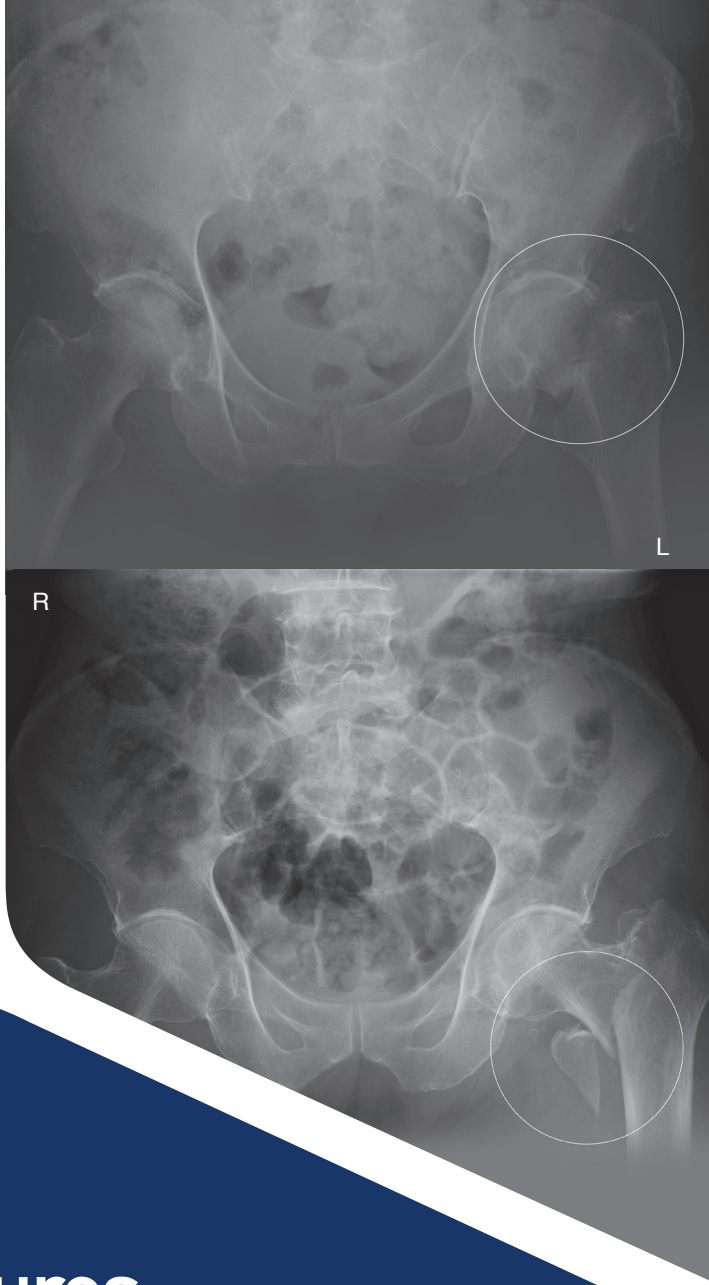
NUHS
National University
Health System



Hip Fractures

Please scan QR code for more information on NUHS Orthopaedic Surgery

The Department of Orthopaedic Surgery offers specialist medical and surgical treatments on musculoskeletal disorders, joint replacements, foot and ankle disorders, among other trauma injuries. Our consultants and surgeons work closely with sports medicine physicians, physiotherapists, podiatrists and other healthcare professionals to help patients return to their normal activities after surgery.

What is a Hip Fracture?

The hip is a ball-and-socket joint which enables the upper leg to bend and rotate at the pelvis. A hip fracture occurs when there is a break in the femur (thigh bone) below the hip joint, as a result of falls or traumatic events, and can significantly alter your lifestyle.

In the elderly, a broken hip or hip fracture is a common occurrence due to falls and Osteoporosis (weak/brittle bones).

Types of Hip Fracture

- **Neck of femur fracture**

  Such fractures occur at the neck and head of the femur, and generally within the soft tissue which contains the lubricating and nourishing fluid of the hip joint.

- **Intertrochanteric fracture**

  This occurs between the neck of the femur and a lower bony prominence called the lesser trochanter. Intertrochanteric fractures generally occur between the lesser trochanter and the greater trochanter (bump under the skin on the outside of the hip).

- **Subtrochanteric fracture**

  This fracture occurs in an area approximately 6cm below the lesser trochanter.

Diagnosing a Hip Fracture

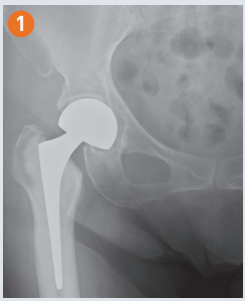
An X-ray and/or physical examination can determine if a patient has a hip fracture.

Managing Hip Fracture at Acute Hospital

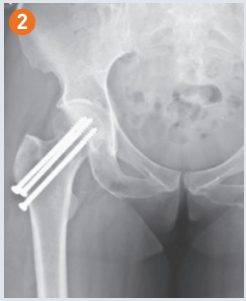
Once the patient has been diagnosed with a hip fracture, he/she will be assessed for his/her suitability for a surgery.

Surgical Management

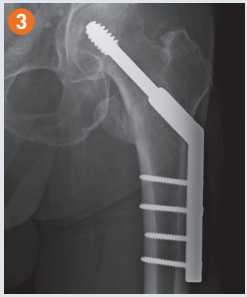
Surgery helps to stabilise a hip fracture with either a surgical plate and screws, nail or a prosthesis.



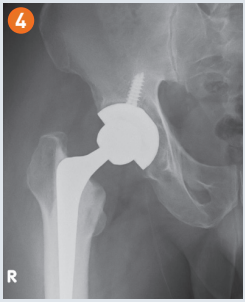
Hemiarthroplasty



Cannulated Hip Screw



Dynamic Hip Screw



Total Hip Replacement

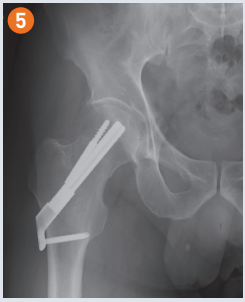
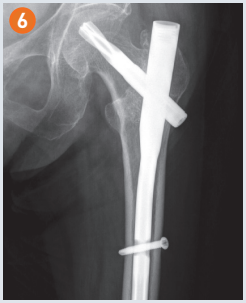


Plate & Screw



Intramedullary nail

- Early consent for surgery will be sought from the patient/ family member.
- Before your surgery, you will be required to fast for a few hours and take a shower.
- You may be given an intravenous drip to keep you hydrated.
- A nurse or care coordinator will approach you and/or your family to discuss your discharge plan.
- After surgery, the patient will be encouraged to sit out of bed as early as the next day.

Risks Associated with Surgery

Like all surgeries, a hip surgery will involve some form of risks and complications.

- Deep vein thrombosis (blood clots)
- Infection of the wound or implant
- Nerve and blood vessels injury
- Leg length discrepancy (shortening)
- Peri-prosthetic and peri-implant fractures (fracture around the metal)
- Implant cutting out of the bone
- Loosening, dislocation and wear-and-tear of the prosthesis
- Risk of undergoing anaesthesia (e.g. heart attack and stroke)
- Decrease in blood pressure due to bone cement

Such complications may be higher in patients with co-existing medical conditions.

After Surgery

Patient will be moved to a recovery area before being transferred back to the ward. A wedge (triangular pillow) may be placed between the patient's legs after a hip surgery. Oral medications and injections are often used to manage pain. It is normal for the patient to feel some giddiness or nausea after surgery, but medication can help him/her to feel better. At times a catheter is used to help the patient pass urine. It will be removed as soon as the patient is mobile.

Post-surgery Exercises

The following exercises are recommended once every one to two hours daily. A member of the Physiotherapy or Nursing team will guide the patient along.

- **Deep Breathing**
  Take deep breaths slowly through the nose and exhale through the mouth. Repeat two to three times. Let out a strong cough to clear the chest.

- **Ankle Exercises**
  Flex the feet up and down for five to ten times and make circles at the ankles to improve blood circulation in the legs.
- **Muscle Contractions**
  Press the back of the knees into the bed and squeeze the buttocks three to five times to work the muscles and promote blood circulation to the legs.
- **Hip and Knee-Bending**
  Bending the knees one at a time, the patient slides his/her foot up and down the bed. It may be painful at first, but keep trying and it will get easier.

Precautions

For the first six weeks:

- Do not sit, lie down or stand with the legs crossed.
- Do not sit on low stools or bend to reach for anything beyond the knees. The maximum bend at the hip should be 90 degrees.
- Keep the hips higher than the knees when sitting. If there is a need to lean forward, make sure the operated leg is in front of the body, and the knee is lower than the hip.
- Avoid lying on the operated side. You can lie on the operated side once the wound has healed.
- Avoid twisting the operated leg when sitting, standing or lying down.

Keep the height of chairs, beds and toilet seats one to two inches above the bend/crease at the back of the knee.

Osteoporosis Treatment

Osteoporosis patients are at higher risk of fractures after a fall. Treatment is recommended to strengthen the bones and prevent another fracture. Blood tests and a Bone Mineral Density scan will be taken for baseline measurements to formulate a suitable treatment plan.

Wound Care

Do not allow the dressing to get wet when the patient showers. Stitches and skin staples used during the surgery will be removed two weeks later.

Signs of infection in the wound:

- Increasing pain around the wound or leg
- Redness, swelling or tenderness
- Drainage or discharge from the incision or wound opening
- Fever higher than 38ºC
- Increasing difficulty in walking

Diet and Medication

- There is no special diet or fluid restriction unless instructed by your doctor.
- Eat a balanced diet and drink plenty of fluids.
- Take your medication as prescribed by your doctor.

Getting Dressed

To help you dress safely, equipment like a long-handled reacher may be recommended during your inpatient stay. When dressing, put the leg of the operated side in first. When undressing, remove the clothing on the leg of the operated side last.

Ambulation

A therapist will assess the patient's ability to walk without crutches or a walking frame and guide him/her in exercises to:

- Improve movement, control and strength of the hip and legs
- Transfer in and out of a bed/chair safely
- Correct the patient's walking gait
- Navigate stairs or steps with confidence

What can you do to prevent potential complications?

- Ensure sufficient fluid intake. Take at least six to eight glasses of fluids a day.
- Eating more fibre (whole grains, fruits, vegetables and beans)
- Deep breathing/coughing exercises
- Use of incentive spirometer (a breathing device that expands the lungs by helping one to breathe deeper and fuller)
- Pressure relief exercises
- Ankle pump exercises and early mobilisation
- Anti-embolic stocking or calf pump
- Avoiding long periods in bed which slow down bowel movement
- Avoiding self-medicating with oral laxatives
- Improving his/her bowel routine

Non-surgical Management

For a minority of patients, surgery may not be suitable. Such patients will be managed conservatively.

Patients and caregivers are taught how to use a wheelchair and make appropriate transfers with it. The patient may also be referred to a pain specialist for consideration of a nerve block to keep the patient comfortable.

Risks of Non-surgical Management

For some, long periods of bed rest may cause:

- Chest infection
- Urinary tract infection
- Constipation from lack of fibre, poor fluid intake and inactivity
- Pressure ulcers (bedsores)
- Deep vein thrombosis (blood clot in the vein of legs)
- Pulmonary embolism (displaced blood clot obstructing the flow of blood to the lungs)
- Higher risk of mortality within a year
- Likely not be able to walk again

Managing Hip Fracture at a Community Hospital

- The hip fracture patient will be managed by a multi-disciplinary team comprising of various medical professionals who will provide coordinated care to the patient from day one of the admission.

- Patients who are deemed suitable based on the team's assessment may be referred and subsequently transferred to a Community Hospital if required.

- Based on your needs and the team's assessment, you may be transferred to a community hospital – **Jurong Community Hospital (JCH)** or **St Luke's Hospital (SLH)** for continued care of your condition.

Jurong Community Hospital (JCH)

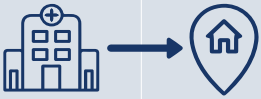
St Luke's Hospital (SLH)

The Patient's Journey

Patients admitted to the acute hospital for hip surgery will be offered the option to receive step-down rehabilitation care at the community hospital after discharge. Your care team at the community hospital will be able to access a common clinical data and work seamlessly for your optimal recovery.

<table>
<tr><th colspan="4">1 – 2 weeks stay at acute hospital</th></tr>
<tr><th colspan="3">Week 1</th><th>Week 2</th></tr>
<tr><td>1. Patient comes to A&E with intense hip pain.
  </td><td>4. After admission, a specialist-led care team assesses and discusses suitable treatment options with the patient/family.</td><td>7. Surgeon performs hip surgery in the operating theatre.This is usually performed as early as possible, usually within 48 hours if the patient is optimised.</td><td>10. A transfer to the community hospital may be arranged once the patient's condition is stabilised.
  </td></tr>
<tr><td>2. Doctor diagnoses the condition as hip fracture.
  </td><td>5. The Hip Fracture Integrated Care Pathway (ICP) Programme will be introduced if the patient is suitable for hip surgery.
  </td><td>8. A multi-disciplinary team from the Hip Fracture ICP Programme will continue to monitor and manage the patient's progress.</td><td></td></tr>
<tr><td>3. Doctor admits patient to the ward for treatment/ surgery</td><td>6. A financial counselling team may be able to provide the estimated costs of surgery and hospital stay.</td><td>9. Therapists provide patient with rehabilitative services</td><td></td></tr>
</table>

Through close collaboration, acute and community hospitals share a single electronic medical record and expertise to improve patient care. This further ensures care extends beyond inpatient stays.

<table>
<tr><th colspan="3">3 – 4 week's stay at community hospital (CH)</th><th>Post-discharge</th></tr>
<tr><th>Week 2-3</th><th colspan="2">Week 3-4</th><th>Week 5 Onwards</th></tr>
<tr><td>11. At the CH, therapists continue to care and provide rehabilitative services to the patient.
  </td><td>14. CH will provide day rehabilitation and programmes to help rehabilitate patients, preparing them to be reintegrated into the community.</td><td>17. Patient is discharged from the CH.</td><td>18. Patient attend follow-up outpatient visits for:
• Day rehabilitation
• Doctor's consultation</td></tr>
<tr><td>12. Doctors and nurses continue to provide care for the patient.
  </td><td>15. Caregiver training will be provided.</td><td colspan="2">  </td></tr>
<tr><td>13. Wound care will be provided for surgical and other wounds.
  </td><td>16. Home assessments will be provided to reintegrate patients well back home.
  </td><td colspan="2"></td></tr>
</table>

Hip Fracture Integrated Care Pathway (ICP) Multi-disciplinary Team

The Hip Fracture ICP multi-disciplinary team comprises orthopaedic surgeons, ortho-geriatricians, family physicians, allied health professionals, nurses, medical social workers, and in some instances, case managers and care coordinators providing coordinated care to the patient from day one.

During a patient's hospital stay, the multi-disciplinary team provides:

- Medical care
- Wound care
- Psychosocial and emotional support
- Physio- and occupational therapy
- Home/community integration (if required)
- Financial assistance (if required)
- Referral to day rehabilitation centre or home therapy service

In some instances, during your hospital stay, a Case Manager or Care Coordinator will be assigned to you.

Case Managers (NTFGH-JCH):

- Coordinates care during the patient's hospital stay
- Performs screenings
- Makes follow-up calls every 6 and 12 months
- Serves as a point of contact for clarifications

The NTFGH Case Manager can be reached at **JHCampus_hip_fracture_casemanager@nuhs.edu.sg** on weekdays from **8am to 5pm** (except Public Holidays)

Care Coordinator (SLH):

Patients will be assigned a care coordinator who will provide post-discharge care coordination and case management service to support the patient's reintegration back into the community and to enhance coping skills at home.

Post Acute Continuing Care at Community Hospital

Through close collaboration, acute and community hospital share the same clinical information and expertise to improve patient care. Partnering healthcare providers in the healthcare continuum further ensures care extends beyond inpatient stays and within the community.

Inpatient Rehabilitation

A dedicated multidisciplinary team of doctor, nurses, therapists, medical social workers, dietitians, chaplains and care-coordinators will provide comprehensive care, to help you recuperate and transit smoothly from hospital back to home.

The therapists will conduct in-depth assessments to customise rehabilitative exercises for each patient. These are done to maximise a patient's functional recovery and lower his/her dependence on caregivers after discharge.

Rehabilitation Care

- Strengthening, balance and gait training
- Fall prevention strategies
- Activities of daily living and community/home integration training
- Walking and adaptive aids prescription
- Motorised wheelchair training (where suitable)

Medical Care

- Continued care by community hospital's doctors with access to specialist consultants where needed.

Wound Care

- Access to wound treatment and technology
- Wound care education to facilitate healing

Nutrition Care

- Optimise nutrition to improve recovery
- Dietary counselling, as needed, to address any existing medical condition and prepare you for home

Outpatient Rehabilitation

Upon discharge, you may be recommended to join the outpatient rehabilitation programme at the hospital's day rehabilitation centre facility that is equipped with comprehensive equipment where our therapists will continue to support you in your rehabilitation journey and help you to reintegrate back into the community.

Your therapy sessions will be made up of the following training components:

- Strength
- Flexibility
- Cardiovascular endurance and
- Balance

The therapy session can be individual and/or group sessions.

JCH Mobility Park


JCH LIFE Hub


SLH Day Rehabilitation Centre

Community Integration Programme
Regain and reinforce the skills needed to participate in activities at home through a personalised training plan.

Vocational Rehabilitation
Prepare to return to work activities through a personalised training plan.

Motorised Device Training
Assess and account for clients' abilities, needs and preferences before recommending suitable personal mobility device (PMD) from the range of devices available. Clients will be trained to use PMD safely and independently over different terrains at home and in the community.

Discharge

Before discharge, occupational therapists will review a patient's ability to clean and dress themselves independently. They may also prescribe home aids to help a patient cope with day-to-day tasks.

After discharge, prevent complications with these tips:

- Do not sit in bed for long periods
- Practise deep breathing
- Drink six to eight cups of fluid a day
- Eat more fibre (whole grains, fruits, vegetables and beans)
- Sleep on a pressure-relieving mattress

Home Care Advice

Your caregiver will be trained to help and care for you. Please inform your doctor or nurse as soon as possible if your family members are working or if you do not have a caregiver. The coordinator or medical social worker will be able to assist in developing a care plan or link you to community services for continued care.

Physical Activities

- Some patients may need to use a wheelchair while waiting for their bones to heal. Thus, you may require some help in your daily activities such as showering, dressing and toileting.
- You may require a wheelchair for about six to eight weeks after injury. Your doctor will inform you on when you will be able to start walking and refer you to a physiotherapist.
- Use assistive devices for daily tasks at home as recommended by your occupational therapist/physiotherapist.
- If you are able to walk, take a few short walks each day and increase your walking time as you recover.
- Continue exercising at home to strengthen your muscles and gradually increase your level of activities as you recover.
- You may be able to resume driving two months after your hip surgery. Seek your doctor's advice before starting any new sport or activity.

Home Environment

- You are advised to sit on a chair of increased height. One with back support and armrests is also recommended.
- Fall prevention is important. Remove long cord/cables and loose rugs. Watch out for slippery/wet floors or uneven surfaces.

Our Patient Care Institutions

National University Hospital
Ng Teng Fong General Hospital &
Jurong Community Hospital
Alexandra Hospital
National University Polyclinics
Jurong Medical Centre
National University Cancer Institute, Singapore
National University Heart Centre, Singapore
National University Centre for Oral Health, Singapore
NUHS Diagnostics
NUHS Pharmacy

Scan the QR code for more information on our patient care institutions.

OneNUHS Hotline: (65) 6908 2222
OneNUHS General Enquiries: contactus@nuhs.edu.sg
OneNUHS Appointments: appointment@nuhs.edu.sg
www.nuhs.edu.sg

St Luke's Hospital
2 Bukit Batok Street 11
Singapore 659674

OneNUHS APP
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Take charge of your health and access health information and services across NUHS institutions.

Information is correct at time of printing (July 2023) and subject to revision without prior notice.