

Exercise After Abdominal Hernia Repair

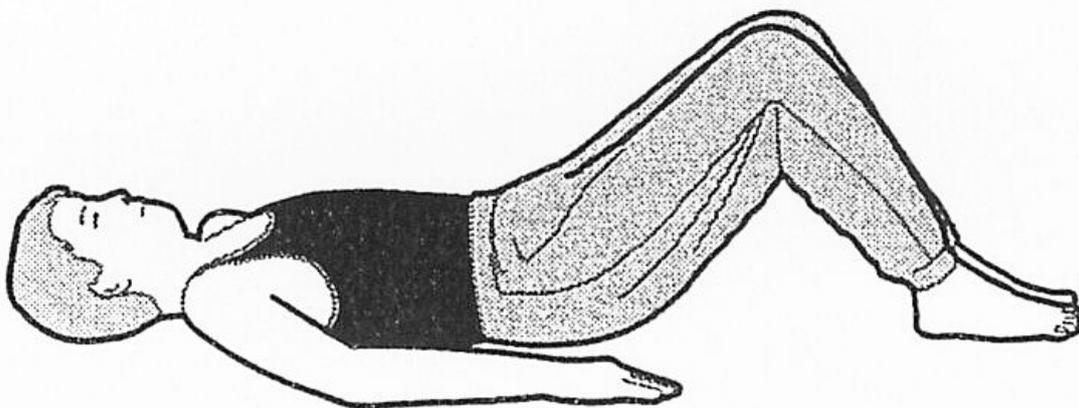
Hernia Repair

A hernia may be surgically repaired either with or without a reinforcing mesh, and a parastomal hernia repaired either in situ, or by resiting the stoma, again with or without a reinforcing mesh. None of these procedures is without risk of complication, although the treatment of a parastomal hernia by resiting the stoma appears to offer the more promising outcome. Whatever technique is adopted, the patient is left with a potential abdominal weakness, and care must be taken in following an exercise programme designed to aid in the return to an active life.

While the aim must be to strengthen the abdominal musculature, in particular the *rectus abdominis* (the “abs”), it must not be forgotten that this muscle is no longer as nature intended: it has a site, or sites, where it has been significantly disturbed, and in the case of mesh repairs, where the local stress distribution is unknown. Consequently, any strengthening programme should be undertaken with an appropriate degree of caution, and with continued monitoring of the sites of potential weakness. It should be remembered that, unless there had been a known muscular overload, the very existence of a hernia suggests that there was a pre-existing weakness in the *rectus abdominis*.

Strengthening the Abdominal Muscles Following Hernia Repair

In the absence of medical advice to the contrary, it would be wise to wait at least a couple of months after a repair procedure for tissue growth to occur before starting a strengthening programme. Meanwhile, however, you should not be inactive, and should aim to fit in around twenty minutes of walking each day, on a reasonably flat surface, and avoiding steep gradients which would place additional load on the *rectus abdominis*. It would also be as well for your consultant to be advised of your intentions, and to be shown this technical note.



Strengthening would initially involve situps, or more correctly abdominal curls, on a firm flat surface, the floor being the obvious choice. The knees should be raised, in order to minimise the probability of using the hip flexors in place of the *rectus abdominis*. The actual amount of knee raise is a matter of personal choice; try raising them until the heels touch the fingertips, and if that feels uncomfortable, lower them slightly. The individual in the picture has about the correct amount of knee raise to do this exercise comfortably, but appears also to have rather short arms!

Initially, merely aim to reduce the pressure of the shoulder-blades on the floor, without any obvious bodily movement. At the same time, in the early stages, rest the fingertips of the appropriate hand over the site of the hernia repair, and over the stoma, if both exist, aiming to detect any obvious difference in the feel of the sites compared with the surrounding abdominal wall as it takes up the stress. The temptation should always be resisted to join the hands behind the head, which tends to place unnecessary stress on the neck; just keep the arms on the floor and the fingertips monitoring the movement.

One point is extremely important: if you have a stoma or a hernia, repaired or otherwise, on no account hold the breath while carrying out any task. Holding the breath (or technically, forcibly exhaling against a closed glottis), known as the Valsalva manoeuvre, has the effect of increasing the intra-abdominal pressure, and it is just about the worst possible treatment for a hernia repair. A useful reminder is the "Grunt Rule" - if it makes you grunt, don't do it! When doing abdominal curls, think in terms of squeezing the air out as you curl, and it will come naturally to breathe out as you curl up, and breathe in as you relax.

Any muscle strengthening exercise should be carried out only on alternate days: the muscle is weakened by the exercise, and strengthens in the following 48 hours. Exercise the same muscle every day, and the result will almost certainly be to weaken it: a process known as over-training. Be sensitive also to any soreness in the vicinity of a repair, which would indicate that the muscle is having to respond to local stresses.

Only you can judge your progress, and when to move to a more demanding task. To start with, just taking the weight off your shoulder blades, and holding the "up" position for a couple of seconds each time, see if you can comfortably do 15 repetitions. If not, stop when you feel that you have had enough, and if you feel no soreness, try for more repetitions 48 hours later. At any time, stop if it hurts, or if you feel that a hernia or stoma site is responding differently from the surrounding skin. In the latter case, cautiously try it again on your next training day; if what you feel is precisely repeated, that may be the way your abdomen is going to respond, but at the slightest increase in the response you detect, discontinue training until you have sought competent medical advice.

If you are satisfied that all is going well, build up the number of repetitions progressively to three "sets" of 15, taking a couple of minutes rest in between each set. If you have been able to do this on three consecutive training days, without feeling sore on your next training day, then you are ready to start building up the work load.

Increasing the Work

The next step will be nothing dramatic: instead of merely relieving the pressure on the shoulder blades, lift them two or three inches off the floor. It is sensible to check occasionally with the finger tips that as you raise the torso the bottom of the rib cage is moving towards the iliac crest of the pelvis (the hips) so that it is definitely the *rectus abdominis* which is being worked rather than the hip flexors. Hold the raised position for a couple of seconds each time, and as before, work up gradually to sets of 15 repetitions, and then three sets at each session. As before, stop if it hurts, and if at any time you feel soreness when you start your next training session, reduce your number of repetitions until you feel that at each training session you are fully recovered from the previous one. When you can achieve three sets of 15 repetitions on three consecutive training days, you are ready to increase the load again.

It will involve nothing more than increasing the movement so that you are raising the torso farther, following the same stages and taking the same precautions as previously. Now do not worry too much about the movement of the torso, but concentrate principally on tightening the muscle in the lower abdomen, and feeling a good tight “squeeze”. This concentration on the abdomen has given the exercise the name “abdominal crunches”, rather than situps.

A further progression will be to increase the load by holding the hands beside the ears, although avoiding placing them behind the head. As a final stage, you can increase the movement until you are raising the torso as far as you are able, comfortably, but not in any way rushing the progressions or slackening your precautions against overload.

Where to Go from Here

The stage you have now reached should be quite adequate for you to feel reasonable confidence in day-to-day activities, and in restrained sports participation, such as swimming, running (on a good surface, where there is minimal risk of stumbling), riding (with due care mounting the horse, but not show jumping), and amateur cricket, but avoiding contact sports.

If your preferred sport is golf, it would be as well for you to check that you have no problems with the rotational movement involved in a golf swing, which uses the external obliques. While on the floor in the knees bent position, place your arms straight out sideways on the floor for stability, and swing the knees smoothly alternately from side to side as far as you can. Turn the head in the opposite direction to the knees to discourage shoulder movement from making it easier. As always, monitor the abdomen carefully for any untoward signs. It would probably be helpful to fit this exercise in between your sets of situps. A development of this exercise would be to leave the knees in the raised position for situps, and reach alternately with each elbow, aiming to bring each shoulder (not the elbow - that is merely a pointer) up towards the opposite knee. A progression of this latter exercise would be to do it on a bench inclined at 45°, as suggested in the final paragraph for situps.

Another useful exercise for the obliques is to stand vertically, with feet slightly apart, holding a dumbbell in one hand by your side, and bend sideways to the opposite side, without leaning forward or back. Choose a weight against which you will have to do some work, but not one heavy enough to cause you to break the Grunt Rule!

It is natural that there will be some enthusiasts who have completed the exercises described and wish to take their strengthening programme further. They should be aware that all exercise with a hernia repair is potentially a venture into uncharted territory, and as already explained, must be undertaken with unremitting caution. The next stage would be to continue the situps programme on a bench inclined at 45°, with the hands held beside the ears to increase the load, and perhaps even ultimately with weights. Before taking this step, ensure that your chosen activity requires it, seek medical advice, preferably from the surgeon who carried out the repair, and above all: don't push your luck!