

# Postoperative illness and its manifestations

These are **disorders associated with surgery**. Surgical procedure causes damage to cells, severing nerves and blood vessels. The incidence of postoperative disorders depends on the extent of the surgical procedure, the duration of the procedure and contamination of the surgical field. The type of anaesthesia, blood loss and also factors on the part of the patient such as age, nutrition and other coexisting diseases, immunity and susceptibility of the body are not negligible factors. These factors determine the course and severity of postoperative illness.

**Local manifestations include :**

- blood flow,
- lymphatic transudation,
- leukocytosis and edema in the surgical area.

**The general symptoms of postoperative illness include :**

- pains,
- increased respiratory and heart rate,
- insomnia,
- disgusting,
- thirst,
- drop in blood pressure,
- stopping the passage of gas and stool,
- vomiting,
- oliguria to anuria.

The above local and general manifestations of postoperative disease disappear spontaneously within a **few days**. After larger and more serious surgical procedures associated with large blood losses, postoperative illness is more severe and can lead to **postoperative shock**, which can be fatal.

## Wound complications

### Dehiscence of the wound

When the wound is dehisced, **the fascia sutures are cut**; if the skin sutures are preserved, serosanguinolent fluid is secreted from the wound, often followed by disruption with bowel dislocation (eventration). Causes include disturbances of collagen metabolism (malnutrition, corticosteroids or infection), technical errors (sutures pulled too tightly and rigidly), hypoxia, ischemia, mechanical forces (coughing, straining to vomit, ascites).

### Wound bleeding

It manifests itself shortly after surgery and originates from **small blood vessels** in the skin or in the subcutaneous fat; the therapy involves compression of the wound with an elastic bandage.

### Haematoma

Bleeding into the surrounding tissues.

### Serom

Accumulation of serous fluid over several days, puncture or suction with Redon drains is used in therapy.

### Infection

The cause is **bacterial contamination** of the surgical wound during surgery or in the first days after surgery, the causative agent is most often Staphylococcus aureus or G-sticks. Wound infection is characterised by the following symptoms: **temperature, oedema, pain in the wound and redness of the skin**, usually occurring on the 5th day after surgery; exceptions are infections caused by  $\beta$ -haemolytic streptococci and Clostridium perfringens, which cause toxæmia with symptoms already in the first 24 hours after surgery.

## Organ complications

### Complications of the respiratory tract

#### Atelectasis

Lung obstruction due to obstruction of the airways by unclear secretions.

## Pneumonia

Bacterial infection, which may also be related to **aspiration of gastric contents**, appears before the 3rd postoperative day, manifested by confusion, high temperature and increased heart and respiratory rate.

## ARDS

ARDS is a common complication of extensive burns, sepsis or severe pancreatitis. The mechanism that triggers this complication is **endotoxinaemia** from bacteria originating from the gastrointestinal tract. Endotoxin acts on leukocyte migration. These are picked up in the lungs, where they form conglomerates. Substances and substances are released from the leukocytes that damage the capillary wall, and the subsequent leakage of plasma into the pulmonary interstitium causes pulmonary oedema, which causes an increase in the distance between the alveolus and the capillary with **impaired diffusion of respiratory gases**. Unoxygenated blood returns to the left heart, resulting in hypoxaemia.

## Cardiac complications

The most common are **cardiac arrest** and **myocardial infarction**.

## Urinary tract complications

### Retention of urine

Anesthesia, analgesics, atropine and prostate enlargement contribute to urinary retention.

### Infection

Infections are more common in patients with a urinary catheter, but are not uncommon in uncatheterised patients. Manifestations include increased temperature, pollakiuria, dysuria, weakness and inappetence.

### Renal insufficiencies

Renal insufficiency can be prevented by sufficient replacement of circulating transfusion volume.

## Complications of the gastrointestinal tract

### Gastroplegia

Transient disorder associated with **gastric emptying**.

### Paralytic ileus

Increasing abdominal volume, interrupted passage of gas and stool, inaudible peristalsis.

## Non-specific complications

### Psychic manifestations

Psychological problems are often caused by sleep deprivation, intense prolonged pain, strange surroundings and isolation. It manifests itself in agitation, confusion and aggression. It usually resolves spontaneously.

### Decubitus

The cause of decubitus is **prolonged pressure** at the predilection sites in long-term bedridden patients.

Prevention of postoperative illness is not possible, but the symptoms and their severity can be mitigated by psychological and somatic preparation of the patient before surgery. Treatment is based on fluid and electrolyte supplementation, mineral supplementation and replacement of blood loss are important.

## References

### External references

- Enhanced Recovery After Surgery (ERAS) - interactive algorithm + test (<https://www.akutne.cz/algorithm/cs/399--/>)
- PCA pumpa - interactive algorithm + test (<https://www.akutne.cz/algorithm/cs/385--/>)

### Related articles

- Infection
- Pathophysiology of the respiratory system/MS (nurse)

- Circulatory system
- Excretory system

## Used literature

- ČERNÝ, Ján. *Chirurgia : základy všeobecnej a špeciálnej chirurgie*. 3. edition. Bratislava : Slovak Academic Press, 1998. 0 pp. ISBN 8088908248.
- ZEMAN, Miroslav, et al. *Chirurgická propedeutika*. 2. edition. Praha : Grada, 2000. 524 pp. ISBN 80-7169-705-2.