BRITISH HIP SOCIETY

BHS SURGICAL STANDARD

Revision of the Unstable Hip Arthroplasty

Background

Instability following hip arthroplasty is a challenging clinical problem and a leading cause of re-operation. Optimising outcomes for patients require both detailed assessment and investigation with the support and co-ordination of multi-disciplinary team (MDT) care.

Inclusion

This guidance applies to all patients with a hip arthroplasty (hemi, total or revision) with instability requiring revision.

Organisation & Referrals

1. All patients requiring revision for recurrent dislocation should be managed by a consultant with a special interest and fellowship training in hip arthroplasty.
2. An MDT discussion on management is recommended for every patient presenting with an unstable hip supported by a co- ordinator and appropriate administrative staff. Second opinions are encouraged.
3. Units undertaking the surgical management of patients with unstable hip replacements must be part of a revision network. Complex and re-revision cases for instability should be routinely discussed at a regional network MDT.
4. Surgeons carrying out revision for instability should have appropriate training and experience, and dual operating should be facilitated when required.
5. Pathways are required to facilitate the management of patients presenting in acute settings (e.g. failed or unstable closed reduction).

Assessment & Investigations

6. Appreciate that hip instability is multi-factorial so assessment and documentation should consider:
    a. Patient factors (pre-existing risk factors for instability and mechanism of dislocation events)
    b. Surgical factors (e.g. previous surgical approach, restoration of offset)
    c. Implant design (e.g. head size, skirted heads/liner)
    d. Implant orientation (appreciating the limitations of historical perceived “safe zone”)
    e. Soft tissues factors (local e.g. abductor status, trochanteric non-union & general e.g. hypermobility)
7. Clinical examination in particular assessment of LLD and abductor function, spine and contra-lateral hip.
8. Standards of care commonplace to all revision surgery are mandatory (e.g. assessment of co-existent PJI).
9. Both acetabular and femoral component position should be established. This is achieved using a combination of imaging that can include radiographs / CT scans / EUA.
10. Abductor/soft tissue evaluation using MRI MARS may be helpful.
11. Consideration of spinopelvic orientation and appreciate there is emerging evidence in this area.
12. Intra-operative assessment using Image intensifier should be available.

Management

13. A treatment plan should be developed through an MDT and pre-operative planning/templating should be undertaken and recorded.
14. Standards of peri-operative management commonplace to all revision surgery are mandatory (e.g. pre-op optimisation, blood management protocols, VTE prevention and when necessary critical care support).
15. Braces have a very limited role in the definitive management of hip instability.
16. Fundamental principles in revision for instability are optimisation of **component position** and **hip biomechanics** to avoid impingement in association with appropriate enhanced stability bearing selection.
17. Surgical considerations include:
    a. **Isolated modular exchange** – limited role, considered when pre-operative investigations confirm satisfactory functional component position of both socket & stem with modular options available.
    b. **Single component revision** – when investigation reveals only one component is mal-positioned and component compatibility is possible.
    c. **Both component revision** – to address mal-position of socket & stem and/or optimise biomechanics.
18. Enhanced stability bearing options – selection is driven primarily by individual patient risk factors for instability & soft tissue factors in particular abductor deficiency.
    a. **Large head size** – default setting should be to optimise head size.
    b. **Dual mobility** – of greatest utility in high-risk patients and moderate soft tissue deficiency. Modular designs with CoCr liners remain unproven in the longer term with regards to the generation of metal debris.
    c. **Constrained Liner** – overwhelmingly a salvage option, reserved primarily for severe soft tissue deficiency and frail patients. Important to ensure when utilised component orientation is optimised.
19. Outcomes and complications should be recorded and subject to audit and feedback to the MDT