NEW ZEALAND ORTHOPAEDIC ASSOCIATION

TOTAL HIP JOINT ARTHROPLASTY

GOOD PRACTICE GUIDELINES

September 2014

These Guidelines have been approved by the New Zealand Orthopaedic Association and are based on similar guidelines developed by the British Orthopaedic Association. They are designed primarily for public hospital practice.

1. INDICATIONS FOR SURGERY

The indications for surgery are significant pain and disability usually with accompanying radiological changes at the hip, in patients where non-operative treatment has failed or is futile.

2. OUTPATIENT CONSULTATION

2.1

Patients should be seen by a vocationally registered Orthopaedic Surgeon or Trainee in conjunction with the Surgeon, who can discuss the operative management of hip arthritis. An appropriate time should be allowed for the first consultation.

Patients should be seen on referral from their general practitioner.

2.2.

A confidential environment with access for relatives and the reliable availability of notes and x-rays are needed for the consultation.

2.3

After clinical examination and general medical assessment the Consultant should provide the patient with an explanation of the problem in understandable language and discuss the available treatment options.

2.4

The Surgeon should then offer information on the risks and benefits of any suggested treatment and the outcomes of performance of any proposed hip replacement preferably in the Surgeons hands. The precise reasons for the operation should be given and informed consent obtained.

3. WAITING LIST MANAGEMENT.

3.1

It is accepted that there will usually be a delay before elective surgery can be carried out. Consultants are expected to manage their waiting lists ethically and patients should be admitted for surgery according to clinical priority and social circumstances. The prioritisation of patients on waiting list should be carried out according to an accepted and transparent scoring system.

4. PRE-OPERATIVE ASSESSMENT.

4.1

A managed system of pre-operative assessment is recommended as good practice.

Assessment should take place within six weeks of surgery.

4.2

Pre-operative assessment clinics staffed by Doctors and Clinical Nurse Practitioners with the ability to involve Anaesthetists and Physiotherapists and Occupational

Therapists reduce the risk of cancellations, identify co-morbidities and allow discharge planning. This is also an opportunity for patient education.

4.3

Routine investigation of blood, urine, blood pressure and an ECG are best carried out at the pre-operative assessment.

4.4

Provisional discharge planning should take place in the pre-operative assessment clinic.

The planning takes into consideration age, co-morbidity's, home circumstances and the availability of carers after discharge.

4.5

Access to appropriate rehabilitation beds should be available particularly for the elderly and the more severely disabled.

5. ADMISSION TO HOSPITAL

5.1

The patient should be admitted to hospital with sufficient time before their hip replacement to allow pre-operative and pre-anaesthetic procedures to be completed.

The limb for operation should be marked in an area that is still visible after draping, initialled by the Surgeon who is carrying out the operation and an explanation of anaesthesia given by the anaesthetist involved.

5.2

The patient must give consent to the operating surgeon. This may be given at the Outpatient consultation, a pre-admission clinic or in the Ward.

6. THE SURGEON

6.1

The surgeon carrying out total hip arthroplasty should be vocationally registered with the New Zealand Medical Council as an Orthopaedic Surgeon and have appropriate training in total hip arthroplasty. The surgeon should participate and comply with requirements of the relevant CPD program.

6.2

Vocationally registered Consultants must supervise total hip replacement operations performed by Surgeons in training. The level of supervision should be according to the experience of the trainee. In the absence of consultant supervision, prospective arrangements must be made for on-site consultant cover.

6.3

The operation requires an anaesthetist with the appropriate skills and techniques for total hip replacement.

7. RECORD KEEPING AND THE OPERATION NOTES

Clinical Records

7.1

Good records are a basic tool of clinical practice and should be typed.

7.2

The records must include the name; date of birth and address of the patient and the referring general practitioner should be identified. The hospital number should be clear.

The hospital and surgeon with the responsibility of care should be named.

7.3

The admission note should record the general medical condition of the patient as well as fitness for operation. It should contain a clinical history, the full clinical examination findings, pre-existing medical history and all current disabilities. The purpose of the operation should be stated. All medication should be listed.

7.4

An explanation of the proposed procedure as well as the risks and benefits should be recorded. The implant intended should be explained to the patient together with the success and failure rates of the implant. The operating surgeon should normally complete the consent form with the patient. If this is done in outpatients, only a short delay should take place before the surgery is undertaken.

Operative and Post-Operative Records

7.5

It is best practice that operative notes be made in writing or dictated for immediate typing and signature by the operating surgeon. If a pre-arranged pro forma is being used the operating surgeon should personally complete the pro forma.

7.6

A record of the operation should be made immediately following surgery and should include:

- The name of the operating surgeon, assistants and the name of the consultant responsible.
- The diagnosis made and the procedure performed

- Description of the findings
- Details of tissue removed, altered or added
- Details of serial numbers of prostheses and other implanted materials
- Details of bone grafting
- Details of sutures used
- An accurate description of any difficulties or complications encountered and how these were overcome.
- Immediate post-operative instructions
- The surgeon's signature and date of operation

Data forms for the National Joint Register must be checked for completeness and signed by the Surgeon before he/she leaves the operating theatre

7.7

The Anaesthetic record, signed by the anaesthetist, should contain:

- The name of the anaesthetist and, where relevant, the name of the consultant
- anaesthetist responsible.
- Pre-operative assessment by the anaesthetist, and the date the assessment was performed
- Drugs and doses given during anaesthesia and route of administration
- Type and site of any regional anaesthetic used
- Monitoring data
- Intravenous fluid therapy, if given
- Post-anaesthetic instructions
- The anaesthetic record should be filed with the clinical notes

7.8

Progress after operations, including early complications, should be listed. The date of discharge and arrangements for continuity of care should be recorded.

7.9

It is accepted that all notes should be contemporaneous and should not be altered; errors should be identified. Orthopaedic records within general hospital records should be easily identified within the case notes.

7.10

Follow-up notes should allow another doctor to assume the care of the patient at any time.

- All doctors referred to in an entry must be identified by name and designation

- Details of written and verbal information given to general practitioners, patients, relatives and carers, whether at admission or later, must be recorded
- Details of all investigations considered and whether the investigation has actually been requested should be noted
- Ideally, at least one entry every day recording the patient's progress
- An entry where the management of the patient is changed or when there is an additional procedure
- An entry should be made whenever a doctor is called to see a patient

7.11

All patients should have a good quality antero-posterior and lateral radiograph of the hip, ideally before discharge from the hospital

7.12

There should be an agreed protocol for the retention of all documents and x-rays.

8. THE CHOICE OF IMPLANT AND MODE OF FIXATION OF THE PRIMARY TOTAL HIP REPLACEMENT

8.1

Selection of the hip prosthesis for general use should normally be based on evidence published in peer-reviewed journals and or Joint Registries. A clinical follow-up of more than 10 years with a published life table and survivorship curve calculated according to best statistical practice are recommended criteria in support of the use of a particular hip prosthesis.

8.2

In the absence of peer reviewed evidence of outcome to ten years, a device must be subject to ongoing surveillance and preferably be part of a properly conducted controlled prospective trial. The use of such devices should have ethical approval.

8.3

As health resources are limited each department should have a policy of rational use of prostheses to ensure the most efficient use of the resource. The Surgeon is free to select the implant he or she feel is most appropriate for the individual patient.

9. PROPHYLAXIS AGAINST VENOUS THROMBOSIS AND PULMONARY EMBOLISM

9.1

It is well recognised that thromboembolism does occur after primary total hip replacement but there is still some debate regarding the precise incidence of this complication. Recent evidence suggests that the prevalence of fatal pulmonary embolism, even in the absence of chemical prophylaxis, is very low, and much lower than quoted in historical papers.

9.2

There is no doubt that deep venous thrombosis occurs fairly commonly after primary total hip replacement and can be demonstrated, by venography, in between 30 and 60% of cases at any level and 10 to 20% of cases proximally. Only a few of these develop a clinical event causing death or morbidity.

9.3

There is no good evidence to suggest that the use of chemical prophylaxis reduces either overall mortality or fatal pulmonary embolism. Furthermore, in contemporary practice, total hip replacement should be regarded as moderate risk for death from pulmonary embolism. Chemical prophylaxis may reduce the risk of non-fatal pulmonary embolism, but rigorous scientific evidence is not available. There are usually no long-term sequelae from this condition.

9.4

There is, however, strong evidence for the effectiveness of low dose Heparin, low molecular weight Heparin and Warfarin in reducing radiological DVT by 40 to 60%, but death from other causes may be increased. There was also considerable concern regarding possible bleeding complications, which may put the total hip replacement at considerable risk.

9.5

The surgeon should consider current evidence and advise the patient appropriately.

9.6

Under normal circumstances, early mobilisation (24 to 48 hours) after surgery should always be considered, as should the use of mechanical methods of reducing deep venous thrombosis although rigorous scientific evidence that these are effective is also lacking. These are, by and large, free of significant side effects.

10.PROPHYLAXIS AGAINST INFECTION

10.1

Patients, prior to hip replacement, should be clinically screened for active infection.

10.2

All patients should receive an intravenous broad-spectrum antibiotic at induction of anaesthesia and for the first 24-36 hours after the operation.

10.3

The use of gentamycin-impregnated bone cement in combination with systemic antibiotics further reduces revision burden for orthopaedic departments.

10.4

Catheterisation in the peri-operative period should be covered by the administration of an appropriate antibiotic.

11.SURGICAL TECHNIQUE

11.1
Any approach to the Hip Joint which allows a 360^{o} view of the face of the acetabulum and the delivery of the proximal femur into the wound is acceptable.

11.2

Minimally invasive total hip replacement techniques are not recommended as routine at this stage. Surgeons using this technique should do so as part of a properly conducted controlled respective trial.

11.3

The recognised complications of particular approaches must be explained to the patient.

11.4

For cemented total hip replacement the bone surfaces should be cleaned irrigated and dried before the introduction of bone cement. The bone cement is introduced when viscous and pressurised before introducing the component.

11.5

On the femoral side it is generally accepted that the intramedullary canal should be plugged and the cement introduced retrogradely with a gun. Techniques to centralise the stem in the cement mantle are an important technical adjuvant.

11.6

For cementless total hip replacement, adequate preparation of the bone and stable fixation of the implants must be achieved at operation.

11.7

Surgeons should ensure the integrity of the hip abductor mechanism and the iliotibial and at the end of the operation.

11.8

Efforts should be made to ensure leg length equality employing techniques such as preoperative templating and trial reduction intra-operatively and/or Burns leg length device. It is acknowledged that leg length equality cannot be achieved in every case.

11.9

Every attempt should be made to ensure stability of the hip joint by correct implant selection, appropriate bone resection and an assessment of soft tissue tension.

12.THE FOLLOW-UP OF PATIENTS AFTER TOTAL HIP REPLACEMENT

12.1

The follow-up arrangements that surgeons and hospitals make for total hip replacement patients vary across New Zealand.

12.2

Primary total hip replacements may fail between five and ten years and many more will fail after ten years. For best practice, patients should be followed up clinically and radiologically in the longer term. For uncomplicated total hip replacements follow-up appointments should occur at six weeks and at one year, with longer-term follow-up being at two yearly intervals with functional assessment and AP and lateral x-ray. This longer-term follow-up is most appropriately done by a Clinical Nurse Practitioner, under the supervision of the Orthopaedic Surgeon.

12.3

Failure from aseptic loosening of a hip replacement is often silent ñ the patient does not complain. Regular follow-up identifies the patient at risk of progressive failure. Exchange or revision operations should be planned and performed before massive bone destruction occurs. The latter situation makes a subsequent operation more formidable, more demanding of resources, and less likely to succeed. Revision operations are much less successful than primary hip replacements.

12.4

All patients undergoing Total Hip Replacement in New Zealand should be entered in the New Zealand Joint Register.