Pre- and postoperative care in gynaecology

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KEYWORDS
Preoperative; Postoperative; Gynaecology; Consent; Thromboembolism; Day-case surgery; Complications

Summary
Good preoperative preparation of patients, both physically and psychologically, is essential to provide optimum intra-operative conditions and to lay the basis for a smooth postoperative recovery. A well planned postoperative care regime leads to a reduction in morbidity, shorter hospital stay and greater patient satisfaction.

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Introduction
Preoperative care aims to achieve the following:

- A patient in an optimum physical and psychological condition, thus reducing morbidity and mortality from the surgery and anaesthetic.
- A clear explanation of peri-operative events, so that informed consent can be gained and anxiety reduced.

Postoperative care is equally crucial:

- To reduce postoperative complications.
- To provide early management of any complications.
- To ensure early discharge from hospital.

Preoperative care
Educating the patient

All management options should be discussed, with the reasons for and against each being clearly explained. This should include the option of no intervention. Medical jargon should be avoided and diagrams used to aid the patient’s understanding. Be prepared to explain information in different ways, answer questions and have a relative present if the patient wishes.

Explaining the risks of the operation

There is no need to discuss every conceivable risk posed by the surgery, but the main risks must be covered: both those that occur frequently and those less frequent but more severe. Questions should be answered truthfully and paternalistic assumptions avoided. Vague terms such as ‘low’ and ‘high’ risk should be avoided, as should complicated statistical terms. Use of phrases such as ‘a risk of 1 in 100 women’ is more appropriate (Table 1).

It must be explained that the nature of risks and frequency of complications varies according to the complexity of the procedure. Procedure-specific consent forms can be used. Operative risks are also dependent on the patient’s co-morbidity, for example smoking, body mass index (BMI), diabetes mellitus and hypertension.

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Gaining consent for surgery

Ensure that consent is obtained at an appropriate time and in an appropriate manner (for example, not when the patient is partially undressed). The consent should be gained by a health professional with adequate knowledge of the details of the procedure and its risks. It should be countersigned before the operation by the surgeon who will be performing the procedure.

Ensure the patient understands the following points:

- The nature of the condition and its prognosis
- The risks of no or alternative treatment
- The likelihood of hospital stay
- Medication likely to be prescribed, discontinued or altered
- The type of anaesthesia
- The nature of the surgery, including risks and benefits
- Pain
- Recovery and impact on life
- Tissue or organ removal, examination or dispersal.

(Consent for histological examination of tissues is not needed, although the patient should be aware that this may occur. Consent must be gained for research, unless the samples are to be anonymised.)
- The use of video or photography

<table>
<thead>
<tr>
<th>Operation</th>
<th>Serious risks</th>
<th>Frequent risks</th>
<th>Extra procedures that may become necessary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagnostic hysteroscopy</td>
<td>Uterine perforation (0.76%). Pelvic infection. Failure to visualise uterine cavity.</td>
<td>Vaginal bleeding and discharge. Pelvic or shoulder pain.</td>
<td>Laparoscopy in event of perforation. Blood transfusion.</td>
</tr>
<tr>
<td>Diagnostic laparoscopy</td>
<td>Damage to bowel, bladder, major blood vessels. Failure to gain entry to abdominal cavity. Uterine perforation. Overall risk of complications is 2 in 1000. Death in 3–8 women in 100 000.</td>
<td>Failure to identify disease. Bruising. Shoulder-tip pain.</td>
<td>Laparotomy. Repair of damage to bowel, bladder or blood vessels.</td>
</tr>
<tr>
<td>Laparoscopic tubal occlusion</td>
<td>Failure, resulting in unplanned pregnancy: 1 in 200. If failure occurs, risk of ectopic pregnancy. Failure to gain entry to the abdomen. Uterine perforation. Injuries to the bowel, bladder or blood vessels: 3 in 1000. Death from complications is 1 in 12 000.</td>
<td>Bruising. Shoulder-tip pain.</td>
<td>Laparotomy. Repair of damage to bowel, bladder or blood vessels.</td>
</tr>
<tr>
<td>Abdominal hysterectomy for menorrhagia</td>
<td>Damage to the bladder and/or ureter (0.7%). Damage to bowel (0.04%). Excessive bleeding requiring transfusion or return to theatre. Pelvic abscess/infection (0.2%). Venous thrombosis or pulmonary embolism (0.4%). Death in 1 in 4000.</td>
<td>Wound infection and bruising. Frequency of micturition. Delayed wound healing. Keloid formation.</td>
<td>Blood transfusion. Repair to bowel, bladder or blood vessels. Oophorectomy for unsuspected disease.</td>
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</tbody>
</table>
Gain consent for additional events that may arise, for example blood transfusion or laparotomy during laparoscopy, and document anything the patient would object to. Medical students must gain written consent to undertake vaginal examinations to be performed under general anaesthetic.

**History and examination**

A thorough examination is crucial, including auscultation of the heart and lungs to determine fitness for anaesthesia. Follow up any new findings appropriately (Table 2).

**Investigations**

Avoid ordering 'routine' investigations: these are unnecessary and not cost-effective. Investigations are needed to follow up findings ascertained from the history and examination.

Examples of appropriate investigations are as follows:

- Anaesthetic-related investigations: full blood count (FBC), urea and electrolytes (U&Es), group and save (and cross-match if there is a significant chance of >1 l of blood loss), possibly respiratory tests.
- A chest X-ray (CXR) if the patient has suspected heart or lung disease.
- An electrocardiogram (ECG) if the patient has cardiovascular disease.
- Liver function tests (LFT) and CXR for all oncology patients.
- Blood glucose if abnormal glucose tolerance.
- A pregnancy test for all women of child-bearing age.
- C-spine X-rays if the patient has rheumatoid arthritis.

**Risk assessment**

The risk of any operation is dependent on the patient’s age, co-morbidity, the nature of the operation, the characteristics of the disease and the anaesthetic technique. The American Society of Anesthesiologists (ASA) classification is widely used. This only takes the patient’s physical condition into account, but provides an approximate quantification of their risk (Table 3).

**Medications**

Evaluate the patient’s medications: do any need to be stopped preoperatively or do changes need to be made? Are any new medications indicated following the history, examination and investigative findings?

**Anticoagulants**

These increase intra- and postoperative bleeding, so usually need to be discontinued preoperatively. The timing of this is dependent on the procedure and nature of the drug. An international normalised ratio (INR) of <2.5 is appropriate for surgery. As the preoperative adjustment of anticoagulation will vary between patients, refer to a haematologist for advice.

<table>
<thead>
<tr>
<th>System or organ</th>
<th>Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiovascular</td>
<td>Angina, myocardial infarction</td>
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<tr>
<td></td>
<td>Rheumatic fever</td>
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<td></td>
<td>Systemic vascular disease</td>
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<tr>
<td>Respiratory</td>
<td>Dyspnoea, orthopnoea</td>
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<td></td>
<td>Asthma</td>
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<td></td>
<td>Pulmonary infection</td>
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<td></td>
<td>Pulmonary surgery</td>
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<td>Smoking</td>
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<td>Nervous system</td>
<td>Epilepsy</td>
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<td></td>
<td>Neuromuscular disease</td>
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<td></td>
<td>Neuropathy</td>
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<td></td>
<td>Psychiatric disease</td>
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<td>Liver</td>
<td>Alcohol consumption</td>
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<td></td>
<td>Hepatitis</td>
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<td>Endocrine</td>
<td>Diabetes mellitus</td>
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<td></td>
<td>Thyroid disease</td>
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<td></td>
<td>Adrenal disease</td>
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<tr>
<td>Genitourinary</td>
<td>Renal disease</td>
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<td></td>
<td>Sexually transmitted disease</td>
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<td></td>
<td>Menstrual history</td>
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<td>Previous anaesthesia</td>
<td>Nausea and vomiting</td>
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<td></td>
<td>Adverse reactions</td>
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<td></td>
<td>Post spinal headaches</td>
</tr>
<tr>
<td></td>
<td>Familial problems with anaesthesia</td>
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</tbody>
</table>

For minor surgery, stop or adjust the oral anticoagulant dose so that the INR is approximately 2.0 on the day of surgery. Check the INR preoperatively and if <2.5, the surgery can take place. For major surgery, discontinue oral anticoagulants at least 3 days before surgery. Depending on the patient’s indication for anticoagulation, heparin may need to be started once the INR is below the lower limit of the therapeutic range.

Occasionally it is necessary to continue anticoagulation, for example in life-threatening thromboembolism in patients with cancer. In these cases, reduce the INR to <2.5 and start heparin. The need for insertion of an inferior vena cava filter may arise in high-risk patients with a pelvic mass. This should be discussed with a radiologist and haematologist. Oral anticoagulants can usually be restarted post-operatively when the patient is eating and drinking, but this is dependent on the risk of postoperative haemorrhage. Prophylactic low-molecular weight heparin (LMWH) should be given to all high-risk patients as detailed under "Thromboembolism prophylaxis".

The effect of non-steroidal anti-inflammatory drugs (NSAIDs) on platelets is reversed when the drug is cleared from the circulation, so these can be stopped just 1 or 2 days
preoperatively, if at all. Clopidogrel, however, blocks the action of platelets irreversibly and needs to be discontinued 7 days preoperatively, particularly if an epidural is to be used.

**Antidiabetics**

Patients taking insulin should be admitted on the day before surgery. All diabetic patients need the following investigations:

- Plasma glucose
- U&E
- Urinalysis: glucose and ketones
- ECG if indicated
- Blood glucose monitoring pre-meals and at 22:00

Diet-controlled diabetic patients can be treated as non-diabetic patients. Tablet-controlled patients should take no oral hypoglycaemics on the day of surgery. Those on glibenclamide should take their last dose on the morning of the day before surgery. Metformin should ideally be stopped 48–72 h preoperatively. Those on other oral hypoglycaemics should take their last dose on the evening before surgery.

All patients on insulin and any diabetic patient whose blood glucose is persistently above 12 mmol/l or has ketones in their urine, should be started on a glucose insulin potassium regime at 08:00 on the day of surgery (Table 4). Blood glucose monitoring should be undertaken every 2 h until the readings are 4–10 mmol/l for >12 h, then reduce to 4 hourly monitoring.

Peri-operatively, all diabetic patents should be considered for the above regime, unless:

- the blood glucose is below 10 mmol/l and
- there are no ketones in the urine.

Postoperatively the glucose insulin potassium regime should be continued until the patient has eaten two meals. The pre-admission diabetic regimen should then be started.

**Oral contraceptive pills**

Due to the increased risk of thromboembolism, the combined oral contraceptive pill should be stopped 4–6 weeks before major surgery. This must, however, be balanced against the risk of unwanted pregnancy and alternative contraception should be used. The progestogen-only contraceptive pill does not increase the risk of thromboembolism and therefore does not need to be discontinued preoperatively.

**Social issues**

Advise the patient to stop smoking at least 6 weeks before surgery (or at the very least 48 h preoperatively, to reduce their carbon monoxide concentration and increase oxygen availability). The reasons for smoking cessation must be explained to the patient, as they may be tempted to smoke immediately preoperatively to alleviate their nervousness.

Patients should be warned that alcohol decreases the stress response, reduces immunity and causes electrolyte imbalances. Withdrawal symptoms can occur within 8 h. If the patient has severe hepatic disease, provide them with preoperative parenteral vitamins and correct any clotting abnormalities.

**Preoperative preparations**

**Thromboembolism prophylaxis**

Most gynaecological operations carry a 10–40% risk of deep vein thrombosis (DVT) and a 0.1–1% risk of fatal pulmonary
embolism (PE). Low-risk patients do not require prophylaxis other than early mobilisation. For all other patients, the length and complexity of surgery, their age and individual risk factors should be evaluated. The NICE guidelines suggest the following prophylactic measures:

- Subcutaneous heparin started shortly before surgery and continued for 5 days or until fully mobile. This should not be administered immediately before insertion of an epidural, but at 18:00 on the day before surgery.
- Avoid pressure on the calf intra-operatively, by using pneumatic or electrical calf compression devices and graduated thromboembolism deterrent (TED) stockings.
- Intravenous heparin or oral warfarin for patients with prosthetic heart valves who are undergoing high-risk operations or have a previous history of DVT.
- Leg elevation.
- Early postoperative mobilisation.

LMWH has replaced unfractionated heparin (UFH) in the prophylaxis of thromboembolism. Its advantages are:

- Equal or improved antithrombotic activity.
- Reduced incidence of bleeding.
- Improved pharmacokinetics.
- No need for coagulation monitoring.

Intravenous UFH is needed in some circumstances, however, such as patients with renal failure (as fractionated heparin is excreted by the kidneys), prosthetic heart valves or those taking therapeutic doses of LMWH.

Antibiotics

Prophylactic antibiotics reduce the risk of infection with gynaecological surgery by 50%. The antibiotics need to be effective against the bacteria likely to contaminate the wound: usually endogenous bacteria seeded intra-operatively from the skin, mucous membranes or hollow viscera. Choose antibiotics that do not adversely affect the local microbe environment. Prophylactic antibiotics are particularly important for clean-contaminated operations (when a non-sterile viscera is breached), contaminated operations (when spillage of non-sterile material occurs), or with prosthesis implantation. Avoid further doses of antibiotics intra- or postoperatively, as these may lead to adverse side effects and antibiotic resistance.

Urogenital surgery:

- The organisms involved are usually from perineal or faecal flora, e.g. Escherichia coli, enterococci and Klebsiella spp.
- Staphylococcus aureus and coagulase-negative staphylococci may cause wound infection or postoperative bacteriuria.
- Usually a second-generation cephalosporin (e.g., cefuroxime) or an aminoglycoside (e.g., gentamicin) as a single intravenous dose at the induction of anaesthesia is recommended.

Hysterectomy:

- Usually a first or second-generation surgery site infection is most commonly caused by lower genital tract organisms, e.g., E. coli, Streptococcus spp., Staphylococcus aureus, coagulase-negative staphylococci, Enterococcus faecalis, Gardnerella vaginalis and anaerobes.
- These can lead to wound infection, pelvic or vaginal cuff cellulitis or abscess and septicaemia.
- Usually a first or second-generation cephalosporin plus metronidazole, or co-amoxiclav, is recommended at induction of anaesthesia, to provide broad-spectrum cover.

Other gynaecological procedures:

- Upper genital tract infections can occur following transvaginal uterine instrumentation, for example intrauterine device insertion. The risk for this is low, assuming there is no current lower genital tract infection, but vaginal swabs should be taken before insertion.
- Usually a first or second-generation surgery involving the ovaries alone does not require antibiotic prophylaxis (except for reconstructive procedures).

The antibiotic prophylaxis schedule should be formulated in discussion with microbiologists and is dependent on local infection patterns and resistance.

Day-case surgery

For day-case surgery the following are necessary:

1. Social factors

- A responsible adult, who is able and willing to care for the patient at home for at least the first 24h post-operatively.
- Easy access to a telephone.
- A home environment compatible with postoperative care (e.g., easy access to a toilet).

2. Medical factors

- The patient must understand the details of the procedure and postoperative care.
- The patient must be fit (ASA 1 or 2) and any chronic conditions controlled.
- Their BMI should ideally be <30.
- They should have been pre-assessed.

3. Facility factors

- Rapid communication between the hospital and community is needed.
- Access to information technology.

4. Personnel factors

- Consultant-led.
- Specific day surgery unit nurses and other healthcare professionals.
Day-care surgery is not suitable for complex operations and should be reserved for procedures taking less than an hour.

Postoperative care

Postoperative care aims to prevent postoperative complications and ensure a smooth recovery and therefore earlier discharge. If complications do occur, they should be managed promptly and appropriately. Postoperative care begins in the recovery room, with regular observation monitoring.

Pain control

This should be arranged prospectively, by the surgeon and anaesthetist.

After major surgery, the following means of analgesia are appropriate:

- Morphine boluses (plus an antiemetic).
- Syringe pump for continuous intravenous administration at a predetermined dose, or for intermittent doses via a patient controlled analgesia system (PCAS).
- Epidural.

Once the acute pain has subsided, the above analgesia can be changed to an oral form, with a step-down approach. Use codeine phosphate, paracetamol and an NSAID initially. After daily review, if the patient’s pain is improving, discontinue the codeine phosphate and NSAIDs and continue with paracetamol alone.

Fluid balance

A healthy person needs 3 l of fluid intake in 24 h. Postoperatively, a patient may need more than this, for example, due to third space, blood or drain losses. Systolic blood pressure should be monitored, as uncorrected profound hypotension can lead to ischaemic complications.

Urine output monitoring is used to determine the amount of fluid replacement needed. If the urine output is less than 30 ml/h, give a fluid challenge, provided there is no clinical indication of fluid overload. If this does not improve the urine output, the insertion of a central venous pressure line may need to be considered. Other signs of negative fluid balance include thirst, reduced skin turgor, dry mucous membranes and concentrated urine.

In the elderly, it is important to avoid causing fluid overload, which might result in peripheral or pulmonary oedema. If the patient is vomiting persistently, monitoring of their electrolytes is necessary, with replacement of potassium as needed. Diabetic patients will require a glucose potassium insulin regime until they are able to eat and drink. It is important to remember that a rise in temperature of 1 °C leads to 15% extra fluid loss. Patients can usually begin to drink on the first postoperative day, with first 30 ml and then 60 ml sips, leading up to free clear fluids.

Nausea and vomiting

This is commonly secondary to morphine-based analgesics or paralytic ileus (see below for details on the latter). Antiemetics can be helpful.

Urinary catheters and drains

A urinary catheter must be inserted before major surgery, to decrease the risk of bladder damage, facilitate micturition postoperatively and monitor urine output. The catheter can be removed when the patient is fully mobile and is eating and drinking. The residual urine following a void should be <100 ml. If traumatic bladder injury has occurred, the catheter should be left in situ for 7 days.

Drains should not be used prophylactically: in particular, pelvic drains do not reduce the incidence of infection or lymphocyst formation following radical pelvic surgery. In the case of widespread peritoneal disease and ascites, a drain may lead to abdominal wall metastases.

Postoperative complications

Bleeding

Intra-operative haemostasis is imperative, but if oozing continues, a drain should be inserted. It is necessary to replace the volume lost, using colloids to replace intravascular volume promptly if hypotension occurs, or crystalloids to replace the extra-cellular fluid loss. If significant blood loss has occurred, start a blood transfusion. The decision whether or not to re-explore should be taken at a senior level. The sooner re-exploration takes place, the better chance there will be of identifying a single bleeding vessel.

In the case of massive blood loss, consumptive coagulopathy (disseminated intravascular coagulopathy) may occur. Regular monitoring of clotting is essential and input from a haematologist should be sought, as fresh frozen plasma may be needed.

Sepsis

Sepsis, defined as a temperature above 38 °C in the first 48 h postoperatively with no clinical evidence of a source of infection, does not require antibiotics and usually improves of its own accord. Pyrexia occurring more than 72 h postoperatively, however, does not usually resolve spontaneously.

Take a history and examine the chest, abdomen, wound, legs and urine. Take swabs and send off a FBC, C-reactive protein (CRP), U&E, LFT, blood cultures, mid-stream urine for microscopy, culture and sensitivity and consider virology (Table 5).

Sepsis secondary to wound infection is most likely to be caused by *Staphylococcus aureus* and should be treated with flucloxacillin (or erythromycin if allergic to penicillin). If a collection is present, remove the sutures and open up the wound.

If the cause of pyrexia is uncertain, broad-spectrum antibiotics should be instituted, such as intravenous
DVT

Virchow’s triad describes the three factors leading to the formation of a thrombus: stasis of blood, hypercoagulability and damage to the venous endothelium. All patients undergoing major vaginal or abdominal surgery for gynaecological oncology are considered to be at high risk for developing thromboses. Oncology patients have a higher risk due to the increased activation of their clotting cascades. Ten to 40% of patients will develop a postoperative DVT, usually in the calf. Clinically, the leg becomes oedematous and tight, red, warm and tender. Confirmation is by Doppler ultrasound.

The prophylactic measures already described are imperative in the prevention of DVT. All patients should have prophylactic TED stockings and subcutaneous LMWH until they are fully mobile. Early mobilisation should be encouraged.

Treatment constitutes anticoagulation to prevent the development of PE and resolve the DVT. A baseline FBC, clotting screen, U&E and LFT should be taken. As warfarin takes approximately 3 days to take effect and the use of oral anticoagulants alone is associated with recurrent venous thromboembolic complications, subcutaneous LMWH is administered concomitantly for at least the first 5 days, or until the INR has been in the therapeutic range for 2 consecutive days (whichever is the longer). The dose of warfarin over the first few days is adjusted according to the daily INR. Smaller loading doses are needed in those over 70-years old, weighing <50 kg or with liver disease, alcohol abuse or congestive cardiac failure.

The maintenance warfarin dose can be predicted to within 1 mg after 3 days of anticoagulation and is based on the INR on day 4. The INR should be measured daily for the first 5 days of anticoagulation, then assuming it stabilises, measurements can be taken weekly or at longer intervals.

In the case of a postoperative DVT without ongoing risk factors, anticoagulation should be continued for 6 weeks, with a target INR of 2.5. If additional risk factors are present or the DVT is proximal, treatment should be continued for longer. In the case of recurrent DVT or PE, the target INR is 3.5 and alternative anticoagulation medication, such as therapeutic LMWH, should be considered. An INR within 0.5 INR units of the target is satisfactory.

On discharge, arrangements must be made for anticoagulation follow-up and the Department of Health anticoagulation booklet provided.

Cardiovascular complications

Any patient receiving a general anaesthetic is at increased risk of developing myocardial ischaemia, especially if there is underlying heart disease. Elective surgery should be postponed in patients with a history of myocardial infarction within the preceding months. Patients with chest pain should be monitored carefully and serial ECGs and cardiac enzymes measured. Consult with a cardiologist.

Pulmonary complications

**Pulmonary embolus:**
- A pulmonary embolus leads to the sudden onset of pleuritic chest pain and tachypnoea.
- Take arterial blood gases and order a CXR. If the CXR looks normal, order a ventilation–perfusion scan. Otherwise, request a CT pulmonary angiogram.
- Note that the use of D-dimers can be unhelpful if raised postoperatively.
- Treat with anticoagulation (see above), which should be continued for 6 months, with a target INR of 2.5.

**Pulmonary collapse:**
- Risk factors leading to pulmonary collapse (e.g., atelectasis) include smoking, a high BMI, a prolonged anaesthetic and pre-existing pulmonary disease.
- Take an FBC, CRP and arterial blood gases. Order a CXR and organise physiotherapy.

**Chest infection:**
- In the case of suspected chest infection, send off a septic screen, including a sputum sample for microscopy, culture and sensitivity and order a CXR.
- Treat with appropriate antibiotics.

Bowel complications

Reducing the duration of surgery leads to quicker recovery of the bowel. Encourage early mobilisation and avoid opiates, as these can lead to constipation. Bowel obstruction presents as abdominal distension, nausea, vomiting and tinkling bowel sounds. Insert a naso-gastric tube, keep the patient nil by mouth and rehydrate with intravenous fluids, i.e. ‘drip and suck’. Paralytic ileus results in abdominal distension and absent bowel sounds. ‘Drip and suck’ as above. If prolonged, consider the possibility of intra-abdominal sepsis or mechanical obstruction.

Patients are at increased risk of bowel damage if they have adhesions secondary to cancer, endometriosis,
sepsis or have undergone radiotherapy. In these cases, 'drip and suck', start intravenous antibiotics and repair the bowel.

Wound complications

**Haematomas:**
- Subcutaneous haematomas are usually self-limiting.
- Haematomas of the sheath or pelvis need drainage if they do not resolve spontaneously.
- Pelvic haematomas can sometimes be drained transvaginally under ultrasound guidance.

**Dehiscence:**
- This is defined as the breakdown of any layers of the incision, excluding the peritoneum.
- Evisceration involves breakdown at all levels of the abdominal incision, with protrusion of the intra-abdominal contents. The risk for this is reduced in vertical incisions by mass closure.
- Incisional hernias are less common with transverse than vertical scars.

Urinary tract complications

**Urinary retention:**
- Insert a urinary catheter and await restoration of bladder function.

**Fistulae:**
- These may be vesico-vaginal or uretero-vaginal and present with postoperative dribbling incontinence.
- If the fistula is small, leave the urinary catheter in situ for 7–10 days. If large, surgical repair is necessary.

**Ureteric injury:**
- This tends to occur following devascularisation, ligation or kinking.
- Unilateral hydronephrosis usually presents with loin pain, but may be asymptomatic.
- Insertion of a ureteric stent may be necessary. If this is not possible, consult a urologist, as re-implantation may be necessary.

Lymphocyst formation

Lymphocysts may be a complication following pelvic lymph node dissection. There is no advantage to the routine use of pelvic suction drainage or peritonealisation after radical hysterectomy and pelvic lymphadenectomy. Lymphocysts are often asymptomatic, but symptoms may occur secondary to infection or pressure on surrounding structures. Diagnosis can be confirmed by ultrasonography. Usually no treatment is required, but aspiration or resection is sometimes necessary.

### Practice points

- Consent must be 'informed' consent.
- Seventy per cent of useful diagnostic information is gained from the history alone, 20% from the examination and 10% from laboratory investigations.
- No laboratory result more than 2 weeks, no ECG than 1 month and no CXR more than 3 months old should be used.
- Intra-operative identification of the ureters is essential.
- Patient information needs to be optimised, e.g., by the provision of patient information leaflets.
- Preoperative risk assessment of patients needs to be improved, e.g., by the use of pre-admission clinics.
- Operative complications need to be prevented and should they occur, must be treated promptly and appropriately.
- High-dependency or intensive care unit facilities should be used electively for high-risk anaesthetic patients.
- Patients should be seen daily postoperatively and a full explanation of any surgical findings and complications given. Clear information regarding the dissemination of histological results and follow-up arrangements should be provided on discharge.

### Research directions

- Feedback is needed as to patients’ perceptions of their operative experiences, from the time when surgical management is decided upon, through to their postoperative care and follow-up.
- Hospitals should have pre-admission clinics available. These should be audited to ensure that thorough risk assessments of patients are being made and appropriate action being taken so that patients are in optimum physical and psychological conditions preoperatively.
- A training package should be produced for junior doctors and nurses covering appropriate pre- and postoperative care for gynaecological patients.

### Further reading

