


# Physical therapy after abdominal surgeries

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# Abdominal surgery

- ▶ Involves a surgical operation on organs inside the abdomen (stomach, gallbladder, small intestine, large intestine, liver, pancreas, spleen, oesophagus, appendix, abdominal aorta)
  - ▶ Main reasons include infection, obstruction, tumors, inflammatory bowel disease
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# Abdominal surgery

- ▶ Mini-invasive operations – laparoscopy
- ▶ Open abdominal surgery

# The goals of physical therapy

- Prevention of post-operative pulmonary complications such as pneumonia
  - Prevention of decubitus
  - Prevention of cardiovascular complications such as tromboembolism
  - Prevention of ileus
  - Prevention of muscle contractions, weakness and joint stiffness
  - Prevention of hernia – training safety coughing, getting out of bed
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# Pre-operative phase

- Preconditioning is important and involves increasing endurance fitness and minimizing functional deficits of the movement system prior to surgery
  - Having already increased the patient's fitness during the pre-operative phase is an important benefit during the post-operative recovery period
  - Any strengthening prior to surgery increases and accelerates the period of post-surgical recovery
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# Pre-operative phase

- ▶ The practice of pulmonary physical therapy practical skills prior to surgery gives patients the needed peace and certainty during the post-surgical stay in Intensive Care Unit

# Physical therapy in the pre-surgical period

- ▶ Includes the explanation of physical therapy before and after surgery
- ▶ Training of pulmonary physical therapy practical skills
- ▶ Breathing techniques emphasizing respiratory thoracic and abdominal excursion
- ▶ Expectoration with holding an abdominal incision
- ▶ Corrective work of the postural system
- ▶ Lower extremity movements and movements of the arms
- ▶ Training of getting out of and in bed

# Physical therapy in the post-operative period

- ▶ We continue with the pre-surgical physical therapy
- ▶ As soon as possible and following a consultation with the doctor, we initiate the intensive exercises that should be repeated 2-4 times per day



# Exercise methods after surgery

- ▶ Cardiovascular exercises – ankle pumping exercises to prevent deep vein thrombosis
- ▶ Respiratory physical therapy
- ▶ Lower and upper extremities movements
- ▶ Splinting abdominal incisions during coughing or sneezing
- ▶ Bed mobility – movement toward either side of the bed or up and down in the bed
- ▶ Rolling to the side – toward the operated or healthy side

# Exercise methods after surgery

- ▶ Training of verticalization process (sitting, standing, walking) – strict log-rolling for getting in and out of bed
- ▶ Scar care (incision mobilization) after stitches extraction


# Verticalization process

- ▶ Bed mobility – movement toward either side of the bed or up and down in the bed
- ▶ Rolling to the side – toward the operated or healthy side
- ▶ Sitting at the edge of the bed, legs in contact with the floor
- ▶ Balance training in sitting
- ▶ Training of getting out of bed **over the operated side**
- ▶ Training walking and stair training

# During verticalization process take notice

- ▶ Orthostatic disorders
- ▶ Such as pale in face, sweat, bad balance, nauzea, feeling dizzy
- ▶ Hart rate, blood presure when the patients are monitoring in the Intensive care unit
- ▶ Post-operative patients may have inserted multiple lines, tubes and drains (such as peripheral line, central line, chest tube, wound drains, urinary catheter etc.). Before mobilization, ask the nurses about disconnection of lines

# Rehabilitation process day by day

- ▶ 1st.day – respiratory physical therapy, cardiovascular gymnastics, conditioning training in laying position, bed mobility, training verticalization – sitting?, standing?, walking around the bed?
  - ▶ 2nd.day – respiratory physical therapy, cardiovascular gymnastics, conditioning training in laying position, in sitting position, walking around the bed, walking in the room...
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# Rehabilitation process day by day

- ▶ 3rd.day – respiratory physical therapy, cardiovascular gymnastics, conditioning training in laying position, in sitting position, walking around the bed, walking in the room, in the corridor, with our assistance or without
- ▶ Approximately after 2 or 3 days the patients are moved from Intensive care unit to standard wards in hospital and we continue with higher level of physical therapy

- ▶ Of course the patients continue with rehabilitation at home following physiotherapist instructions

# Precautions for patients with abdominal incision

- ▶ Avoid lifting more than 15–20 pounds for 6 weeks
  - ▶ Avoid strong abdominal work (sit-ups, resisted hip flexion)
  - ▶ Strict log-rolling for getting in and out of bed
  - ▶ Avoid activities that encourage Valsava manoeuvre (heavy lifting, forceful coughing, straining on the toilet)
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