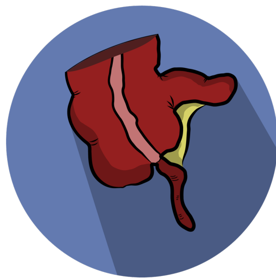

EUPEMEN PROTOCOL

ACUTE APPENDICITS

1	Preoperative Anaesthetist, Surgeon
1.1	**Routine preoperative assessment** Physical examination, abdominal ultrasound and full blood laboratory analysis including C-reactive protein.
1.2	**Clinical scoring systems** Evaluated scores should include the appendicitis inflammatory response score and adult appendicitis score. For elderly patients, fragility scores should be used such as the modified frailty index and VIG Express. The Beers criteria should be reviewed for preventing delirium in adults over 65 years old.
1.3	**Normothermia** Ensure preoperative normothermia in frail patients by using heat blankets.
1.4	**Avoid urinary catheterization** Use only if necessary.
1.5	**Perioperative glycemia control** For diabetic patients use local hospital protocol for diabetics undergoing surgery. In patients at risk of developing insulin resistance (obese and elderly patients) and in surgeries lasting more than 1 hour, avoid blood glucose levels higher than 180 mg/dL.
1.6	**Antibiotic prophylaxis** Antibiotic prophylaxis should be given in all cases and the type of antibiotics should be chosen according to the local hospital policy.
1.7	**Perioperative care bundles** Perioperative care bundles to prevent surgical site infections are recommended.
1.8	**Informed Consent** The patient should be fully informed of the planned procedure and its potential complications. Competent patients should give signed informed consent.
2	Perioperative
2.1	Intraoperative Anaesthetist, Surgeon, Nurse
2.1.1	**WHO Surgical Safety Checklist**

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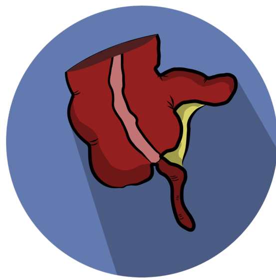
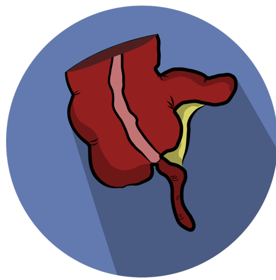


EUPEMEN PROTOCOL

ACUTE APPENDICITS

2.1.2	**Routine intraoperative monitoring**
2.1.3	**Surgical approach** A minimally invasive approach should be preferred in most cases.
2.1.4	**Rapid sequence induction** Rapid sequence induction for anaesthesia should be used to reduce aspiration of gastric contents.
2.1.5	**Perioperative oxygenation** A fraction of inspired oxygen between 0.6 and 0.8 should be used.
2.1.6	**Fluid therapy** Goal-directed fluid therapy using non-invasive hemodynamic monitoring systems should be used. If such systems are not available, balanced solutions should be given continuously according to the surgical approach: 3-5 ml/kg/h for laparoscopy and 5-7 ml/kg/h for laparotomy.
2.1.7	**Avoid urinary catheterization** Use only if necessary.
2.1.8	**Avoid using nasogastric tubes** Use only if necessary.
2.1.9	**Maintain normothermia** Use thermal blankets and heated fluids.
2.1.10	**Perioperative glycemia control** For diabetic patients use local hospital protocol for diabetics undergoing surgery. In patients at risk of developing insulin resistance (obese and elderly patients) and in surgeries lasting more than 1 hour, avoid blood glucose levels higher than 180 mg/dL.
2.1.11	**Prophylaxis of postoperative nausea and vomiting** Give antiemetic therapy according to the Apfel score.
2.1.12	**Avoid abdominal drains** Use only if necessary.
2.1.13	**Opioid-sparing multimodal analgesia** Opioid-sparing analgesia including infiltration of laparoscopic port sites with local anaesthetic or transabdominal plan blocks should be used.
2.1.14	**Thromboembolic prophylaxis** Thromboembolic prophylaxis consisting of compression stockings or intermittent compression and low-molecular weight heparin should be give according to the local hospital policy.
2.1.15	**Perioperative care bundles** Perioperative care bundles to prevent surgical site infections are recommended.



EUPEMEN PROTOCOL

ACUTE APPENDICITS

2.2	Immediate Postoperative Anaesthetist, Surgeon, Nurse
2.2.1	**Active temperature maintenance** Body temperature should be routinely measured with the goal to prevent hypothermia.
2.2.2	**Oxygen therapy** Oxygen saturation should be routinely measured to prevent hyposaturation.
2.2.3	**Opioid-sparing multimodal analgesia**
2.2.4	**Restrictive fluid therapy**
2.2.5	**Perioperative glycemia control** For diabetic patients use local hospital protocol for diabetics undergoing surgery. In patients at risk of developing insulin resistance (obese and elderly patients) and in surgeries lasting more than 1 hour, avoid blood glucose levels higher than 180 mg/dL.
2.2.6	**Early mobilisation** Patients should sit up by 2 hours after surgery and should begin ambulation 8 hours after surgery with respect to night time hours for sleeping.
2.2.7	**Early feeding** Patients should begin drinking 4 hours after surgery.
2.2.8	**Thromboembolic prophylaxis** Thromboembolic prophylaxis consisting of compression stockings or intermittent compression and low-molecular weight heparin should be give according to the local hospital policy.
2.2.9	**Antibiotic therapy** Antibiotics should be given therapeutically for complicated appendicitis. Choice of antibiotics should be made according to local hospital policy.
3	Postoperative Day 1 (Ward) Surgeon, Nurse
3.1	**Early feeding** Feeding with semi-solid food should be commenced.
3.2	**Early mobilization** Patients should be fully ambulated.

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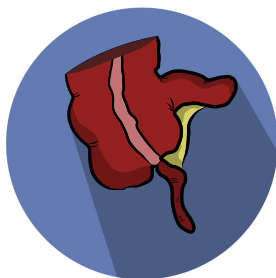

EUPEMEN PROTOCOL

ACUTE APPENDICITS

3.3	**Respiratory physiotherapy**
3.4	**Oral analgesia** Opioid sparing analgesia in peroral form should be given.
3.5	**Avoid intravenous infusions** If patients tolerated peroral fluids withdraw intravenous fluid therapy.
3.6	**Thromboembolic prophylaxis** Thromboembolic prophylaxis consisting of compression stockings or intermittent compression and low-molecular weight heparin should be give according to the local hospital policy.
4	Postoperative Day 2 Surgeon, Nurse
4.1	**Early feeding** Feeding with semi-solid / solid food.
4.2	**Early mobilization** Patients should be fully ambulated.
4.3	**Oral analgesia** Opioid sparing analgesia in peroral form should be given.
4.4	**Avoid intravenous infusions** If patients tolerated peroral fluids withdraw intravenous fluid therapy.
4.5	**Thromboembolic prophylaxis** Thromboembolic prophylaxis consisting of compression stockings or intermittent compression and low-molecular weight heparin should be give according to the local hospital policy.
4.6	**Early discharge** Assess discharge criteria.
5	Rest of Hospital Stay Surgeon, Nurse
5.1	**Early feeding**
5.2	**Early mobilisation**

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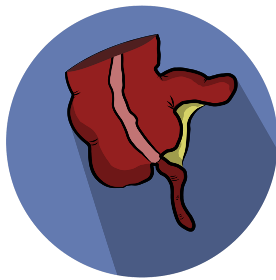

EUPEMEN PROTOCOL

ACUTE APPENDICITS

5.3	**Respiratory physiotherapy**
5.4	**Oral analgesia**
5.5	**Antibiotic therapy**
5.6	**Thromboprophylaxis**
5.7	**Assess discharge criteria**
6	At discharge Surgeon, Nurse, Primary Care
6.1	**Thromboprophylaxis** Continued individualized thromboprophylaxis according to risks.
6.2	**Antibiotic therapy** Consider continuing antibiotic therapy in an outpatient setting.
6.3	**Laboratory blood tests** Laboratory blood test with at least a 50% decline in C-reactive protein prior to discharge.
6.4	**Follow-up** Follow-up after discharge at 24 hours in an outpatient setting or via telephone. Invite patients for a check-up according to local hospital policy. Coordinate home support with primary care if needed.
6.5	**Discharge criteria** General discharge criteria: no complications that cannot be managed in an outpatient setting, no fever, pain controlled with oral analgesia, acceptance by the patient.

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