

Shin bone in a rail (LRS), Ilizarov or external fixator

After surgery on a broken bone



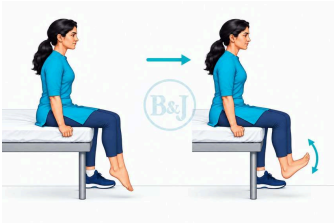
Count the weeks from the day of your operation. The date is on your discharge card.

If your doctor wrote a different plan on your prescription, follow that instead of this page.

First 2 weeks with the frame

Let the pin sites settle and keep the foot at a right angle.

Weight bearing Ring (Ilizarov) frame: full weight through the frame, with a walker, from day 1. Rail (LRS): as we tell you.



Ankle pumps

Pump the feet up and down to keep the blood moving.

10 times

Every hour

✓ **Should feel**
The calf working

✗ **Should not feel**
Calf pain or swelling — tell us



Towel toe curls

Scrunch a towel with the toes.

10 times

3 times a day

✓ **Should feel**
The foot muscles working

✗ **Should not feel**
Cramp



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Toe stretch

With your hand or a towel, gently pull the toes back towards you, and hold.

Hold 30 seconds

3 times

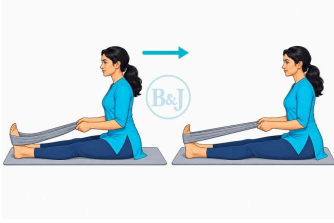
3 times a day

✓ **Should feel**

A stretch under the toes and the sole

✗ **Should not feel**

Sharp pain



Towel calf stretch, sitting

Sit with the leg straight. Loop a towel round the ball of the foot and pull the toes towards you.

Hold 30 seconds

3 times

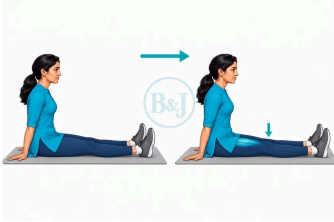
3 times a day

✓ **Should feel**

A stretch in the calf

✗ **Should not feel**

Sharp pain



Quad sets

Sit with the leg straight. Press the back of the knee down and tighten the thigh.

Hold 5 seconds

10 times

3 times a day

✓ **Should feel**

The thigh muscle tightening

✗ **Should not feel**

Knee pain



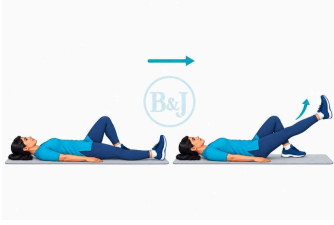
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Straight leg raise

Lie down, one knee bent. Keep the other knee straight and lift the leg 20 cm.

Hold 5 seconds

10 times

3 times a day

✓ **Should feel**

The thigh working

✗ **Should not feel**

The knee bending or back pain

Not yet Pillows under the frame, or letting the leg hang down for long.

Move to the next stage only after we have seen you, and the X-ray if one was planned.



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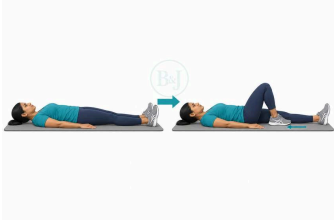
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While the frame is on

Walk heel to toe and keep the ankle and knee moving. Carry on with the earlier exercises.

Weight bearing It increases as the X-ray allows. We will tell you how much.



Heel slides

Lie down and slide the heel up towards the buttock, bending the knee as far as you can.

10 times

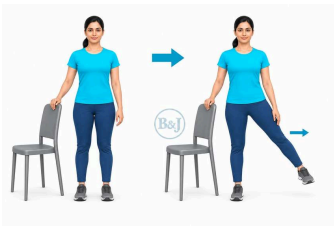
3 times a day

✓ **Should feel**

A stretch as the knee bends

✗ **Should not feel**

Sharp pain at the wound



Standing hip abduction

Hold a chair. Lift the leg out to the side, keeping the body upright.

10 times

Daily each side

✓ **Should feel**

The side of the hip working

✗ **Should not feel**

Leaning over



Standing hip extension

Hold a chair. Take the leg backwards, keeping it straight.

10 times

Daily each side

✓ **Should feel**

The buttock working

✗ **Should not feel**

Arching the back



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Heel-to-toe walking

Walk heel to toe along a line, beside a support.

10 steps

Daily

✓ **Should feel**
Steadier walking

✗ **Should not feel**
Wobbling — use the wall

Not yet Bathing, swimming, or sea or river water.

Move to the next stage only after we have seen you, and the X-ray if one was planned.



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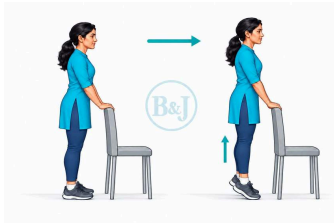
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After the frame comes off

Calf strength, balance and normal walking.

Weight bearing As we tell you. It is often protected briefly while the pin holes close.



Calf raises

Rise onto both toes and lower under control.

15 times

Daily

✓ **Should feel**
The calf working

✗ **Should not feel**
Sharp pain



Calf stretch, knee straight

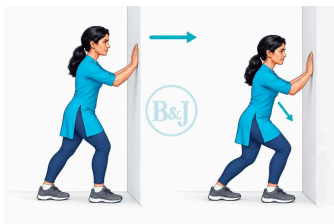
Hands on a wall, back leg straight, heel down.

Hold 30 seconds

3 times

✓ **Should feel**
A stretch in the upper calf

✗ **Should not feel**
Pain in the heel



Calf stretch, knee bent

The same position but bend the back knee slightly.

Hold 30 seconds

3 times

✓ **Should feel**
A stretch lower down

✗ **Should not feel**
Sharp pain



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Single-leg balance

Stand on one leg beside a worktop.

30 seconds

3 times a day

✓ **Should feel**

Working to stay steady

✗ **Should not feel**

Losing balance — hold on



Step-up

Hold a rail. Step up onto a low step with the operated leg, then step down with the other leg.

10 times

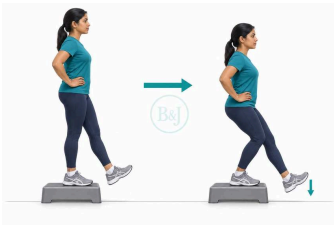
Daily

✓ **Should feel**

The thigh working

✗ **Should not feel**

The knee falling inwards



Step down

Stand on a low step and lower the other heel slowly towards the floor.

10 times

Daily

✓ **Should feel**

Controlled lowering

✗ **Should not feel**

The knee falling inwards



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Mini squat

Hold a support and bend the knees a little way.

10 times

Daily

✓ **Should feel**

The thighs working

✗ **Should not feel**

Knee pain



Static cycling

Set the seat high, so the knee is almost straight at the bottom. Pedal gently with little resistance.

10 minutes

Daily

✓ **Should feel**

The knee moving freely

✗ **Should not feel**

Pain in the knee or hip

Not yet Running, until we clear you.

Keeping the foot at a right angle

- We will fit a shoe with an elastic band to the frame, or a foot splint. Wear it exactly as we show you.
- Do not let the foot point down. A foot that stiffens pointing down is the commonest problem with a frame on the shin.

Caring for the pin sites

- Clean each pin site once a week, or more often if it is wet or leaking, with the chlorhexidine-in-alcohol solution we give you. Use non-fluffy gauze, never cotton wool.
- Keep each site covered with a clean dressing, gently pressed down.
- Leave the dry crust that seals a pin. Remove only loose dried fluid above it.
- No bath. Shower only on dressing day, then dry the frame and skin fully before the new dressing.
- A little clear, straw-coloured fluid is normal.
- Telephone us within a day if a pin site has more pain, spreading redness, more swelling, more discharge or pus. Telephone the same day if you also feel unwell or feverish.
- Take anti-inflammatory painkillers only as we prescribe; avoid long courses.

Living with the frame

- If the frame is lengthening the bone, turn it only as shown in clinic. Never start turning on your own.
- While the bone is being lengthened, come to clinic every week. Turning often aches for a while.
- Feeling low or frustrated during a long time in a frame is common. Tell us; help is available.



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Stop and telephone us if

- Sudden breathlessness or chest pain — go to the nearest hospital
- The calf becomes swollen, tight or painful, away from the pins
- A pin site with more pain, spreading redness, pus or more discharge
- You feel unwell or feverish
- The foot becomes numb, cold, pale or blue, or you cannot lift the foot
- A wire breaks with a snap — stop putting weight on the leg and telephone us the same day
- Skin pressing on a ring, or a fall onto the frame



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