

# Joint exercises for Haemophilia patients



## Knee exercises

Different exercises serve different purposes in haemophilia patients and every person's situation is unique. Specific exercises have been chosen that suit the individual's goals and ability. The knees, ankle, and elbows are more commonly affected by haemophilic bleeding than other joints. The knee is the joint most commonly affected by haemophilic bleeding. Repetitive bleeding limits knee extension.

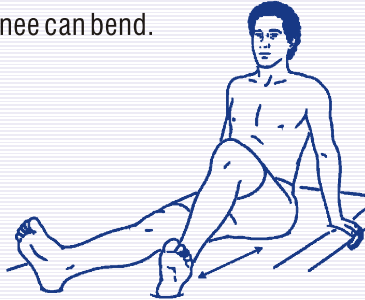
Note: These exercises to be carried out only in consultation with the physician

### Exercise 1

Start : Sit with legs out straight (or lie on back).

Exercise : Bend hip and knee, and slide heel towards the body. Then straighten the knee by sliding heel away from body. Repeat several times.

Objective : Try to get the back of the knee as close to the surface as possible. Also try to bend the knee as much as the other knee can bend.

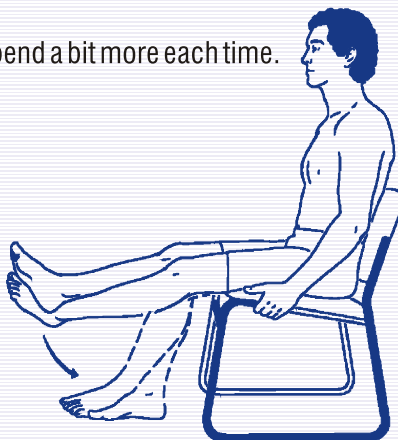


### Exercise 2

Start : Sit on a chair. Support the weight of the affected leg with the other leg if necessary.

Exercise : Allow the knee to bend as much as is comfortable, then straighten the leg as far as possible.

Objective : Try to bend a bit more each time.



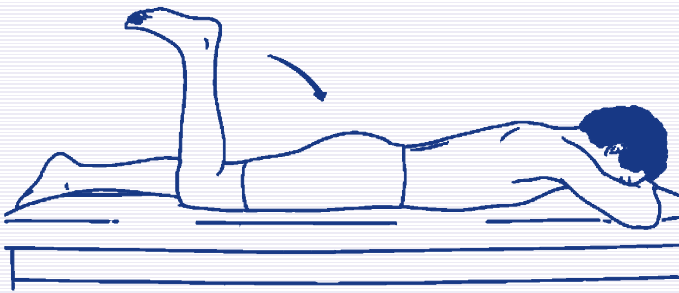
### Exercise 3

Start : Lie on stomach.

Exercise : Bend knee and try to touch heel to the buttocks. Assist with the other leg if necessary. Then straighten leg as far as possible.

Objective : Bend knee, as much as knee could bend before the bleed.

Note : If the person has difficulty lying on his stomach, it may be necessary to place a pillow under the waist so that the hip is more comfortable, or a pad under the thigh to take pressure off the knee cap.

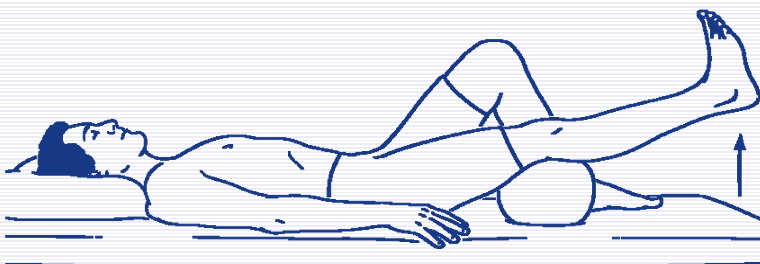


### Exercise 4

Start : Lie on back with a roll under knee.

Exercise : Tighten the muscle at front of thigh, extend knee and lift heel. Hold for several seconds, then relax. Repeat until muscles feel tired.

Objective : Straighten knee completely or as straight as knee could go before the most recent bleed. Compare to the other knee or baseline assessment.

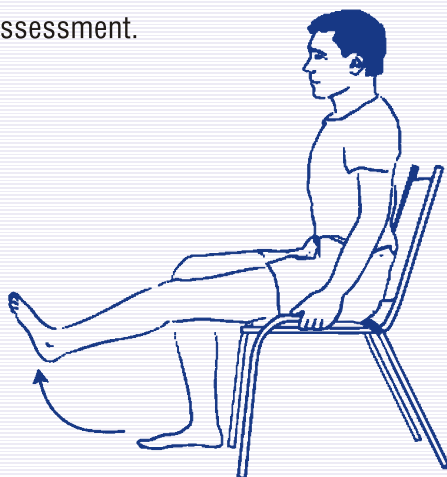


## Exercise 5

**Start** : Sit on a chair with knee bent.

**Exercise** : Extend knee, lifting the foot off the floor as far as possible. Hold for several seconds, then slowly return foot to floor. Repeat until muscles feel tired.

**Objective** : As above, straighten knee completely or as straight as knee could go before the most recent bleed. Increase repetitions. Compare to other knee or baseline assessment.

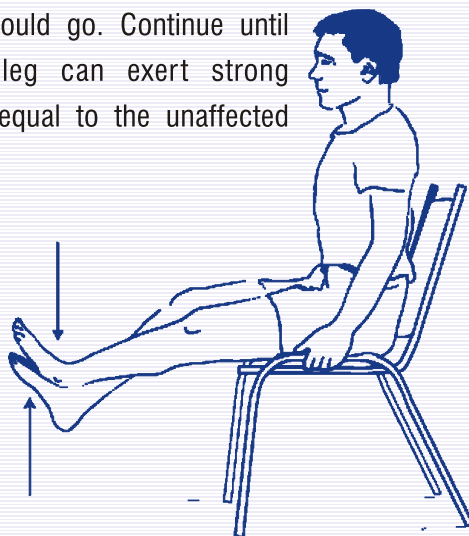


## Exercise 6

**Start** : Sit on a chair. Cross ankle of the unaffected leg over the ankle of the affected leg.

**Exercise** : Press ankles together as hard as possible. Hold for several seconds, then relax. Repeat with the knee bent at different angles. Repeat until muscles feel tired.

**Objective** : As above, straighten knee completely or as straight as knee could go. Continue until affected leg can exert strong pressure, equal to the unaffected leg.



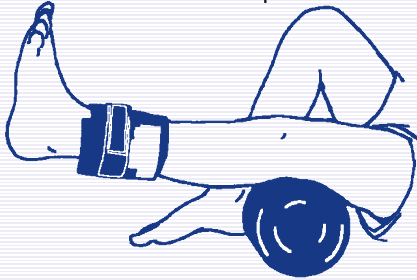
## Exercise 7

**Start** : Lie on back with a roll under knee. Place weight at the ankle.

**Exercise** : Extend knee and lift heel. Hold for several seconds, then slowly lower foot back to surface. Repeat until muscles feel tired.

**Objective** : There are 3 ways to progress this exercise:

- Straighten knee as far as it can be done without a weight (otherwise, the weight may be too heavy to start).
- Increase the length of time holding the extended position.
- Increase the number of repetitions.



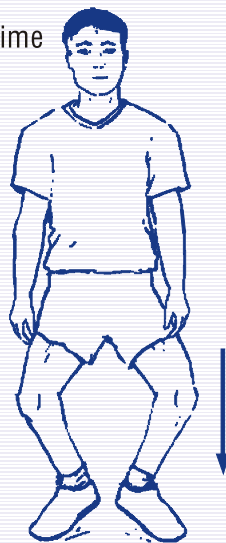
## Exercise 8

**Start** : Stand with weight evenly on both feet.

**Exercise** : Squat down partway, keeping weight distributed evenly on both legs. Do not bend knees far enough to cause pain. Hold for several seconds. Return to upright position.

**Objective** : There are 3 ways to progress this exercise:

- Increase the length of time holding the flexed position.
- Increase the amount of knee bend (as long as it is not painful).
- Increase the number of repetitions.



## Exercise 9

**Start** : Stand with back against wall, feet apart.

**Exercise** : Slide down wall slowly, keeping knees pointed straight over toes. Go slowly and stop if there is any pain. Hold the position for several seconds, then return to upright position.

- Increase the length of time holding the flexed position.
- Increase the amount of knee bend (as long as it is not painful).
- Increase the number of repetitions.



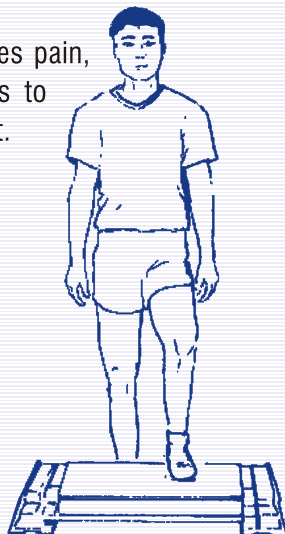
## Exercise 10

**Start** : Stand facing a step.

**Exercise** : Step up with affected leg. Keep knee pointed over toes and push with whole leg to raise body onto the top of the step. Repeat until leg feels tired.

**Objective** : Unless there is pain, practice until it is easy to step up onto a low stool or go up the steps at home, school, or work.

**Note** : If this exercise causes pain, go back a few levels to increase strength first.



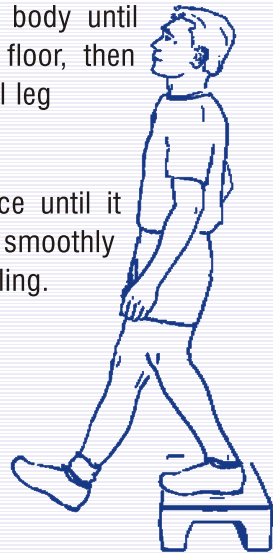
Note: Exercise 11 and 12 are very difficult exercises and must be approached with caution. If these exercises cause pain, practice exercise 9 and 10 to increase strength first. People who have experienced many bleeds into the knees may never be able to do exercise 11 and 12 because of their level of difficulty. If this exercise causes pain, go back a few levels to increase strength first.

## Exercise 11

Start : Stand on a step facing down.

Exercise : Step off the step with strong leg first, letting affected knee bend. Gradually lower body until strong leg is just touching floor, then return to upright. Repeat until leg feels tired.

Objective: Unless there is pain, practice until it is easy to go down steps smoothly (no limp) and without using railing.



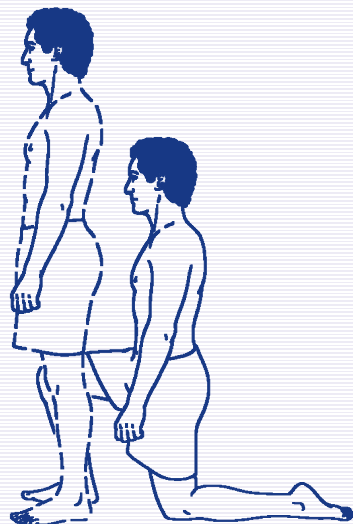
## Exercise 12

Start : In kneeling position, bend affected knee and place foot flat on ground.

Exercise : Stand up using only the affected leg, without using hands. Repeat a few times, stop if knee is painful.

Objective: Unless there is pain, practice until this can be done easily.

Note : If this exercise causes pain, go back a few levels.



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