vaginal tape (RP-TVT) or transobturator tension-free vaginal tape (TO-TVT) at the time of vaginal prolapse repair

- Stress urinary incontinence (SUI) affects approximately 1 in 3 women, while POP affects approximately 1in 9 women. SUI being the most prevalent type of UI (approximately 50% of all women with UI
- POP and SUI may coexist in up to 80% of women with prolapse.

Group A: women with POP and asymptomatic for SUI (including occult urinary incontinence OSI)	▪ Occult stress incontinence (OSI) is the demonstration of SUI following the reduction of POP in women who are asymptomatic for SUI. Significant prolapse can lead to urethral kinking and preservation of continence or masking of UI. ▪ Combined prolapse and continence surgery more likely to treat OSI than prolapse surgery alone. ▪ The rate of symptomatic postoperative SUI after combined surgery in women asymptomatic for SUI (including OSI) is almost 30%, raising the debate of whether patients would benefit from interval surgery (treating with POP repair alone and dealing with postoperative SUI if and/or when required. ▪ In view of the lower success rate for secondary continence procedures, interval surgery may also be preferable.
Group B: women with POP and coexisting symptomatic SUI	▪ women who are symptomatic of SUI and POP, concomitant vaginal POP repair and synthetic midureth eral slings (SMUS) is beneficial for reducing postoperative SUI. ▪ However, it must be borne in mind that in women undergoing vaginal POP surgery alone, almost one-third may experience cure of SUI symptoms.

Group C: women with SUI and asymptomatic POP	▪ the limited evidence available indicates that in women with SUI and asymptomatic POP, concomitant repair at the time of SMUS is unlikely to confer a benefit to the continence outcomes and the POP itself is unlikely to progress within 3 years.

- Whether asymptomatic or symptomatic of SUI, more women are continent following concomitant POP and SUI procedures compared with POP repair only.
- Despite concomitant continence surgery, SUI can still persist in approximately one-third of women especially with the lower success rate of all secondary continence procedures compared with primary procedures.
- In almost one-third of women, prolapse repair alone can improve SUI symptoms.
- Although SUI may persist or develop after POP repair alone, not all women opt for further surgery.

- **Follow-up after surgery:**
  - The patient should be followed up 6 months after surgery
  - During this visit, vaginal examination should be performed to rule out mesh exposure, if a mesh was used

Mesh-related complications

- **Assessment of complications associated with mesh-related surgery:**
  - **Symptoms related to mesh exposure:**
    - Pain or sensory changes in the back, abdomen, vagina, pelvis, leg, groin or perineum:
      - Unprovoked or provoked e.g. movement or sexual activity
      - Generalized or follows a specific distribution e.g. obturator nerve
    - Vaginal discharge or bleeding
    - Painful intercourse, penile trauma or pain
    - Urinary symptoms e.g. recurrent infection, incontinence, retention, or dysuria
    - Bowel symptoms e.g. difficulty or pain on defecation, incontinence, rectal bleeding
    - Symptoms of infection.

- **Further management:**
  - On suspicion, patients should be referred to a urogynecologist, urologist or colorectal surgeon for specialist assessment
  - Specialist evaluation covers the following points:
    - Full history of past mesh-related surgical procedures
    - Validated pelvic floor symptom questionnaire and pain questionnaire
    - Vaginal examination to determine if the mesh is palpable or exposed, and to localize pain in relationship to the mesh
    - Rectal examination, if necessary, to assess mesh perforation or fistula
    - Neurological assessment is considered to assess pain distribution, sensory affection, and muscle weakness
    - Imaging may be offered if there are signs of infection
  - If symptoms are confirmed to be related to the mesh or if they are otherwise unexplained, patients should be referred to a specialized consultant (unless mesh erosion is asymptomatic and is less than 1 cm^2 in size)
  - These complications should be reported in a national registry and to medicines and healthcare products regulatory agency (MHRA)

- **Management of mesh-related complications:**
  - **Mesh removal:**
    - If mesh removal was asked by the patient, decision should involve the patient and a regional multidisciplinary team
    - Counsel the patient that:
      - Benefits of partial or complete removal versus no mesh removal are not clear
      - Mesh removal may be associated with organ injury, worsening pain, urinary, bowel or sexual dysfunction.
      - Mesh removal may not improve symptoms
      - Complete removal of the mesh may not be technically possible
      - Removing a part of mesh may be comparable to complete removal
      - Prolapse or incontinence may recur after removal

Slings for urinary incontinence	• Complete removal (vs. partial removal) is associated with increased risk of recurrence of incontinence • Partial removal is associated with further mesh extrusion • Complete removal may not be surgically possible
Mesh for vaginal prolapse	• Complete removal (vs. partial removal) is associated with higher risk of urinary or bowel injury • Removal may be associated with risk of recurrent prolapse • Complete removal may not be surgically possible
Abdominal mesh	• Removal of mesh is associated with high risk of urinary or bowel injury. • Removal may result in recurrence of the prolapse • Complete removal may not be surgically possible • Removal may require abdominal surgery

- **Management of vaginal symptoms:**
  - If the patient has pain or painful intercourse, further management is determined by the specialist assessment:
    - If symptoms are related to the mesh, refer to multidisciplinary team for treatment decision
    - If symptoms are not related to the mesh, manage symptoms with oestrogen, dilators and psychosexual counselling
  - Topical oestrogen may be used if there is a single area of erosion less than 1 cm^2. Treatment should be reviewed within 3 months.
  - Surgical removal of vaginal portion of the mesh is indicated if:
    ① Denying local oestrogen
    ② Oestrogen fails after 3 months
    ③ There is mesh extrusion
    ④ Vaginal erosion is 1 cm^2 or more

- **Managing urinary complications:**
  - If the mesh perforates through the urinary tract, refer to a specialised centre

- If mesh causes voiding difficulty, consider division of the mesh. If excision of the sling is considered for persistent voiding dysfunction, refer to a specialised centre
- Risk of recurrence of incontinence is greater with excision compared to division

- **Managing bowel symptoms:**
  - If symptoms are directly related to mesh complications (e.g. erosion stricture, fistula), Discuss with a regional multidisciplinary team.
  - Patients should be aware that bowel symptoms may persist or recur after surgical removal of the mesh. They may need a temporary or permanent stoma after surgery

Post-Hysterectomy Vaginal Vault Prolapse

Incidence

- Post-hysterectomy vaginal vault prolapse (PHVVP) occurs in 11% of patient who had hysterectomy for prolapse
- PHVVP occurs in 2% of patient who had hysterectomy for benign indications

Diagnosis

- Assessment and management decision should be made by specialists who are a part of pelvic floor multidisciplinary team
- Assessment should include:
  - ① Assessment of symptoms and their impact on quality of life
  - ② Physical examination and documentation of pelvic organ prolapse using standardized classification (POP-Q system)
- Routine urodynamic study is not predictive of postoperative incontinence and is not recommended

Prevention

Effective techniques	Unnecessary techniques

• During vaginal hysterectomy:
  ▪ McCall Culdoplasty is superior to Moskowitz technique. Within 2 years, 90% of women develop no prolapse and 10% develop stage 1 only. Satisfaction rate is 80%
  ▪ Sacrospinous ligament fixation should be considered if vaginal vault descends to introitus during vault closure
• During vaginal or abdominal hysterectomy: suturing cardinal ligaments and uterosacral ligaments to vaginal cuff is beneficial
	• Subtotal hysterectomy does not prevent PHVVP and is generally not recommended. Subtotal hysterectomy increases risk of urinary incontinence and future prolapse
	• Use of non-absorbable sutures (permanent) sutures does not provide benefit and it is associated with high suture exposure rate

Management

Conservative management	• **Pelvic floor muscle training:** It is effective in stage I-II vaginal prolapse • **Vaginal pessary:** It may be used as an alternative to surgery in treating stage II to IV vaginal prolapse
Surgical management	• It is the standard management for symptomatic patients after appropriate counselling • **Surgical options:**

- Both abdominal sacrocolpopexy (ASC) and vaginal sacrospinous fixation (SSF) are effective in primary treatment
- Colpocleisis is suitable for flail patients who are not interested in retaining sexual function

- **Approach:** Laparoscopic is comparable to abdominal route in selected cases. Evidence on robotic surgery is limited
- **Complications:**
  ① Risk of ureteric injury specially with laparoscopic approach
  ② Mesh-related complications (5-20%)
  ③ Recurrence rate is 15%
  All surgical procedures should be audited and submitted to British society of urogynecology
  Mesh complications should be reported to medicine and health care products regulatory agency
- **Success rate:**
  - Success rate of mesh-related procedures is 90-95%
  - Success rate of colpocleisis is 97%
- **Concomitant procedures:**
  - Concomitant Burch colposuspension with anterior Sacrocolpopexy:
    - In women who were continent before surgery, it decreases post-operative stress incontinence (25% vs 45% if not done)
    - In women with stress incontinence prior to surgery, the procedure is not effective; 55% will still be incontinent after surgery
  - Concomitant mid-urethral sling:
    It is indicated in women with stress incontinence when vaginal surgery is performed to correct PHVVP. Risk of incontinence after surgery is 20%

	Open abdominal sacrocolpopexy	Vaginal sacrospinous fixation
Advantages	• Lower risk of recurrence, dyspareunia and post-operative stress incontinence (compared to sacrospinous fixation) • Despite these advantages, patient satisfaction and reoperation is comparable to sacrospinous fixation • Long-term success rate is 80-100%.	• The procedure is performed vaginally, it is performed by suturing right sacrospinous ligament (1.5-2 cm medial to ischial spines) to vaginal vault • Earlier recovery compared to sacrocolpopexy
Disadvantages	• Mesh erosion rate is 2-10%. • Incidence of serious complications (bowel injury, sacral myelitis, severe bleeding) is 2%	• The procedure should be avoided in women with a short vagina. Therefore, patients with preexisting dyspareunia should be carefully considered • Risk of post-operative anterior prolapse and stress incontinence is 10-30% • Incidence of buttock pain is 20%. Pain is temporary (resolves within 2-3 months) • Incidence of sciatic nerve irritation is 7.5% (temporary) • Rate of partial ureteric obstruction is 5% (temporary) • Failure rate is 15%

High uterosacral ligament suspension is associated with 10% risk of complications e.g. bladder injury, and bowel injury. It should not be offered in clinical setting

Urinary Incontinence

Background

Urinary incontinence (UI) is defined as involuntary leakage of urine.

Types

Types of UI include:

Stress incontinence (SUI)	Urine leakage associated with increased intrabdominal pressure e.g. coughing, sneezing, laughing, exercising
Urge incontinence (UUI)	Urine leakage preceded by a sudden, intense urge to urinate
Overflow incontinence	Frequent or constant dribbling of urine due to incomplete emptying of the urinary bladder
Functional incontinence	Urine leakage due to physical or mental impairment that does not allow the patient to make it to the toilet in time
Mixed incontinence	The presence of more than one type of urinary incontinence

Clinical assessment

History	• Assessment of type of UI:
	  ▪ Type of incontinence determines types of treatment
	  ▪ In the presence of mixed UI, treatment should be primarily directed to the predominant type.
	• Assessment of predisposing and precipitating factors
	• Assessment of impact of incontinence on quality of life: treatment is offered to women who report adverse impact on her life activities. Validated urinary incontinence specific symptom and quality of life questionnaire should be used.

Examination	• Objective assessment of stress UI is performed by asking the patient to cough. The bladder should not be completely empty during the exam. Any prolapsed organs should be reduced before the patient is asked to cough • Pelvic floor muscles are assessed by digital examination to evaluate pelvic floor muscle strength. Weak pelvic floor muscles may warrant the use of supervised pelvic floor training for treatment of urinary incontinence. • Pad testing is not recommended

Indications of referral to a specialist	• Persistent bladder or urethral pain • Palpable bladder after voiding • Suspected fistulae • Benign pelvic masses • Fecal incontinence • Suspected neurological disease • Voiding difficulty • Hematuria • Persistent or recurrent unexplained UTI • Previous continence surgery • History of pelvic cancer surgery • History of pelvic radiation

Investigations

❶ Urine testing

- **Urine dipstick:** for all women with UI to detect blood, glucose, protein, leukocytes and nitrites
- **Urine culture:**
  - If symptoms of urinary tract infection (UTI) AND urine test are positive for both leukocytes and nitrites, a mid-stream urine specimen should be sent for culture and antibiotic sensitivities. Antibiotics should be initiated pending cultures results.
  - If women have symptoms of UTI BUT urine test is negative for either leucocytes or nitrites, a midstream urine specimen is sent for culture and antibiotic sensitivities and consider antibiotics pending culture results
  - If no symptoms BUT urine test is positive for both leukocytes and nitrites, do not give antibiotics unless urine culture results are positive

❷ Assessing residual urine

- In women with recurrent UTI or voiding dysfunction, post-void residual volume is measured by bladder scan or catheterization
- Bladder scan is preferred over catheterization for this test

❸ Urodynamic testing

- SUI is a clinical diagnosis. If SUI or stress predominant mixed incontinence are diagnosed clinically, multi-channel filling and voiding cystometry are not routinely indicated
- Preoperative multichannel filling and voiding cystometry are indicated if any of the following is present:
  ① Unclear type or urge predominant mixed incontinence.
  ② Symptoms suggestive of voiding dysfunction
  ③ Anterior or apical pelvic organ prolapse
  ④ History of previous surgery for stress urinary incontinence

❹ Bladder diaries

Patients should use bladder diaries for at least 3 days to facilitate diagnosis

❺ Cystoscopy

Cystoscopy is not used routinely for assessment of UI. It may be indicated in the presence of hematuria or in the presence of acute and severe urgency

Management

- **Non-surgical management:**

Lifestyle modification	• Women with overactive bladder (UUI) are advised to reduce caffeine use and fluid intake • Weight loss is recommended for women with body mass index > 30
Behavioral therapy	• Women with urgency or mixed incontinence should be offered bladder training for at least 6 weeks (first line treatment) • Medications may be considered in women who do not respond to this management
Pelvic floor muscle training	• In women with stress or mixed incontinence, supervised pelvic muscle training for 3 months may be offered as a first line management. Treatment may continue if it improves symptoms • Pelvic floor exercise should include at least 8 contractions for 3 times per day
Neurostimulation	• Percutaneous posterior tibial nerve stimulation is only indicated if: ① Non-surgical treatment failed ② There is a local multidisciplinary team review ③ women decline Botox injection or percutaneous sacral nerve stimulation • do not offer transcutaneous sacral nerve stimulation (TENS) to women with overactive bladder.
Electrical stimulation	Electrical stimulation and/or biofeedback should be offered only to women with UI who cannot actively contract their pelvic floor muscles and do pelvic floor exercise
Absorbent containment products, urinals, toileting aids	• It may be used in the following circumstances: ① As a temporary option while awaiting definite management ② As an adjunct to other options ③ As a last option if other options fail or are not possible • If it is used as long term option, yearly assessment of symptoms, skin

	integrity, weight and lifestyle are indicated. Current suitability to other options should be reviewed
Urinary catheters	Intermittent or indwelling or suprapubic catheters may be offered in women with persistent urinary retention • Intermittent catheter: It is suitable for women who can do self-catheterization or have caregivers that can help her • Long-term indwelling catheter is indicated in: ① Chronic urinary infection that cannot be managed by self-catheterization. ② Skin wounds, ulcers or irritations ③ Distress by pad and clothing frequent changing ④ Patient preference Indwelling catheters may not result in continence with UUI (leakage from round the catheter) • Indwelling suprapubic catheter is an alternative to long term urethral catheter as it reduces risk of symptomatic urinary tract infection

- **Medical treatment (for overactive bladder):**

Patient counselling	• Before prescribing medications, counsel the patient on: ▪ Chance of success of medical treatment and latency before medications are fully effective ▪ Anticipated side effects, most commonly dry mouth and constipation (indicators of medication effect) • Evidence on long-term cognitive adverse effect of anti-cholinergic medications is not uncertain
Choosing medicine	• **Anticholinergic medications:** ▪ They are the 1st line of treatment of overactive bladder and mixed urinary incontinence. However, Anticholinergics may not be appropriate for women with: ① Dementia and cognitive impairment ② Poor bladder emptying ③ Current use of drugs that increase cholinergic load ▪ Immediate release oxybutynin should be avoided in older women (risk of rapid deterioration of physical or mental status) ▪ If first medication is not effective, an alternative medicine of low cost may be offered ▪ Transdermal medications are offered if oral medications are not tolerable • **Desmopressin:** ▪ It may be offered to patients with troublesome nocturia. ▪ It should be used with caution in patients with cystic fibrosis ▪ It should be avoided in patients older than 65 years who have cardiovascular disease or hypertension • **Duloxetine:** ▪ It should not be offered either as a first or a second line treatment in women with SUI or predominant SUI unless surgery is declined by the patient and she is counselled clearly about medication adverse effects

	• **Hormonal therapy:** ▪ Local estrogen may be used in postmenopausal women who complain of UUI in the presence of vaginal atrophy ▪ There is no role to systemic hormonal therapy in women with SUI Imipramine, flavoxate, propantheline should not be offered
Follow-up	• Symptoms should be reviewed after 4 weeks of initiation of treatment ▪ *if improvement is optimal:* continue treatment and follow-up with primary care follow-up every 12 months or every 6 months if aged > 75 years ▪ *If no or suboptimal improvement or intolerable adverse effects:* change the dose or prescribe an alternative treatment and review again after 4 weeks. • Review earlier, if side effects are intolerable or the treatment stops working. • If medical treatment failed or side effects developed, patient should be referred to secondary care

- **Invasive treatment for overactive bladder:**

Women who did not respond to non-surgical management and medications should be assessed with urodynamic study:

- If the urodynamic study shows detrusor overactivity, offer invasive options
- If it is negative for detrusor overactivity, further management should be decided by a local multidisciplinary team (MDT)

Botulinum toxin type A injection	• **Indications:** ① Overactive bladder in women with detrusor overactivity after local MDT review ② Overactive bladder in absence of evidence of detrusor overactivity in urodynamic study after failure of non-surgical and medical treatment after local MDT review • **Counselling:** ▪ Treatment may be associated with complete or partial response. There is no evidence on duration of response and long-term effects ▪ Treatment may result in temporary urinary retention and need for intermittent catheterization (patients should not be offered this option if they decline possible intermittent or indwelling catheterization) ▪ Increased risk of urinary tract infection • **Treatment protocol:** ▪ Initial dose of injection is 100 units. Response is reviewed in 3 months □ If there is good response, patient may self-refer herself if symptoms recur □ If there is good response but is less than 6 months, future doses may be increased to 200 unit and review after 3 months □ If suboptimal response: injection is repeated with as dose of 200 units and symptoms are review after 3 months

	▪ After the second session, if no response, review with local MDT team
Percutaneous sacral nerve stimulation	• **Indications:** ▪ Failure of botulinum toxin in women with refractory overactive bladder ▪ Women who decline botulinum toxin (decline risk of catheterization) • **Counselling:** ▪ The procedure is 2-staged, a test stage should be performed before the procedure is completed. Patient should be aware of risk of failure ▪ The procedure is associated with long-term commitment and need for surgical revision
Augmentation cystoplasty	• **Indication:** Women with refractory idiopathic detrusor overactivity after failure of all other measurements if she accepts to self-catheterize • **Counselling:** Counsel on isks of the procedure e.g. ▪ Bowel disturbance and mucus production ▪ Metabolic acidosis ▪ Retention of urine and urinary infection ▪ Small risk of malignancy
Urinary diversion	It is the last resort in women with overactive bladder after all other measurements fail including augmentation cystoplasty

- **Surgical management of stress incontinence:**

Counselling	Beside counselling on surgery, surgical risks and postoperative care, mesh use should be discussed including uncertainty of long-term outcomes. Mesh is permanent and if complete removal is requested, it may not be possible. These surgeries are reported to national registry

Surgical options	• Open or laparoscopic colposuspension
	• Autologous rectus fascial sling
	• Mid-urethral mesh sling:
	  ▪ Coloured mesh with type 1 microporous polypropylene mesh is used
	  ▪ Retropubic approach is the standard. Trans-obturator approach should not be performed unless there is contraindication to the standard approach e.g. previous pelvic surgery
	  ▪ Other techniques (e.g. top-down technique, single incision sling) should not be offered except for research purposes

Alternatives to standard surgery	• **Injection of intramural bulking agents:**
	  ▪ It may be offered to patients who decline surgery
	  ▪ The procedure is less effective than surgery
	  ▪ Effect of injection declines over time and repeat injections may be needed
	  ▪ Evidence on long term effect and adverse effects is limited. Injection material is permanent
	• **Artificial urinary sphincters:**
	It is only offered when other surgical options for treatment of SUI fail

Follow-up	• Follow-up should be scheduled within 6 months postoperatively • Vaginal examination is indicated if a mesh was placed to rule out exposure or extrusion of mesh sling • If surgery fails, a MDT recommendation is required

Procedures that should not be offered: anterior colporrhaphy, needle suspension, paravaginal defect repair, procaine dermis sling, Marshall-Marchetti-Krantz procedure.

Recurrent Urinary Tract Infection

Definition

- Recurrent urinary tract infection (UTI) refers to at least 3 UTIs in a year, or 2 UTIs in 6 months
- The diagnosis of UTI is made by clinical symptoms (dysuria, suprapubic tenderness, urinary urgency and frequency) and presence of bacteria in urine culture (>105 cfu/ml).
- The most common bacterium associated with UTI is Escherichia coli (E. coli).

Risk factors

The main risk factors for UTI are:

- Female gender
- Use of spermicides
- Sexual intercourse
- Renal tract anomalies

Management

- Single isolated UTIs are treated with trimethoprim or nitrofurantoin (first line) or gentamicin (second line)
- The use of urinalysis alone is often inaccurate in diagnosing UTI. Treatment should be initiated on the correlation of symptoms and urine culture

Indications of hospitalization

- If the infection is severe or complicated
- If the infection appears to be ascending into the upper urinary tract

Low-dose antibiotic prophylaxis	• There are significant concerns with the development of antibiotic resistance • Nitrofurantoin use can cause liver toxicity and in extreme cases liver failure. Also, it can cause acute and chronic pulmonary toxicity which can result in pulmonary fibrosis especially with long term use. • Nearly one-third of E. coli-related UTIs are resistant to the usual first-line antibiotic prescribed.
Chinese herbal medicine	• There is no robust data to support its use
Methenamine	• Methenamine is converted to ammonia and formaldehyde (has antimicrobial) in urine • There is no robust data to support its use
Cranberries	• NICE and RCOG guidelines recommend against the use of cranberry for management of rUTI
D-mannose	• NICE has recommended that nonpregnant women may wish to try D-mannose as a self-care treatment.
Lactobacilli	• There is no robust data to support its use.
Urethral dilatation	• Lack of robust data to support its use.
Oestrogens	• In postmenopausal women, vaginal oestrogens are effective in preventing recurrent UTI but systemic estrogens are not.
Glycosaminoglycans (GAG)	• Synthetic hyaluronic acid and chondroitin sulphate has shown promise results. However, results are still not definitive
Sublingual vaccination	• The sublingual therapeutic vaccination contains a mixture of equal amounts of selected strains of E. coli, Klebsiella pneumoniae, Proteus vulgaris and Enterococcus faecalis. • Data on the efficacy of this sublingual vaccination are currently sparse

Bladder Pain Syndrome

Definition

Bladder pain syndrome (also known as interstitial cystitis) is a chronic bladder pain condition. The underlying aetiology is poorly understood

Incidence

- It is more common in women and it usually presents for the first time in the 30s or 40s of age. However, it may present at any age
- Prevalence is 2.3–6.5%

Diagnosis

- Patients present with at least 6 weeks to 6 months of:
  - Pelvic Pain, Pressure or Discomfort
  - At Least one other urinary symptom e.g. frequency or urgency
- Diagnosis is made clinically by exclusion (ruling out other causes)

Clinical assessment

- Bladder Dairy and Food Diary
- Urinalysis to rule out Infection. If the patient is symptomatic, with negative culture and Pyuria, test for Ureaplasma and Chlamydia
- Cytology and cystoscopy: if cancer Suspected. Refer to a urologist
- Urodynamic study is indicated if there is coexisting disease or overactive bladder not responding to treatment
- Visual analogue scale is used to assess pain. A validated symptom score should be used to assess the severity

- Biopsy and hydrodistension are not recommended for diagnosis
- Cystoscopy is not used for diagnosis. It may be performed to rule out other causes

- **Hunner lesion**
  - The term describes diffuse inflamed/non-blanched glomerulations, in at least three quadrants of the bladder (10 per quadrant) during cystoscopy when bladder is distended to 80-100 cm H_2O
  - This feature is long considered diagnostic. It may be present in normal women

Management

Conservative management	• Dietary modification (avoid caffeine, alcohol, acidic food and drinks) • Stress management • Regular exercise • Analgesia If there is not response in 3 to 6 months, refer to secondary care
Pharmacological treatment	• Oral amitriptyline or • Oral cimetidine Hydroxyzine, oral pentosan, long term antibiotics are not recommended If treatment fails, refer to a multidisciplinary team (MDT), pain team ± a psychologist
Intravesical treatment	If the above measures fail, the following is used: • Lidocaine (30%) • Hyalouronic acid • Botulinum toxin (Botox) • Dimethyl sulfoxide (DMSO) • Heparin • Chondroitin sulfate

	BCG, steroids, and high-pressure long term hydrodistension are not recommended
Interventional management	• Posterior tibial or sacral neuromodulation If failed, add: • Oral cyclosporin If failed: • Cystoscopy and hydrodistension
Surgery	If surgery is considered, refer to a tertiary centre: • Transurethral resection of Hunner lesions • Major surgery

Pregnant women

- All treatment options are safe especially oral amitriptyline and IV heparin
- DMSO may be used prior to pregnancy to ensure remission in pregnancy. The medication is teratogenic only in in animals

- Refer to physiotherapist and psychological counselling during the process of treatment to support life quality
- Follow up is recommended by a secondary team (urogynecologist and pain team). Primary team may be involved if symptoms are controlled

Urethral Diverticulum

Background

Definition

- The presence of a sac or a pouch that is connected to the urethra
- This pouch ranges in size from 3 mm to 4 cm

Incidence

- Incidence is 1-6%
- Incidence is 3 times higher in black women compared to white women
- Age at presentation ranges from 30 to 60 years

Aetiology

- Congenital e.g. remnants of Gartner duct
- Acquired e.g. repeated infections and obstruction of periurethral glands which eventually rupture and epithelize. Other causes may include traumatic childbirth and transurethral collagen injection.

Pathology

- The diverticulum may have a single ostium or complex with multiple ostia. It may partially or completely extend around the urethra, thereby, interfere with sphincter function.
- Urethral diverticulum is lined by urothelium. Squamous and glandular metaplasia may occur

Clinical presentation

Time from presentation to diagnosis is 10 months

Symptoms	• Lower urinary tract symptoms e.g. urgency, frequency (most common; 40-100% of patients) • Urinary incontinence (35%) • Tender vaginal mass (35%) • Recurrent urinary tract infection (30-50%) • Postmicturition dribble (10-30%) • Dyspareunia (10-25%) • hematuria (10-25%) • vaginal discharge (12%) • retention of urine (4%) The classic triad of dysuria, dyspareunia, postvoiding drippling is not common
Signs	• Anterior vaginal tender mass 2-3 cm inside the introitus • Purulent discharge is expressed on palpation of the mass (25% of patients) • Presence of induration or hardness, or presence of blood should raise concerns on malignancy or calculi
Differential diagnosis	• ***Differential diagnosis of lower urinary tract symptoms:*** ▪ Interstitial cystitis. ▪ Carcinoma in situ. ▪ Overactive bladder. • ***Differential diagnosis of anterior vaginal wall mass:*** ▪ Vaginal wall cysts. ▪ Urethral caruncle. ▪ Mucosa prolapses. ▪ Vaginal wall cysts. ▪ Urethral caruncle. ▪ Skene gland abnormality. ▪ Vaginal leiomyoma. ▪ Gartner duct cyst. • ***Differential diagnosis of vaginal pain/tender mass:*** ▪ Endometriosis.

Investigations

Urethroscopy	• It is the first line investigation in women with urethral diverticulum (UD) • It helps to locate UD and to visualize mucosal defect in 70% of cases
Urodynamics	It is indicated prior to intervention because: • 60% of patients may have associated incontinence and the type of incontinence should be identified prior to treatment (stress, urgency, or postmicturition dribbling) • 17% of patients develop incontinence after surgery. Therefore, baseline assessment is indicated
T2-weighted MRI	MRI can differentiate solid masses from complex UD
Ultrasound	• Transvaginal ultrasound: is an excellent alternative to MRI and for UDs that do not fill with a dye. However, they may directly compress the urethra • Transabdominal ultrasound: is insensitive to UD smaller than 2 cm • Trans-perineal ultrasound: is better than TAUS. However, it is still less sensitive to small UDs. • Trans-anal ultrasound: it may improve visualization without compressing the urethra
CT scan	• It can detect calculi and malignancy if suspected • Detection rate is higher if CT urethrogram is used
Voiding cystourethrogram	• Detection rate is 85-95% • It can diagnose malignancy
Double balloon urethrogram	• Detection rate is 90% • However, it is difficult, uncomfortable and may result in urethral injury

Complications

- Urinary tract infection: in 30-50% of case. It should be treated before surgery.
- Abscess formation:
    - The presence of extreme tenderness and an anterior vaginal mass is consistent with diagnosis.
    - Treatment is by aspiration and antibiotics. Definitive treatment should be delayed till the abscess resolves. It should not be drained (risk of fistula formation)
- Calculi (1.5% to 10%): They should be removed during excision of UD
- Urinary incontinence: This may be caused by postvoiding dribbling or weakness of the sphincter
- Urethral neoplasm (6-9%):
    - Diagnosis is made by a biopsy of suspicious lesions; 40-60% are adenocarcinoma
    - Management is by partial or complete urethrectomy or anterior exenteration
- Malignant transformation: this cancer is associated with early metastasis, late diagnosis and high incidence of recurrence

Management

- **Indications of surgery:** persistent symptoms or presence of complications
- **Types of surgery:**

Surgery	Indication	Principle
Diverticulectomy	Standard surgery. Cure rate is 70%	UD is incised, vaginal wall flap is created, excision of UD is performed with preservation of peri-urethral fascia and sphincter
Marsupialization	UD in the distal one-third of the urethra in women not fit for diverticulectomy	UD is incised, and urethral and vaginal epithelium are closed This surgery is associated with high risk of fistula formation and splayed stream
Endoscopic re-roofing or transurethral incision	Recurrent UD in the distal third of the urethra	The procedure widens the neck of the UD to facilitate drainage

- **Complications:**
  ① Recurrence or incomplete excision (35%)
  ② Damage to urethral sphincter and stress incontinence (17%)
  ③ Urethral stricture
  ④ Urethrovaginal fistula (6%)

Management of Transgender

Background

- Gender identity clinics (GIC) provides service to adults
- Gender identity development service (GIDS) provides service to children and adolescents up to 18 years age

Terminology	
Gender non-conformity/ gender variant	• The extent to which a person's gender identity, role or expression differs from the cultural norms prescribed for people of a particular sex.
Gender dysphoria	• A condition in which there is distress caused by the psychological experience of oneself as a man or a woman, which is incongruent with one's phenotype. • The individual's physical sex is therefore not aligned with their gender identity. • The distress associated with this inconsistency may lead an to seek clinical consultation.
Transgender/ trans	• An umbrella term to cover a variety of atypical gender experiences, which sometimes lead to the desire for a change of gender role but may not necessarily lead to any hormonal or surgical intervention. Trans and gender variant people are not necessarily gender dysphoric.
Transitioning	• The process of living according to the gender role that is consistent with gender identity. • During this phase, a person should be addressed by the name, pronoun and style of address that they deem to be correct for them.
Transman	• A natal female who identifies as male and who lives as a male.

Transwoman	• A natal male who identifies as female and lives as a female.
Non-binary/agender	• Someone whose gender expression does not fit within the gender binary. • There are many different non-binary identities: some feel neither male nor female, some a bit of both; some feel they are a definite fixed 'third thing' that is neither male nor female; and some experience a fluctuating sense of gender identity.
Intersex	• A general term for several conditions in which a person's reproductive or sexual anatomy does not fit into the typical definition of a man or a woman.
Gender recognition certificate	• Awarded to individuals who have a demonstrated diagnosis of gender dysphoria and who they lived in a gender role other than that they were assigned at birth for at least 2 years. • These individuals must then be legally identified as 'man' or 'woman' and not 'transman' or 'transwoman'. Thereafter, in law, the person is considered to be someone of their new sex and must be treated exactly as someone born into that new sex.
Gender reassignment surgery (GRS)	• The surgical procedures by which the physical function and appearance of a person's existing sexual characteristics are altered to resemble that of the other sex.
Cisgender	• A person whose gender identity matches the gender they were assigned at birth, i.e., someone who is not transgender.

Management

- **Pretreatment considerations:**
  - Adolescents may be offered reversible gonadotrophin-releasing hormone analogues (GnRHa). They act as hormone blockers to delay puberty and provide time to continue exploring their gender identity and consider long-term options.
  - Innate sex hormones can be suppressed using GnRHa, which produce a reversible chemical gonadectomy until a surgical gonadectomy is performed.
  - Eligibility criteria for gender treatments:

    ① Persistent and well-documented gender dysphoria.

    ② The patient has the capacity to make informed decisions and give consent.

③ Any significant medical or mental health issues are controlled.

④ The patient has a realistic, achievable plan

- Hormonal suppression and cross-sex hormone supplementation are generally initiated by endocrinologists and long-term monitoring is offered once hormone treatment is established (6 months for 3 years, then yearly if the patient is clinically stable).

- **Cross-sex hormonal treatment:**

Male-to-female hormone treatment	Female-to-male hormone treatment
• Estrogen therapy aims to: ▪ Induce breast formation ▪ Promote female-pattern fat distribution and reduce overall lean body mass ▪ Male-pattern hair growth ▪ Reduce libido and erectile function • Estrogen therapy may be oral (e.g., oestradiol oral tablets; 1–6 mg daily), oestradiol transdermal gel or patches • Oestradiol, testosterone and dihydrotestosterone levels should be monitored during maintenance therapy • If needed, circulating adrenal androgens are blocked by finasteride. • Androgen receptor blockers (cyproterone or spironolactone) may be used if needed • Oestrogen therapy is safe and does not increase risk of venous thromboembolism (VTE). If additional risk factors are present, transdermal estrogen should be used • If liver dysfunction is detected, topical estrogen may be used (oestrogen increases incidence of gallstones) • Transwomen must be screened for breast cancer as appropriate	• Testosterone therapy aims to: ▪ Increase muscle mass ▪ Decrease fat mass ▪ Increase facial hair ▪ increases libido ▪ Cause hypertrophy of the clitoris • Testosterone therapy may be given intramuscularly (e.g., Testosterone esters 250–500 mg by intramuscular injection every 2–6 weeks), or in the form of gel • The most serious risk is development of polycythaemia that can predispose to a cerebrovascular accident. In refractory cases, venesection can be used. • Hysterectomy should be considered after 4–5 years of testosterone therapy to reduce endometrial cancer risk (unopposed estrogen is produced by the aromatisation of testosterone). Alternatively, an ultrasound assessment of the endometrium is advised every 2 years. • Transmen remain eligible for breast cancer screening if they have breast tissue remaining after bilateral mastectomy.

- **Gender reassignment surgery**

  For a patient to be approved for this surgery, they must spend a verifiable period of time (usually at least 12 months) living and thriving in a gender role, as well as 12 months of continuous endocrine treatment

Gender reassignment surgery for transwomen		Gender reassignment surgery for transmen	
▪ Penectomy ▪ Orchidectomy ▪ Vaginoplasty ▪ Clitoroplasty ▪ Labiaplasty ▪ Breast augmentation	▪ Cricothyroid approximation (phonosurgery) ▪ Thyroid cartilage reduction ▪ Feminising facial surgery	▪ Bilateral mastectomy and chest reconstruction ▪ Hysterectomy ▪ Vaginectomy ▪ Salpingo-ophorectomy	▪ Phalloplasty ▪ Urethroplasty ▪ Scrotoplasty ▪ penile/testicular prosthesis implantation ▪ Metoidoplasty

- **Fertility management:**
  - Future reproductive options should be discussed before initiating medical or surgical treatment
  - Transgender patients must be aware that gender reassignment surgery leads to irreversible sterility
  - Prolonged oestrogen therapy (for cross-sex hormone treatment) causes reduction in testicular volume and poor-quality sperm. These effects may be reversible after treatment discontinuation
  - Testosterone treatment for transmen leads to reversible amenorrhoea and may affect follicular growth. Contraception should be provided since the patient is still fertile and testosterone is teratogenic
  - Ideally, gamete storage should be offered before commencing hormone treatment

- **Surgery:**
  - Guidelines recommend that transmen consider a hysterectomy after 4–5 years of testosterone therapy to reduce the risk of endometrial cancer
  - When opting for surgery, patients almost always also prefer bilateral salpingo-oophorectomy to abolish endogenous estrogen production, which would allow them to discontinue GnRHas and to improve the efficacy of testosterone therapy

- In general, a laparoscopic route is preferred to avoid scarring the abdomen in case this area becomes a donor site for phalloplasty. The vaginal route may be difficult because these patients are typically childless.

- **Pregnancy in transmen:**
  - No clear recommendations about the mode of delivery in this population
  - Many transmen chest-feed their infants, even after chest masculinisation surgery

- **Cervical screening:**
  - It is recommended that any transman who has their cervix should undergo cervical screening. It is the GP responsibility to ensure these patients are offered cervical screening
  - There is a ten-fold increased rate of inadequate cytology found in cervical smears of transmen due to the effects of testosterone on the cervical epithelium.

Cystoscopy in Gynaecology

Indications

1. Unexplained hematuria without UTI, or persists after treatment of UTI in women > 45 years
2. Unexplained hematuria with elevated WBCs in women > 60 years
3. Bladder pain syndrome
4. Recurrent UTI
5. Urethral strictures
6. Urinary
7. congenital genital tract anomalies
8. Voiding symptoms
9. Intraoperatively

Contraindications

untreated UTI

Complications

Common risks (> 10%)	▪ Mild post-procedure burning or bleeding ▪ Need for biopsy
Occasional risks (2-10%)	Bladder infection
Rare (< 2%)	▪ Need for catheter insertion (temporary) ▪ Delayed bleeding, requiring removal of blood clots or surgery ▪ Urethral injury and delayed scar formation
Very rare	Bladder perforation

Procedure

Rigid cystoscopy	Flexible cystoscopy
• A 0 or 30 ° lens is used, and a lubricant is applied. • Irrigation is run outside the body to get rid of bubbles, then the scope is passed while irrigation is running • Overfilling of the bladder should be avoided, otherwise, small lesions would be missed • Bladder examination starts from the base of the bladder towards bladder neck till the trigone is seen (by moving the tip down and withdrawing the scope) • One the trigone is seen, inter-ureteric bar is followed on both sides, to visualize left or right ureteric orifices. • Over distension should be avoided, which may distort the orifices. • The scope is pushed to the front to visualize the dome of the bladder (air bubble) and withdraw towards the bladder neck. • The scope is rotated to the left wall and withdrawn to visualize the whole wall. The right wall is examined in the same way. The anterior wall is examined by pushing the scope up. • Empty bladder at the end of the procedure. • 0 or 12 lenses are used for urethral visualization.	• A local anaesthetic is applied to the urethra • Irrigation is done • The bladder is examined systematically (see under rigid cystoscopy). • Afterwards, the J maneuver is used. It involves pushing the scope inside the bladder while fully deflecting with your thumb. Therefore, bladder neck is visualized. The scope is then rotated to see all around bladder neck. • When finished, deflection is released while withdrawing the scope.

Parts of cystoscope

- Telescope (0º, 30 °, 70 °)
- Outer sheath
- Obturator
- Bridge
- Biopsy forceps
- Camera
- Light cable
- irrigation system (normal saline, water, or 1.5% glycine)

Prophylactic antibiotics

Indications	Antibiotic
• If botulinum toxin. • Recurrent UTI. • Recent mechanical heart valve in the last 6 months.	Single dose IV gentamicin

Urinary Catheters in Gynaecology

Types

- **Types of catheter material:**

  Urinary catheters are classified according to their material and duration of use to:

  - Short term use: plastic and latex catheters (less than 1 week)
  - Intermediate use: polytetrafuroethelene (PTFE) coated catheter (1-3 weeks)
  - Long-term use: silicone or Teflon based catheters (associated with lower risk of encrustation and blockade)

- **Types of catheter use:**
  - **Self-retaining suprapubic catheter (SPC, Add-a-Cath):**

Indications	▪ Short term (perioperative, urethral stricture, acute retention, severe pelvic trauma, anorectal surgery) ▪ Long term (neurogenic bladder, chronic retention, mobility problems, persistent expulsion of intrauterine catheter, last resort for intractable incontinence)
Contraindications	▪ Absolute contraindication: unexplained hematuria ▪ Relative contraindications: • Significant obesity • Extensive abdominal adhesions • Bladder reconstruction • Limited capacity of 300 cc • Suspicion of ovarian cyst • Ascites • Anticoagulation treatment

Type of catheter material	▪ Short term: Bonnano (must be fixed with a stitch). Used for 3 weeks ▪ Long term: Foley catheter or 100% silicone catheter (add-a-cath), it can be changed every 3 months
Insertion technique	▪ Techniques of insertion are either open (rare) and closed ▪ A closed technique is performed through a small suprapubic incision, bladder is filled with at least 500cc, patient placed in Trendelenburg position, and then a trocar is inserted 3 cm above SP under cystoscopic guidance into the bladder. The catheter is placed through the trocar. The balloon is inflated, and trocar is removed
Advantages	▪ More comfortable to the patient ▪ It allows patient-controlled voiding trials and checking postvoiding residual (PVR) ▪ It decreased risk of catheter migration and leakage with long term use ▪ Less sexual interference ▪ Lower risk of bacteriuria
Disadvantages	▪ Over granulation ▪ Risk of bowel injury ▪ Mortality rate is up to 2% ▪ Altered body image ▪ Ulcers in skin folds particularly in obese women
Care and follow-up	▪ SPC should be changed every 8-12 weeks ▪ If it comes out spontaneously, immediate replacement is necessary, since the tract closes rapidly and after 2 hours, it will be very difficult to replace ▪ First change should be done in acute care setting and then in the community. No dressing is required once the tract is closed ▪ Flip flow valve is used to stop free flow. The patient then tries voiding though the urethra and measures PVR. ▪ Valves should be released every 3-4 hours to maintain bladder tone

- **Indwelling catheters:**
  - This method is more appropriate with short term use. The most common indication is perioperative bladder care
  - Time of removal of indwelling catheter postoperatively is variable. However, midnight removal may be associated with shorter time and greater first void volume and shorter hospital stay

- **Clean intermittent self-catheterization (CISC):**

Indications	▪ Neurogenic bladder ▪ Chronic retention ▪ Obstruction ▪ Post-surgery: □ Risk of voiding dysfunction is 3-38% after sling placement and anterior repair □ CISC is superior to IUC for 3 days in prolapse surgery in management of high PVR ▪ After botulinum injection (risk of retention is 16%) CISC should be used till PVR < 150 cc and voiding volume ≥ 200 cc
Type of catheter used	▪ Self-lubricating hydrophilic catheters (less traumatic, more expensive) can be used ▪ Catheter size is 10-12
Advantages	▪ Lower risk of infection ▪ Lower incidence of catheter blockade and catheter rejection
Complications	▪ Urethral bleeding ▪ Catheter retention ▪ Trauma to urethra ▪ Urinary tract infection (UTIs): □ Each catheter use is associated with 3-4% infection risk □ Most women will have bacteriuria after 2-3 weeks: 50% will have asymptomatic bacteriuria). □ Prophylactic antibiotics can be considered

Complications

- **Catheter-associated urinary tract infections (CAUTIs):**
  - It is the leading cause of hospital acquired infection (20-40%)
  - There is no evidence that coating with antibiotics or antiseptics reduces the risk
  - It should be treated with antibiotics for 5-21 days
  - Prophylactic low dose antibiotics are not recommended
- **Failure to deflate the balloon:**

  Removing blocked catheters when the balloon does not deflate can be performed by:
  - Cutting the proximal segment of the valve OR
  - Passing a ureteric catheter stylet through inflation channel till it touches the balloon or using needle to rupture the balloon
- **Burst balloon:**
  - In 27% of cases, burst balloon forms fragments that calcify causing irritative symptoms
  - Management is by cystoscopy and bladder irrigation
- **Bladder cancer:**

  Catheterization for > 10 years is associated with risk of bladder cancer

Urogynecology

Abstract

Urogynaecology and pelvic floor medicine present a large portion of gynaecologic practice. As average life expectancy tends to rise worldwide, pelvic floor disorders have become more prevalent. Although such disorders do not commonly have morbid sequalae, their impact on life quality may be substantial. In this chapter, we will discuss common urologic disorders in gynaecology and their standard management.

Keywords

Pelvic organ prolapse, incontinence, mid-urethral sling, pelvic floor

Further readings

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