

Patient Information

Physiotherapy Department

Core Stability Exercises

This information aims to provide advice on how to strengthen a group of muscles commonly known as your “core” muscles. The core refers to the area of your trunk between your ribs and your pelvis, and incorporates the abdominal muscles, pelvic floor muscles, and the diaphragm (which is important in breathing).

A strong “core” gives a firm foundation of support to your spine and pelvis, which is a main anchor for your leg muscles and your spine. When the core is weak, we naturally use other muscles to provide stability instead.

For example if your core is weak, the commonly over-used muscles are:-

- Shoulder and neck muscles
- Long back muscles
- Muscles at the side of our legs

If you have a spasm in your lower back, tense neck and shoulders; or knee pain (without significant trauma), then you may benefit from strengthening your core.

The exercises provided here are just some examples of how to strengthen your core; there are many exercises and many ways of teaching them. These exercises are intended to be carried out with the advice and guidance of your physiotherapist.

The foundation “core stability” exercise

The foundation core stability exercise is fundamental to everything that follows and can take several weeks to learn, but in time and with regular practice it should become second nature.



Patient Information

Start in crook lying (as described below)

- Lie on your back
- with knees bent and slightly apart.
- Feet apart

See the diagram



Trans abs and pelvic floor contraction:-

- To engage your pelvic floor imagine you are stopping yourself from passing urine. If this is difficult imagine that you are zipping up a very tight pair of jeans.
- As you do this draw your navel in.

Hold this contraction for 10 seconds, Repeat 10 times

It is common to hold your breath, but try to breathe in and out gently as you perform this exercise.

- Breathe as you move
- Breathe in to prepare, exhale as you push a limb out
- Breathe in when you pause then exhale as you bring it back.

Pay close attention to your spine, pelvis and neck, **if** you find that your back arches away from the floor, your pelvis wobbles, or the muscles around your throat tighten, then you may be trying an exercise that is too advanced for you or it could be that you need to tighten your core more firmly, see “**imprinting**” below.

Imprinting

“**Imprinting**” is a physiotherapy term for bracing your abdomen such as when you move a leg as you move a heavy load. Whilst carrying out the following exercises, as you move a limb, brace your tummy by pulling your navel inwards even more firmly to prevent your spine from arching or your pelvis from wobbling. When you “imprint”, it is like doubling your core exercise to give extra stability.

Patient Information

Toy soldier



- In crook lying
- Engage your core
- Float your arms up so that they are pointing towards the ceiling.
- Breathe out and raise one arm over your head
- Breathe –in to return
- Repeat on the other side

You could repeat the exercise by simultaneously moving your arms in opposite directions.
You can advance this exercise by combining it with scissors or 1 leg stretch.

Hip twist



- In crook lying
- Tighten your lower abdominals
- Slowly and with control allow one leg to drop out to the side, then return to the start position.
- Repeat 10 times with the same leg.
- Repeat on other side.

Patient Information

“Scissors”



- In crook lying
- Tighten your lower abdominals
- Lift one leg off the floor bringing the knee towards your body.

Then return to the start and change legs

Dart



Start lying on your front, resting your forehead on a rolled up towel.

- Engage your core
- Stage 1 – float your shoulders off the floor
- Stage 2 – float your arms off the floor and reach your fingers towards your toes
- Stage 3 tuck your chin in
- Stage 4 float your head off the floor (maintain a neutral spine with your eyes facing down i.e. don't lift your chin)

“1 leg stretch level 2”



- In crook lying
- Tighten your lower abdominals
- With control lift your knee towards your chest (e.g. scissors)
- “Imprint” then straighten your leg.

Bring it back and repeat on the other side.

To simplify this exercise slide your leg straight along the floor.

Abdominal exercises



- In crook lying
- Place your hands on your legs
- Keep your head in a neutral position (imagine you are holding an apple between your chin and chest)
- Tighten your abdominals, slide your hands up the legs and raise your shoulders off the floor
- Then slowly lower back to the floor

“Obliques” in crook lying



- In crook lying, tighten your lower abdominals
 - Try and touch your hand to your opposite knee
- Change hands and repeat on the other side.

Scissors level 2 and 3



- Whilst in crook lying engage your core.
- Float one leg “imprint” then move the other up to the “table top” position shown in the photograph.
- Level 2 = lower one leg to floor then return, repeat with other leg.
- Level 3 = simultaneously scissor your legs e.g. one leg down whilst other leg goes up.

Scissors level 2 and 3 combined with 1 leg stretch



This is a very challenging exercise if done correctly. **Do not do** this if your lumbar spine arches off the floor or if you have pain in your back. Remember to “imprint”.

Position as for scissors then as you exhale stretch your leg straight.

Inhale as you return to the start.

Level 3 would be a simultaneous exchange of legs.

This exercise may be simplified by starting in crook lying and sliding your leg straight along the floor then sliding it back.

Posterior Pelvic Tilt

This exercise is a subtle but important variation on the basic core stability exercise, and shouldn't be confused with it. If in doubt ask your therapist.



In crook Lying
Tighten your tummy muscles inwards so that your pelvis **tilts**. Your lower back should flatten into the bed or floor.

If you struggle, imagine you are tucking your tail bone under.

Repeat 10 times for 10 seconds.

Progressions

Where to go from here?

If you wish to explore “Core” exercises further, swimming is generally regarded as being helpful or you could look for an exercise class such as “Pilates.” There is also a wide selection of books and DVDs available to buy. The physiotherapy department

Patient Information

can't specifically recommend any individual product or teacher, but advise that any exercise that you undertake is controlled and within pain tolerances. Usually one-to-one supervision with a qualified therapist or trainer would be best.

The APPI (Australian Physiotherapy and Pilates Institute) train therapists in Pilates and sell a variety of useful DVDs and their details can be obtained from the internet, but they are not the only suitable provider of Pilates training and their products may not be appropriate for your particular needs.

If you need any further information or clarification please ask your physiotherapist

The Trust has access to interpreting and translation services. If you need this information in another language or format please contact your physiotherapist and we will do our best to meet your needs.

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