

Details of the interventions

The exercise intervention (page 1-36)

Women in the exercise arm carried out exercises both in class and at home. These are described below.

Section 1 (page 2-10) describes the training given to the research physiotherapists in the general (mobility) exercises

Section 2 (page 11-15) describes the training given to the research physiotherapists in the pelvic floor exercises.

Section 3 (page 16-33) illustrates the exercises carried out in class in weeks 1-4, weeks 4-8 and weeks 9-12.

Section 4 (page 34-36) illustrates the home exercises the women were encouraged to carry out on days without an exercise class in weeks 1-24.

In addition the physiotherapist was instructed to request the participants to do a brisk walk back to their homes after the class and to accompany them as appropriate.

In weeks 13-24 the research paramedic in each villages offered (off protocol) continuation of the exercises carried out in week 12.

Section 1. Training of physiotherapists in general (mobility) exercises

A 3 day training camp was held to teach the physiotherapists the exercises for the intervention. The training given to the physiotherapists is described below

Warm up and Stretching Exercises.

Five to ten minutes of warm up and stretching exercises will be performed at the beginning of classes. These include shoulder and waist rotations, walking on the spot and other stretches.

Fitness Exercises.

Body awareness, breathing, relaxation, strengthening of the thigh, abdominal and back muscles and balance training will be performed between the PFM exercises. The exercises will be done in lying, sitting and standing positions.

These are the exercises taught to the Physiotherapists and the progression of these exercises

You will find the exercise sheets the Physiotherapists used to teach the classes under Exercise list month 1, 2 and 3

The home exercise sheets for each month can be found under Home exercise

Stretches



- These are mobility stretches

- Do the movement slow and controlled with as much range of motion as they can. **Do not bounce**
- Move until you feel a good stretch but it should not be painful
- Keep breathing

Side Bend



- Do the movement slow and controlled with as much range of motion as they can
- Move until you feel a good stretch but it should not be painful
- As shown on the diagram with the X do not lift your bum off the ground
- You can bend the supporting arm to get a deeper stretch
- Stretching arm should be on top of your ear
- Keep breathing

Leg Stretches



- Gastrocnemius – stretching leg foot straight and heel is kept on the ground. Keep back straight
- Quads – you can rest your head on your other arm if more comfortable
- Hip flexors – feet shoulder width apart and straight. Lean back to get a good hip flexor stretch
- Do the movement slow and controlled with as much range of motion as they can
- Move until you feel a good stretch but it should not be painful. **Do not bounce**
- Keep breathing

General Stretch Progression

- Hold the stretches for 30 seconds and repeat 3 times
- Ladies are encouraged to do the full number of repetitions but if they can't do them all, it is okay. Please encourage them to work hard and do as many as possible.

Bridging



- Do the movement slow and controlled with as much range of motion as you can
- Keep your neck relaxed
- Knee ext. – lead with your heel
- Keep breathing

Cat



- Your hands should be underneath your shoulders and knees under your hips
- Do the movement slow and controlled with as much range of motion as they can
- Move until you feel a good stretch but it should not be painful
- Start and finish the stretch in neutral spine – make sure the ladies know where neutral is.
- keep breathing

Cat Progression



- Keep spine as close to neutral as possible
- Reach out with finger tips, in a forward direction, as far as possible
- Lead with your heel and lift leg straight back (start with bent knee and progress to straight leg)
- Do the movement slow and controlled with as much range of motion as they can
- Keep breathing

Push Ups



- Do the movement slow and controlled with as much range of motion as they can
- Hands should be at shoulder height
- Last progression keep your elbows tucked in towards your sides
- Keep breathing

Squat



- When knees are bent they should be over ankles, they should never be over your toes
- Feet should be hip width apart
- Do the movement slow and controlled with as much range of motion as they can
- Last progressions bum need to be back as if sitting in a chair
- Chest stays lifted
- Keep breathing

Balance



- Stand tall with back straight
- Knee or ankle can touch other leg if needed
- Keep your pelvis level
- If it is easier you can put your arm out to the side for balance
- Do the movement slow and controlled
- Keep breathing

General Exercise Progression

- Start with 4 repetitions of the exercise
- Increase one repetition every exercise class
- They will be doing 12 repeats at the end of 8 classes
- Each month of classes the exercises will get harder, so start at 4 and work up to 12 repeats every month

Section 2: Training for the physiotherapists in pelvic floor muscle exercises

Pelvic Floor Muscle (PFM) Exercises.

At the beginning of the training participants will be taught to contract the PFM by the community physiotherapist. They will be taught to identify the PFM and to not use any accessory muscles (abdominals, buttocks or legs) when performing the contractions. The exercise regimen will be designed to strengthen both fast and slow twitch muscle fibres using both fast and sustained contractions. There will be at least 20 seconds rest between the contractions. The exercises will be performed in lying, sitting, and standing positions. They will be inserted between the fitness exercises.

How to do Pelvic Muscle Exercises

1. Stand, sit or lie down with your knees slightly apart (about 25 cm or 10 in apart). Relax.
2. Find your pelvic muscle. Imagine that you are trying to hold back urine, or a bowel movement. Squeeze the muscles you would use to do that.

Below are the diagrams used to tell which pelvic floor exercise type to do.



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- Quick
 - start at 3 quick ones and do 4 sets of the 3 quick ones
 - Add a quick one every class, working up to 10 quick ones in a set...do 4 sets.
 - for the second and third months the number of quick ones starts at 10 quick ones doing 4 sets. The number does not increase during the month



- Holds
 - Hold for 4 seconds, do this 4 times
 - Add one second every class and work up to a 10 second hold
 - The second and third months start with 10 second holds and do 4 times. The length of the hold does not increase through the months.
 - Add in the second month a half strength hold in sitting and hold for 20 seconds working up to a 30 second hold.
 - In the third month the half strength contraction is held for 20 seconds while standing and marching, work up to 30 seconds hold.

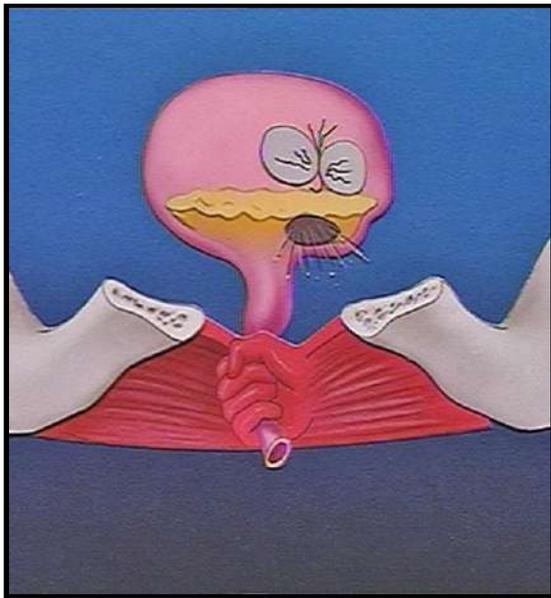


Accessory Muscles



- Do not tighten your tummy or your buttocks, you can put your hand on these parts to monitor
- Do not hold your breath

PF Functional Use



- Before you cough, sneeze or lift something tighten and hold your pelvic floor muscles
- In the second month a hold and cough is added in sitting, do this 4 times. This stays the same for the third month
- It is hard to walk to the toilet with a strong PF contraction, so do a half way contraction and hold while walking to the toilet
- It is good to practice this when you don't have the urge to urinate

5 Steps to Follow When Urge Strikes

- Stop what you are doing or sit down if possible. Remain very still
- Squeeze the pelvic floor muscles quickly several times. Do not relax fully between
- Relax the body, take some deep breaths
- Distract yourself, think about something else
- When urge passes or lessens walk slowly to bathroom using half strength contraction

Section 3: Exercises to be carried out in class

Weeks 1-4 (illustrations follow)

PF = pelvic floor muscle contraction

Arm circles, one way then the other X 5

Shoulder shrugs then push back and then down X 5

Hip circles, one way, then the other X 10

Marching, 30 seconds

Sit PF, 3 quick ones X 4 sets

Sit, side bend holding for 30 seconds, both sides X 3

Lying knees up, posterior pelvic tilt X 4, progress to 12

Lying knees up, straighten one knee and lower it, repeat with the other knee X 4, progress to 12

Lying on tummy one knee bent up, 3 quick ones X 4 sets

Up on all fours

- stretch back up, hold for 10 seconds, X4, progress to 12

- then straight back

- curve back down, hold for 10 seconds, X4, progress to 12

Sit PF, hold X 4 seconds, 4 times

Push ups on the wall X 4, progress to 12

Stand back against the wall and squat, sliding down the wall, 4 second hold, 4 times, progress to 12

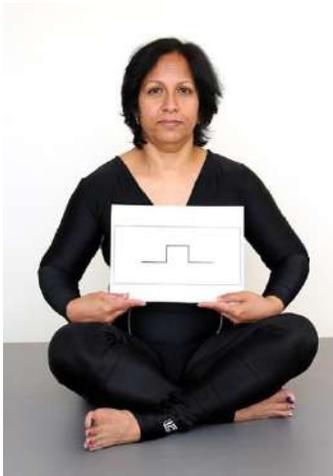
Stand leaning against the wall, PF hold X 4 seconds, 4 times

Stand on one leg, hand on wall for support hold 4 seconds, repeat with other leg , 4 times each leg

Stand leaning on the wall and do gastrocnemius stretch hold 30 seconds X 3









Weeks 5-8 (illustrations follow)

PF = pelvic floor muscle contraction

Arm circles, one way then the other X 5

Shoulder shrugs then push back and then down X 5

Hip circles, one way then the other X 10

Marching, 30 seconds

Sit and do PF, 10 quick ones X 4 sets

Sit, side bend, bent arm over holding for 30 seconds, do 3 times with each arm

Lying knees up, posterior pelvic tilt and then bridge X 4, progress to 12

Lying knees bent, straighten one knee (hold for 5 seconds) and then lower it, do 4 times with each leg, progress to 12

Lying on tummy one knee bent up, 10 quick ones PF X 4

Sitting, tighten and hold PF and keep holding while coughing X 4

Up on all fours, with a straight back, lift one arm and then other arm, repeat 4 times with each arm, progress to 12

Up on all fours, with a straight back and lift one leg and then the other leg, do 4 times with each leg, progress to 12

Sit PF, hold half way for 20 seconds X 4, progress to 30 seconds, **Talk about Urge suppression**

Push ups on the wall feet further back X 4, progress to 12

Squat with one hand on the wall, hold 4 seconds X 4, progress to 12

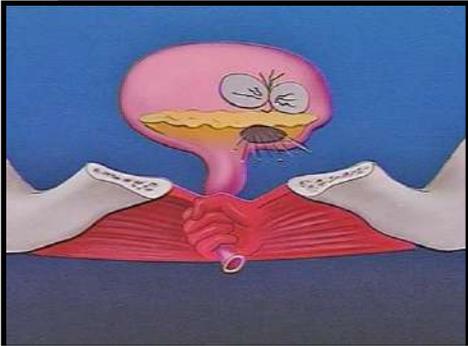
Stand on one leg, finger on wall for support hold 4 seconds, repeat with other leg, progress to 12

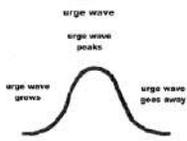
Stand lean forward and put your hands on your knees, PF hold 10 seconds X 4

Stand leaning on the wall and do gastronomies stretch, 30 seconds X 3











Weeks 9-12 (illustrations follow)

PF = pelvic floor muscle contraction

Arm circles, one way then the other X 5

Shoulder shrugs then push back and then down X 5

Hip circles, one way then the other X 10

Marching, 30 seconds

Sit PF , 10 quick ones X 4

Sit, side bend, straight arm over, holding for 30 seconds both sides X 3

Sitting, tighten and hold PF and keep holding while coughing X 4

Lying knees up, posterior pelvic tilt and then bridge, bring knees wide and then closed X 4, progress to 12

Lying knees bent, straighten one knee (hold for 5 seconds) and then lower it, do 4 times with each leg, progress to 12

Lying on tummy one knee bent up, 10 quick ones X 4

Up on all fours with straight back and lift one arm and opposite one leg X 4, progress to 12

Sit PF, 10 seconds hold X 4

Push ups on the wall feet further back and hands closer together with elbows tucked in to sides X 4, progress to 12

Squat with no support, hold 4 seconds X 4, progress to 12

Stand and hold PF half way and march for 20 seconds X 3, progress to 30 seconds

Stand on one leg, no support hold 4 seconds, repeat with other leg, progress to 12

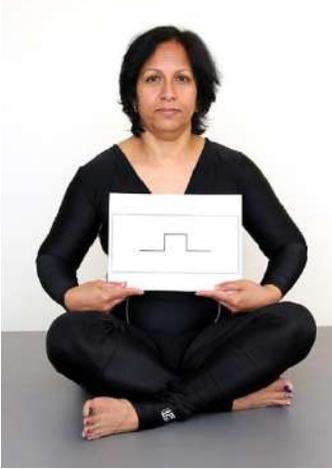
Stand leaning on the wall and do gastrocnemius stretch, hold 30 seconds X 3

Lying on tummy, quadriceps stretch, hold 30 seconds X 3
Standing hand on wall, hip flexor stretch, hold 30 seconds X 3











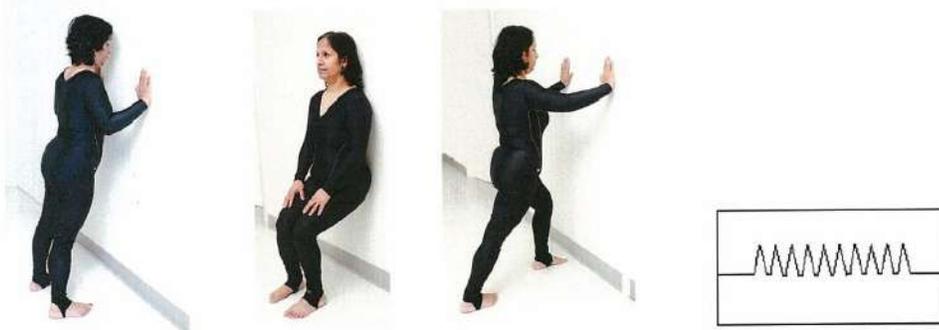
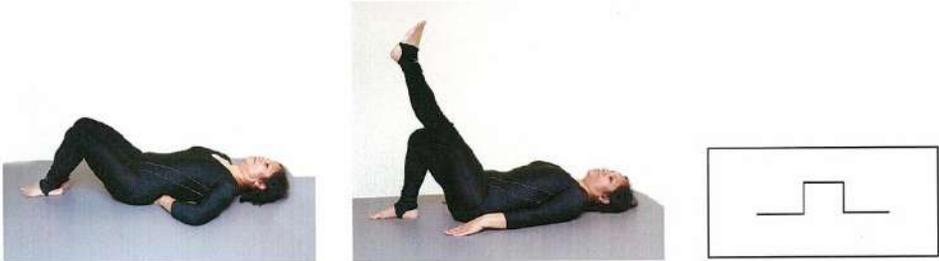


Section 4: Home exercise component

The women in the exercise group were encouraged to exercise at home throughout the 6 months of the intervention and were given laminated cards each month (included below) to illustrate the suggested program to be followed. Each month built on the previous one, such that in month 1 there were 5 mobility exercises and 2 pelvic floor exercises, in month 2 a further 3 mobility exercise and one pelvic floor exercise were added and in month 3 the 8 exercises from before were extended by 4 new ones and the 3 pelvic floor were supplemented by one hold and cough exercise. The woman was instructed to do 4 repetitions of each exercise and to carry these out every day when there was not an exercise class. In months 4-6 she was to continue the exercises as in month 3.

Home Exercises

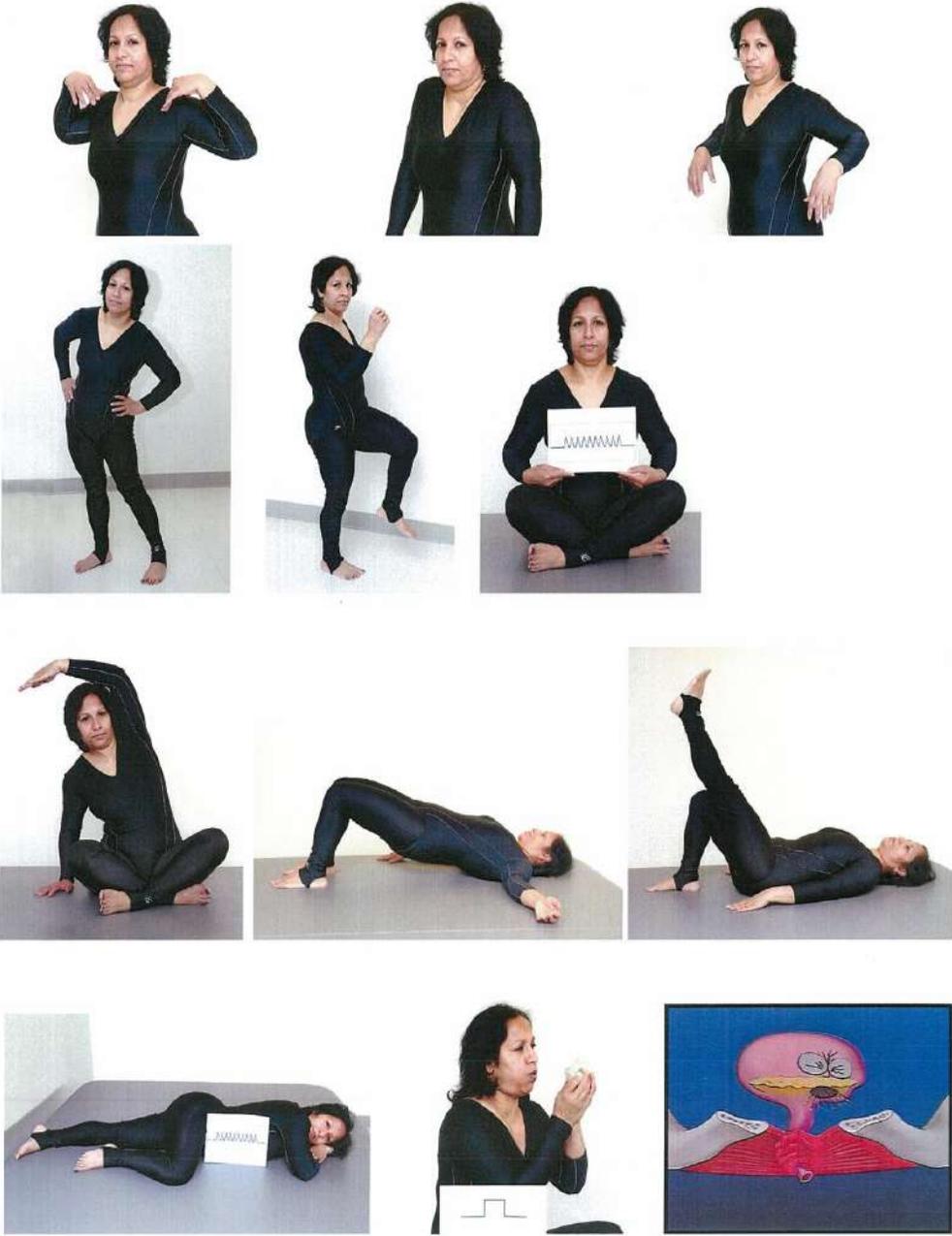
Weeks 1-4



Weeks 1-4

Weeks 5-8

Weeks 9-12 and 13-24

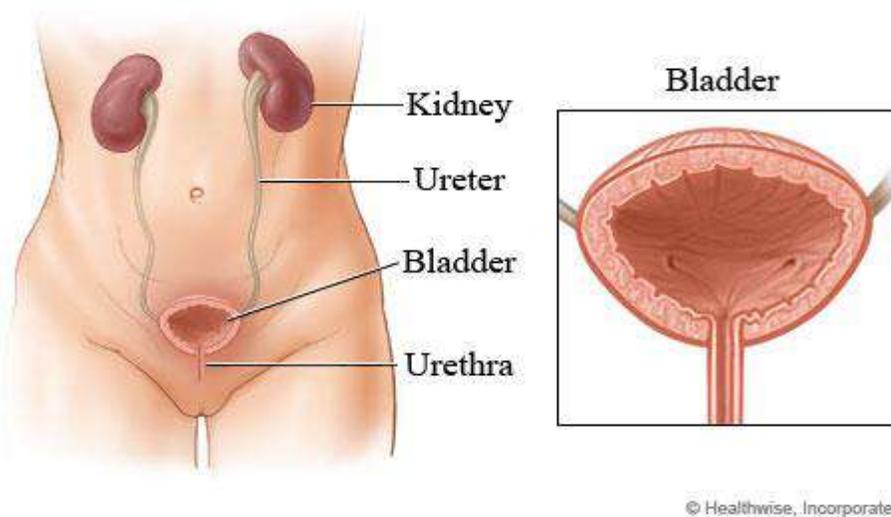


Education intervention (pages 37-41)

All participants, in both the exercise and the education arms, were given information about how the bladder works and ways in which to keep it healthy, using the bangla version of the materials below. . The research paramedic was given training in how to deliver this message and gave it to all participants during the village meeting and again, one on one at the end of 12 weeks. At weeks 4 and 16 the woman was reminded of the need to drink fluids (using a flash card as at the bottom half of page 3) and at weeks 8 and 20 to include fruits and vegetables in their diet, using a flash card based on the top half of page 5.

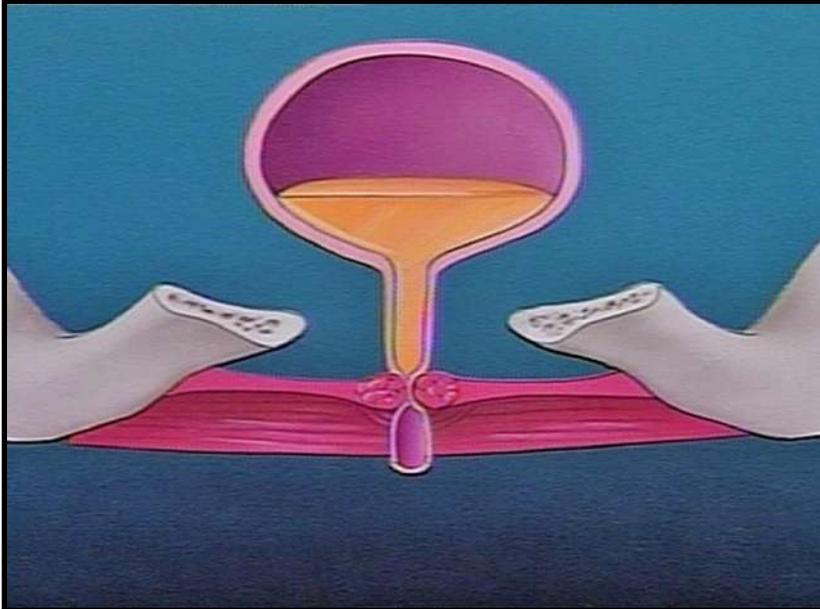
The research paramedic explained as follows:

The kidneys filter blood and collect waste products and produce urine.



The Bladder collects urine

A normal bladder holds up to 1 ½ to 2 cups of urine.

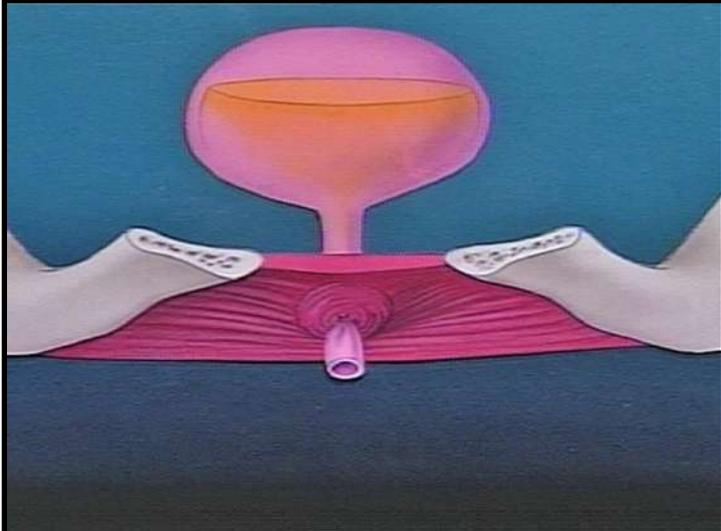


The bladder gets rid of urine through the tube at the bottom of the bladder



The bladder empties 4 – 7 times each day, depending on how much you drink. If it is hot, you will urinate less.

A normal bladder empties fully every time you urinate and does not leak.



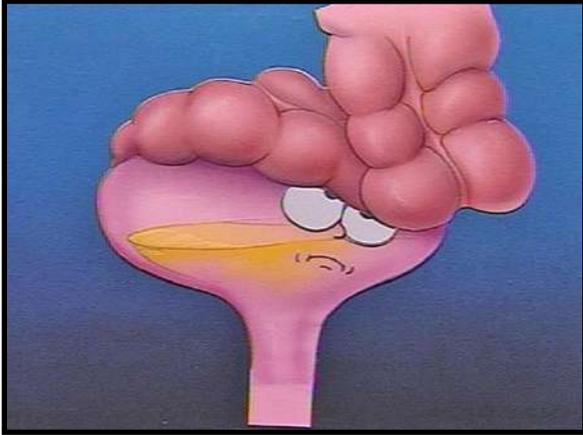
There are muscles wrapped around the tube to keep it closed until you are ready to go to the toilet.

FLUIDS



It is important to drink enough fluid every day. You will get enough fluid if you drink 8 cups throughout the day **DO NOT** cut back on drinking so you won't leak. Your bladder may get irritated and not hold as much urine if you don't drink enough.

Constipation



You should avoid constipation. This is bowel movements that are not very often (3 times or fewer per week) or hard to push out. Bowel movements can be helped by activity. Keep moving and don't spend too much time sitting. When the bowel does not empty properly it may swell up and push down onto the bladder and this may cause it to want to empty.

**Try to eat a healthy diet of fruits and vegetables
This will help keep your stool soft and easy to pass**

