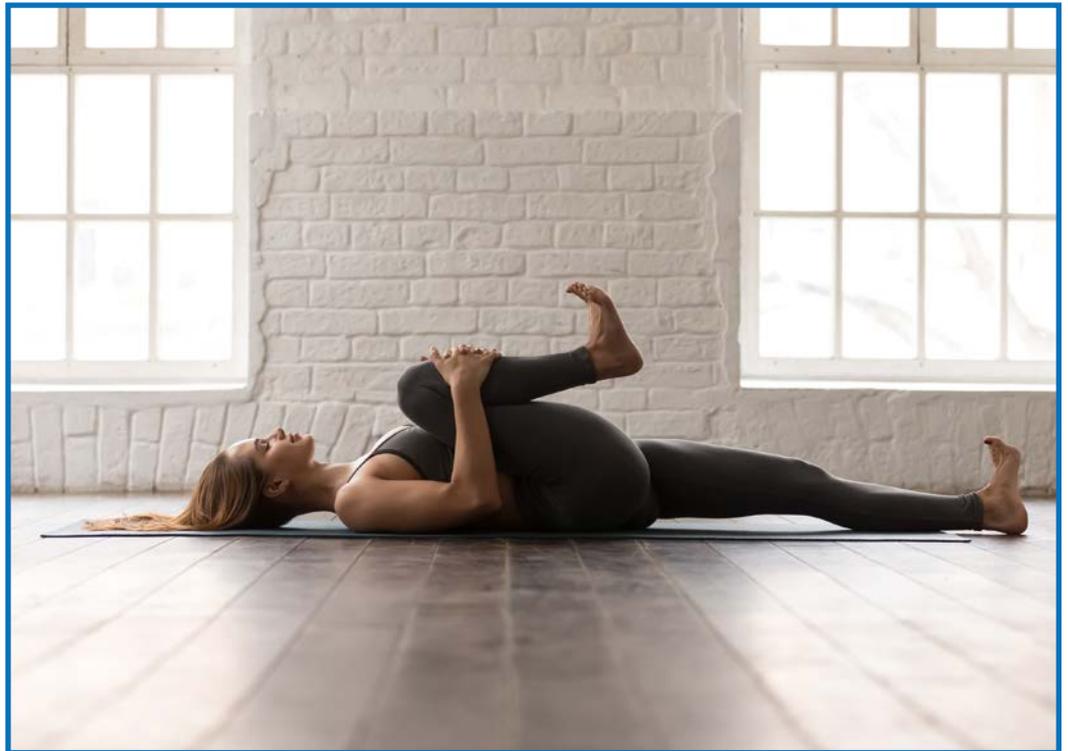


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Get Moving! PLUS



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 **Arthritis**
NEW SOUTH WALES

Get Moving! PLUS

Disclaimer

The content in this booklet contains general information and advice. Every effort has been made to ensure that the information is accurate and reliable. The content is not a substitute for individual treatment advice of your doctor or health care professional. Always consult with your doctor or health care professional to obtain individual medical, treatment or management advice.

Kat has demonstrated only a few repetitions (reps) of each exercise. Start with the number of reps that you are comfortable with and slowly increase over time. Additionally, Kat has demonstrated some exercises from various angles for the purpose of illustrating technique only. You do not need to change your position mid-way through a set as Kat has done.

For your safety, it is advised that you READ and understand the accompanying exercise information sheet before participating in the exercises shown, and seek advice if needed.

Get Moving! PLUS

Get Moving! PLUS is not an exercise library for 'fitness' purposes *per se*, instead, it's an exercise library dedicated to promoting and improving the mobility and strength of joints and muscles that are affected by arthritis and other musculoskeletal conditions. Many of the mobility exercises included are low risk of injury and are easy to perform, though some are a little complex. For example, some require a resistance band, towel or other equipment, other exercises are self-assisted (using your hands to create force or a block, or to promote a specific direction of movement), while some require a certain range of motion (ROM), balance and/or coordination ability.

Unlike the *Get Moving!* Series, there are no 'fitness' profiling levels, which means that anyone at any age can perform the exercises given their circumstance and ability. These exercises are not to get you 'fit' but to get your joint 'fit' in a specific context, ie. pre and/or post rehabilitation settings, severe arthritis and/or pain. Exercises are grouped by joint and mobility attribute with a range of regressed and progressed exercises that can be used for a variety of purposes.

Please note: we highly recommend that the use of this resource is a collaborative one, ie. you work with your allied healthcare professional for exercise recommendation and assistance.

Why was it created?

Get Moving! PLUS was created out of both demand from consumers wanting exercises for specific joints and the need for freely available, high quality, joint specific mobility exercises. *Get Moving! PLUS* may be used to complement treatment from a physiotherapist, exercise physiologist or myotherapist for either prehabilitation or rehabilitation from a joint replacement (or other) surgery, chronic pain and/or restricted movement in the context of arthritis.

Get Moving! PLUS in focus

Key focus 1: Mobility

Broadly speaking, mobility is an umbrella term used to describe the act of stretching, moving and strengthening a variety of tissues that surround the joint and the joint itself. Mobility is an indication of how well and efficiently we move. Flexibility, strength, coordination, and body awareness are all attributes of mobility. Thus, mobility of a joint can be promoted a number of different ways, eg. by 'traditional' stretches (active static and dynamic stretches or movements), passive stretches or mobilisations (where a musculoskeletal therapist does the movement for you), balance and strengthening exercises. In this booklet, 'mobility' indicates the exercises targeted at mobilising the joint.

Benefits of mobility

Regularly performing and practicing mobility attributes is key to maintaining and promoting the health of joints, regardless of their condition. In particular, mobility exercises are significant for those with arthritic conditions (especially if they have loss of motion), those who may be waiting for a joint replacement (or anything similar), and those who have undergone a joint replacement or some other kind orthopaedic surgery to treat arthritis or other musculoskeletal condition. Movement at this point is critical; engaging in exercise post-surgery can predict the outcome of quality and quantity of joint ROM in the following ways:

- facilitate range of motion and technique
- help improve and maintain joint health and function
- can be used as a warm-up routine or an active recovery exercise
- may help reduce pain and feelings of stiffness or discomfort
- potentially reduce future injury.

Key focus 2: Rehabilitation

When you have knee or hip replacement surgery, your doctor will suggest you do physical ‘rehab’ afterward. Once at home, you will likely see a physiotherapist regularly to receive rehab treatment as well as do exercises on your own. Your home exercise program will include activities to help reduce swelling and increase the ROM and strength in the muscles around your new joint. This will help you move more easily and get back to your normal activities more quickly. *Get Moving!* PLUS includes exercises that can be used in this capacity. We highly recommend you ask your physiotherapist to help choose exercises appropriate to your individual circumstance and stage of post-surgery rehab.

Benefits of rehab

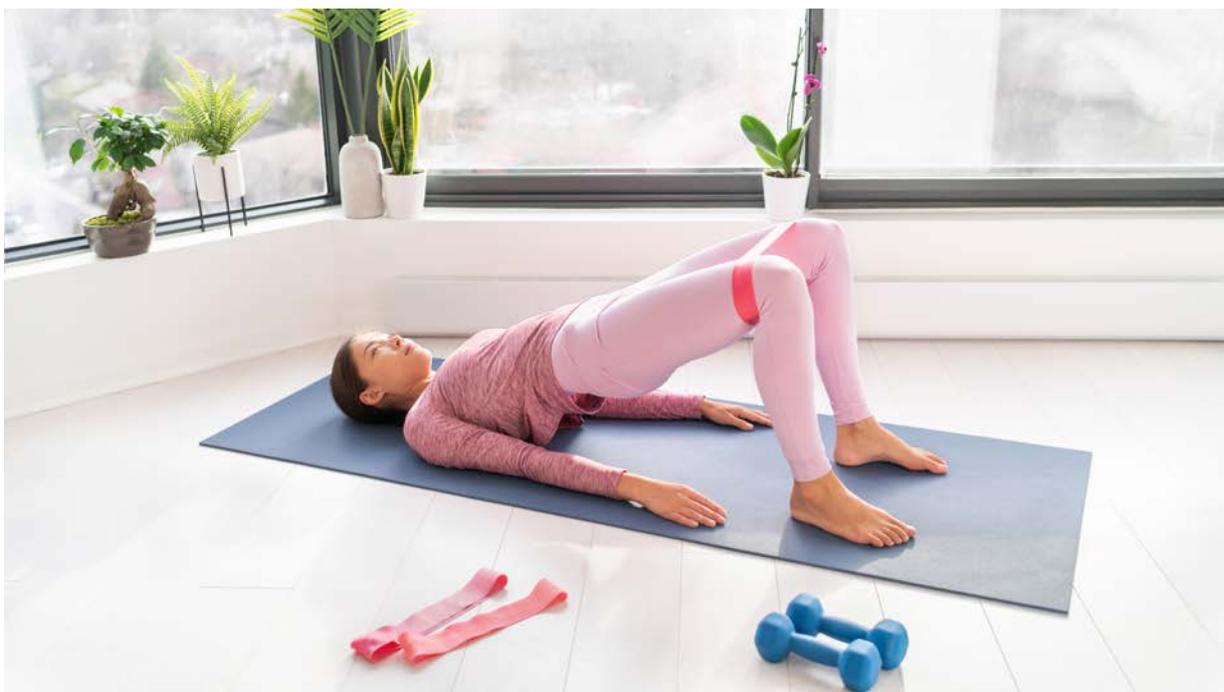
- restores normal movement in your joint
- builds up strength in the joint and surrounding muscles
- helps to ease pain and swelling
- lets you get back to your normal activities
- helps with circulation, particularly right after surgery, so you don't have problems with blood clots.

Rehabilitation once you get home

You should aim to exercise and/or be physically active for 20–30 minutes, two or three times every day, or as much as your doctor/healthcare professional suggests. Walking may help. Start with 5 minutes and work up to 20–30 minutes, several times a day. Whether you work with a therapist or on your own, stay active for your overall health.

Pre-operative rehabilitation

Pre-operative rehabilitation is exercise-based intervention prescribed before undergoing surgery. It is also known as prehabilitation or prehab. Prehab may help you to recover more quickly from the surgery, have a positive effect on pain pre and post-surgery, and improve post-operative function. This could potentially result in a faster return to work. It is often used before hip and knee joint replacements and can be performed independently or under physiotherapy supervision. A pre-operative exercise program should consist of both strength/resistance training and cardiovascular (cardio) components. The *Get Moving!* PLUS series includes exercises that can be used in a prehab context, although, if you require more challenging exercises then check out the *Get Moving!* exercise library.



Tips on how to perform mobility exercises

Pain

1. When rehabilitating from a recent surgery (total hip or knee replacement, anterior cruciate ligament replacement, shoulder reconstruction, other joint/tissue replacement or arthroscopy), injury or you have arthritis (non-inflammatory and inflammatory), pain and discomfort in or around a joint is common, especially during movement and exercise. You can still exercise! You can expect to feel pain, however, when moving through an exercise, slow down or stop at the point of initial pain or discomfort, unless told otherwise. The pain will likely reduce with the number of repetitions performed and/or when you move out of a certain position adopted to perform an exercise. Pain will also reduce over time as you heal.
2. You don't need to be afraid of the pain, especially since you should expect it. Experiencing pain is never pleasant but, in most cases, you don't need to worry that you are doing further damage to your said condition. Pain is normal in this context, however, it should really only last about 24–48 hours post exercise. If you experience severe pain that lasts longer than 48 hours and your condition changes and/or worsens, eg. fever and inflammation, then seek medical attention.
3. If an angle, oscillation or arc/range of movement causes extreme pain or discomfort, regress the movement, reduce the range or change the angle slightly.
4. Use a visual analogue scale (VAS) to measure and monitor your pain. By rating your pain on a scale from 1 (nothing at all) to 10 (extreme pain), you can monitor your pain experience so that it doesn't reach above a 7 or 8 when exercising, or otherwise advised by your healthcare professional. See the Strength exercises section below for further details.

Speed and other performance tips

1. Try avoiding moving too quickly with your in and out movements. Gently and with control, move in and out of a movement or a stretch so it feels good for you.
2. Keep a normal steady breath throughout the exercises. Try not to hold your breath excessively throughout the exercises.

How the exercise should feel and exercise parameters

Stretches

1. The objective is to increase range of motion by targeting the soft tissue surrounding the affected joint.
2. A stretch shouldn't hurt or be painful *per se*, however, a little discomfort is ok. You need to stress the joint and surrounding tissues a little to ensure you illicit an adaptive response.
3. *Hold a stretch for 15–30sec and perform 3–5 times*, or otherwise prescribed. When you first start out, you may find you can only hold a stretch for 5 seconds before you need to release it. That's ok. Slowly and progressively build the time you can stay in one position. Likewise for the range of a stretch, that is, slowly and progressively move further into the stretch when it's comfortable for you to do so.
4. Stretches can be performed frequently. Every day is safe or as needed. In fact, you may be told to stretch many times per day, every day of the week depending on your situation.

Strength exercises

1. The objective is to increase muscular strength and coordination.
2. Strength exercises (isometric and isotonic exercises, body weight and weighted) must be challenging to illicit muscle adaptation. However, timing is key. Strength needs to be built progressively and in this context, when your joint (and related tissues) are ready. Your physiotherapist, or other healthcare professional, will give you the green light when it's ok to start lifting heavier weights.
3. When you engage in strength training, you may find your muscles feeling fatigued and may struggle a little to finish your reps/sets. You may even find your breathing and heart rate increases, and/or you may experience discomfort or slight pain. These are good signs that the weight you are using is challenging, that is, challenging enough to achieve the benefits of strength training.
4. Using a Visual Analogue Scale (VAS) can be helpful to monitor discomfort/pain felt when exercising. Very briefly, a VAS score of 1–2 will feel very easy, no pain or discomfort. On the other hand, a VAS score of 9 or 10 may be extreme pain where you cannot go on or perform the movement – it's too much that you have to stop. Generally, you want to keep your VAS score around 6-8. You want to feel discomfort or a little pain, as if the exercise is 'doing' something; as if you're working the muscles.

5. When performing a strength exercise, eg. squat or hamstring curl, try performing *2–3 sets of 10–15 reps or as otherwise prescribed*. Initially, you may find you can only perform one set or only 5 repetitions and that's ok. Slowly and progressively build the number of sets and reps.
6. For exercises where the position is held still while under tension, try performing *2–3 sets of 5sec holds, then 10sec, 20sec, 30sec* and so on as you progressively increase time held and/or increase the set range, or as prescribed.
7. Depending on context, strength exercises should be performed at least 2–3 days per week. Unlike stretches or mobility exercises, it's important to have at least one full day rest between strength sessions.

Mobility/range of motion

1. The objective is to increase joint range of movement by targeting the joint itself.
2. Similar to stretching exercises, mobility exercises shouldn't cause excessive pain but can be uncomfortable, and that's ok. You need to stress the joint and surrounding tissues a little to ensure you illicit an adaptive response.
3. Try performing *2–3 sets of 10–15 reps or as otherwise prescribed*.
4. As compared to strength training, rest is less important with mobility exercises and so can be performed every day, multiple times if needed.

Balance exercises

1. The objective is to improve movement, control and proprioception.
2. Like strength exercises, balance exercises need to be challenging to illicit adaption.
3. You don't need to always perform specific balance exercises to gain benefits. Depending on your situation, standing from a seated position, walking up and down stairs, squatting or lunges all require balance ability
4. You can hold certain positions for time or perform *2–3 sets of 10–15 reps or as otherwise prescribed*. To make any exercise challenging, close your eyes. Your healthcare professional may give you other ideas to help make balance exercises harder.
5. It's ok if your joint, eg. ankle joint, wobbles a little when performing a balance exercise (or any other exercise). That's a good sign your ankle is working hard to stabilise you. If, however, your whole body wobbles and you feel like you're going to fall, ensure you have something stable to hold on to and/or reduce the complexity of the task.
6. For safety reasons, ensure there is a stable prop, bench or wall nearby to use for support.
7. Rest is less important and so, like mobility/range of motion exercises, balance exercises can be performed every day if needed.

Important

1. Your doctor/surgeon or physiotherapist may not want you rotating or moving a recently reconstruction joint in a certain direction or degree and with force/resistance. If you are unsure about what mobility exercises to do and how to perform them safely, please do not attempt the included exercises and ask for professional guidance first.
2. The guidelines provided here are conservative so they can be generalised for a variety of conditions/contexts. Please clarify with your physiotherapist or exercise physiologist about time, sets and repetition (rep) parameters for any and/or exercises in the Get Moving! PLUS exercise library.

TERMINOLOGY

- Supine: position whereby you are lying on your spine ie. face up
- Prone: position whereby you are lying on your stomach ie. face down
- Isometric: strength exercises where your muscles contract while you hold a still position
- Isotonic: strength exercises where your muscles are contracting – shortening and lengthening
- Repetitions (reps): a rep is the number of times you perform a specific exercise
- Sets: a set is the number of cycles of reps that you complete, eg. you may complete 10 reps of bicep curls (on each arm) and repeat that rep range 3 times (sets).

Lower extremity

Joint: Hip

These exercises are focused on hip arthritis, to help improve mobility and strength. Everyone's symptoms and impairments will and can be unique, and there may be other exercises that are more appropriate.

There is a variety of exercises included for the hip. Some exercises can be used for early to mid-stage hip rehab or for those with hip arthritis, pain and/or reduced muscle tone and strength. Talk to your physiotherapist or exercise physiologist for guidance on which exercises may be best suited to you, or for more challenging and advanced options. Many of the exercises below involve movement of the knee and ankle, therefore, you may find some of these exercises a little difficult if your knee or ankle is compromised. If it is still safe for you to do these exercises, then proceed, however you may like to initially regress the movements or reduce the range of motion.

General exercise parameters

As these are general guidelines, please consult with your allied healthcare professional for individual prescription.

- When performing a mobility exercise, try performing *2–3 sets of 10–15 reps or as otherwise prescribed*. Initially, you may find you can only perform one set or only 5 repetitions and that's ok. Slowly and progressively build the number of sets and reps.
- For exercises where the position is held still, (a stretch or strength exercise) try performing 2–3 sets of 5sec holds, then 10sec, 20sec, 30sec and so on as you progressively increase time held and/or increase the set range, or as prescribed.
- When moving in and out of joint range, eg. self-assisted knee flexion or ankle dorsiflexion, do so with control and with equal speed. Build up to perform *2–3 sets of 10–15 reps or as otherwise prescribed*.
- Keep a normal steady breath throughout the exercises. Try not to hold your breath excessively while exercising.

NB: your doctor/surgeon or physiotherapist may not want you rotating or moving a recently reconstructed joint in a certain direction or degree and with force/resistance. If you are unsure about what mobility exercises to do and how to perform them safely, please do not attempt the included exercises and ask for professional guidance first.

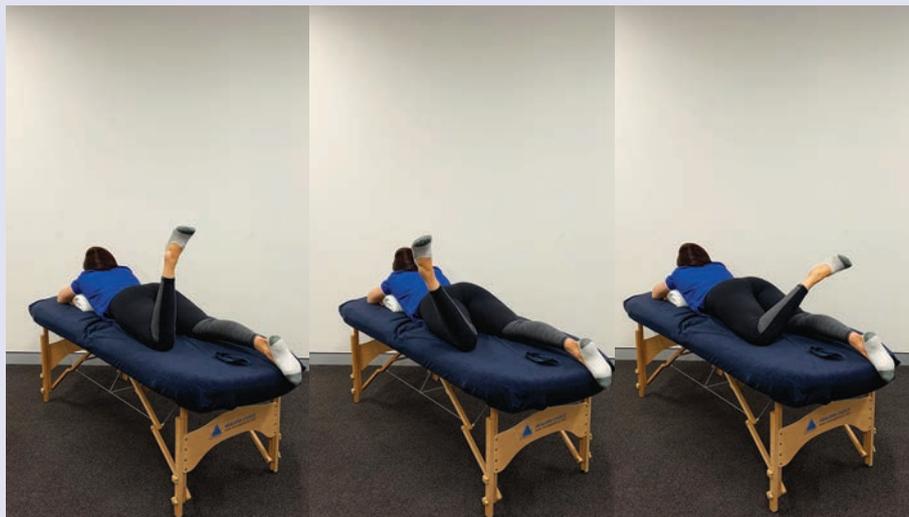
Hip: Flexion



1. Lie down.
2. Gently pull your knee to your chest.
3. Pull your knee to your chest at slightly different angles to promote mobility.

Hip: Internal and external rotation

LYING



1. Lie on your stomach.
2. Bend one knee, with lower leg perpendicular to the ceiling.
3. Move the leg left to right in an arc.

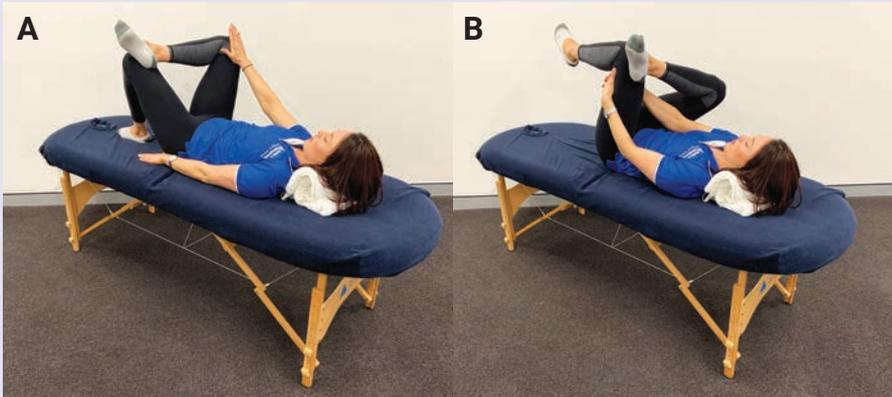
SEATED: ALTERNATING INTERNAL AND EXTERNAL ROTATION



1. Sit, with your arms supporting you from behind.
2. Plant feet wider than hip width apart in front of you.
3. Drop knees side to side.

Hip: External rotation

LYING



1. Lie on your back with both knees bent.
2. Place the target leg foot on your opposite knee.
3. Push your target knee away to create the external rotation (A).
4. Reach through the gap your grounded leg makes and pull your legs towards you (B).

SEATED



1. Sitting, place your target leg foot on your opposite bent knee.
2. With your hand, gently push your knee away.

Hip: Internal rotation

LYING



1. Lying, bend the knee of the hip to be mobilised.
2. Place opposite ankle on the outside of the target knee.
3. Gently roll legs and hips to opposite target side.

Hip: Internal rotation

SEATED



1. Bend the knee of the hip to be mobilised.
2. Place opposite ankle on the outside of the target knee.
3. Gently roll legs and hips to opposite target side of target leg. Use the leg/foot on top of your knee to pull target leg over and gently push down to the ground.

Hip: Extension

HALF KNEELING FLEXOR STRETCH



1. Half kneeling, one foot in front of the other, create 90 degree angles with both knees.
2. Tuck hips under.
3. Rock forward on to one leg.
4. Also use as hip flexor stretch.

Hip: Hinge with dowel



1. Feet hip width apart.
2. Place dowel behind back, in line with spine.
3. Keep soft knees and tip forward from hips.
4. Hinge as far as comfortable, keeping head, mid-back and sacrum in contact with dowel.

Glute medius

SIDE LYING ABDUCTION



1. Lying on your side, slightly bend in your hips and knees.
2. Your under arm supports your head. Place your top arm where comfortable.
3. Lift your top leg, raise it towards the ceiling with a slight extension.

CLAM SHELL

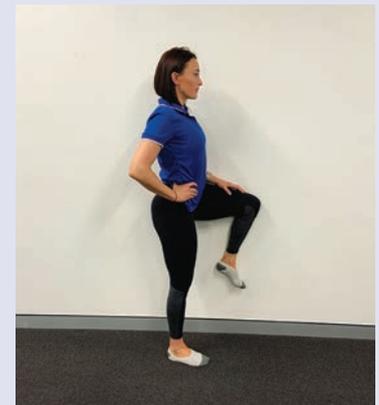


1. Lie on your side, with your legs stacked and knees bent at a 45-degree angle.
2. Rest your head on your lower arm and use your top arm to steady your body. Be sure your hip bones are stacked on top of one another.
3. Keeping your feet touching and pivoting from your heels, raise your upper knee as high as comfortable without shifting your hips or pelvis. Keep lower leg on the floor.
4. Return upper leg to the start position. Repeat.

Option: Add a resistance band around knees or thighs.



WALL STORK



1. Standing next to a wall, bend the closest leg at knee and hip.
2. The leg on the ground is doing all the work.
3. Drive your foot into the ground and squeeze your glutes to push into the wall.
4. Try not to let the hip of the standing leg sway or drop out to the side.

Glute maximus

BRIDGE



1. Lie on your back, feet hip width apart. Bend knees to 45 degrees.
2. Arms palms down, squeeze buttocks and lift hips to the ceiling.
3. Push down with feet and arms.
4. Slowly lower, repeat.

Option: Add a resistance band around knees or thighs.

SINGLE LEG BRIDGE



1. Lie on your back, feet hip width apart. Bend knees to 45 degrees.
2. Arms palms down, lift one foot off the ground, try to straighten the leg. Keep thighs parallel.
3. Lift hips into air while squeezing the buttocks. Slowly lower, repeat.

Option: Add a resistance band around knees or thighs.

QUADRUPED LEG EXTENSION



1. On hands and knees, like a table, create a 90 degree angle with your arms, legs and torso.
2. Target leg straight or bent, extend the leg backwards.
3. Try to keep balanced, hips square to the floor.

Multi-joint: Squat



1. Feet shoulder width or more apart.
2. Bend knees and hips.
3. Chest up and proud.
4. Tuck hips under slightly and draw belly button in for core and trunk stability – lower slowly and controlled.

Weight options:

- backpack front and back
- band (secure under feet)
- hold a weight to your chest

Multi-joint: Split squat



1. Get into a forward lunge position with torso upright and hips facing forward.
2. Take one step forward, aim to have 90/90 degrees at your back knee and hip and thigh of front leg (lunge stance)
3. Bend at back knee to just above the floor and then push back up.
4. Repeat other side.

Option: Weights can be added. See Squat above.

Multi-joint: Bulgarian split squat



1. Get into a forward lunge position with torso upright, hips facing forward, with your back foot elevated on the chair.
2. Your front leg should be half a metre or so in front of the bench.
3. Lower until your front thigh is almost horizontal.
4. Return to start position and repeat.

Option: Weights can be added. See Squat.

Multi-joint: Step up and down



1. Find a sturdy box or step. Step up with one leg, planting the foot fully on the box/step.
2. Push up on this leg to stand tall on the box.
3. With control, slowly lower back to the ground by stepping backwards. Repeat other side.

Multi-joint: Hurdles

KNEELING



1. Kneeling, steady yourself on the grounded leg.
2. Use a wall or chair if needed for balance.
3. Take the other leg and rotate it as if you were clearing a hurdle, forward and backward.

Multi-joint: Hurdles

STANDING



1. Standing, steady yourself on the grounded leg.
2. Use a wall or chair if needed for balance.
3. Take the other leg and rotate it as if you were clearing a hurdle, forward and backward.

Multi-joint: Y Balance



While the Y Balance Test is an assessment of balance, range of motion/mobility and proprioception, it can also be used as an exercise to improve the strength and balance in the hips.

1. Mark the test on the floor with tape, cones or marker.
2. Balancing on one leg, where the three lines of the Y intercept, bend at hips and knee so you can slide or glide your non-weight bearing leg along the lines (or towards the markers) as far as you can.

Glute stretch

SEATED



1. Sit with one leg out straight in front of you.
2. Take target side leg, bend at knee and place foot on outside of outstretched leg.
3. Hug knee to chest.

Lateral chain stretch

STANDING



Right side stretch

1. Take your right foot/leg behind or in front of your left leg.
2. Gently sway your hips to the right.
3. Take your right up over your head and reach your upper body to the left.
4. Repeat to other side.

Hip flexor stretch

HALF KNEELING



1. In half kneeling, aim for 90:90 at hip and knee.
2. Tuck hips under to feel a stretch across the front of the hip.
3. Lean forward to increase the stretch.
4. Can also be performed in a lunge position.

Hamstring stretch

LYING WITH TOWEL TO ASSIST



1. Lie on the floor with a towel placed around the foot of your target leg.
2. Pull on towel and lift leg into the air.
3. Gently pull your leg closer to you until you feel a stretch at the back of your leg/behind knee.
4. You can use a step, bent leg or straight (below).



Quadriceps stretch

STANDING



1. From a standing position, bend your target knee or target leg.
2. Pull your heel to your buttock.
3. Slightly tuck your hips.

Adductor stretch

LATERAL LUNGE



1. Keep your hips square forward.
2. Take a lunging step to the side.
3. Lean away from your target leg and on to your non-target leg, with knee bent.
4. Alternate moving from side to side.

BUTTERFLY



1. Seated, bend both knees, soles of your feet touching each other.
2. Bring feet close to body as comfortable.
3. Gently add pressure to knees.