



General complications of surgery

Objectives:

- Not given

Resources:

- Slides
- Davidson's
- Doctor's notes
- Raslan

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COLOR INDEX:

NOTES, IMPORTANT, EXTRA, DAVIDSON'S

EDITING FILE

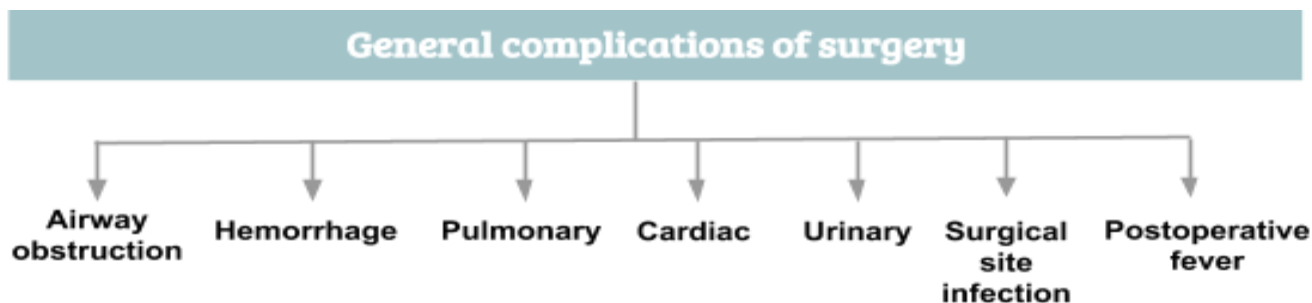
FEEDBACK



Overview:

Following an operation, there are three phases of patient care. After a short period of immediate postoperative care in a recovery room to ensure the full return of consciousness, the patient is returned to surgical ward care, unless there are indications for transfer to a high-dependency unit or intensive therapy unit. On discharge from ward care, patients may still require rehabilitation and convalescence before they are ready to resume domestic or other activities.

- The major life-threatening complications that may arise in the recovery room are:
 - Airway obstruction.
 - Myocardial infarction.
 - Cardiac arrest.
 - Haemorrhage.
 - Respiratory failure.



General complications

Nausea and vomiting	Headache
<ul style="list-style-type: none"> • Can be caused by surgery and/or anaesthesia, and an antiemetic can be useful. 	<ul style="list-style-type: none"> • Spinal anaesthesia may cause headache as a result of leakage of cerebrospinal fluid, and patients should remain recumbent for 12 hours after this form of anaesthesia.
Hiccups	IV line Complications
<ul style="list-style-type: none"> • Transient hiccups in the first few postoperative days are usually subsiding. • However, Persistent hiccups can be a serious complication, exhausting the patient and interfering with sleep, and may be due to diaphragmatic irritation (abscess collection or pleural effusion), gastric distension or metabolic causes, such as renal failure. 	<ul style="list-style-type: none"> • Intravenous administration of irritant drugs or solutions can cause bruising, haematoma, phlebitis and venous thrombosis. • Sites of cannula insertion should be checked regularly for signs of infection, and the cannula replaced if necessary. • Arterial cannulae and needle punctures are the most common cause of arterial injury, and may rarely lead to arterial occlusion and gangrene.



Airway Obstruction

- The main causes of airway obstruction are as follows:
 - **Obstruction by the tongue:**
 - May occur with a depressed level of consciousness (like sleeping disorders or obstructive sleep apnea, the patient need pulmonary consult before surgery), leading to Loss of muscle tone causes the tongue to fall back against the posterior pharyngeal wall, and may be aggravated by masseter spasm during emergence from anaesthesia.
 - **Bleeding into the tongue or soft tissues of the mouth or pharynx:**
 - May be a complicating factor after operations involving these areas.
 - **Laryngeal spasm:**
 - Can occur at light levels of unconsciousness and is aggravated by stimulation during the intubation.
 - **Laryngeal oedema:**
 - May occur in small children after traumatic attempts at intubation, or when there is infection (epiglottitis).
 - **Tracheal compression:**
 - May follow operations in the neck, and compression by haemorrhage as after thyroidectomy.
 - **MCQ : A Patient had a total thyroidectomy and post-operatively in the recovery room the nurse calls you because the patient can not breathe. what are you going to do? Stabilize the patient and OPEN THE WOUND.** Because thyroid is highly vascular and the surgery will cause hematoma (which will compress the airway) (**EXTREMELY IMPORTANT**)..
 - **Obstruction by foreign bodies:**
 - such as dentures, crowns and loose teeth. Dentures must be removed before operation.



Hemorrhage

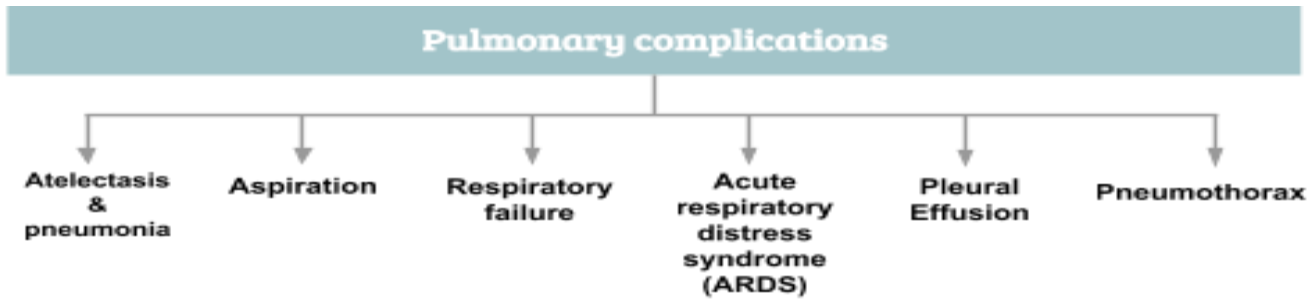
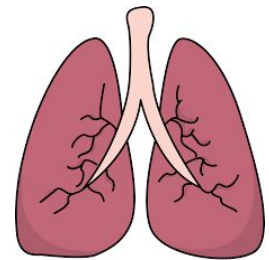
Primary bleeding	<ul style="list-style-type: none"> • Occur during surgery. (intraoperatively)
Reactionary or Reactive bleeding	<ul style="list-style-type: none"> • Usually caused by a slipped ligature or dislodgement of a diathermy¹ coagulum as the blood pressure recovers from the operation. • In colorectal cases like bowel resection will cause leakage and abscess and it will erode to the blood vessels and lead to bleeding.
Secondary bleeding postoperatively	<ul style="list-style-type: none"> • Occurs 7–10 days after an operation and is due to infection eroding a blood vessel. • Rigid drain tubes may also occasionally erode a large vessel and cause dramatic late postoperative bleeding. • Ex: a patient comes to you after 3 days of colorectal surgery and he is tachycardic and has low hemoglobin. You should do CT for him, if there is active bleeding admit and observe him, if he is not stable take him to OR.

¹ A medical and surgical technique involving the production of heat in a part of the body by high-frequency electric currents, to stimulate the circulation, relieve pain, destroy unhealthy tissue, or cause bleeding vessels to clot.



Pulmonary complications

- Respiratory complications remain the **largest single cause of postoperative morbidity** and the **second most common cause of postoperative death** in patients over 60 years of age.
- Pulmonary complications are more common after emergency operations.
- Once a patient has fully recovered from anaesthesia, the main respiratory problems are pulmonary collapse and pulmonary infection.
- Pulmonary embolism is a major complication of deep venous thrombosis.



Atelectasis & pneumonia	<ul style="list-style-type: none"> • Incidence: <ul style="list-style-type: none"> ○ A common complication of surgery and usually occurs after 36 hrs. or 24 hrs. ○ The most common cause of D 1-2 fever (Atelectasis) secondary to inflammatory mediators (EXTREMELY IMPORTANT). • Contributory factors include: <ul style="list-style-type: none"> ○ Paralysis of cilia by anaesthetic agents. ○ Impairment of diaphragmatic movement. ○ Over-sedation. ○ Abdominal distension. ○ Wound pain. They can't breathe when they have pain. • The clinical signs include: (Mainly with Pneumonia) <ul style="list-style-type: none"> ○ Rapid respiration. ○ Tachycardia. ○ Mild pyrexia. ○ Diminished breath sounds. ○ Dullness to percussion over the affected segment. ○ Inability to breathe deeply and cough up bronchial secretions is the primary cause. ○ In case of pneumonia, the patient can present with pyrexia, cough, green sputum and X-ray may show patchy opacities.
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	<ul style="list-style-type: none"> ● Treatment of Atelectasis: <ul style="list-style-type: none"> ○ Incentive spirometry. ○ Also ask the patient to cough. ● If untreated, secondary bacterial infection will supervene, causing lobar or bronchopneumonia.
Aspiration	<ul style="list-style-type: none"> ● Presentation: <ul style="list-style-type: none"> ○ Usually presents with acute dyspnea and fever. ○ That is why the patient needs to fast before surgery. ● CXR: <ul style="list-style-type: none"> ○ Might be normal initially but subsequently can demonstrate a pattern of diffuse interstitial infiltrates. ● Treatment: <ul style="list-style-type: none"> ○ Therapy is supportive, and antibiotics are typically not given empirically.
Respiratory failure	<ul style="list-style-type: none"> ● Definition: <ul style="list-style-type: none"> ○ Respiratory failure is defined as an inability to maintain normal partial pressures of oxygen and carbon dioxide (PaO₂ and PaCO₂). ● Blood gas determinations are the key to its early recognition and should be repeated frequently in patients with previous respiratory problems. ● Severe hypoxaemia may result in visible central cyanosis. ● <u>In type 1 respiratory failure there is hypoxia and in type 2 there is hypercarbia with hypoxia.</u>
Acute respiratory distress syndrome (ARDS)	<ul style="list-style-type: none"> ● American- European consensus conference criteria: <ul style="list-style-type: none"> ○ Bilateral Chest X ray infiltrate. ○ Pulmonary artery wedge pressure \leq 18 mmHg. ○ Ratio of PaO₂/FiO₂(partial pressure of arterial oxygen to fraction of inspired oxygen) of \leq 200. (EXTREMELY IMPORTANT). ○ Acute onset.
Pleural Effusion	<ul style="list-style-type: none"> ● Small pleural effusion: (usually you don't have to worry about it) <ul style="list-style-type: none"> ○ Small pleural effusions are not uncommon following upper abdominal surgery, but are usually of no clinical significance. ○ They may be secondary to other pulmonary pathology, such as: <ul style="list-style-type: none"> ■ Collapse/consolidation. ■ Pulmonary infarction or secondary tumour deposits. ○ Small effusions may be left alone to reabsorb if they do not interfere with respiration otherwise pleural aspiration is performed. ● The appearance of a pleural effusion 2–3 weeks after an abdominal operation may suggest the presence of a subphrenic abscess. ● If the pleural effusion becomes bigger (You need to do a chest tube).



Pneumothorax

- **Causes:**
 - The most common cause of postoperative pneumothorax is the **insertion of a central venous line**, and a **chest X-ray is necessary after this procedure to exclude this potential complication**.
 - There is also an enhanced risk of pneumothorax in patients on positive-pressure ventilation, presumably owing to rupture of pre-existing bullae.
 - **Can be also caused by trauma.**
- **Treatment:**
 - The insertion of an underwater seal drain is usually followed by rapid expansion of the lung.
 - **Chest tube followed by X-ray.**

Haematology

● **Deep Vein Thrombosis (DVT):**

- Pathogenesis of venous thrombosis involves (Virchow's triad):
 - Stasis.
 - Increased blood coagulability.
 - Damage to the blood vessel wall.
- Risk factors include:
 - increasing age, prolonged operations, pelvic and hip surgery, malignant disease, previous DVT or pulmonary embolism, pregnancy, and oral contraceptive pill.
- Symptoms:
 - DVT is frequently asymptomatic, but may present with a painful, tender swollen calf.
- Diagnosis:
 - Duplex ultrasonography is now the investigation of choice for diagnosing DVT.
- Prevention:
 - Measures to prevent DVT include taking care to avoid prolonged compression of the leg veins during and after the operation; the use of graded compression support stockings (TED stockings); and low molecular weight heparin (LMWH).

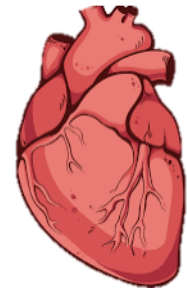
● **Pulmonary Embolism (PE):**

- Symptoms:
 - Small PE: chest pain, tachypnoea, haemoptysis.
 - Massive PE: severe chest pain, pallor & shock.
 - **The risks increases if the the patient was not effectively mobilized after surgery.**
- Diagnosis and Management:
 - Massive pulmonary embolus with severe chest pain, pallor and shock demands immediate cardiopulmonary resuscitation, heparinization and urgent CT pulmonary angiography.
 - Fibrinolytic agents, such as streptokinase or urokinase, can be infused intravenously to encourage clot lysis if it is at least 6 days after surgical intervention, or in extreme cases embolectomy.



Cardiac complications

- The risks of anaesthesia and surgery are increased in patients suffering from cardiovascular disease. Whenever possible, arrhythmias, unstable angina, heart failure or hypertension should be corrected before surgery.
- Valvular disease, especially **aortic stenosis**, impairs the ability of the heart to respond to the increased demand of the postoperative period.
- The administration of fluids to patients with severe aortic or mitral valve disease should be carefully monitored.



<p style="text-align: center;">MI (Myocardial ischaemia/ infarction)</p>	<ul style="list-style-type: none"> • The presentation of myocardial ischemia in the postoperative patient is often subtle, as incisional pain may be difficult to differentiate from chest pain. • Frequently, perioperative MI is silent or presents with dyspnea, hypotension, or atypical pain. • DDX of postoperative chest pain include: <ul style="list-style-type: none"> ○ Myocardial ischemia or infarction. ○ Pulmonary embolism. ○ Pneumonia. • And less commonly: <ul style="list-style-type: none"> ○ Pericarditis. ○ Aortic dissection. ○ Pneumothorax. • If want to avoid it you need to do a primary prophylaxis before the surgery.
<p style="text-align: center;">Heart failure</p>	<ul style="list-style-type: none"> • Clinical manifestations are progressive dyspnoea, hypoxaemia and diffuse congestion on chest X-ray. • Excessive administration of fluid in the early postoperative period in patients with limited myocardial reserve is a common cause, which can be avoided by monitoring CVP (Central venous pressure).
<p style="text-align: center;">Arrhythmia</p>	<ul style="list-style-type: none"> • Sinus tachycardia is the most common and may be a physiological response to hypovolemia or hypotension. • It is also caused by pain, fever, shivering or restlessness. • Tachycardia increases myocardial oxygen consumption and may decrease coronary artery perfusion. • Sinus bradycardia may be due to: <ul style="list-style-type: none"> ○ Vagal stimulation by neostigmine. ○ Pharyngeal irritation during suction. ○ Residual effects of anaesthetic agents. • Atrial fibrillation is the <u>most common</u> postoperative arrhythmia.



Urinary complications

Urinary retention	Urinary tract infections
<ul style="list-style-type: none">• Inability to void postoperatively is common, especially after groin, pelvic or perineal operations, or operations under spinal/epidural anaesthesia.• Postoperative pain, the effects of anaesthesia and drugs, and difficulties in initiating micturition while lying or sitting in bed may all contribute.• Males tend to be more commonly affected than females.• When its normal capacity of approximately 500 ml is exceeded, the bladder may be unable to contract and empty itself.• Frequent dribbling or the passage of small volumes of urine may indicate overflow incontinence, and examination may reveal a distended bladder.• The management of acute urinary retention is catheterization of the bladder, with removal of the catheter after 2–3 days.• Usually happens with hemorrhoids surgery (perineal operation).	<ul style="list-style-type: none">• UTIs are most common after urological or gynaecological operations.• Pre-existing contamination of the urinary tract, urinary retention and instrumentation are the principal factors contributing to postoperative urinary infection. Ex. unsterile technique• Cystitis: is manifested by:<ul style="list-style-type: none">○ Frequency.○ Dysuria.○ Mild fever.• Pyelonephritis: is manifested by:<ul style="list-style-type: none">○ High fever.○ Flank tenderness.



SIRS (systemic inflammatory response)

- **Two of:**
 - **Hyperthermia** (>38°C) or **hypothermia** (<36°C).
 - **Heart rate** (>90/min **more than 100**, no β-blockers).
 - **Tachypnoea** (>20/min), or **PaCO₂** < 32 mmHg.
 - **White cell count** >12 × 10⁹/l or <4 × 10⁹/l or > 10 % bands.

Sepsis	<ul style="list-style-type: none"> ● SIRS with a documented infection.
Severe sepsis	<ul style="list-style-type: none"> ● Sepsis with evidence of one or more organ failures: <ul style="list-style-type: none"> ○ Respiratory (acute respiratory distress syndrome). ○ Cardiovascular (Hypotension responding to IVF). ○ Renal (renal failure). ○ GI (Hepatic). ○ Blood coagulation systems. ○ CNS.
Septic shock	<ul style="list-style-type: none"> ● Hypotension not responding to Fluid resuscitation requiring inotropic support.

Complications of Thermal Regulation:

Hypothermia	
Drop in body temperature of 2°C	
Causes: <ul style="list-style-type: none"> ● Body's response (shivering and vasoconstriction) ● Temperature below 35°C , causes: <ul style="list-style-type: none"> - Coagulopathies (Platelet Dysfunction) 	Mild → 32 - 35 °C = 90-95°F Mod → 28-32 °C = 82-90 °F Severe → 25- 28°C = 77-82 °F Extreme
Malignant Hyperthermia a break video?	
<ul style="list-style-type: none"> ● Rare, autosomal <u>dominant</u> ● Fever , tachycardia, rigidity, cyanosis. <ul style="list-style-type: none"> - First sign is increased end tidal CO₂ - Occurs often within 30 mins after surgery. Treatment: <ul style="list-style-type: none"> ● Dantrolene ● Correct electrolytes ● Cooling blanket 	



Surgical site infection

Wound infection:

- **Incidence:**
 - The most common complication in surgery.
 - The incidence varies from less than 1% in clean operations to 20–30% in dirty cases.
 - Subcutaneous haematoma is a common prelude to a wound infection, and large haematomas may require evacuation.
- **Signs include:**
 - local erythema, tenderness, swelling, cellulitis, wound discharge or frank abscess formation, as well as an elevated temperature and pulse rate.
- **If a wound becomes infected:**
 - It may be necessary to remove one or more sutures or staples prematurely to allow the egress of infected material. The wound is then allowed to heal by secondary intention.
 - Antibiotics are only required if there is evidence of associated cellulitis or septicaemia:
 - If the patient has redness only (cellulitis) without collection: give them antibiotics.
 - If the patient has a drainable collection: you should drain it (usually if you drain the collection the cellulitis will subside, but if didn't then you should give them antibiotics).

Wound Dehiscence: (Gush of fluid) المريض يقولك طلع مويه كثيره من الجرح

- **Incidence:**
 - The incidence of abdominal wound dehiscence should be less than 1%.
 - Incisional herniation complicates approximately 25% of cases.
 - Wound dehiscence may be partial (deep layers only) or complete (all layers, including skin).
 - A serosanguinous discharge is characteristic of partial wound dehiscence.
 - The extrusion of abdominal viscera through a complete abdominal wound dehiscence is known as evisceration.
- **Risk factors include:**
 - Obesity, smoking, respiratory disease, obstructive jaundice, nutritional deficiencies, renal failure, malignancy, diabetes and steroid therapy; however, the most important causes are poor surgical technique, persistently increased intra-abdominal pressure, and local tissue necrosis due to infection.
- **Management:**
 - The wound should be resutured under general anaesthesia.

Diagnosis of Surgical Site infection:

- Superficial SSIs can be identified by pyrexia, local erythema, pain and excessive tenderness, and sometimes discharge.
- Deeper infection may present more insidiously with pyrexia, leukocytosis, and organ dysfunction such as prolonged postoperative ileus.
- Diagnosis may require radiological imaging and sometimes exploratory laparotomy.



Prevention of SSI:

- **The risks of SSI can be reduced by:**
 - Careful surgical technique to minimize tissue damage, bleeding and haematoma.
 - **Appropriate antibiotic prophylaxis.**
 - Avoidance of infective surgical complication if possible e.g. anastomotic leak.
- **CATS:**
 - **C**lipping of the Hair.
 - **A**ntibiotic prophylaxis.
 - **T**emperature: avoid hypothermia or hyperthermia.
 - **S**ugar, tight control of blood sugar.

CLASSIFICATION OF SURGICAL WOUNDS:

Classes		Notes
1	Clean	<ul style="list-style-type: none"> ● No viscus opened & no prosthesis. ● Usually no prophylaxis indicated unless: <ul style="list-style-type: none"> ○ There is prosthesis eg. mesh for hernia. ○ Immunocompromised. ○ Redo surgery.
2	Clean-contaminated	<ul style="list-style-type: none"> ● Viscus opened, minimal spillage. ● Prophylactic is indicated.
3	Contaminated	<ul style="list-style-type: none"> ● Open viscus with spillage or inflammatory disease. ● Not any more prophylactic it is therapeutic.
4	Dirty / Infected	<ul style="list-style-type: none"> ● Pus, necrosis or perforation, or incision through an abscess. ● Not any more prophylactic it is therapeutic. ● Example: colorectal surgery.

Postoperative fever 7 Ws:

Wind	Water
Atelectasis, Day 1-2	UTI, Day 3
Wound	Walking
Including wound infection & anastomotic leak, Day 5-7 (can be up to 14 days)	DVT & PE, Day 7
Wonder Drug	Waste
Anytime (like antibiotics)	C diff (clostridium difficile) colitis, anytime
Waterway	
Blood stream eg. central line infection, anytime.	



Recall (EXTRA):

What is Atelectasis?

Collapse of the alveoli

What is the etiology?

Inadequate alveolar expansion (e.g., poor ventilation of lungs during surgery, inability to fully inspire secondary to pain), high levels of inspired oxygen

What are the signs?

Fever, decreased breath sounds with rales, tachypnea, tachycardia, and increased density on CXR

What are the risk factors?

Chronic obstructive pulmonary disease (COPD), smoking, abdominal or thoracic surgery, oversedation, poor pain control (patient cannot breathe deeply secondary to pain on inspiration)

What prophylactic measures can be taken?

Preoperative smoking cessation, incentive spirometry, good pain control

What is the treatment?

Postoperative incentive spirometry, deep breathing, coughing, early ambulation, NT suctioning, and chest PT

What is Respiratory Failure?

Respiratory impairment with increased respiratory rate, shortness of breath, dyspnea

What is the treatment?

Supplemental O₂, chest PT; suctioning, intubation, and ventilation if necessary

What are the indications for intubation and ventilation?

Cannot protect airway (unconscious), excessive work of breathing, progressive hypoxemia (PaO₂ < 55 despite supplemental O₂), progressive acidosis (pH < 7.3 and PCO₂ 50), RR. 35

Is DVT more common in the right or left iliac vein?

Left is more common (4:1) because the aortic bifurcation crosses and possibly compresses the left iliac vein

What are the signs/symptoms of DVT?

Lower extremity pain, swelling, tenderness, Homan's sign, PE

Up to 50% can be asymptomatic!

What is Homan's sign?

Calf pain with dorsiflexion of the foot seen classically with DVT, but actually found in fewer than one third of patients with DVT

What do you do if you have a patient with high NGT output?

Check high abdominal x-ray and, if the NGT is in duodenum, pull back the NGT into the stomach

What causes SBO?

Adhesions (most of which resolve spontaneously), incarcerated hernia (internal or fascial/dehiscence)

What are the signs of resolving ileus/SBO?

Flatus PR, stool PR

What is the order of recovery of bowel function after abdominal surgery?

First—small intestine

Second—stomach

Third—colon

What is Wound Hematoma?

Collection of blood (blood clot) in operative wound

What is the treatment?

Acute: Remove with hemostasis

Subacute: Observe (heat helps resorption)

What is Wound Seroma?

Postoperative collection of lymph and serum in the operative wound

What is the treatment?

Needle aspiration, repeat if necessary (prevent with closed drain)

What are the signs/symptoms of Pseudomembranous Colitis?

Diarrhea, fever, hypotension/tachycardia

What classic antibiotic causes C.difficile?

Clindamycin (but almost all antibiotics can cause it)

How is it diagnosed?

C. difficile toxin in stool, fecal WBC



Summary

Complications of surgery	
General complications	<ul style="list-style-type: none">• Transient hiccups: in the first few postoperative days are usually subsiding.• Persistent hiccups: can be a serious complication due to (diaphragmatic irritation, gastric distension or metabolic causes, such as renal failure).• Spinal anaesthesia: may <u>cause headache</u> (because of leakage of cerebrospinal fluid).
Airway Obstruction	<ul style="list-style-type: none">• Tracheal compression may follow operations in the neck, and compression by haemorrhage as after thyroidectomy.
Pulmonary complications	<ul style="list-style-type: none">• Respiratory complications remain the largest single cause of postoperative morbidity.• The second most common cause of postoperative death in patients over 60 years of age.
Atelectasis & pneumonia	<ul style="list-style-type: none">• A common complication of surgery and usually occurs after 36 hrs.• The clinical signs:<ul style="list-style-type: none">○ 1- rapid respiration 2- tachycardia 3- mild pyrexia, 4- diminished breath sounds 5- dullness to percussion over the affected segment.• The most common cause of Day 1-2 fever secondary to inflammatory mediators.
Aspiration	<ul style="list-style-type: none">• Presents with <u>acute dyspnea</u> and <u>fever</u>.• CXR initially might be <u>normal</u>.• Therapy: (supportive + antibiotics).
Respiratory failure	<ul style="list-style-type: none">• Type 1: there is <u>hypoxia</u>.• Type 2: there is <u>hypercarbia</u> with <u>hypoxia</u>.
Acute respiratory distress syndrome (ARDS)	<ul style="list-style-type: none">• American- European consensus conference criteria:<ul style="list-style-type: none">○ Bilateral Chest X ray infiltrate.○ Pulmonary artery wedge pressure ≤ 18 mmHg.○ Ratio of $\text{PaO}_2/\text{FiO}_2$ (partial pressure of arterial oxygen to fraction of inspired oxygen) of ≤ 200.○ Acute onset.
Pleural Effusion	<ul style="list-style-type: none">• The appearance of a pleural effusion <u>2–3 weeks</u> after an abdominal operation may suggest the presence of a subphrenic abscess.
Pneumothorax	<ul style="list-style-type: none">• Most common cause of postoperative pneumothorax is the insertion of a central venous line.• A chest X-ray is necessary after this procedure to exclude this potential complication.



Urinary complications	Urinary retention	<ul style="list-style-type: none">• Postoperative after:<ol style="list-style-type: none">1. Groin, pelvic or perineal operations.2. Operations under spinal/epidural anaesthesia.
	Urinary tract infections	<ul style="list-style-type: none">• Cystitis which is manifested by:<ul style="list-style-type: none">○ 1- Frequency 2- Dysuria 3- Mild fever.• Pyelonephritis which is manifested by:<ul style="list-style-type: none">○ 1- High fever 2- Flank tenderness.
SIRS	<ul style="list-style-type: none">• Two of:<ul style="list-style-type: none">○ Hyperthermia (>38°C) or hypothermia (<36°C).○ Heart rate (>90/min, no β-blockers).○ Tachypnoea (>20/min), or PaCO₂ < 32 mmHg.○ White cell count >12 × 10⁹/l or <4 × 10⁹/l or > 10 % bands.	
Wound infection	<ul style="list-style-type: none">• Signs include:<ul style="list-style-type: none">○ Local erythema.○ Tenderness.○ Swelling.○ Cellulitis.○ Wound discharge.○ Frank abscess formation.• Thereby:<ul style="list-style-type: none">○ Antibiotics are only required if there is evidence of associated cellulitis or septicaemia.	



Questions

1) A 19-year old patient presented with right lower quadrant pain with positive rebound tenderness. The diagnosis of appendicitis was confirmed and the appendectomy was done. One day following the surgery he developed a fever. What is the most likely diagnosis?

- A. Atelectasis
- B. UTI
- C. Thrombophlebitis
- D. Wound infection

2) A 65-year-old man undergoes a low anterior resection for rectal cancer. On the fifth day in hospital, his physical examination shows a temperature of 39°C (102°F), blood pressure of 150/90 mm Hg, pulse of 110 beats per minute and regular, and respiratory rate of 28 breaths per minute. A computed tomography (CT) scan of the abdomen reveals an abscess in the pelvis. Which of the following most accurately describes his present condition ?

- A. Systemic inflammatory response syndrome (SIRS)
- B. Sepsis
- C. Septic shock
- D. Septicaemia

3) All of the following complications happens at day 1 classically except:

- A. Atelectasis
- B. Pneumonia
- C. Wound infection (group A streptococcus. Eg. necrotizing f.)
- D. Cancer

4) All of the following complications happens at day 0 classically except:

- A. Malignant hyperthermia
- B. Medication reaction
- C. Blood transfusion reaction
- D. Atelectasis

5) Breakdown of layers and the organ is protruded outside a wound dehiscence is called:

- A. Seroma
- B. Dehiscence
- C. Evisceration
- D. Hematoma

6) Patient came after 3 days postoperatively with pyrexia, cough and green sputum. X ray shows patchy opacities. What is the differential diagnosis?

- A. Pulmonary collapse
- B. Pulmonary infection
- C. Pneumothorax
- D. Pulmonary embolism

Answers:

1: A 2: B 3: D 4: D 5: C 6: B