

**Patient Pathway  
Evidence Tables**

**Orthopaedics  
Subgroup: HIP & PELVIS**

<i>Author</i>	<i>Year</i>	<i>Study type</i>	<i>Population</i>	<i>Summary of Paper</i>	<i>Comments</i>
NICE	2003	Evidence based Referral Advice	UK	<p><b>Osteoarthritis of the hip</b></p> <p>Osteoarthritis of the hip presents with pain, stiffness, a reduced range of movement and occasionally a feeling that the joint will give way.</p> <p>The pain, which is typically felt in the groin and also sometimes in the thigh and knee, may be sharp and brought on by particular movement or activity (climbing stairs, standing up). It may also present as a dull ache occurring particularly after activity, or during the night. Pain may be exacerbated by minor trauma such as a knock or a fall. Stiffness tends to be worse after periods of immobility, and usually improves for a while with use. Findings on examination will include a painful restriction of hip movement. Osteoarthritis is not associated with systemic illness. Osteoarthritis is common and its prevalence increases with age. In most patients with radiological changes, symptoms are not sufficiently troublesome to prompt a general practice consultation. In some patients symptoms may be intermittent but in others they can be relentless and debilitating. The underlying joint changes of osteoarthritis are generally irreversible and management aims at relieving symptoms and reducing disability. In the NHS in England and Wales, around 39,000 primary hip replacement operations were undertaken in 1999/2000.</p>	See <b>Appendix 1</b> for Referral Advice
Referral guidelines for imaging	2001	Evidence based and Expert Opinion Guidelines	UK & Europe	Adapted by experts representing European radiology and nuclear medicine In conjunction with the UK Royal College of Radiologists.	See <b>Appendix 2.</b>

Draft Referral and Follow-up Pathways	2004	Expert Opinion based on Modernisation Agency documents	UK	<p>Examining three Pathways: hip and knee replacement; arthroscopy; and wrist and hand (common minor procedures)</p> <p><b>Hip and Knee pathway</b>  Hip and knee replacements represent the single largest consumer of resources in orthopaedics on account of the number of patients presenting each year who are in need of this treatment. Also, the treatment regime as practised by the majority of consultants at HOSPITAL A requires that patients are followed up for 10 years following surgery in 5 follow up appointments.  Some consultants follow up their patients 7 times over the 10 years post surgery, whilst others follow up three times in the first year and then discharge the patient.</p> <p>A recent initiative aimed at reducing the follow up workload for consultants has used a physiotherapist to undertake routine follow-ups. To date this experiment has been well received and there are plans to expand the initiative in the future. Currently the physiotherapist sees around 8 patients per clinic, (approximately, 1 in 3 of the followup appointments booked for the clinic), if the physiotherapist detects complications the patient can be also seen by the consultant in the same clinic.</p> <p><b>Arthroscopy Pathway</b>  In 2002/3, the majority of patients on this pathway (554) have routine arthroscopies that are followed up once, usually 2 weeks after the operation, the majority of patients are then discharged; 99 patients had ligament operations, these require careful rehabilitation and are followed up 3 times over a nine month period. Other hospitals adopt slightly different follow up practices. For example, physiotherapists undertake routine arthroscopy follow-ups at the Hammersmith Hospital. At Torbay, follow up protocols have been developed which mean that follow ups are now the exception. In Stockport and Ascot routine follow-ups are now undertaken in PCT's by extended scope practioners. There may be some scope for HOSPITAL A to adopt similar practices. There is no information on any changes in the follow up practice for ligament patients, the British Orthopaedic Association make no precise recommendations, though do comment that most patients are discharged between six months and one year post surgery. It has been assumed that one of the follow-up appointments could be undertaken in the same manner as arthroscopy follow ups; the remaining 2 follow up appointments will be undertaken by the consultant.</p> <p><b>Hand Pathway</b>  The current pattern of follow up treatment for the routine minor conditions requires only one or two follow up appointments. Hence if any savings are to be found in consultant time, follow-up appointments must either be omitted or undertaken by physiotherapists. There are examples of such practices at other hospitals. For example, follow up protocols have been developed in Torbay and follow ups are now the exception; follow ups are undertaken by nurses and physiotherapists at Leicester,</p>	See <b>Appendix 3</b> for proposed changes and new Hip pathway
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				<p>Ascot and Chelmsford. In Stockport, follow-ups are undertaken by primary care GPs and extended scope practitioners.</p> <p><b>Orthopaedics conclusions</b></p> <ul style="list-style-type: none"> <li>• Orthopaedics clinics already provide many consultations on a one-stop basis. There is scope to expand this, particularly if the DTC were to provide an additional MRI scanner.</li> <li>• Orthopaedic outpatient treatment involves a large number of consultant follow-up appointments, there is scope to reduce the number of follow-ups and to transfer much of this work to physiotherapists.</li> <li>• Initially, it is envisaged that physiotherapists could undertake this work in clinics in the acute sector. In the longer term, it may be possible to transfer some of this work to PCTs.</li> <li>• The DTC may offer the opportunity to improve the treatment for trauma patients, it may be possible to expand the provision of planned trauma day case sessions and the treatment of acute knee and soft tissue injuries.</li> </ul>	
Bhatia, M. and Obadare, Z.	2003	Review of Medical Records	UK Medical records of 100 consecutive patients who underwent hip and knee replacements (56 hips and 44 knees) in 1997-98.	<p><b>An Audit of the Out-patient Follow-up of Hip and Knee Replacements</b></p> <p>Out-patient follow-up appointments with regard to post-operative complication and intervention based on clinical and radiological assessment.</p> <p>Of the 100 patients in the study, 78 were asymptomatic throughout the follow-up. Of the 22 patients who had some kind of problem, only 10 needed an intervention. Out of these 10 patients, 3 had problems which justified their out-patients follow-up visits. Most of the problems requiring an intervention were observed at the first out-patient appointment.</p>	The authors recommend that the post-operative out-patient appointment of patients with hip and knee replacements should be restricted to a visit at 6-12 weeks followed by discharge if no problems are anticipated.
Veysi et al.	1998	Survey of 33 Consultants	UK	<p><b>Out-patient follow-up after total hip replacement in one health region.</b></p> <p>A postal survey was carried out of all orthopaedic surgeons in the West Yorkshire Health region enquiring about out-patient follow-up practices after total hip replacement. Follow-up is advised to detect problems that can more effectively be resolved if detected early. A huge variation in the number, timing and nature of appointments following discharge was demonstrated. The total length of follow-up varied between 3 months and indefinite follow-up. The number of visits in the first post-operative year varied between one and four. The considerable variation in post surgery follow-up of these patients has important cost implications. Some patients will have unnecessary appointments whereas others will be inadequately reviewed.</p>	Guidance is required on the appropriate review of these patients which will allow early detection of joint failure in a way that is efficient in terms of the time and cost of out-patient follow-up.
Bierma-Zeinstra, et al	2002	Cohort study	Netherlands 220 consecutive patients referred by GP for	<p><b>Joint space narrowing and relationship with symptoms and signs in adults consulting for hip pain in primary care.</b></p> <p>OBJECTIVE: To study whether clinical symptoms and signs can predict radiological osteoarthritis (OA) of the hip in primary care patients with hip pain.</p>	CONCLUSION: In primary care patients with hip pain, clinical symptoms and signs can to a moderate extent predict radiological

			radiological examination	Radiological OA (joint space $\leq$ 2.5 mm) of the (more) symptomatic hip was present in 35.5% of the study population and more severe OA (joint space $\leq$ 1.5 mm) in 11.4%. Presence of 4 specific symptoms/signs from history and examination showed a positive predictive value (PPV) of 73% (specificity 91%, sensitivity 45%) for radiological OA. When 5 specific symptoms/signs were present, the PPV for the more severe radiological OA was 82% (specificity 98%, sensitivity 72%), and when 6 or 7 specific symptoms/signs were present the PPV was 100% (specificity 100%, sensitivity 40% and 8%, respectively). Negative predictive values were high for almost all combinations.	OA and to a large extent more severe radiological OA.
Birrell et al.	2003	Prospective multicentre cohort study	UK 195 pts (mean age = 63 years, 68% female) with new episode of hip pain, attending primary care between November 1994 and October 1997	<b>Predictors of hip joint replacement in new attenders in primary care with hip pain.</b> AIM: To determine the incidence of listing for total hip replacement, and its predictors, among attenders in primary care with a new episode of hip pain. METHOD: General practitioner participants were recruited from the membership of the Primary Care Rheumatology Society to recruit all consecutive attenders with a new episode of hip pain. Annual follow-up was carried out to determine which patients were being 'put on a waiting list' for total hip replacement. RESULTS: Seven per cent of patients were put on a waiting list for total hip replacement within 12 months and 23% of patients within four years. At presentation, pain duration, pain severity, (including the need to use a stick) and restriction of internal rotation were the major clinical predictors of being put on a waiting list. Radiographic predictors of osteoarthritis performed similarly to the clinical measures. A simple scoring system based on both radiographic severity and two of the clinical measures was derived that identified groups at high likelihood of being put on a waiting list (sensitivity = 76%) with a low false-positive rate (specificity = 95%).	CONCLUSION: New primary care attenders with pain are frequently accepted for total hip replacement soon after their first attendance--a decision that can be predicted by simple clinical measures.
Khan and Woolson	1998	Case Series	USA	<b>Referral patterns of hip pain in patients undergoing total hip replacement.</b> This study was undertaken to determine the most common referral patterns of hip pain in patients scheduled to undergo primary and revision total hip replacement. The exact location of pain from the hip was recorded prospectively for 323 patients (358 hips) who had primary total hip replacement and for 94 patients who had revision of a loose total hip. Seventy-three percent of patients with primary hip disease had pain in the groin, and 27% had groin pain that referred to the knee. Eighty-nine percent of 57 patients who had femoral component loosening had thigh or knee pain, and all of the 34 patients who had a loose acetabular component with a well-fixed femoral implant had pain in the hip region without distal radiation of pain.	These results indicate that in patients who have a painful total hip, thigh pain is highly suggestive of femoral component loosening and pain located around the hip region that does not radiate distally is associated with isolated acetabular component loosening.
Offredy	2002	Scenario analysis	UK 11 general practitioners and 11 nurse practitioners	<b>Decision-making in primary care: outcomes from a study using patient scenarios.</b> BACKGROUND: Various documents emphasize the importance of new roles and new ways of working to modernise delivery of health service and improve the public's health. In particular nurse practitioners are seen as crucial in the modernization process.	CONCLUSIONS: The research adds to existing evidence that encourages health care providers to use nurse practitioners more flexibly and to develop service-based approaches to the delivery of

				<p>AIM: This paper reports the outcomes of a study conducted in 1998 to ascertain the differences, if any, in the decision-making processes of nurse practitioners and general practitioners for diagnosis and treatment when given the same patient scenarios.</p> <p>METHODS: Information processing theory together with 'think aloud' approach were used to understand the cognitive processes of the 22 participants.</p> <p>RESULTS: There were more similarities than differences in the decision-making processes of the two groups. Hypothesis evaluation appears to be the critical component in the decision-making process. Explanations given by the two groups at the end of their 'think aloud' procedure justify their diagnoses and treatment/management plans.</p>	<p>health care as set down in government policies. It also adds to the body of literature using information processing theory because it demonstrates that the two groups use similar decision-making processes to arrive at similar diagnoses and treatment options.</p>

## Primary care

Initial management strategies for patients with osteoarthritis of the hip include reassurance and patient education, weight reduction in patients who are obese, walking aids, help with patient-specific exercise programmes, and assessment and advice on cushion-soled footwear.

Drug treatment typically includes courses of simple analgesics or non-steroidal anti-inflammatory drugs.

If the patient has had a hip X-ray, a copy of the report should be enclosed with any subsequent referral letter.

## Specialist services

These are in a position to:

- confirm or establish the diagnosis
- provide management advice coupled with physical therapies
- assess the need for, and undertake, hip surgery and rehabilitation.

## Referral advice

The majority of the management of patients with osteoarthritis of the hip can be undertaken in primary care. However, referral to a specialist service is advised if:

★★★★	there is evidence of infection in the joint
★★★	symptoms rapidly deteriorate and are causing severe disability
★	the symptoms impair quality of life. Referral should be based on an explicit scoring system that should be developed locally in a partnership involving patients together with healthcare professionals in primary and secondary care. Referral criteria should take into account the extent to which the condition is causing pain, disability, sleeplessness, loss of independence, inability to undertake normal activities, reduced functional capacity or psychiatric illness

Arrangements should be made so that the patient:

- |      |   |
|------|---|
| ★★★★ | is seen immediately <sup>1</sup>  |
| ★★★  | is seen urgently <sup>2</sup>   |
| ★★   | is seen soon <sup>2</sup>   |
| ★    | has a routine appointment <sup>2</sup>  |
| ▲    | is seen within an appropriate time depending on his or her clinical circumstances (discretionary) |

## Musculoskeletal system Trauma

CLINICAL PROBLEM	INVESTIGATION {DOSE}	RECOMMENDATION {GRADE}	COMMENT
Hip pain: full movement <i>(for children see Section M)</i> <b>D18</b>	<i>XR pelvis (I)</i>	Not indicated routinely (C)	XR only if symptoms and signs persist or complex history (e.g. chance of avascular necrosis, see D20) <b>NB: This recommendation does not apply to children.</b>
Hip pain: limited movement <i>(for children see Section M)</i> <b>D19</b>	<i>XR pelvis (I)</i>	Not indicated initially (C)	Symptoms often transient. XR if hip replacement might be considered or symptoms persist. PET may be helpful, if XR, MRI standard NM all normal. <b>NB: This recommendation does not apply to children.</b>
Hip pain: avascular necrosis <b>D20</b>	<i>XR Pelvis (I)</i>  <i>MRI (0)</i>	Indicated (B)  Specialised investigation (B)	Abnormal in established disease.  MRI useful when XR normal, especially in high risk patients. NM and CT can also provide information here.
<b><i>Pelvis and sacrum</i></b>  Fall with inability to bear weight <b>K18</b>	<i>XR pelvis (I)</i> <i>plus lateral XR hip (I)</i>	Indicated (C)	Physical examination may be unreliable. Check for femoral neck fractures, which may not show on initial XR, even with good lateral views. In selected cases NM or MRI or CT can be useful when XR normal or equivocal.

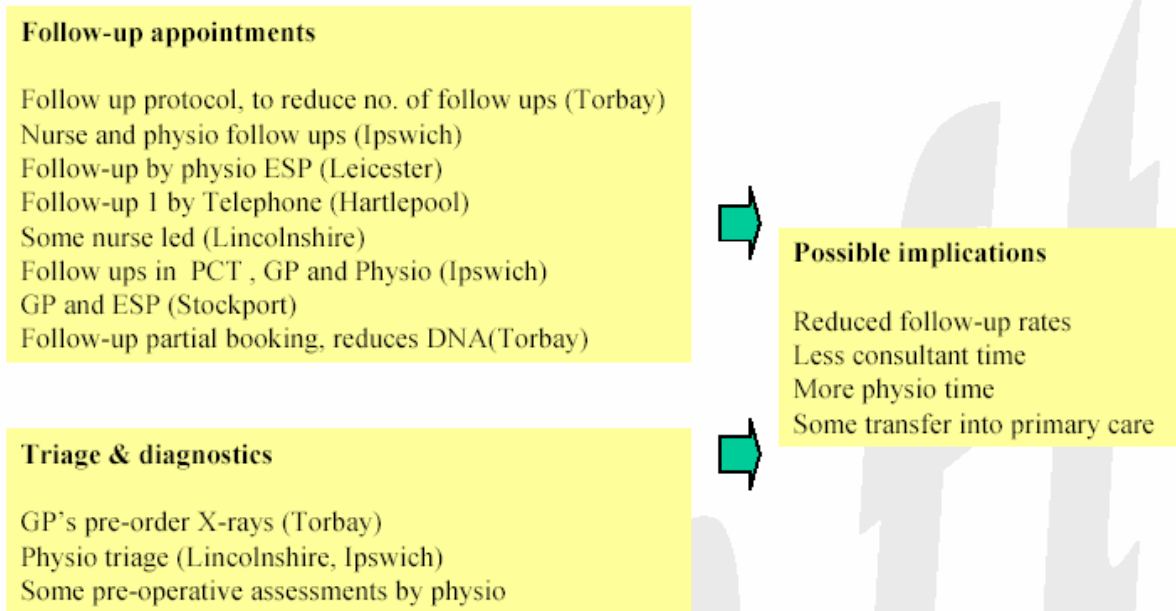


Figure 4 Changes in the hip/ knee at other Trusts

# Hip/knee pathway

3 follow ups, 1 year practice

