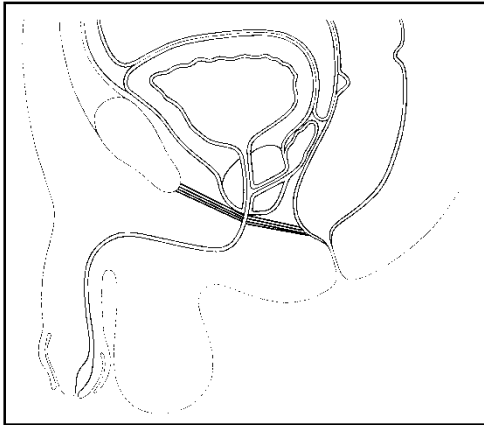
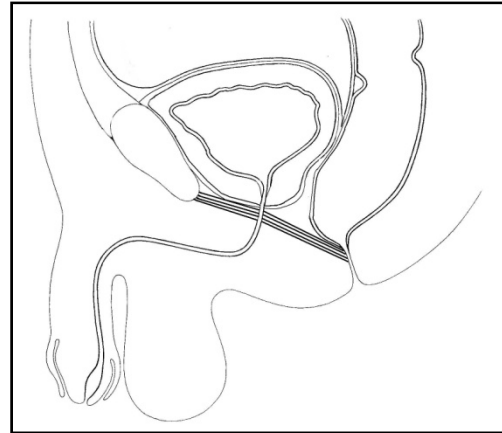


Kegel Exercises

Pelvic Floor Rehabilitation following Radical Prostatectomy



PRIOR to Radical Prostatectomy



Post-Radical Prostatectomy

Male urinary continence is afforded by two levels of resistance. First is the prostatic urethra, a thin, narrow tube which provides a passive resistance (similar to the resistance noted when blowing through a thin straw) which requires no thought process from the patient. The other is the active resistance by the pelvic floor muscles. These muscles need to voluntarily contract in order to provide resistance. Most men rarely ever have to use these muscles, especially when standing, coughing, laughing, bearing down, etc. As such, the male pelvic floor muscles are rarely used and often “out of shape”, particularly in men 50-70 years of age.

Following radical prostatectomy, the only source of resistance to urinary flow is the pelvic floor muscles. Therefore, it is essential that the patient start training this muscle group well before surgery to prepare for the workload. The following exercise program is highly recommended to optimize the use of Kegel exercise.

PELVIC FLOOR TRAINING PRIOR TO SURGERY

1) IDENTIFICATION OF PELVIC FLOOR MUSCLES

-stop urinary flow



2) MUSCLE TRAINING

- daily Kegel contractions (**100-200/day**)
- contract for 10 sec, relax for 10 sec
- perform throughout the day
- build muscle endurance and speed of contraction



3) REFLEX DEVELOPMENT

-establish the reflex to simultaneously contract pelvic floor muscles while performing activities which will cause increased pressure on the bladder. This includes:

- sneezing
- coughing
- standing up

-after 2-4 weeks of pelvic muscle floor exercises, coordinate the Kegel contraction with deliberate coughing. Establish the connection between these two maneuvers.

-following surgery, with the loss or resistance which was formally provided by the prostate, this properly timed contraction will be needed to re-establish complete urinary continence



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The **Kegel exercise**, named after Dr. Arnold Kegel, is an exercise designed to strengthen the pubococcygeus muscles. The exercises consist of the regular clenching and unclenching of the muscles which form part of the pelvic floor. The aim of Kegel exercises is to increase muscle tone, endurance and contraction strength to the pelvic floor muscles in order to develop the necessary resistance to stop urinary leakage following radical prostatectomy.

How to do Kegel exercises

It may take diligence to identify your pelvic floor muscles and learn how to contract and relax them. Here are some pointers:

Find the right muscles

To make sure you know how to contract your pelvic floor muscles, try to stop the flow of urine while you're going to the bathroom. Once you have found the right muscles to use, only do Kegel exercises when you are not urinating. Another technique to ensure you are using the right muscles includes the placement of one finger in your rectum. While you tighten the pelvic floor muscles, the rectal muscle should tighten around your finger. If you succeed, you've got the basic move. As your muscles become stronger — and you become more experienced with the exercises — this movement will be more pronounced.

A cautionary note: Don't make a habit of starting and stopping your urine stream. Doing Kegel exercises with a full bladder or while emptying your bladder can be very uncomfortable. It can also lead to incomplete emptying of the bladder, which increases your risk of a urinary tract infection.

If you're having trouble finding the right muscles, don't be embarrassed to ask your doctor for help. He or she can provide important feedback so that you learn to isolate and exercise the correct muscles.

Perfect your technique

Once you have identified your pelvic floor muscles, empty your bladder and get into a sitting or standing position. Then firmly tense your pelvic floor muscles. Try it at frequent intervals for five seconds at a time, four or five times in a row. Work up to keeping the muscles contracted for 10 seconds at a time, relaxing for 10 seconds between contractions. Prior to radical prostatectomy, we recommend doing at least 100-200 contractions, spread out throughout each day.

Be careful not to flex the muscles in your abdomen, thighs or buttocks. To get the maximum benefit, focus on tightening only your pelvic floor muscles. Also, try not to hold your breath. Just relax, breathe freely and focus on tightening the correct muscles.

Repeat throughout the day (start with three times a day)

Perform a set of 25-50 Kegel exercises at least three times a day. The exercises will get easier the more often you do them. You might make a practice of fitting in a set every time you do a routine task, such as checking e-mail or commuting to work.

You can also vary your technique. Try doing sets of mini-Kegels. Count quickly to 10 or 20, contracting and relaxing your pelvic floor muscles each time you say a number. Or slow it

down, gradually contracting and releasing your pelvic floor muscles one time. As you contract, visualize an elevator traveling up four floors. At each floor, contract your muscles a little more until you reach maximum contraction at the fourth floor. Hold the contraction and then slowly release the tension as you visualize the elevator traveling back down. Repeat 10 times.

How to remember to do your Kegel exercises regularly

Do your exercises at the same times every day. For example, you can do Kegel exercises when you wake up in the morning, after lunch, and at bedtime. You may want to keep a Kegel exercise diary. Write down how many times each day you do Kegel exercises and how many exercises you do each time.

Developing the Kegel reflex

Following radical prostatectomy, continuation of the Kegel exercises are important to ensure good pelvic floor muscle tone and endurance. **However, what is essential is the establishment of the automatic reflex of contracting the pelvic floor muscles when performing any body movement which will increase the abdominal pressure.** This includes standing up, squatting down, coughing, laughing, etc... These maneuvers increase the pressure inside the bladder and force the urine out through the urethra. If the valve mechanism is not tightened at the right time, urine will leak out!

As such, timing of the pelvic floor contraction is essential to become pad-free and leak-free (continent) following prostate surgery. We recommend practicing before your surgery by purposefully coughing and doing the Kegel contraction at the same time. Start developing this association as soon as possible.