

Genu Move – Exercise programme for at home

Training that promotes muscle development after tearing
of the anterior cruciate ligament



Quality for life

DEAR PATIENT,

After your operation and stay in hospital, you probably want nothing more than to cope with your everyday life again as quickly as possible. This desire is not only entirely natural but also sensible. After all, a high level of motivation and a strong will support the healing process.

To ensure that you can actively contribute to your recovery, I have put together 17 easy exercises for you that you can do at home with no additional equipment. The Genu Move programme is based on the healing process and initially encourages you to start exercising gradually. As you gain confidence, your muscle development, balance and mobility training intensifies. The exercises meet all training requirements and movement types up to those of athletes. Please perform the exercises the way they are illustrated. In other words, train with or without the orthosis and with or without wearing trainers, depending on the exercise and requirements. Please follow the instructions in this exercise guide precisely and do not overexert yourself.

Yours truly, Prof. Dr. Wolf Petersen

“When I didn't do the exercises, the pain tended to get worse again. In other words, movement relieved my pain. I can now walk without pain, and I have recently been able to ride a bike to university again.”

Jessica, 21, student



PHASE 1 (WEEKS 1 AND 2)

In phase 1, the focus of the healing process is initially on alleviating pain, swelling and other postoperative symptoms. Even though it may be somewhat difficult, start practising your ability to extend your knee joint right now. Gentle movement not only promotes healing but also relieves pain for many patients.

PHASE 2 (WEEKS 3-6)

You will feel your ability to extend your knee joint and the strength in your muscles gradually returning. Now you have to stay with it! Continue with the strength and mobility exercises from phase 1 and gradually start balance training. The goal for this phase is to build up strength and increase mobility while also normalising your gait.

PHASE 3 (WEEKS 7-14)

The goal of the third phase of healing is to restore your ability to move the injured joint without difficulties. Focus your exercises on balance training now. Stretching, strength and endurance training should continue to be on the agenda. The objectives for this phase are recovering full mobility and building up endurance, strength and coordination.

PHASE 4 (WEEKS 15-22)

If you are among the majority of patients and have trained consistently, you should now be able to move naturally and without pain again. You should also be able to jump safely again in this final phase. Congratulations! Your training has paid off.

Please read the following instructions before you start training

- Do not start the training programme on your own, but only after discussing the exercises with your attending doctor.
- We recommend learning the exercises together with your physiotherapist.
- The Genu Move programme is divided into four phases.
- Complete each exercise according to the rules specified for it.
- Perform the repetitions given for each exercise.
- To avoid injuries, always follow the instructions.
- Make sure you do not exceed your pain threshold during training.

Do not start the training programme on your own, but only after discussing the exercises with your attending doctor. Please have your doctor check off the exercises that are suitable for you:

- | | |
|---|--|
| <input type="checkbox"/> Lifting the extended leg | <input type="checkbox"/> Abduction in the hip against resistance |
| <input type="checkbox"/> Strength of the flexors | <input type="checkbox"/> Extension while standing |
| <input type="checkbox"/> Quad sets | <input type="checkbox"/> Static elbow push-up |
| <input type="checkbox"/> Heel slide | <input type="checkbox"/> Lateral elbow push-up |
| <input type="checkbox"/> Knee mobility while sitting | <input type="checkbox"/> Squats in lunge position |
| <input type="checkbox"/> Hip extension in prone position | <input type="checkbox"/> One-legged stance with pivot |
| <input type="checkbox"/> Rotation with TheraBand | <input type="checkbox"/> One-legged stance with ball |
| <input type="checkbox"/> Balance exercise on one leg | <input type="checkbox"/> Balancing with ball |
| <input type="checkbox"/> Calf musculature against gravity | |

You can keep track by simply ticking off the exercises you have completed. This helps you maintain an overview, and you always know how your training is progressing.

DO THE EXERCISE IN THESE WEEKS OF TRAINING

1. 2. 3. 4. 5. 6. 7. 8. 9. 10.
 11. 12. 13. 14. 15. 16. 17. 18. 19. 20.
 21. 22. **CHECK OFF THE EXERCISES YOU HAVE COMPLETED.**



STRENGTH



LIFTING THE EXTENDED LEG

OBJECTIVE

Slight strengthening of the knee flexion musculature.

RECOMMENDED FROM:

PHASE 1 – week 1

THIS EXERCISE WAS RECOMMENDED BY YOUR DOCTOR

DO THE EXERCISE IN THESE WEEKS OF TRAINING

1. 2. 3. 4. 5. 6. 7. 8. 9. 10.

11. 12. 13. 14. 15. 16. 17. 18. 19. 20.

21. 22. TICK OFF THE EXERCISES YOU HAVE COMPLETED.

STARTING POSITION

Supine position with sound leg bent.

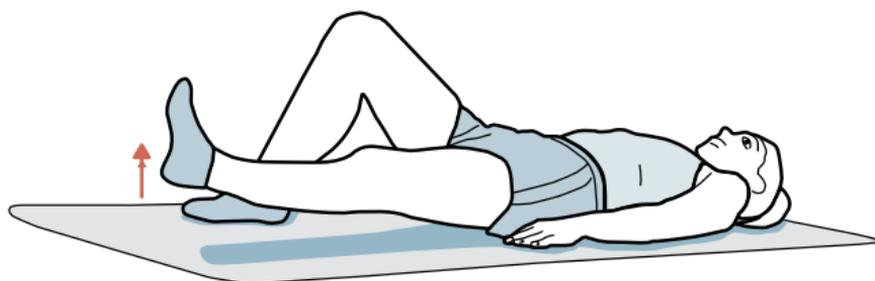
EXERCISE

Pull the toes of the extended leg towards the body while gently stretching the hollow of the knee. Lift the leg about 30 cm off the floor and hold it. Then gently lower the leg again and release the tension.

INTENSITY

Hold for about 5–10 seconds.

3x daily with 10 repetitions.



STRENGTH



STRENGTH OF THE FLEXORS

OBJECTIVE

Slight strengthening of the flexion musculature.

RECOMMENDED FROM:

PHASE 1 – week 1

THIS EXERCISE WAS RECOMMENDED BY YOUR DOCTOR

DO THE EXERCISE IN THESE WEEKS OF TRAINING

1. 2. 3. 4. 5. 6. 7. 8. 9. 10.

11. 12. 13. 14. 15. 16. 17. 18. 19. 20.

21. 22. TICK OFF THE EXERCISES YOU HAVE COMPLETED.

STARTING POSITION

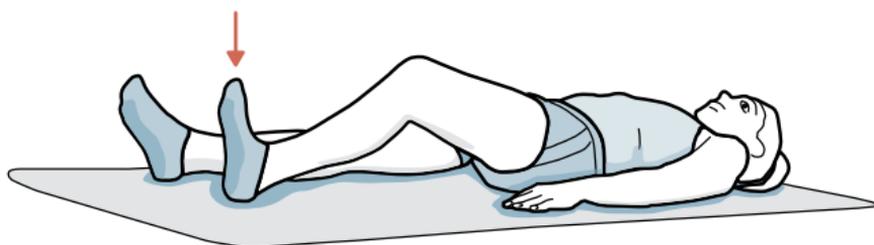
Supine position, with the affected leg bent slightly.

EXERCISE

Push the heel of the affected leg into the mat,
without moving the leg.

INTENSITY

Hold for 30 seconds each time.
3x daily with 10 repetitions.



STRENGTH



QUAD SETS

OBJECTIVE

Slight strengthening and active stretching for knee extension.

RECOMMENDED FROM:

PHASE 1 – week 1

THIS EXERCISE WAS RECOMMENDED BY YOUR DOCTOR

DO THE EXERCISE IN THESE WEEKS OF TRAINING

1. 2. 3. 4. 5. 6. 7. 8. 9. 10.

11. 12. 13. 14. 15. 16. 17. 18. 19. 20.

21. 22. TICK OFF THE EXERCISES YOU HAVE COMPLETED.

STARTING POSITION

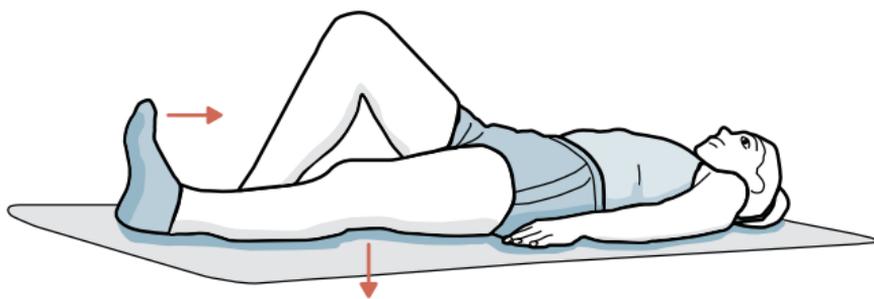
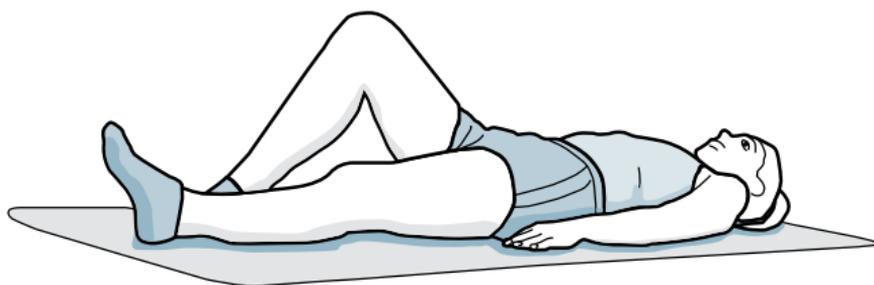
Supine position, with the upper body lying flat.

EXERCISE

Pull the toes towards the body while gently pushing the hollow of the knee towards the floor. We recommend starting with the unaffected leg in order to get a feel for the exercise.

INTENSITY

5 repetitions, with a 30-second holding phase each time.



MOBILITY



HEEL SLIDE

OBJECTIVE

Slight strengthening of the flexion muscles on the back of the thigh.

RECOMMENDED FROM:

PHASE 1 – week 1

THIS EXERCISE WAS RECOMMENDED BY YOUR DOCTOR

DO THE EXERCISE IN THESE WEEKS OF TRAINING

1. 2. 3. 4. 5. 6. 7. 8. 9. 10.

11. 12. 13. 14. 15. 16. 17. 18. 19. 20.

21. 22. TICK OFF THE EXERCISES YOU HAVE COMPLETED.

STARTING POSITION

Bend the affected leg slightly.

EXERCISE

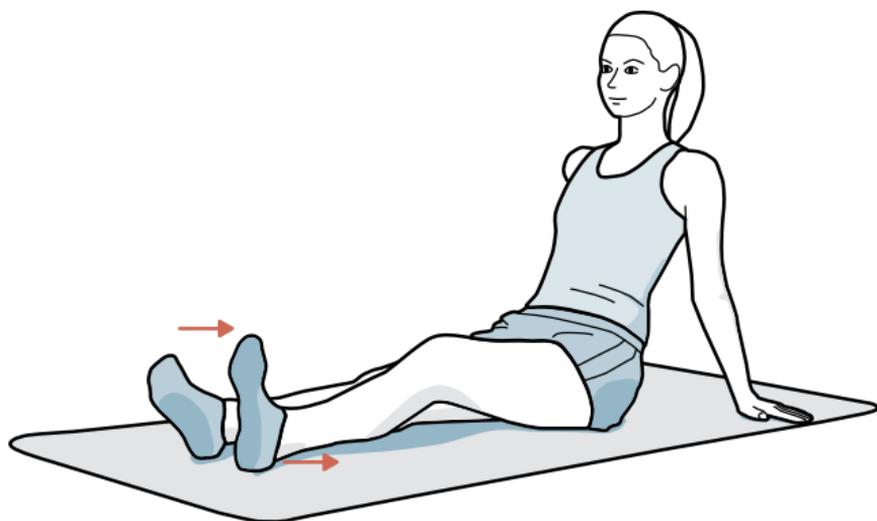
Slowly pull the toes towards the body and the heel towards the buttocks until distinct tension is felt on the knee cap or in the knee joint.

Then gently lower the leg again and release the tension.

INTENSITY

Hold for 5–10 seconds.

Pull the heel towards the buttocks and slowly release again into extension; repeat 10x.



MOBILITY

KNEE MOBILITY WHILE SITTING

OBJECTIVE

Improving flexion mobility to 90 degrees in phase 1 and over 90 degrees in phase 2 and up, without resistance. Stretching the front of the thigh.

RECOMMENDED FROM:

PHASE 1 – week 2

THIS EXERCISE WAS RECOMMENDED BY YOUR DOCTOR

DO THE EXERCISE IN THESE WEEKS OF TRAINING

1. 2. 3. 4. 5. 6. 7. 8. 9. 10.

11. 12. 13. 14. 15. 16. 17. 18. 19. 20.

21. 22. TICK OFF THE EXERCISES YOU HAVE COMPLETED.

STARTING POSITION

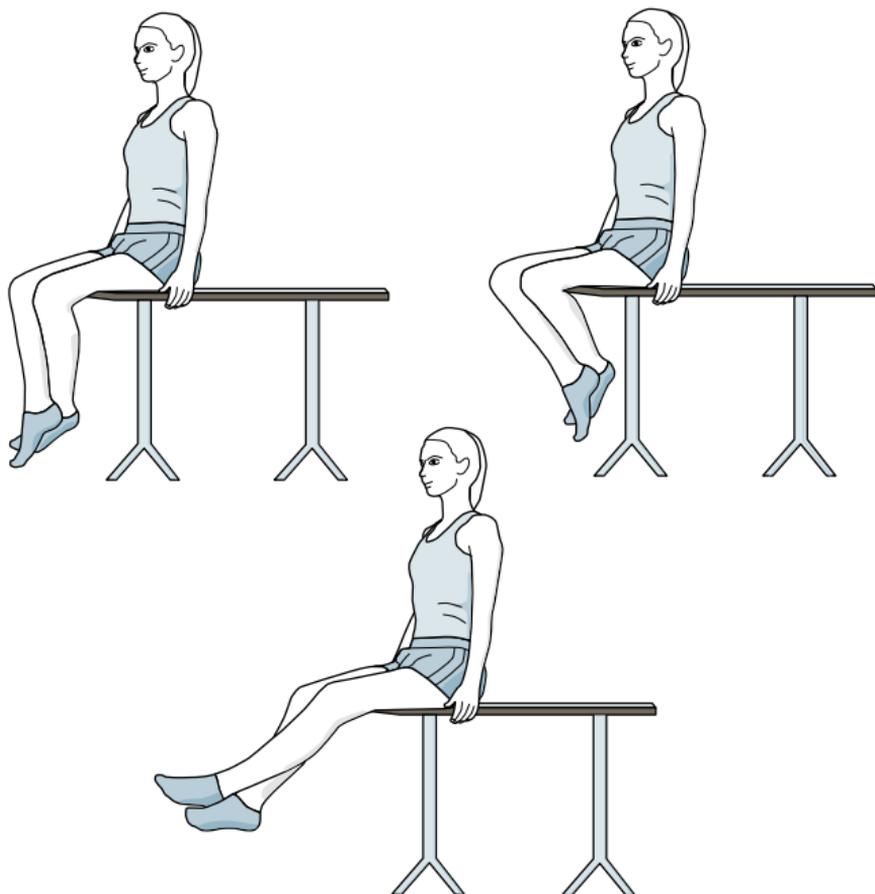
Sit upright at the edge of a table. Relax the legs and let them dangle.

EXERCISE

Cross the unaffected leg over the one that was operated on and carefully move to maximum flexion (heel to buttocks). Then cross the unaffected leg behind the one that was operated on and move to extension as far as possible; hold briefly. If the doctor specified a flexion limit, do not exceed that.

INTENSITY

5–10 repetitions, hold for 30 seconds each.



STRENGTH

HIP EXTENSION IN PRONE POSITION

OBJECTIVE

Strengthening the hip extensors and back muscles.

RECOMMENDED FROM:

PHASE 1 – week 2

THIS EXERCISE WAS RECOMMENDED BY YOUR DOCTOR

DO THE EXERCISE IN THESE WEEKS OF TRAINING

1. 2. 3. 4. 5. 6. 7. 8. 9. 10.

11. 12. 13. 14. 15. 16. 17. 18. 19. 20.

21. 22. TICK OFF THE EXERCISES YOU HAVE COMPLETED.

STARTING POSITION

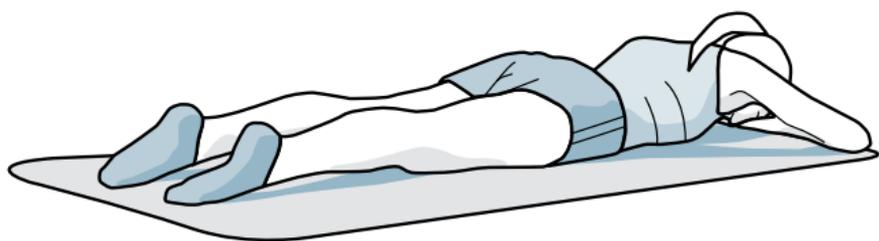
Prone position with slight tension in the abdomen (no hollow back).

EXERCISE

While tensing your abdomen and thigh, lift the leg off the mat, hold briefly and then release it again.

INTENSITY

3x 10 repetitions per leg.



STRENGTH

ROTATION WITH THERABAND

OBJECTIVE

Lateral stability of the hip and knee joints.

RECOMMENDED FROM:

PHASE 1 – week 2

THIS EXERCISE WAS RECOMMENDED BY YOUR DOCTOR

DO THE EXERCISE IN THESE WEEKS OF TRAINING

1. 2. 3. 4. 5. 6. 7. 8. 9. 10.

11. 12. 13. 14. 15. 16. 17. 18. 19. 20.

21. 22. TICK OFF THE EXERCISES YOU HAVE COMPLETED.

STARTING POSITION

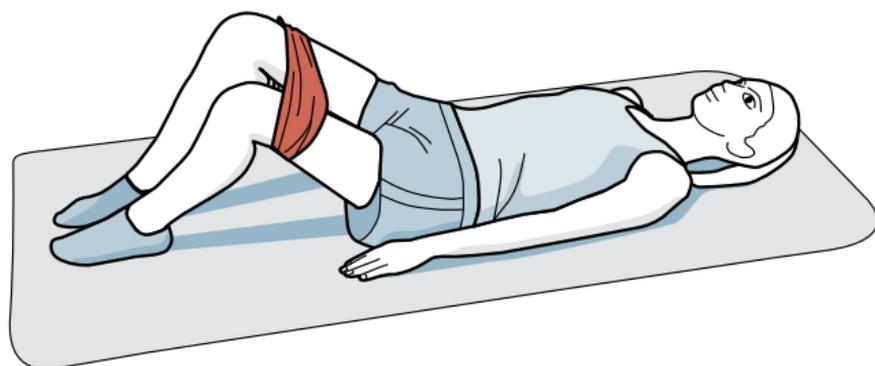
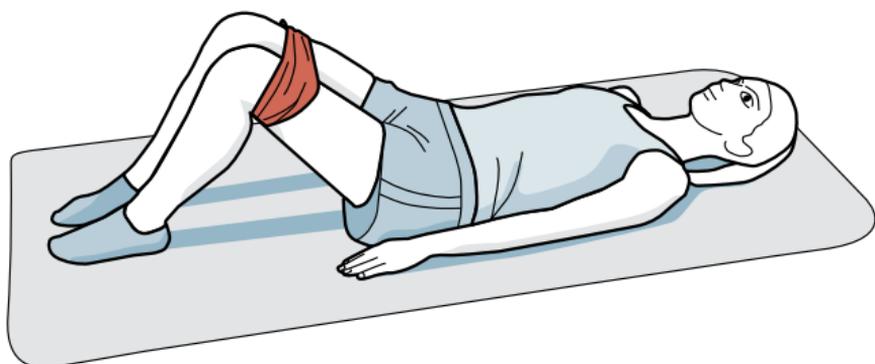
Supine position. Both legs bent (about 90 degrees).
TheraBand wrapped around both knees.

EXERCISE

Rotate both legs out.

INTENSITY

3x 15 repetitions.



BALANCE

BALANCE EXERCISE ON ONE LEG

OBJECTIVE

Improving coordination and strengthening the small and important stabilising muscles surrounding the joint.

RECOMMENDED FROM:

PHASE 2 – week 3

THIS EXERCISE WAS RECOMMENDED BY YOUR DOCTOR

DO THE EXERCISE IN THESE WEEKS OF TRAINING

1. 2. 3. 4. 5. 6. 7. 8. 9. 10.

11. 12. 13. 14. 15. 16. 17. 18. 19. 20.

21. 22. TICK OFF THE EXERCISES YOU HAVE COMPLETED.

STARTING POSITION

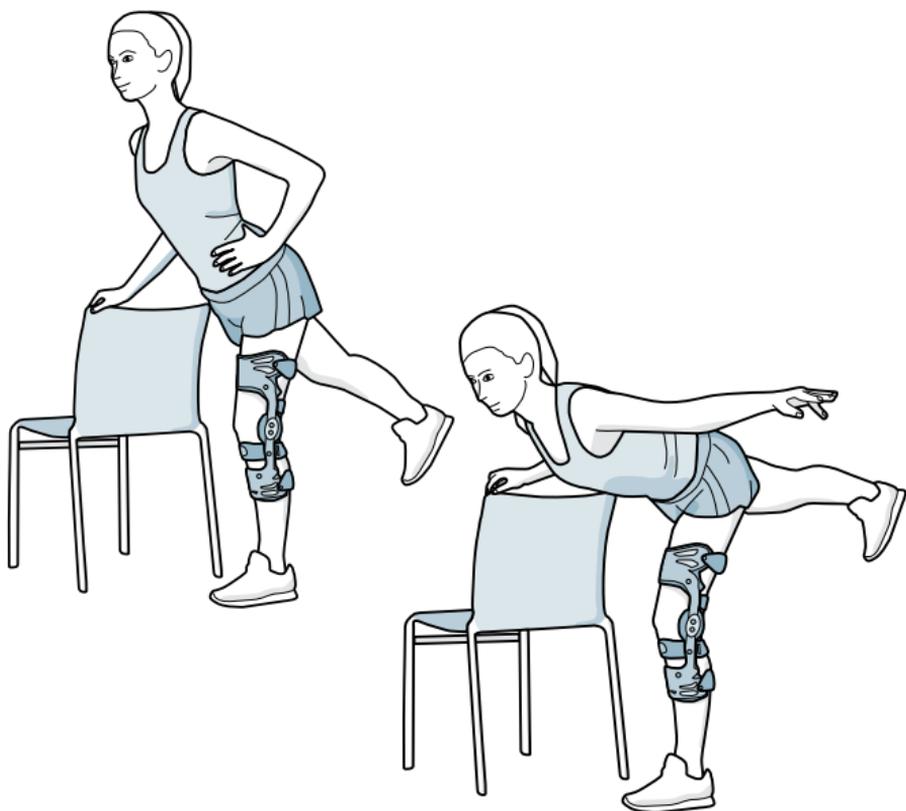
Hold on to a stable object such as a chair.
Stand on the affected leg.

EXERCISE

With a flowing movement, slowly bring the upper body forward until the upper body is close to forming a line with the leg that is extended to the back. This increasingly flexes the knee of the supporting leg and trains it more intensively.
Perform the movements as slowly as possible.

INTENSITY

3x 5 repetitions per leg.
To increase the level of difficulty, advanced users can also integrate longer holding phases and attempt to briefly hold the position with their eyes closed.



STRENGTH

CALF MUSCULATURE AGAINST GRAVITY

OBJECTIVE

Strengthening the calf musculature.

RECOMMENDED FROM:

PHASE 2 – week 3

THIS EXERCISE WAS RECOMMENDED BY YOUR DOCTOR

DO THE EXERCISE IN THESE WEEKS OF TRAINING

1. 2. 3. 4. 5. 6. 7. 8. 9. 10.

11. 12. 13. 14. 15. 16. 17. 18. 19. 20.

21. 22. TICK OFF THE EXERCISES YOU HAVE COMPLETED.

STARTING POSITION

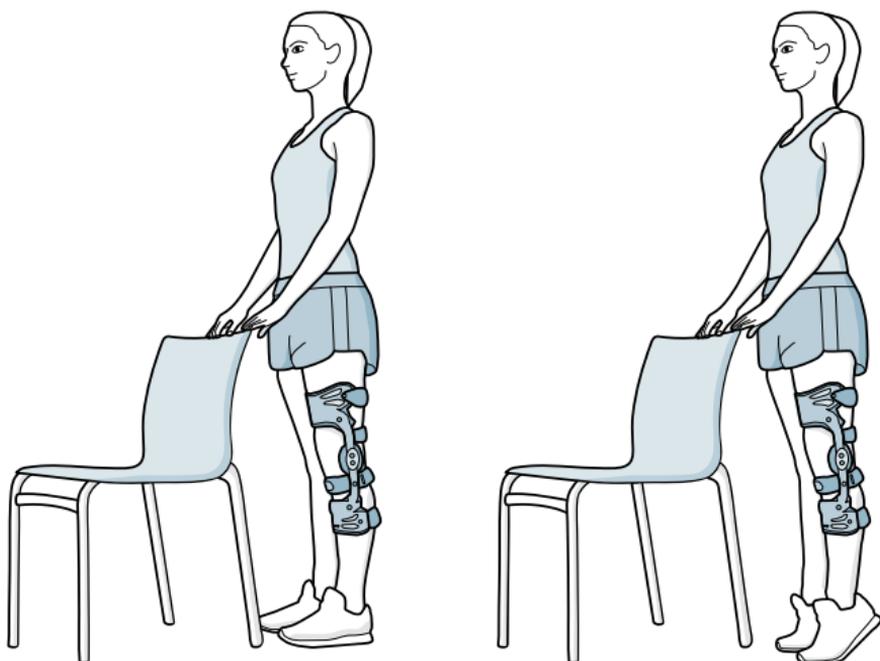
Standing with legs hip-width apart.
Hold on to a solid object such as a chair with one hand.

EXERCISE

With both legs, stand on tiptoe as far as possible, briefly hold the position and then slowly lower the heels to the floor again.
Intensification: perform the exercise on an unstable surface such as a towel or blanket.

INTENSITY

3x 20 repetitions.



STRENGTH

ABDUCTION IN THE HIP AGAINST RESISTANCE

OBJECTIVE

Strengthening the lateral stabilising muscles surrounding the knees and hips.

RECOMMENDED FROM:

PHASE 2 – week 3

THIS EXERCISE WAS RECOMMENDED BY YOUR DOCTOR

DO THE EXERCISE IN THESE WEEKS OF TRAINING

1. 2. 3. 4. 5. 6. 7. 8. 9. 10.

11. 12. 13. 14. 15. 16. 17. 18. 19. 20.

21. 22. TICK OFF THE EXERCISES YOU HAVE COMPLETED.

STARTING POSITION

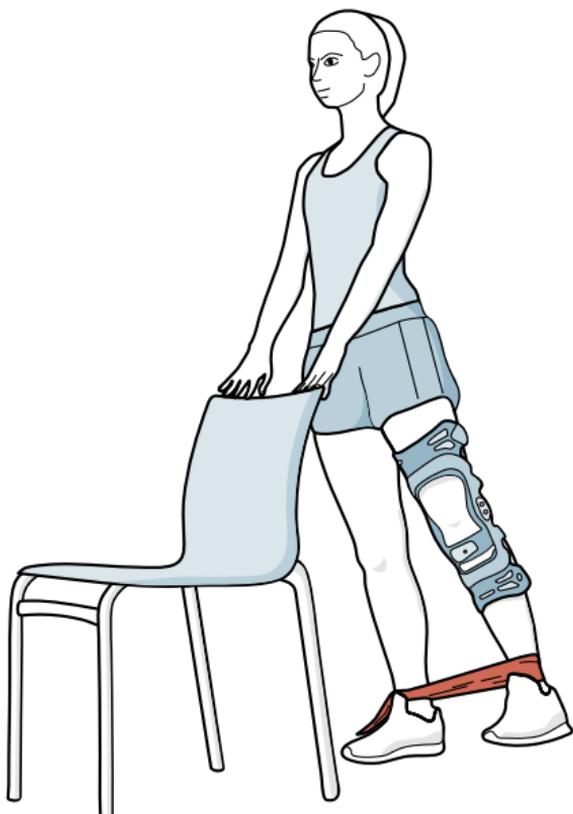
Hold on to a solid object such as a chair with both hands.

EXERCISE

Put an elastic band (TheraBand) around both legs. Extend one leg at a time as far as possible out to the side, hold briefly and then slowly relax it again.

INTENSITY

3x 15 repetitions per leg.



STRENGTH

EXTENSION WHILE STANDING, AGAINST RESISTANCE

OBJECTIVE

Strengthening hip extension against resistance.

RECOMMENDED FROM:

PHASE 2 – week 3

THIS EXERCISE WAS RECOMMENDED BY YOUR DOCTOR

DO THE EXERCISE IN THESE WEEKS OF TRAINING

1. 2. 3. 4. 5. 6. 7. 8. 9. 10.

11. 12. 13. 14. 15. 16. 17. 18. 19. 20.

21. 22. TICK OFF THE EXERCISES YOU HAVE COMPLETED.

STARTING POSITION

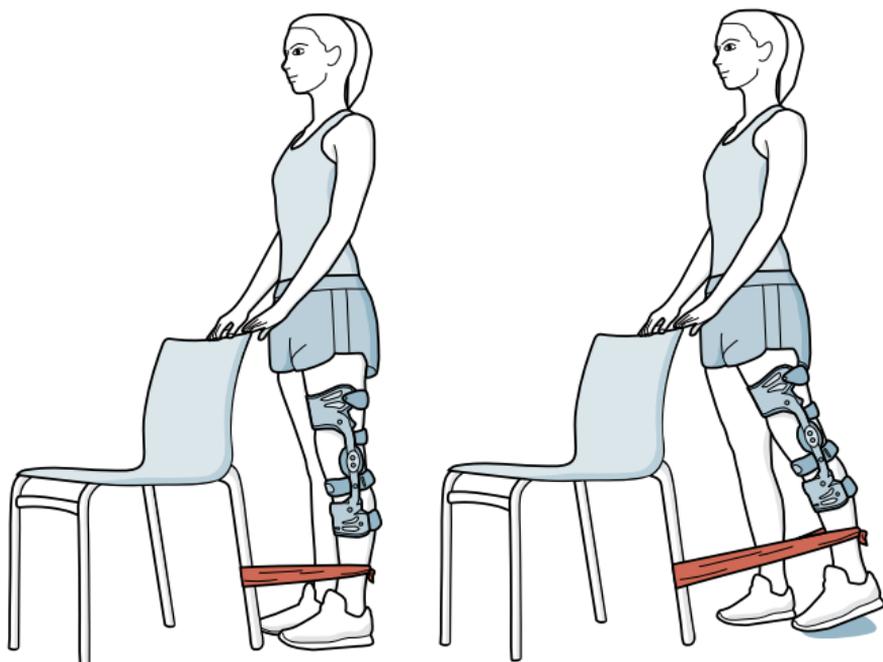
Hold on to a solid object such as a chair with both hands.
Put an elastic band (TheraBand) around the leg of a chair and the foot
on the leg being trained.

EXERCISE

Keeping the leg with the elastic band as straight as possible, move it
back as far as possible, hold briefly and then slowly relax it again.

INTENSITY

3x 15 repetitions.



STRENGTH

STATIC ELBOW PUSH-UP

OBJECTIVE

Strengthening the entire body, in particular strengthening of the front shoulder region, abdominal muscles and knee extensors.

RECOMMENDED FROM:

PHASE 3 – week 7

THIS EXERCISE WAS RECOMMENDED BY YOUR DOCTOR

DO THE EXERCISE IN THESE WEEKS OF TRAINING

1. 2. 3. 4. 5. 6. 7. 8. 9. 10.

11. 12. 13. 14. 15. 16. 17. 18. 19. 20.

21. 22. TICK OFF THE EXERCISES YOU HAVE COMPLETED.

STARTING POSITION

Down on all fours, elbow push-up position and on tip-toe, abdominal muscles tensed.

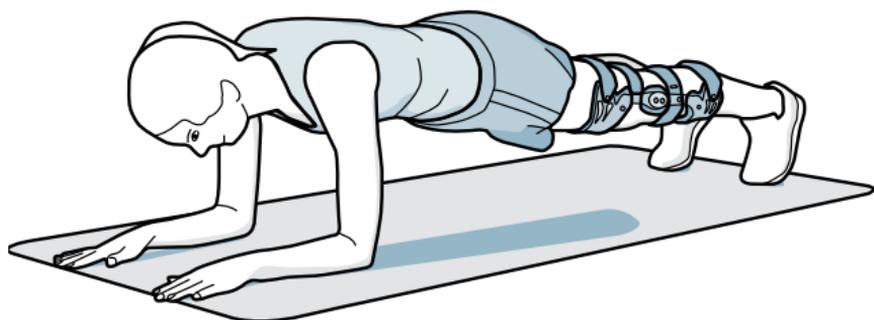
EXERCISE

Lift the knees about 5 cm off the floor and hold briefly. The head remains in line with the spine, so the entire body forms a straight line from head to foot.

Attention: do not let the lower back sag into a hollow position.

INTENSITY

3x, hold for 30 seconds.



STRENGTH



LATERAL ELBOW PUSH-UP

OBJECTIVE

Strengthening the lateral shoulder, torso and leg musculature, lateral stability of the knees.

RECOMMENDED FROM:

PHASE 3 – week 7

THIS EXERCISE WAS RECOMMENDED BY YOUR DOCTOR

DO THE EXERCISE IN THESE WEEKS OF TRAINING

1. 2. 3. 4. 5. 6. 7. 8. 9. 10.

11. 12. 13. 14. 15. 16. 17. 18. 19. 20.

21. 22. TICK OFF THE EXERCISES YOU HAVE COMPLETED.

STARTING POSITION

Lie on your side with your arm and foot on the floor.

EXERCISE

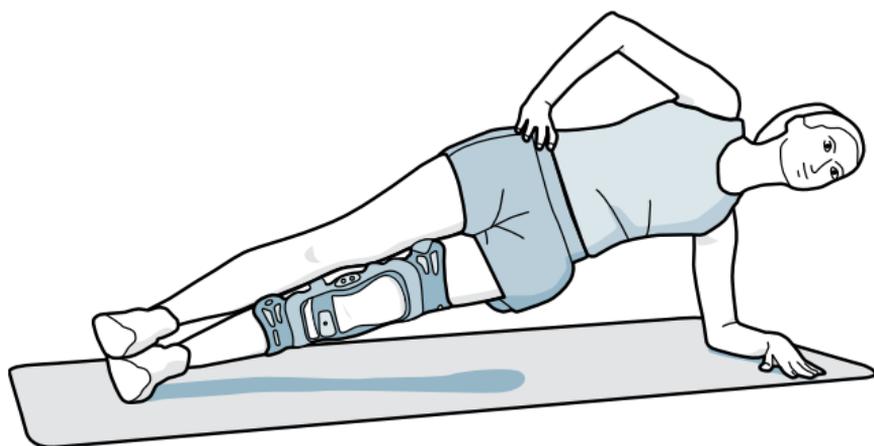
While actively tensing your abdominal muscles, lift up the buttocks as far as possible; the knee, pelvis and shoulder should form a line as much as possible.

Hold the position for some time.

INTENSITY

3x, hold for 30 seconds.

Make sure you are not experiencing pain, as a lot of pressure is placed on the knees.



BALANCE

SQUATS IN LUNGE POSITION

OBJECTIVE

Strengthening the quadriceps and gluteal musculature.

RECOMMENDED FROM:

PHASE 3 – week 7

THIS EXERCISE WAS RECOMMENDED BY YOUR DOCTOR

DO THE EXERCISE IN THESE WEEKS OF TRAINING

1. 2. 3. 4. 5. 6. 7. 8. 9. 10.

11. 12. 13. 14. 15. 16. 17. 18. 19. 20.

21. 22. TICK OFF THE EXERCISES YOU HAVE COMPLETED.

STARTING POSITION

Standing with legs hip-width apart.

EXERCISE

Perform a lunge to the rear.

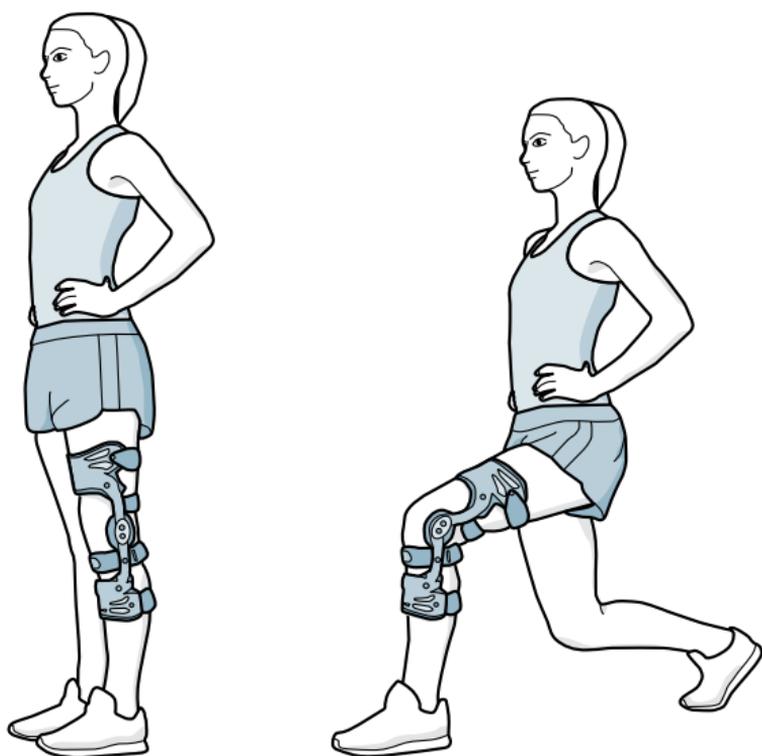
Move the rear knee vertically towards the floor as far as possible.

Then take a step forward again and rest briefly.

Intensification: perform the exercise on an unstable surface such as a towel or blanket.

INTENSITY

2x 10 steps with each leg respectively.



BALANCE

ONE-LEGGED STANCE WITH PIVOT

OBJECTIVE

Coordination and balance training.

RECOMMENDED FROM:

PHASE 3 – week 7

THIS EXERCISE WAS RECOMMENDED BY YOUR DOCTOR

DO THE EXERCISE IN THESE WEEKS OF TRAINING

1. 2. 3. 4. 5. 6. 7. 8. 9. 10.

11. 12. 13. 14. 15. 16. 17. 18. 19. 20.

21. 22. TICK OFF THE EXERCISES YOU HAVE COMPLETED.

STARTING POSITION

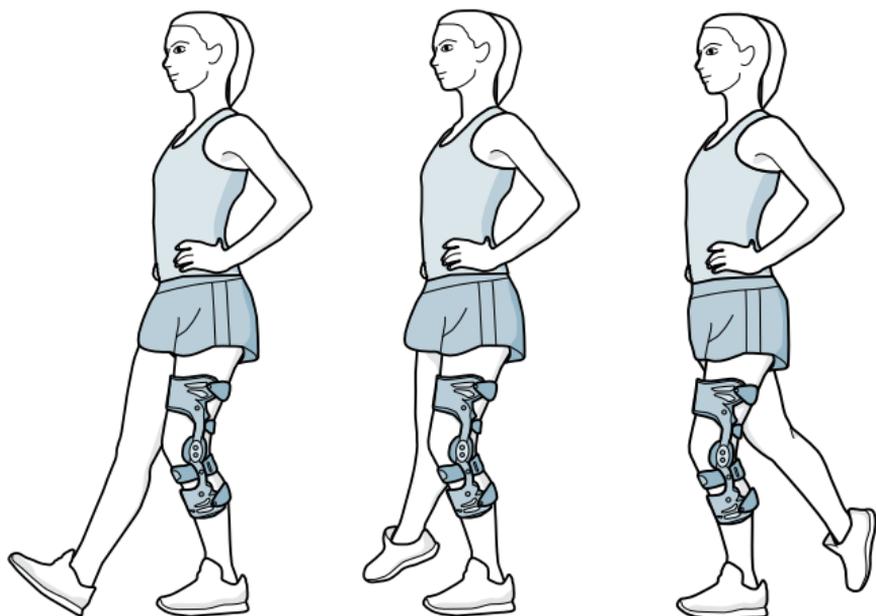
Stand on the affected leg.
Hold on to a stable object such as a chair.

TASK

Bend the supporting leg slightly.
With the heel of the other leg positioned to the front,
briefly tap the floor to the front, side and rear.

INTENSITY

10 repetitions per leg.



BALANCE

ONE-LEGGED STANCE WITH BALL

OBJECTIVE

Stability and correction of the entire leg axis, strengthening of the small and large leg muscles, intensive coordination and balance training.

RECOMMENDED FROM:

PHASE 3 – week 7

THIS EXERCISE WAS RECOMMENDED BY YOUR DOCTOR

DO THE EXERCISE IN THESE WEEKS OF TRAINING

1. 2. 3. 4. 5. 6. 7. 8. 9. 10.

11. 12. 13. 14. 15. 16. 17. 18. 19. 20.

21. 22. TICK OFF THE EXERCISES YOU HAVE COMPLETED.

STARTING POSITION

Standing with legs hip-width apart, with abdominal muscles tensed slightly.

TASK

Alternately stand and balance on one leg.

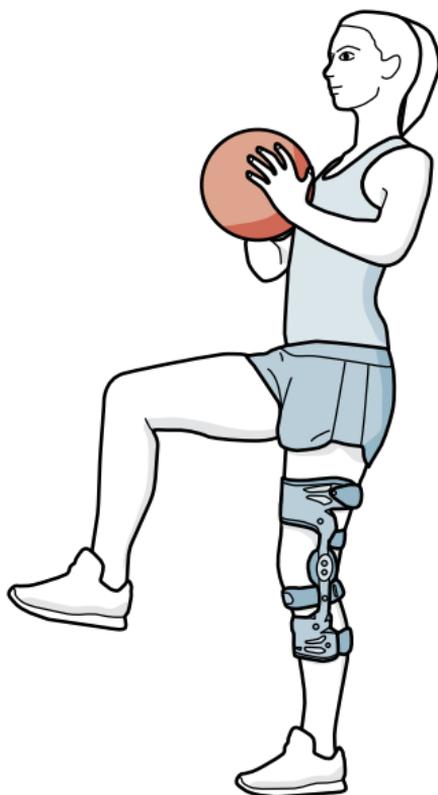
Slightly bend the respective supporting leg and tilt the upper body forward slightly.

Optional: hold a ball with the arms forward and put pressure on the ball with your hands.

Intensification: perform the exercise on an unstable surface such as a towel or blanket.

INTENSITY

Hold for approx. 30 seconds.



BALANCE



BALANCE WITH BALL

OBJECTIVE

Strengthening the thigh flexion muscles, gluteal and back muscles.

RECOMMENDED FROM:

PHASE 3 – week 7

THIS EXERCISE WAS RECOMMENDED BY YOUR DOCTOR

DO THE EXERCISE IN THESE WEEKS OF TRAINING

1. 2. 3. 4. 5. 6. 7. 8. 9. 10.

11. 12. 13. 14. 15. 16. 17. 18. 19. 20.

21. 22. TICK OFF THE EXERCISES YOU HAVE COMPLETED.

STARTING POSITION

Supine position, rest the arms beside the body, both feet on the floor hip-width apart.

Optional: place the feet on a ball.

EXERCISE

While tensing the abdominal muscles slightly, lift the buttocks until the upper body forms a line with the legs.

INTENSITY

3x 10 repetitions.

