

REHABILITATION AFTER PROXIMAL FEMORAL REPLACEMENT (HIP MEGAPROSTHESIS)

Recovery after proximal femoral replacement for bone tumour: weight bearing, hip precautions, the abductor programme and honest goals.

PATIENT NAME

DATE OF SURGERY

WHAT IS INSIDE

- What was done, and what to expect week by week
- Weight bearing, walking aids and precautions
- Your exercises, with a diagram and a dosage for each
- Warning signs, and exactly who to call
- Getting back to driving, work and sport
- A progress chart to fill in and bring to appointments

24 minutes to read. Reviews: Wound review at about 2 weeks. Clinical review with an X-ray at 6 to 8 weeks. Then reviews and surveillance imaging on a schedule the sarcoma team sets, which continues for years.

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This is a general guide. Your operation record and the instructions you are given always take precedence over anything written here. Last reviewed 5 August 2026.

This guide covers recovery after a proximal femoral replacement: a megaprosthesis that replaces the upper part of the thigh bone and the hip joint after a bone or soft-tissue tumour is removed. It is written for patients of the RPA Bone & Soft Tissue Sarcoma Unit and, just as deliberately, for the physiotherapists, often a long way from Sydney, on the Mid North Coast and beyond, who will do most of the hands-on work.

One rule sits above everything else in limb-salvage rehabilitation: the site of the reconstruction, not the diagnosis, determines the protocol. Two people with the same tumour can have completely different programmes; two people with different tumours at the same site follow much the same one. And within that, the operation record governs, what was removed, what was reattached, and which implant was used decide your restrictions, and Dr Broadhead's operation note always overrides the general figures in this guide.

A megaprosthesis replaces a segment of bone and the adjacent joint. The metal is fixed and stable straight away; what dictates your programme is which muscles and tendons had to be detached and reattached, at the hip, above all the abductor muscles that keep your pelvis level when you walk. Recovery is measured in months, not weeks, and the functional ceiling is lower than after a standard hip replacement: most patients walk independently, with or without a stick, and return to daily activities, but not to running or impact sport. Early, staged, active rehabilitation is safe: reviews of limb-salvage rehabilitation show early active mobilisation does not increase dislocation or infection and is associated with better quality of life.

Three things are lifelong. Avoid impact loading, to limit wear. Expect that revision surgery is likely at some point over a lifetime. These implants are serviced, not set-and-forget. And keep lifelong vigilance for infection: deep infection is the most significant risk in this surgery, considerably more common than after standard joint replacement, and it is never a wait-and-see problem. Surveillance imaging of both the tumour site and the prosthesis

continues for years. The follow-up schedule is part of the treatment, not an optional extra.

AT A GLANCE	
WEIGHT BEARING Usually as tolerated from the outset. The limit is the healing soft tissue, not the bone. Your operation record governs.	WALKING AIDS Frame, then two crutches, then one stick over roughly 6–12 weeks, and often longer. Many people keep a stick long term.
BRACE An abduction brace is commonly used for up to about 4 weeks, but practice varies with the implant: follow the operation record.	PRECAUTIONS Hip precautions for at least 6 weeks: no bending past 90°, no crossing the midline, no turning the leg inward, no low chairs.
DRIVING Individually assessed, usually not before the precautions are relaxed. Your team will confirm your timing.	DESK WORK When comfort, transport and the precautions allow. Your team will confirm; commonly somewhere in the 6–12 week window.
PHYSICAL WORK Assessed individually. Heavy physical work is often not a realistic goal after this surgery: discuss your duties early.	SPORT & ACTIVITY Walking, swimming and cycling are the long-term goals. Running and impact sport are not part of life with a megaprosthesis.
REVIEWS Wound review at about 2 weeks. Clinical review with an X-ray at 6 to 8 weeks. Then reviews and surveillance imaging on a schedule the sarcoma team sets, which continues for years	

WHAT WAS DONE IN YOUR OPERATION

The tumour was removed together with the segment of thigh bone (femur) it involved, including the ball of the hip joint, with a margin of healthy tissue around it. Getting the tumour out safely comes first; everything about the reconstruction is designed around what that removal required.

The missing bone and joint were replaced with a modular metal implant: a megaprosthesis: anchored in the remaining femur, with a new bearing at the hip. Depending on your anatomy and the soft tissue available, this may be a dual-mobility or constrained bearing, which are designed to reduce the risk of dislocation; the operation record states which was used, and that choice shapes your precautions.

The most important part for rehabilitation is not the metal. It is the soft tissue. The hip capsule and the short rotator muscles are usually removed with the tumour, and the abductor muscles (the muscles on the side of the hip that keep your pelvis level) are reattached to the prosthesis or to preserved bone. That reattachment heals on a biological timetable of months, and protecting it is the reason for almost every restriction in this guide.

THE IDEAS THAT MAKE EVERYTHING ELSE MAKE SENSE

1. The site of reconstruction determines the protocol, and the operation record governs

Limb-salvage programmes are built around what was removed and reattached, not around the name of the tumour. This guide describes the typical proximal femoral pathway; your operation record is the final word on your weight bearing, brace and precautions. If anything here conflicts with what your team told you, your team is right.

2. The metal is stable immediately: the soft tissue is not

You can load the implant early because it is fixed at surgery. What needs time is the reattached abductor muscle and the scar tissue that must form a new stabilising envelope where the capsule used to be. The limit on what you do is soft-tissue healing, not the bone or the metal.

3. Dislocation risk is real and higher than after a standard hip replacement

The capsule and short rotators: the hip's natural restraints, are removed with the tumour, so the new hip depends on scar tissue, the reattached abductors and your discipline with the precautions. Dual-mobility and constrained bearings reduce this risk and may allow fewer restrictions, but the precautions in your operation record are non-negotiable for as long as they are prescribed.

4. Protect the abductor repair: it is the walk you end up with

The reattached abductors determine whether you walk with a mild lean or a marked lurch for the rest of your life. That is why active sideways lifting of the leg is deliberately deferred, and why the early programme feels conservative: the repair must heal before it is loaded. Your team will advance this: do not advance it yourself.

5. Months, not weeks, and an honest ceiling

Most patients end up walking independently, with or without a stick, doing their own shopping, driving and living a full daily life. Running, jumping and impact sport are not part of the picture, and a degree of limp may persist. Knowing that from the start is not pessimism. It is how you recognise a good result when you reach it.

6. How results are measured: MSTS and TESS in plain language

Your team may mention two scores. The MSTS score is the clinician's rating of limb function from 0 to 100%. The TESS is your own rating of how difficult everyday tasks are. Good limb-salvage results typically land in the 70–85% range on these scales: good function, not normal function. A score in that range is a genuinely good outcome after this surgery.

WEIGHT BEARING AND WALKING AIDS

WEIGHT BEARING

**USUALLY WEIGHT BEARING AS TOLERATED FROM THE OUTSET.
THE LIMIT IS THE HEALING SOFT TISSUE, NOT THE BONE.
CONFIRM AGAINST YOUR OPERATION RECORD.**

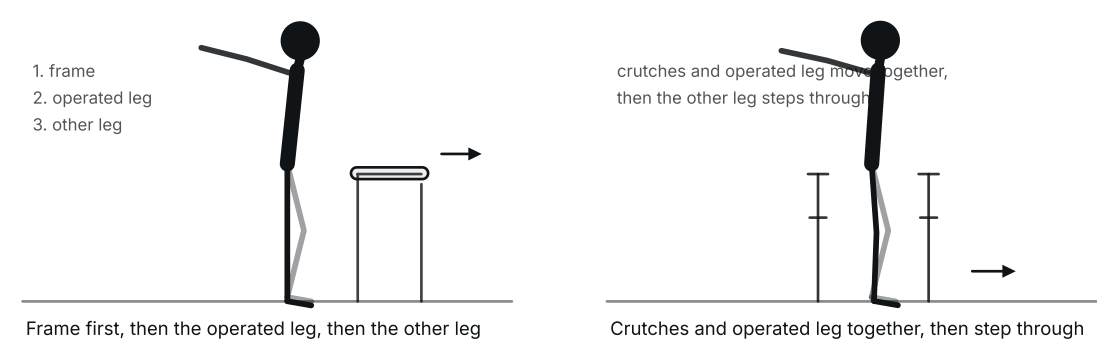
The implant is anchored securely at surgery, so in most cases you can put weight through the leg from the first day or two, using a frame for balance and

safety. Early standing and walking are safe and protect you against clots, chest problems and deconditioning.

What early weight bearing does not license is early muscle loading. Taking weight through a straight leg is gentle on the abductor repair; actively lifting the leg sideways or walking long distances without support is not. The programme separates the two deliberately.

The aid progression below is slower than after a standard hip replacement, and that is by design. Expect the frame-to-crutches-to-stick journey to take roughly 6 to 12 weeks, and often longer. Many patients keep a stick for distance or crowds indefinitely. That is a sensible adaptation, not a failure.

STAGE	TYPICAL TIMING	MOVE ON WHEN
Wheeled frame	From day 1 to around 2 weeks, sometimes longer	Safe transfers; steady, confident stepping; precautions maintained without prompting
Two crutches	Roughly weeks 2–6	Walking without the pelvis dropping badly; managing distances around the home
One crutch, then a stick (opposite hand)	Roughly weeks 6–12	Team confirms the abductor repair is ready for more single-leg load; gait controlled
Stick as needed	From around 3 months, often longer, and sometimes long term	Walking safely; many patients sensibly keep a stick for outdoors and distance



HIP PRECAUTIONS: PROTECTING A HIP WITH NO CAPSULE

AT LEAST 6 WEEKS. YOUR TEAM DECIDES WHEN THEY RELAX, BASED ON THE IMPLANT USED AND HOW THE SOFT TISSUE IS HEALING, DUAL-MOBILITY OR CONSTRAINED BEARINGS MAY ALLOW FEWER RESTRICTIONS. FOLLOW THE OPERATION RECORD.

In a standard hip replacement the capsule and small rotator muscles are largely preserved and the precautions are a courtesy to healing tissue. Here they were removed with the tumour, so until scar tissue forms a new envelope, the positions below can lever the ball out of the socket. Dislocation after a proximal femoral replacement is considerably more common than after routine hip replacement. The precautions are how you stay out of that statistic.

RULE	WHY	HOW TO MANAGE
Do not bend the hip past 90 degrees	Deep flexion drives the ball towards the back edge of the socket, where the removed capsule can no longer stop it.	Sit on raised chairs and a raised toilet seat; keep the knees below the hips; don't lean forward from sitting, bring things to you, or use a pick-up reacher for the floor.
Do not cross the leg past the midline of your body	Crossing the midline combines with rotation to unseat the joint.	Keep a pillow between the knees when lying on your side and when turning in bed; don't cross your legs or ankles when sitting.
Do not turn the leg or foot inward	Inward rotation is the classic final ingredient in a posterior dislocation.	Keep the kneecap and toes pointing forward or slightly out, especially when turning: turn by stepping around in small steps rather than pivoting on the leg.
No low chairs, low sofas or low car seats	A low seat forces the hip well past 90 degrees at the hardest moment: getting up.	Choose firm chairs with arms; add a cushion to raise the seat; slide to the front edge and keep the operated leg out in front as you stand.
Wear the abduction brace exactly as prescribed,	The brace holds the leg out to the side, in the safest position for the healing repair, during the highest-risk weeks.	Commonly worn for up to about 4 weeks, but practice varies with the implant: your operation record and your team's instructions govern the schedule, including whether it is worn at night.

RULE	WHY	HOW TO MANAGE
if one was fitted EVERYDAY SITUATIONS Getting in and out of a car. Passenger seat pushed fully back and reclined slightly, a cushion on the seat if it is low. Back in first, sitting down bottom-first, then bring the legs around together keeping the knees apart: reverse the sequence to get out. Avoid low sports-style seats entirely for now. Using the toilet. A raised toilet seat or over-toilet frame keeps the hip above 90 degrees. Arrange this before you come home. The occupational therapist will help. Dressing the lower half. Sit down for all lower-body dressing. Use a long shoehorn, a sock aid and a reacher rather than bending down. Dress the operated leg first, undress it last. Turning over and sleeping. Sleep on your back for the early weeks with a pillow arranged as your team shows you. If you are cleared to lie on the non-operated side, keep a firm pillow between the knees so the operated leg cannot drop across the midline. Picking things up from the floor. Use a reacher, or ask. If you must retrieve something, your physiotherapist can teach you a safe method, do not improvise a deep bend.		

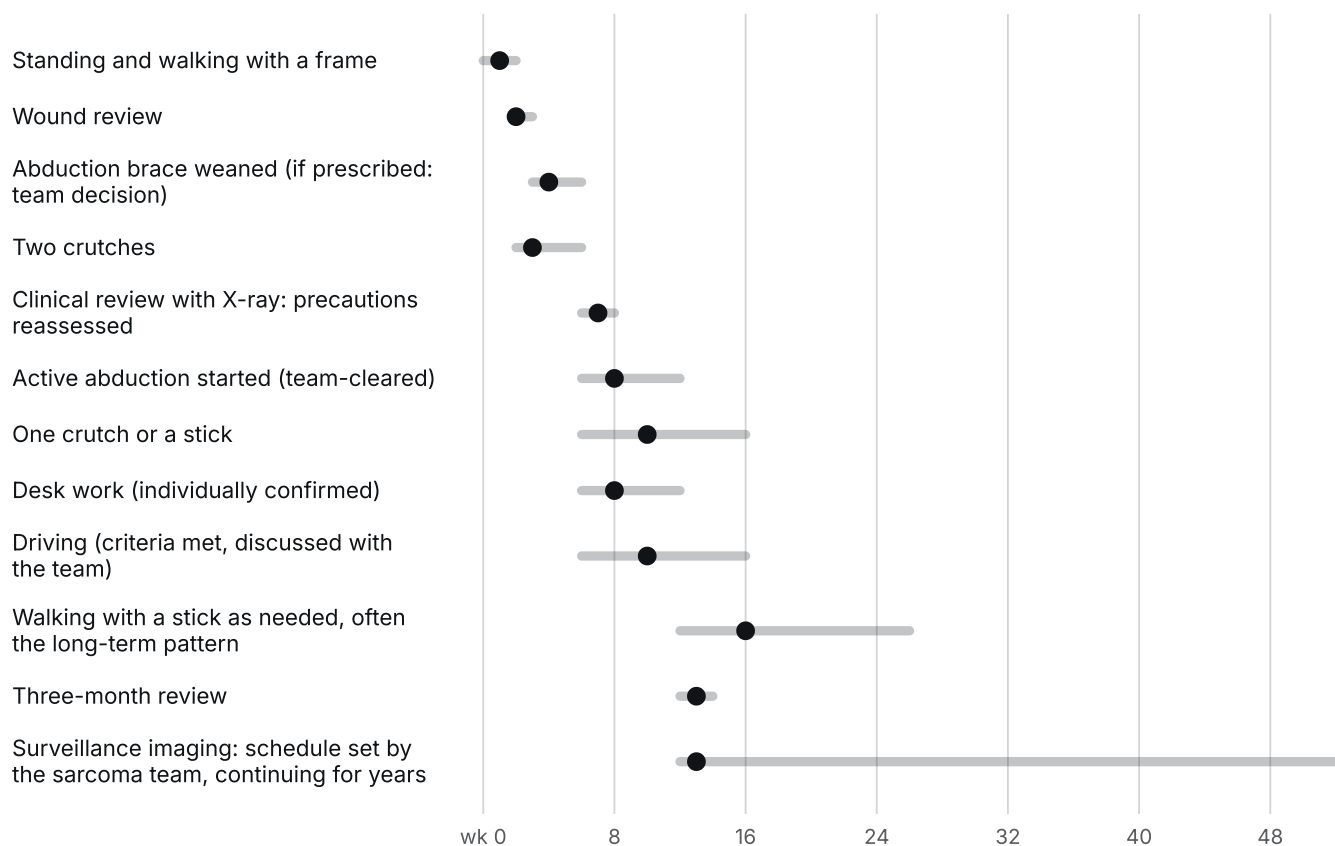
YOUR BRACE: HIP ABDUCTION BRACE: IF PRESCRIBED. NOT EVERYONE HAS ONE: IT IS COMMONLY USED FOR UP TO ABOUT 4 WEEKS, BUT PRACTICE VARIES WITH THE IMPLANT, AND DUAL-MOBILITY OR CONSTRAINED BEARINGS MAY MAKE IT UNNECESSARY. YOUR OPERATION RECORD GOVERNS.

PERIOD	INSTRUCTION
While prescribed (commonly up to about 4 weeks)	Wear as your team directs, typically whenever you are up and walking, and often in bed as well in the first weeks. Do not adjust the hinge settings yourself.
Weaning	Your team will set the weaning plan at review. Do not stop wearing the brace on your own initiative, even if it feels unnecessary.

- Check the skin under the straps and pads daily: report rubbing or pressure marks rather than padding them yourself.

- Wear a thin layer of clothing under the brace for comfort; keep the liners clean and dry.
- Bring the brace to every review so the fit and settings can be checked.

YOUR RECOVERY TIMELINE



Bars show the earliest-to-latest normal window; the dot is typical. Your own dates are set with us, not by this chart.

THE PHASES, ONE BY ONE

You move to the next phase by meeting its exit criteria, not by the calendar. The week numbers are typical, nothing more.

PHASE 1: PROTECT AND SETTLE

WEEKS 0-2

Safe transfers and short frame walks, strict precautions, isometric muscle work, and calm, controlled healing.

GOALS: TICK THEM OFF

- ☐ Transferring in and out of bed and chair safely, precautions intact
- ☐ Walking short distances with the frame, several times a day
- ☐ Isometric (muscle-tightening) exercises established as a routine
- ☐ Swelling controlled; wound settled
- ☐ Brace (if prescribed) fitted correctly and worn as directed

DO THIS

- Ankle pumps every waking hour, and the isometric quadriceps and gluteal exercises below, muscles switch off fast after this surgery, and isometrics are safe from day one.
- Walk little and often with the frame, short, frequent walks beat one long outing.
- Rehearse the precautions until they are automatic: raised seats, no crossing, no inward turning, nothing past 90 degrees.
- Ice and elevate as set out in the swelling section.

AVOID THIS

- Actively lifting the operated leg out to the side, active abduction is deliberately deferred until your team clears it.
- Low chairs, deep bending, crossing the legs, pivoting on the operated leg.
- Testing the hip to "see what it can do". It cannot, yet. That is the point of the precautions.

READY FOR THE NEXT PHASE WHEN...

- Wound reviewed and settled at about 2 weeks
- Transfers and frame walking safe and independent
- Precautions second nature

PHASE 2: PROTECTED WALKING

WEEKS 2-6

Build walking tolerance on crutches, keep the abductor repair unloaded, and strengthen everything that is safe to strengthen.

GOALS: TICK THEM OFF

- ☐ Progress from frame to two crutches when your team agrees
- ☐ Walking tolerance building week on week
- ☐ Sit-to-stand from a raised chair without using the arms heavily
- ☐ Precautions maintained without thinking

DO THIS

- Continue the isometrics daily: they are still the core of the muscle programme.
- Add sit-to-stands from a raised chair and gentle heel raises at the bench.
- Start scar massage once the wound is fully healed (from about 3 weeks).
- Keep walks frequent and gradually longer, always with the prescribed aid.

AVOID THIS

- Active sideways leg lifts, still deferred.
- Walking without the aid because the leg "feels fine". The repair does not report pain reliably; the timetable protects it, not the sensation.
- Long car journeys and low seating.

READY FOR THE NEXT PHASE WHEN...

- Team review at about 6 weeks confirms the soft tissue is ready for the next stage
- Walking confidently on two crutches
- Brace weaned if one was prescribed (team decision)

PHASE 3: REINTRODUCE MOVEMENT

WEEKS 6–12 (TEAM-LED)

Precautions relaxed as your team advises, active abduction introduced under supervision, and the walk rebuilt deliberately.

GOALS: TICK THEM OFF

- ☐ Precautions relaxed on your team's instruction, not before
- ☐ Active abduction started under physiotherapy supervision, when cleared
- ☐ Progress from two crutches towards one crutch or a stick
- ☐ Stationary cycling established once comfort and precautions allow

DO THIS

- Begin active hip abduction only when your team clears it, starting exactly as your physiotherapist prescribes.
- Work on gait quality with your physiotherapist: a slower, level walk beats a fast lurch.
- Start the stationary bike with a high saddle when your team agrees.
- Keep strengthening sit-to-stand and calf work; add balance work as prescribed.

AVOID THIS

- Rushing off the stick to look recovered: a controlled gait with an aid protects the repair a lurch destroys.
- Impact of any kind: no jogging, jumping or sudden twisting.

READY FOR THE NEXT PHASE WHEN...

- Walking with one stick or less, with a gait your physiotherapist is happy with
- Active abduction programme established
- Independent with daily activities

PHASE 4: FUNCTION FOR THE LONG TERM

MONTHS 3–12 AND BEYOND

Endurance, balance and strength for real life, honest expectations about the limp, and settling into the lifelong routine of surveillance.

GOALS: TICK THEM OFF

- ☐ Walking distance and confidence building month on month
- ☐ Trendelenburg lurch improving with abductor strengthening, accepting that some lurch may persist
- ☐ Return to driving, work and low-impact activity as your team confirms
- ☐ Surveillance appointments and imaging attended without fail

DO THIS

- Keep a permanent strength habit: abductor and general leg strength protect the result for years.
- Build low-impact endurance: walking, swimming once cleared, cycling.
- Report anything new between reviews: new pain, a lump, a wound concern: the same day you notice it.

AVOID THIS

- Running, jumping and impact sport: permanently. This protects the implant from wear and the weakened bone from fracture.
- Skipping surveillance because you feel well. The imaging is checking for things you cannot feel.

READY FOR THE NEXT PHASE WHEN...

- Stable, confident walking with or without a stick
- Long-term surveillance schedule established and understood

YOUR EXERCISES

Little and often beats one heroic session. Each exercise lists what you should feel, sharp pain that lingers afterwards means ease off and, if it persists, call.



ANKLE PUMPS

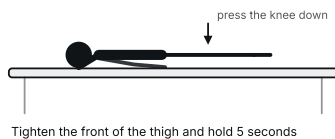
PHASE 1

Keep blood moving in the calf: your main clot-prevention exercise.

10 firm pumps, every waking hour, for the first 2 weeks

1. Lie or sit with the leg supported.
2. Pull your foot up towards you as far as it goes.
3. Point it away as far as it goes.
4. Repeat briskly.

Feel: You should feel the calf muscles working. Move through the full range each time.



STATIC QUADRICEPS SETS

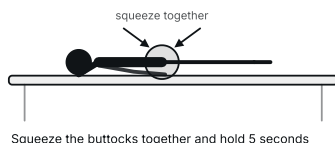
PHASE 1

Keep the thigh muscle switched on, isometric work is safe from day one and costs the repair nothing.

10 holds of 5 seconds, 3–4 times daily

1. Lie with the leg straight.
2. Tighten the front of the thigh, pressing the back of the knee gently down.
3. Hold, then fully relax.

Feel: You should feel the front of the thigh firm up. No movement of the hip is needed. That is the point.



STATIC GLUTEAL SQUEEZES

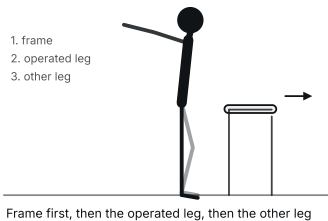
PHASE 1

Wake the buttock muscles without moving or loading the healing hip.

10 holds of 5 seconds, 3–4 times daily

1. Lie on your back with legs relaxed.
2. Squeeze the buttock muscles together firmly.
3. Hold, then fully relax.

Feel: You should feel the buttocks tighten and rise slightly. Keep breathing: do not hold your breath.



WALKING WITH THE FRAME

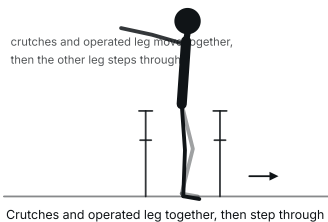
PHASE 1

Safe, rhythmic early walking: the most important "exercise" of the first fortnight.

Short walks, several times a day, building distance gradually

1. Frame forward first.
2. Step the operated leg into the frame.
3. Step the other leg up to meet it, taking weight through your arms as needed.
4. Stand tall between steps, no rushing.

Feel: Even step lengths. Keep the toes pointing forward, no pivoting on the operated leg to turn; step around in small steps instead.



WALKING WITH TWO CRUTCHES

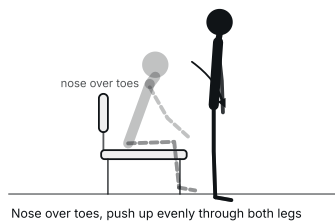
PHASE 2

A smoother, more upright walk as your tolerance builds.

Replace frame walks once your team progresses you; build distance week on week

1. Move the crutches and the operated leg forward together.
2. Step through with the other leg.
3. Keep the pattern smooth and even.

Feel: Stand tall; look ahead, not at your feet. If the pelvis is lurching sideways, slow down and shorten the steps.



SIT-TO-STAND FROM A RAISED CHAIR

PHASE 2

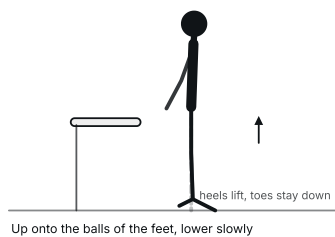
Real-world leg strength within the precautions.

2–3 sets of 8–10, once or twice daily

1. Use a firm, raised chair with arms.
2. Slide to the front edge, operated leg slightly out in front.
3. Lean forward from the hips no further than your precautions allow, and push up through the legs, using the arms as needed.
4. Lower back down slowly with control.

Feel: Keep the knees apart and the operated foot pointing forward. The hip must stay above 90 degrees, if it cannot, the chair is too low.

Harder: Less arm assistance over time; your team will advise before lowering the seat height.



HEEL RAISES

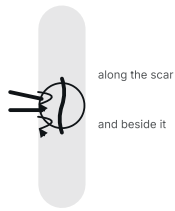
PHASE 2

Calf strength for push-off: safe to train early because it does not load the hip repair.

2–3 sets of 10, once or twice daily

1. Stand tall holding the bench or frame.
2. Rise up onto the balls of both feet.
3. Lower slowly.

Feel: Even weight through both feet, or as your weight-bearing status allows.



Firm small circles, 2 to 3 minutes twice daily

SCAR MASSAGE

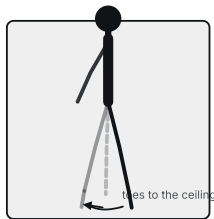
PHASE 2

Soften and desensitise the scar once fully healed.

2–3 minutes, twice daily, from about 3 weeks once healed and dry

1. Use a bland moisturiser.
2. Firm, small circles along and beside the scar.
3. Include the skin around it, which is often more sensitive than the scar itself.

Feel: Firm enough to blanch the skin slightly; it should not be painful. If you have had radiotherapy to the area, ask your team before starting.



Slide out to the side and back, keep the toes up

HIP ABDUCTION, LYING (TEAM-CLEARED ONLY)

PHASE 3

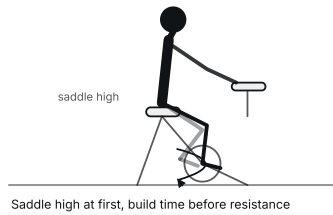
Rebuild the reattached abductors: the muscles that decide your walk. Deliberately deferred until the repair has healed.

Only when your team clears it, typically from around 6–12 weeks. Start as prescribed; a common starting dose is 2 sets of 8, once daily

1. Lie on your back (progressing to side-lying only when your physiotherapist says so).
2. Keeping the knee straight and toes pointing up, slide or lift the leg out to the side as prescribed.
3. Return slowly with control.

Feel: You should feel the muscles on the side of the hip working. No swinging or trick movements: small and honest beats big and cheated.

Harder: Your physiotherapist advances this, from gravity-eliminated sliding, to lifting, to side-lying, on the team's timetable, not the calendar's.



STATIONARY CYCLING

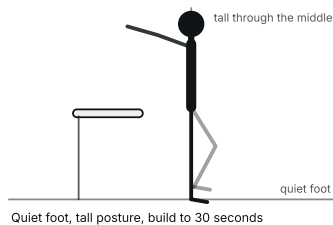
PHASE 3

Endurance and movement with almost no joint load.

10–20 minutes, most days, once your team agrees

1. Set the saddle high so the hip stays well below 90 degrees of bend.
2. Mount and dismount as your physiotherapist teaches you, keeping the precautions.
3. Progress time before resistance.

Feel: No pinching at the front of the hip, raise the saddle if there is.



SINGLE-LEG BALANCE

PHASE 3

Steadiness, abductor endurance and confidence: protects you from trips and falls.

Build to 3 holds of 30 seconds each leg, daily, once your team clears single-leg loading

1. Stand near the bench, fingertips hovering.
2. Lift the other foot and balance on the operated leg.
3. Keep the pelvis as level as you can.

Feel: A mirror helps: watch for the pelvis dropping on the free-leg side and correct it gently. Quiet foot, tall posture.

SWELLING, ICE AND ELEVATION

WHAT IS NORMAL

- Swelling is the single biggest brake on progress. It peaks about 6–8 days after surgery, then settles gradually.
- Most of the swelling resolves over the first two to three months, but it is normal for the limb to puff up after a long day or a burst of activity for some months after that, measurable swelling is still present at 7 weeks in most knee replacement patients.
- A limb that is bigger the morning after activity means you did too much the day before, not that something is wrong.
- Warmth and mild redness around the wound settle over weeks.

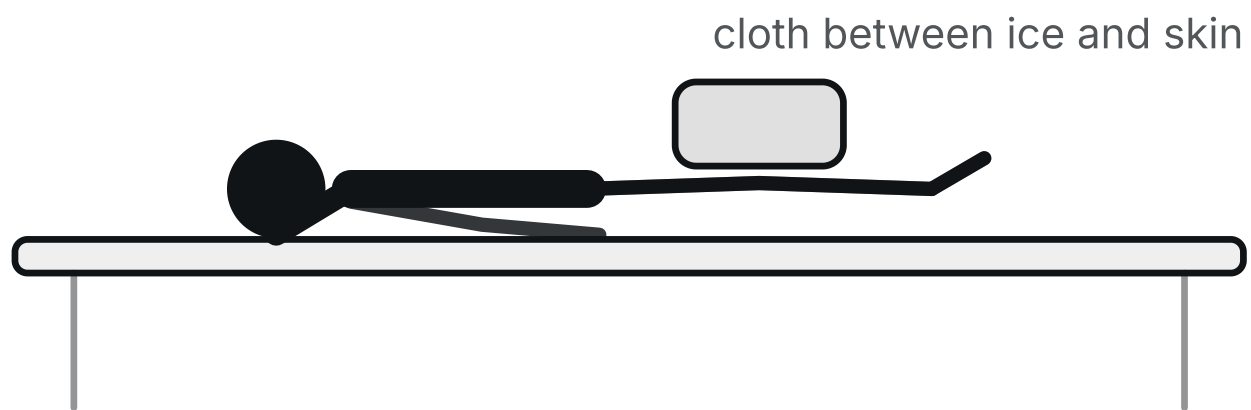
- After tumour surgery the swelling can be slower to settle than these general figures suggest: the operation removes more soft tissue than a standard joint replacement, and radiotherapy or chemotherapy slow things further. Persistent swelling that is stable is common; swelling that is increasing is a phone call.

ICE

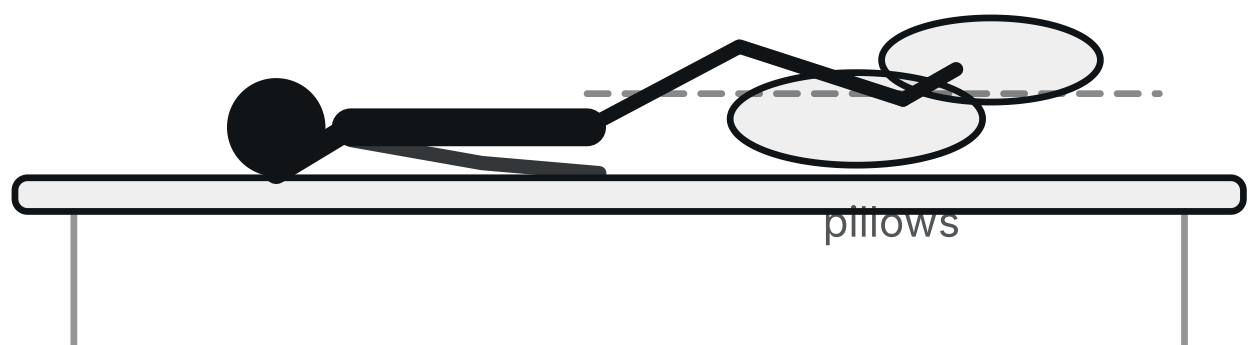
- Ice is safe, cheap and comfortable, and probably gives a small benefit for pain and swelling in the first few days.
- Use it for 15–20 minutes at a time, 4–6 times a day for the first 2 weeks, then as needed after activity and physiotherapy. It is particularly useful in the hour after exercise.
- Always place a thin cloth between the ice and your skin. Never sleep with ice on. Never ice over numb skin or a fresh wound dressing without checking with the rooms first.
- Stop and call the rooms if the skin becomes white, mottled or numb.
- An honest note about the evidence: the 2025 Cochrane review of icing after knee replacement (22 trials, 1,839 patients) found small improvements: pain at 48 hours better by 1.6 points out of 10, about 8 degrees more bend at discharge, and less blood loss: all on low-certainty evidence. The reviewers concluded the benefits may be too small to justify routine use. Use ice because it is harmless and makes you more comfortable, not because it changes the final result.
- There is no good evidence that expensive cold-compression machines work better than a bag of ice or a gel pack. The trials have never been analysed in a way that answers that question. Please do not spend money on one on our recommendation.

ELEVATION & COMPRESSION

- Elevate the limb above heart level for 20–30 minutes several times a day: foot higher than the knee, knee higher than the hip, hip higher than the heart.
- Lie down to do this: a recliner does not raise the leg above your heart.
- Avoid sitting with the leg hanging down for long periods.
- A graduated compression stocking or sleeve helps control swelling, wear it as advised.



15 to 20 minutes, 4 to 6 times daily



Foot above knee, knee above hip, lying flat

WOUND AND SCAR CARE

- Keep the dressing dry and intact until it is reviewed. Most modern waterproof dressings allow showering, but do not soak, scrub, or put soap directly on the wound.
- No baths, spas, pools or ocean swimming until the wound is fully healed and has been reviewed, usually 2–3 weeks at a minimum.
- Do not apply creams, powders or antiseptics unless you have been told to.
- Clips or stitches are removed or checked at your first appointment.
- Tell the rooms about any dressing that becomes soaked, loose or soiled.
- Tumour surgery wounds are longer than standard hip replacement wounds and, if you have had radiotherapy or chemotherapy, they heal more slowly. Your team watches this closely: attend every wound review, and report any change between them the same day.
- From about 3 weeks, once the wound is fully healed and dry: massage the scar with a bland moisturiser for 2–3 minutes, twice a day, using firm circular pressure. This softens the scar and desensitises the skin around it.
- Silicone gel or sheeting can improve the appearance of prominent scars.
- Protect the scar from the sun for 12 months. It burns easily and can darken permanently.
- Scars take a full 12–18 months to fade and flatten.
- Numbness in the skin around and below the scar is normal and often permanent, small skin nerves are unavoidably divided during surgery.

SLEEP AND POSITIONING

Sleep on your back for the early weeks, with the pillow arrangement your team shows you and the abduction brace on at night if that was prescribed.

Do not lie on the operated side until your team clears it. If you are cleared to lie on the non-operated side, keep a firm pillow between the knees and ankles so the operated leg cannot drop across the midline.

Keep the leg from rolling inward as you drift off. A rolled towel along the outside of the thigh can help keep the toes pointing up.

Disturbed sleep is common for some weeks and improves as swelling and pain settle. Timing pain relief for the night helps.

PAIN, MEDICATION AND WHAT TO EXPECT

Expect to need regular pain relief for the first few weeks, weaning gradually. Take medication ahead of exercise sessions rather than chasing pain afterwards, and wean the strongest medications first.

You will usually be on a blood thinner: take it exactly as directed.

If you are having chemotherapy, the rehabilitation and oncology timetables are coordinated by your team, energy levels, blood counts and treatment cycles all shape what each week looks like, and a slower fortnight during treatment is expected, not a setback.

Aching around the hip and thigh, tightness, and tiredness after activity persist for months and are normal. Pain that is increasing week on week, or new pain at rest or at night, is not, call the rooms.

PREVENTING BLOOD CLOTS

- Get up and move at least hourly while you are awake.
- Do ankle pumps: 10 firm up-and-down pumps of the ankles: every waking hour for the first 2 weeks.
- Stay well hydrated.
- Take any prescribed blood thinner exactly as directed, and wear stockings as advised.
- Avoid long-haul flights for 6 weeks after joint replacement: discuss any earlier travel with the rooms.

DRIVING: THE CRITERIA THAT ACTUALLY MATTER

You may drive when **all** of the following are true:

- You are off opioid painkillers and any other sedating medication.
- You can sit comfortably in the driver's seat.

- You can perform an emergency stop at full force, without hesitation and without pain.
- You are not using a walking aid in the car, and not wearing a brace that limits the movement needed to work the pedals.
- You have practised the movements in a stationary car first.

What the driving research does and doesn't show

What the research actually measures is braking reaction time on a simulator. Those studies show braking performance returns to its pre-operative level at about 2 weeks after a right hip replacement and about 4 weeks after a right knee replacement, with movement time back to normal by 6 weeks. After knee arthroscopy the simulator evidence is more conservative than common practice: in the one study that measured it directly, braking was still slower one week after surgery than before it, and had recovered by four weeks, and a 2021 review of eight studies put the average return at about six weeks. Most people having a simple arthroscopy are driving well before that, which is why the criteria above matter more than the date. But these are averages, in one study, about one in three right-hip patients still could not meet an emergency-stop benchmark at six weeks. Treat the timeframes in this guide as targets for discussion with us, not as permissions.

No published study has compared automatic and manual cars. The logical point is simply that a manual needs the left leg for the clutch, so left-sided surgery is the relevant caution in a manual. Advice about driving earlier with a left-leg operation in an automatic is clinical judgement, not trial evidence.

In Australia, your treating doctor's advice governs: under the Austroads "Assessing Fitness to Drive" standards, temporary post-operative impairment is a matter of clinical judgement, and commercial drivers are held to a higher standard. Driving while impaired may invalidate your

insurance, check your insurer's position. Do not drive for at least 24 hours after any general anaesthetic or sedation.

GETTING BACK TO WHAT YOU DO

ACTIVITY	TYPICAL	WHEN IT'S RIGHT	NOTES
Walking for exercise	From the outset, with the prescribed aid	Comfort, safety and the precautions	The core of the programme: build distance gradually
Swimming and hydrotherapy	Once the wound is fully healed and your team agrees	Wound reviewed and closed; safe pool access	Excellent low-load exercise; avoid breaststroke kick until your team clears it
Stationary cycling	When your team agrees, usually after the 6 to 8 week review	Saddle high; precautions manageable	Progress time before resistance
Driving	Individually assessed, usually not before the precautions are relaxed	All the driving criteria below, discussed with the team	Getting in and out of the car safely matters as much as the pedals
Desk work	Commonly in the 6–12 week window. Your team will confirm	Comfortable sitting on a suitable (raised) chair; transport sorted	A raised, firm office chair; get up and move hourly
Physical work	Individually assessed	Duties reviewed with the team	Heavy physical work is often not a realistic goal after proximal femoral replacement, raise your actual duties early so retraining or modified duties can be planned honestly
Golf, bowls, doubles tennis	Team-cleared, usually well after 3	Strength, balance and gait	Discuss the specific sport: rotation and uneven ground are the considerations

ACTIVITY	TYPICAL	WHEN IT'S RIGHT	NOTES
and similar low-impact sport	months	re-established	
Running, jumping and impact or contact sport	Not part of life with a megaprosthesis	—	This is a permanent trade: impact accelerates wear and risks fracture through bone weakened by resection, radiotherapy and chemotherapy
Air travel	Discuss with the team: see the travel notes in this guide	Clot prevention planned	Especially relevant for Mid North Coast patients travelling to Sydney for reviews. The same planning applies to long drives: break them up, move hourly

Flying after joint replacement: an honest note

You will often hear "no flying for six weeks" after joint replacement. Be aware that this is a convention, not a proven rule: a 2025 review found limited data and no demonstrated difference in clot risk between people who did and did not fly after hip or knee replacement: mostly within the first week.

The six-week convention reflects practical realities rather than trial evidence: managing airports and cramped seating, being past the highest-risk clot window while still on prevention, the higher baseline clot risk of long-haul flights over four hours, and individual airline and travel-insurance rules, check both, as some airlines impose their own restrictions.

If you need to travel long-haul in the first six weeks, talk to the rooms first so clot prevention, an aisle seat, stockings and on-board movement can be planned.

WARNING SIGNS: ACT, DON'T WATCH

None of these should be watched overnight to see how they go. Early treatment of a problem is simple; late treatment is not.

EMERGENCY: 000 Emergency department / call 000

- Sudden shortness of breath
- Chest pain
- Coughing blood, or feeling faint
- Sudden hip pain with the leg looking short or turned, or inability to move the hip: possible dislocation
- Sudden pain, new deformity, or inability to take weight through the limb, even after minor loading. Bone weakened by resection, radiotherapy and chemotherapy can fracture around a prosthesis

GP TODAY See your GP today

- New, one-sided calf pain, tenderness or firmness
- Calf or whole-leg swelling out of proportion to the rest of your recovery

CALL THE ROOMS Call the rooms: same day

- Pain that is increasing rather than decreasing after the first week
- New redness spreading out from the wound
- Wound discharge, particularly cloudy, thick or offensive fluid, or wound edges opening
- Fever of 38°C or higher, or shaking chills, or feeling generally unwell
- Any wound concern, fever or feeling unwell, after a megaprosthesis the threshold to call is deliberately lower than after standard joint replacement. Same-day contact, never wait-and-see
- A new lump near the operation site, or new persistent pain at any new site, do not wait for the next surveillance scan to mention it

For joint replacement patients, a wound problem is never something to "wait and see". Early treatment of an infected joint replacement is vastly more successful than late treatment, call the rooms the same day.

ARRANGING PHYSIOTHERAPY IN AUSTRALIA

- Most privately insured patients self-fund private physiotherapy or use extras cover. A GP Chronic Disease Management plan subsidises only five allied-health visits per calendar year, not enough for a major reconstruction, so plan for this.
- Compensable patients (workers compensation, CTP) follow an insurer-approved plan.
- Tele-rehabilitation and app-supported home programmes are reasonable additions, but a sports knee reconstruction still needs periodic in-person objective strength testing.

COMMON QUESTIONS

When will I walk again after limb salvage surgery?

You will usually stand and take your first steps with a frame within a day or two of surgery. The implant is stable immediately. The journey from frame to two crutches to one stick then takes roughly 6 to 12 weeks, and often longer; recovery from this surgery is measured in months, not weeks. Many people keep a stick for distance or uneven ground long term, which is a sensible adaptation rather than a setback.

Will I be able to run?

No, and it is better to hear that clearly at the start. Running, jumping and impact sport are not part of life with a megaprosthesis: impact accelerates wear of the implant and risks fracture through bone weakened by the resection and by any radiotherapy or chemotherapy. The realistic and genuinely good outcome is independent walking, with or without a stick, a full daily life, and low-impact exercise such as walking, swimming and cycling.

Why are the hip precautions stricter than my friend's after a normal hip replacement?

Because the tumour took the hip's natural restraints with it. In a standard hip replacement the capsule and small rotator muscles are largely preserved; here they are removed as part of getting the tumour out safely, so dislocation is considerably more common and the

precautions carry real weight, for at least 6 weeks, and until your team relaxes them. If a dual-mobility or constrained bearing was used, your restrictions may be fewer: your operation record governs.

What is a dislocation and what do I do if it happens?

Dislocation means the ball comes out of the socket. It announces itself: sudden pain, the leg looking shorter or turned, and being unable to move the hip. That is an emergency: call 000 or go straight to the emergency department; do not try to walk on it or “work it back in”. Prevention is the whole point of the precautions and the brace, and the risk falls as scar tissue matures.

How long do I wear the abduction brace?

If one was prescribed, commonly up to about 4 weeks, but practice genuinely varies with the implant and the soft-tissue repair, and some patients (particularly with dual-mobility or constrained bearings) do not need one at all. Your operation record and your team set the schedule and the weaning plan. Do not stop wearing it on your own initiative, even if it feels unnecessary. The repair it protects cannot tell you how it is going.

Why do I walk with a lurch, and will it go away?

The sideways lean over the operated leg. A Trendelenburg lurch, happens because the abductor muscles that keep the pelvis level were detached with the tumour and reattached to the prosthesis. It usually improves slowly as the repair matures and the strengthening programme takes effect, but honestly: it may persist to some degree. A stick in the opposite hand smooths it considerably, which is one reason many patients keep one for distance.

Why can't I do the sideways leg exercises yet?

Active abduction: lifting the leg out to the side: pulls directly on the reattached abductor muscles, and that repair heals on a timetable of months. Loading it early risks stretching or pulling it off, which would trade a temporary restriction for a permanent limp. Your team

will start abduction work deliberately, usually somewhere after the 6 to 8 week review, and your physiotherapist will progress it in stages.

What are the MSTS and TESS scores my team mentions?

Two ways of measuring how the limb is doing. The MSTS score is the clinician's rating of limb function on a 0–100% scale; the TESS is your own rating of how difficult everyday tasks are. Good limb-salvage results typically land in the 70–85% range. That means good function, not normal function, and a score in that range after a proximal femoral replacement is a genuinely good outcome.

My physiotherapist is on the Mid North Coast, how do they work with the Sydney team?

This is normal and it works well. Most of the hands-on rehabilitation happens locally, guided by the operation record and the protocol your Sydney team provides. Your physiotherapist is welcome: encouraged, to contact the rooms directly with questions, and the key decision points (relaxing precautions, starting abduction, weaning aids) are made at your reviews and communicated in writing. Bring this guide and your operation record to your first local appointment.

What about infection: what am I actually watching for?

Deep infection is the most significant risk of this surgery: considerably more common than after standard joint replacement, partly because chemotherapy and radiotherapy affect healing and immunity. Watch for increasing pain, spreading redness, wound discharge, fever or feeling unwell, and call the rooms the same day, every time, for the rest of your life with the implant. Early treatment of an infected prosthesis is vastly more successful than late treatment. Also tell every future dentist and doctor you have a megaprosthesis before procedures.

Can I fly, or drive to Sydney for my reviews?

The general convention after joint replacement is no long-haul flying for 6 weeks, though the evidence behind a fixed rule is limited, talk to the team before any early travel so clot prevention, seating and movement can be planned. The same logic applies to the long

drive from the Mid North Coast: break the trip, get out and move every hour, do your ankle pumps, and travel as a passenger with the seat set up for your precautions until you are cleared to drive.

What does “lifelong surveillance” actually involve?

Regular reviews with imaging of both the tumour site and the prosthesis, on a schedule your sarcoma team sets: frequent at first, spacing out over years. It checks for things you cannot feel: early recurrence, implant wear or loosening. Between scans, report anything new: a lump, new pain at any site, a wound concern: the same day rather than saving it for the next appointment. Expect, too, that revision surgery of some kind is likely at some point over a lifetime: these implants are serviced, not permanent.

THE EVIDENCE BEHIND THIS GUIDE 10 sourced statements

CLAIM	SOURCE
The site of reconstruction, not the diagnosis, determines the rehabilitation protocol in lower-limb endoprosthetic surgery	Standardisation of rehabilitation after limb salvage surgery for sarcomas improves outcome, Hematol Oncol Stem Cell Ther 2013 (PMID 24161605); late complications and survival of endoprosthetic reconstruction after resection of bone tumours, Clin Orthop Relat Res 2010 (PMID 20625951)
Early, staged, active mobilisation after limb-salvage surgery is safe, no increase in dislocation or infection, associated with better quality of life	Standardisation of rehabilitation after limb salvage surgery for sarcomas improves outcome, Hematol Oncol Stem Cell Ther 2013 (PMID 24161605); occupational therapy rehabilitation after limb salvage surgery, a scoping review, Disabil Rehabil 2021 (PMID 31180732)
Dislocation after proximal femoral replacement is considerably more common than after conventional hip replacement, attributed to resection of the capsule and short external rotators	Functional outcome of endoprosthetic proximal femoral replacement, Clin Orthop Relat Res 2004 (PMID 15346050); dislocation and revision risk in proximal femoral replacement, Clin Orthop Relat Res 2023 (PMID 36897193), where the 5-year dislocation risk was 17%, against roughly 2% after conventional hip replacement

CLAIM	SOURCE
Dual-mobility and constrained acetabular bearings reduce dislocation risk after proximal femoral replacement and may permit fewer postoperative restrictions	Dual mobility to prevent dislocation after tumour resection, Orthop Traumatol Surg Res 2010 (PMID 20170850); dislocation and revision risk with dual-mobility proximal femoral replacement, Clin Orthop Relat Res 2023 (PMID 36897193), a revision-for-infection cohort rather than an oncology one
Abductor reattachment quality is a principal determinant of gait (Trendelenburg lurch) and function after proximal femoral replacement; a residual lurch commonly persists	Functional outcome of endoprosthetic proximal femoral replacement, Clin Orthop Relat Res 2004 (PMID 15346050); gait and walking speed after endoprosthetic reconstruction, Clin Orthop Relat Res 2015 (PMID 24777730)
Deep infection is the most significant complication of megaprosthesis reconstruction and is considerably more common than after conventional arthroplasty	Henderson et al., failure mode classification for tumour endoprostheses, J Bone Joint Surg Am 2011 (PMID 21368074); the fate of periprosthetic joint infection following megaprosthesis reconstruction, JB JS Open Access 2021 (PMID 34841189), where 2-year survivorship after infection was 65.1% and mortality 15%
Revision surgery is likely at some point over a lifetime with a megaprosthesis; impact loading accelerates wear and is advised against	Survival of megaprostheses in lower limb reconstruction after tumour resection, Clin Orthop Relat Res 2015 (PMID 24964884): overall survival free of further surgery 75.9% at 5 years and 66.2% at 10 years
MSTS is a clinician-rated 0–100% limb-function score; TESS is a patient-reported measure of everyday task difficulty; good limb-salvage outcomes typically fall in the 70–85% range	Enneking et al., MSTS functional evaluation system, Clin Orthop Relat Res 1993 (PMID 8425352); Davis et al., development of the Toronto Extremity Salvage Score, Qual Life Res 1996 (PMID 8973131); functional outcome of endoprosthetic proximal femoral replacement, Clin Orthop Relat Res 2004 (PMID 15346050)

CLAIM	SOURCE
Bone weakened by resection, radiotherapy and chemotherapy carries an elevated periprosthetic fracture risk, including after minor loading	Henderson et al., failure mode classification for tumour endoprostheses, J Bone Joint Surg Am 2011 (PMID 21368074), in which periprosthetic fracture is a recognised failure mode; late complications and survival of endoprosthetic reconstruction, Clin Orthop Relat Res 2010 (PMID 20625951). The added contribution of radiotherapy and chemotherapy to that risk is a clinical concern rather than a quantified finding
Long-term surveillance imaging of the tumour site and prosthesis is standard of care for years after sarcoma resection and endoprosthetic reconstruction	Soft tissue and visceral sarcomas: ESMO-EURACAN-GENTURIS clinical practice guidelines, Ann Oncol 2021 (PMID 34303806)

This guide is general information for patients of Dr Matthew Broadhead (Harbour Orthopaedics & Sports Medicine) and is not a substitute for the specific advice given to you by Dr Broadhead, your physiotherapist or your hospital team.

Surgical findings vary, and your protocol may differ from what is written here: your operation record and your surgeon's instructions always take precedence.

If in doubt, call the rooms on (02) 9052 1883. In an emergency, call 000.

Last reviewed: 2026-08-05 by Dr Matthew Broadhead, FRACS (Orth).

YOUR PROGRESS TRACKER

Fill this in once a week: it shows your trend at a glance and makes reviews far more useful.
Bring it to every appointment.

Week	1	2	3	4	5	6	7	8	9	10	11	12
Exercises done (sessions)												
Walking distance / time												
Pain score (0–10)												
Knee bend (degrees)												
Swelling (less / same / more)												

QUESTIONS FOR DR BROADHEAD
