PHYSIOTHERAPY FOLLOWING ABDOMINAL SURGERIES

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Abdominal surgery can be categorised according to the location and length of the main incision. Upper abdominal surgery (UAS) involves an incision above or extending above the umbilicus and lower abdominal surgery (LAS) involves incisions wholly below the umbilicus.

Surgical Category	Upper Abdominal	Lower abdominal
Colorectal	Anterior resection	Ultra low anterior resection
	Abdominoperineal resection	Recto-sigmoidectomy
	Hartmanns	Ileostomy
	Hemicolectomy	Appendectomy
	Low anterior resection	
	Laparoscopic (+/-hand) assisted colectomy	
	Partial colectomy	
	Proctocolectomy	
	Reversal of Hartmanns	
	Sigmoid colectomy	
	Small bowel resection	
	Subtotal colectomy	
	Total colectomy	
Upper Gastrointestinal	Gastrectomy	
	Liver resection	
	Oesophagectomy	
	Open cholecystectomy	
	Open hiatus hernia repair	
	Pancreatic surgery	
	Whipples	
Urology	Adrenalectomy	Radical prostatectomy
	Cystic duct excision	Ureterectomy
	Nephrectomy	
	Laparoscopic +/- hand assisted nephrectomy	
	Pyeloplasty	
	Radical cystectomy +/- ileal conduit	
	Radical cystoprostatectomy	
Other	Explorative laparotomy	Inguinal hernia repair
	Splenectomy	Total abdominal hysterectomy
	Complete pelvic exenteration	

Type and location of abdominal surgical procedures

Incisions used for abdominal surgery and associated procedures

Sr No.	Incision	Surgery
1.	Subcostal (Kocher)	Liver and pancreas operations
2.	Midline laparotomy	Upper and lower intestinal procedures, major bladder
3.	McBurney	Appendix removal
4.	Bilateral subcostal (Chevron)	Oseophageal, liver, pancreatic, and gastric procedures
5.	Lanz	Appendix removal
6.	Paramedian	Upper gastrointestinal surgery
7.	Transverse	Upper intestinal procedures
8.	Lower midline	Lower intestinal procedures and bladder
9.	Pfannenstiel	Major gynaecological and prostate procedures
10.	Mercedes (Chevron + Sternotomy)	Major trauma, combined cardiac and abdominal
11.	Flank/transverse lumbar	Kidney procedures

Preoperative Rehabilitation Abdominal Surgeries

Prehabilitation

Prehabilitation refers to the use of exercise-based interventions aimed at optimising preoperative function to improve postoperative outcomes or to increase surgical options in those patients who have borderline fitness for surgery.

- Inspiratory muscle training (IMT)
- Strength
- Aerobic training,
- Breathing exercises
- Education

Postoperative Physiotherapy Interventions

Post Operative Physiotherapy interventions

- Preoperative physiotherapy education is the delivery of targeted preparatory information to the patient regarding the expected postoperative participation in an early ambulation programme and necessity to perform deep breathing and coughing (DB&C) exercises.
- Patients are educated on the role these exercises have on the reduction of serious complications such as PPC and VTEs.
- Sessions consist of explaining the effect of anaesthesia and surgery on the lungs, teaching and training of DB&C exercises, education on the early ambulation programme and provision of any adjunctive devices as necessary.

Postoperative ambulation

- Early mobilisation forms a routine part of postoperative care and physiotherapists are heavily involved in the initiation of mobilisation following UAS (upper abdominal surgeries).
- Sitting on the bed 10m on the first postoperative day.
- DB&C exercises,

- Early ambulation,
- Adjunctive devices
- Incentive spirometry should not be routinely provided following abdominal surgery.
- Oscillatory PEP may assist in preventing PPCs.
- Postoperative prophylactic CPAP/NIV is efficacious in the prevention of PPCs
- Although evidence is insufficient on the potential for harm and the cost implications of providing CPAP/NIV prophylactically to all patients following UAS need to be considered.

Getting out of bed

Procedure (Tech)

1. Bend up your knees, support your abdomen with one hand
2. Roll onto one side
3. Push up into sitting using your arms, while letting your legs go over the side of the bed
4. Move your bottom to the edge of the bed by pushing down through your arms.
5. Sit on the edge of your bed with your feet on the floor until any dizziness stops.
6. It is better for your breathing if you to sit out of bed at least a couple of times over the day.

Breathing exercises

Do the following breathing exercises while sitting as upright as possible. In a chair is best.

1. Relax your shoulders and upper chest
2. Take a deep breath to fill the bottom of your lungs
3. Hold the breath for three seconds
4. Breath out slowly
5. Do 10 deep breaths in a row, then take a rest
6. Repeat this three times per hour.

Cough

Deep breathing exercises should be followed by a strong and effective cough

To ease the discomfort of a cough - support your abdomen with a folded towel, a pillow, or your hands.

Circulation exercises

To help prevent blood clots from forming in your legs you can do some simple circulation exercises.

Move your ankles up and down strongly 10 times

Tighten your thigh muscles and buttocks, hold for five seconds then relax. Repeat 10 times.

On return home

Lifting

As a guide, do not lift anything over 5kg in weight for 6-8 weeks after your operation. If you have a stoma, heavy lifting should be avoided due to the risk of hernia/stomal prolapse.

Correct lifting and bending will allow healing of your abdominal muscles and will prevent back injury – make it a lifelong habit.

Stand close to the object with your feet comfortably apart

Bend your knees and keep your back straight

Draw in your pelvic floor muscles and brace with your abdominals while lifting, holding the object close to you

Push through your legs to lift and take steps rather than twisting with a load.

General exercise

Begin a gradual walking program when you get home. Try to gradually build up the distance and speed of your walks. Make sure to stay well hydrated (particularly if you have a stoma bag). Please consult your medical team before increasing your activity levels e.g. swimming, cycling, running or low/high impact sports.

Abdominal exercises

Instructions:

The deep abdominal muscles usually work like a corset to help support your lower back and draw your stomach in. Some abdominal muscles have been cut during your surgery, so their support function has been impaired.

You can exercise these muscles by:

1. Lay on your back with your knees bent up
2. Place one hand on your lower abdomen and gently pull your belly button in and away from your hand, towards your spine. Keep breathing and keep your upper abdomen relaxed. Hold for 5 seconds, and then relax. Repeat 5 times.
3. As your muscles get stronger, try to hold for longer (up to 10 seconds) and increase the number of repetitions (up to 10)
4. You can try this exercise in other positions (i.e.: sitting) and during tasks that involve lifting to help protect your back.