Appendix 5a London Choosing Wisely

Draft Policy Template: **Knee arthroscopy (in the treatment of osteoarthritis)**

Version	Date	Notes
Draft for T&F Group 1	03/05/18	Initial draft
Revised version post T&F Group 1	18/05/18	Introduction revised Key definitions revised Commissioning criteria Rationale for policy guidance Updated OPCS and ICD-10 codes
Revised version for Task & Finish Group 2	21/05/18	Amendments made following feedback
Revised version post Task & Finish Group 2	25/05/18	Policy revised to reflect T&F Group discussions and requirements of chair
Revised version	04/06/18	Policy revised in line with feedback from T&F Group chair
Revised version	15/06/18	Amendments to commissioning criteria by T&F Group Chair
Revised version	27/06/18	Minor amendments made to commissioning criteria and section on decision aids, in line with comments from T&F chair
Minor revision following feedback from Task & Finish Chair	16/07/18	Minor changes as per chair's request, including additional exclusions
Minor revision following LCW Steering Group meeting of 30/07/18	02/08/2018	Minor changes to clarify language in the commissioning criteria sections.
Minor revisions following "sense check" feedback	20/09/2018	Title amended for clarity. Other minor wording changes

COMMISSIONING STATEMENT		
Intervention	Knee arthroscopy (in the treatment of osteoarthritis)	
Date Issued		
Dates of Review		
Pan-London Commissioning Recommendation	**This policy relates to therapeutic knee arthroscopic interventions for the treatment of osteoarthritis, as described in detail below.** This policy does not apply to: • Patients receiving an arthroscopic procedure as part of another surgical procedure e.g. high tibial osteotomy or unicompartmental arthroplasty • Patients with acute trauma / injury • Patients with ligament rupture • Patients with suspected infection • Patients with suspected avascular necrosis • Patients with confirmed or suspected malignancy • Patients with inflammatory arthropathies • Paediatric patients • Patients requiring chondroplasty • Patients requiring synovial biopsy and synovectomy • Patients requiring excision synovial plica Those few patients with osteoarthritis who also have a clear history of a truly locked knee (i.e. inability of knee extension on clinical examination, as opposed to morning joint stiffness (aka gelling), 'giving way' or X-ray evidence of loose bodies) will need therapeutic arthroscopic intervention. **Commissioning criteria** Arthroscopic lavage and debridement will not be routinely funded* for the treatment of knee osteoarthritis. * If clinician considers need for referral/treatment on clinical grounds outside of these criteria (in the treatment of osteoarthritis), please refer to the CCG Individual Funding Request policy for further information.	
Prepared By	London Choosing Wisely, Commissioned by NHSE	
Approved By	**Date Approved**	**Notes**

Knee Arthroscopy Task & Finish Group, London Choosing Wisely	20/09/2018	
LCW Steering Board	02/10/2018	

Main Policy Document

Policy Statement

London Choosing Wisely (LCW) was commissioned to carry out this work on behalf of all London Clinical Commissioning Groups (CCGs), in order to promote equitable access to certain treatments and the cost-effective use of healthcare resources. All London CCGs will commission knee arthroscopic procedures in accordance with the criteria outlined in this document.

In creating this policy, LCW convened a Task and Finish Group focused on developing this policy and has reviewed this clinical condition and the evidence supporting treatment leading to this commissioning decision.

1. Introduction

There are a range of indications for knee arthroscopy, but this policy focusses on the use of knee arthroscopy in patients with osteoarthritis (OA), where there is a lack of strong evidence demonstrating sustained clinical benefit from the procedure. The evidence review carried out to inform development of this policy included knee arthroscopy and partial meniscectomy; but in light of the availability of evidence, the decision was taken to focus the policy on patients with OA.

Initial treatment for OA knee focuses on conservative measures including analgesia with non-steroidal anti-inflammatory drugs (NSAIDs) and local muscle-strengthening exercise. However these initial measures may eventually become ineffective for some patients, in terms of pain control, functionality and overall quality of life.

Therapeutic knee arthroscopy may be considered for patients with persistent symptoms refractory to non-surgical management, with the intention of improving pain and function of the joint (e.g. reduce mechanical symptoms). However there is generally a consensus that knee arthroscopy should not be used as treatment for OA and NICE guidance advises that arthroscopic lavage and debridement should only be used in the treatment of OA if the patient has the relatively uncommon symptoms of mechanical locking. The NICE guideline does not mention any other knee arthroscopic procedures.

Between 2000 and 2012 there has been a decrease in the number of patients undergoing arthroscopic irrigation (a decrease of 39.6 per 100,000 population (80%)). However the number of patients undergoing arthroscopic meniscal resection from 2000 to 2012 has increased by 105.3 per 100,000 population (230%). Meniscal resection also represents the largest absolute number of procedures being performed compared with other arthroscopic interventions (151.2 per 100,000 population).

Meniscal tears are often degenerative in origin and may coexist with a degree of OA. However they can also be incidental findings in patients without knee symptoms and so their role in the context of persistent knee pain (with or without OA) is uncertain.

2. Key Definitions

Arthroscopy: a keyhole procedure typically performed under anaesthetic

Lavage: flushing of the joint with fluid to clear any loose debris

Debridement: surgical "neatening" of obviously frayed cartilage or meniscal surfaces

Meniscal tear: a defect or split in the meniscus, which can occur with or without degenerative disease.

Locked knee: sudden onset, complete mechanical block to flexion or extension of the knee, detected on clinical examination and which does not resolve despite adequate analgesia.

Locking: an intermittent block to normal range of movement of the knee (commonly a block to extension) with an associated unlocking movement. Knee returns to near normal after unlocking.

Non-steroidal anti-inflammatory drugs (NSAIDs): Type of pain relief medication, commonly used orally or topically

3. Aims & Objectives

Across London there are five Sustainability and Transformation Partnerships (STPs), including 32 CCGs, representing 1,400 GP practices serving our population of almost nine million Londoners. This policy aims:

- To reduce unwarranted variation in access to knee arthroscopy interventions across London, removing the postcode lottery
- To ensure that procedures and interventions for knee arthroscopy interventions are commissioned where there is acceptable evidence of clinical benefit and cost-effectiveness
- To promote the cost-effective use of healthcare resources for Londoners.

4. Criteria for commissioning

This policy does not apply to

- Patients receiving an arthroscopic procedure as part of another surgical procedure e.g. high tibial osteotomy or unicompartmental arthroplasty
- Patients with acute trauma / injury
- Patients with ligament rupture
- Patients with a meniscal surgical target
- Patients with suspected infection
- Patients with suspected avascular necrosis
- Patients with confirmed or suspected malignancy
- Patients with inflammatory arthropathies
- Paediatric patients
- Patients requiring chondroplasty
- Patients requiring synovial biopsy and synovectomy
- Patients requiring excision synovial plica

Those few patients with osteoarthritis who also have a clear history of a truly locked knee (i.e. inability of knee extension on clinical examination, as opposed to morning joint stiffness (aka gelling), 'giving way' or X-ray evidence of loose bodies) will need therapeutic arthroscopic intervention.

Commissioning criteria

Arthroscopic lavage and debridement will not be routinely funded* for the treatment of knee osteoarthritis.

* If clinician considers need for referral/treatment on clinical grounds outside of these criteria (including meniscal target lesions), please refer to the CCG Individual Funding Request policy for further information.

Advice to Primary Care Practitioners

The following section is designed to aid decision making in primary care and does not form part of the commissioning criteria. The advice is based on the T&F group's discussion and consideration of the evidence.

- High quality evidence does not support the use of knee arthroscopic surgery in most patients with degenerative disease (with or without OA).
- Asymptomatic meniscal tears are very common in middle and older aged patients and are often an incidental finding on MRI. There is mixed opinion regarding the clinical identification of those tears for which arthroscopic treatment is clinically effective.
- The diagnosis of OA can be made clinically without imaging if a person is 45 or over and has activity-related joint pain and has either no morning joint-related stiffness, or morning stiffness that lasts no longer than 30 minutes. (If requesting X-rays for degenerative disease, weight-bearing standing films should be requested).
- For patients who are symptomatic with degenerative disease including OA, first-line treatment should ideally be with a comprehensive programme of non-surgical measures, including education, exercise, physiotherapy, simple analgesia and steroid injection (where acceptable to the patient).
- Corticosteroid injections can be offered in primary care or community care (where acceptable to the patient); they can provide pain relief and may allow patients to better engage with physiotherapy.
- Referrals to secondary care should be triaged via the MSK interface services (where such pathways are in place).
- Patients who smoke should be offered support with smoking cessation at least 12 weeks prior to surgery.
- Patients with raised BMI should be supported to lose weight and, where appropriate, offered access to local weight loss services (where available).
- Patients should be offered the opportunity to engage with shared decision making either in primary or secondary care. There are decision tools available online for the treatment of knee OA (available at https://www.england.nhs.uk/rightcare/shared-decision-making/)
- There are decision tools available online for the treatment of knee OA (available at https://www.england.nhs.uk/rightcare/shared-decision-making/) and a non-validated aid for arthroscopy treatment of degenerative disease (available at https://www.bmj.com/content/357/bmj.j1982.

5. Evidence Summary

The full evidence review can be found in Appendix 1, with a summary of findings included in Section 3.

6. Rationale behind Policy Statements

The Task & Finish group highlighted that there is no place for diagnostic or therapeutic knee arthroscopy in the routine treatment of painful OA.

The Task & Finish group noted that there should be a degree of caution when extrapolating results from level 1 or 2 evidence, as the research trial patient cohorts may not be representative of a typical patient group; there is often cross-over between treatment groups, and control groups often receive a comprehensive, structured programme of non-surgical management which may not be representative of non-surgical management in other healthcare systems (nationally or locally).

In addition to discussing the evidence review on arthroscopic partial meniscectomy, the Task & Finish group reviewed a consensus piece on arthroscopic meniscal surgery due to be published in the coming year by BASK / BOA. This is a treatment guidance document and proposes certain subgroups of patients that may benefit from arthroscopic meniscal surgery. The proposed subgroups have been derived from professional consensus, in the absence of direct evidence from research. The pathways and recommendations were considered by the group, and were thought to be generally helpful and practical. However, as both the guidance and the underpinning evidence is yet to be published, it could not be formally reviewed by the group. Therefore this guidance on meniscal surgery has not been incorporated into the policy criteria. It is noted that following on from the publication of this guidance, BASK is coordinating a prospective randomised controlled trial to compare surgical and conservative management for patients with joint-line focused pain and mechanical symptoms. The trial will aim to answer queries around the effectiveness of arthroscopic meniscal interventions, however the results will not be available for several years.

The Task & Finish group noted that there may be local variation in commissioning of both physiotherapy and weight loss services, and so patients across London may not have access to equivalent non-surgical treatment options.

7. Adherence to NICE Guidelines

This policy is in accordance with the NICE clinical guideline for the management of OA published in 2014 (CG177: Osteoarthritis: care and management), as well as the BOA Commissioning guide published in 2013 (Painful osteoarthritis of the knee).

8. Codes for procedures

Proposed OPCS and ICD-10 codes covered within this policy.

Note: This list is not exhaustive and can be added to at CCG level during implementation of policy.

OPCS4	W822	Endoscopic resection of semilunar cartilage NEC
OPCS4	W851	Endoscopic removal of loose body from knee joint
OPCS4	W852	Endoscopic irrigation of knee joint
OPCS4	W858	Other specified therapeutic endoscopic operations on cavity of knee joint
OPCS4	W833	Endoscopic shaving of articular cartilage
OPCS4	Z846	Knee joint
OPCS4	Y767	Arthroscopic approach to joint
OPCS4	W802	Open debridement of joint NEC
OPCS4	W801	Open debridement and irrigation of joint
OPCS4	W803	Open irrigation of joint NEC
OPCS4	W808	Other specified debridement and irrigation of joint
OPCS4	W809	Unspecified debridement and irrigation of joint

OPCS4	W714	Open autologous chondrocyte implantation into articular structure
OPCS4	W823	Endoscopic repair of semilunar cartilage
OPCS4	W828	Other specified therapeutic endoscopic operations on semilunar cartilage
OPCS4	W829	Unspecified therapeutic endoscopic operations on semilunar cartilage
OPCS4	W834	Endoscopic articular abrasion chondroplasty
OPCS4	W835	Endoscopic articular thermal chondroplasty
OPCS4	W836	Endoscopic excision of articular cartilage NEC
OPCS4	W838	Other specified therapeutic endoscopic operations on other articular cartilage
OPCS4	W821	Endoscopic total excision of semilunar cartilage
OPCS4	W859	Unspecified therapeutic endoscopic operations on cavity of knee joint
OPCS4	W879	Unspecified diagnostic endoscopic examination of knee joint
OPCS4	W891	Endoscopic chondroplasty NEC
OPCS4	W871	Diagnostic endoscopic examination of knee joint and biopsy of lesion of knee joint
OPCS4	W892	Endoscopic harvest of autologous chondrocytes

For the following ICD-10 codes:

M17.0	Bilateral primary osteoarthritis of knee
M17.1	Unilateral primary osteoarthritis of knee
M17.2	Bilateral post-traumatic osteoarthritis of knee

M17.3	Unilateral post-traumatic osteoarthritis of knee
M17.4	Other bilateral secondary osteoarthritis of knee
M17.5	Other unilateral secondary osteoarthritis of knee
M17.9	Osteoarthritis of knee, unspecified

Equality & Equity Statement

The Equality and Equity Assessments for this policy will be undertaken at CCG level. Please contact the relevant London CCG for further details of their Equality Impact Assessment.

Governance statement

In mid-2017, London's CCG Chief Officers supported a pan London programme to ensure equitable treatment access for all Londoners that is consistent, clinically appropriate and based on robust evidence that supports improved patient outcomes for certain treatments across London.

NHS England (London) commissioned Healthy London Partnership (HLP) to facilitate the programme management and communications work of the programme, known as 'London Choosing Wisely'. A London Choosing Wisely Steering Group was formed, chaired by the NHSE (London) Medical Director, Dr Vin Diwakar, and included clinical leaders representing each sustainability and transformation partnership (STP), the clinical leads appointed to the review of each area of care, patient representatives, and public health experts.

The London Choosing Wisely programme specifically looked at the following eight procedures: the surgical removal of benign skin lesions; hip arthroplasty; knee arthroplasty; knee arthroscopy; interventional treatments for back pain; varicose vein procedures; shoulder decompression and cataract surgery.

Six Task and Finish Groups were established to review the evidence and draft the policy documentation for each of the eight identified procedures (with hip and knee policies being considered together). Each group was chaired by a primary care clinical lead, who also sat on the Steering Group. All groups included primary and secondary care clinicians and patient representatives from across the London region and were supported by independent public health experts. Upon consideration of the evidence, the Task and Finish Group drafted and agreed the commissioning policy which was subsequently presented to the Steering Group for approval. The Steering Group's role was to ensure that a robust and rigorous review process had been carried out and to agree a final draft for each pan London policy.

London Choosing Wisely

Evidence Review Summary: **Knee arthroscopy**

Version	Date	Notes
Draft for PH and T&F Chair	30/04/18	Initial draft
Draft for T&F Group	02/05/18	Revised draft
Revised version post T&F meeting	18/05/18	Revised version
Amended version following LCW steering Group meeting 30/07/18	31/07/18	Final

1.0 Introduction

What?	The aim of this review is to present the current guidance and available evidence to the task and finish group in order to support decision making regarding the commissioning policy. Knee arthroscopy is a keyhole procedure performed under anaesthetic. There are a range of indications for knee arthroscopy, but this review focusses on the therapeutic use of arthroscopy in the middle to older aged population with some extent of degenerative disease (including osteoarthritis), where there is a lack of strong evidence demonstrating sustained clinical benefit from the procedure. Knee arthroscopy is commonly performed with additional procedures. "Lavage" refers to flushing of the joint with fluid to clear any loose debris. "Debridement" refers to surgical "neatening" of obviously frayed cartilage or meniscal surfaces. "Partial meniscectomy" involves removing some meniscal tissue where there are fragments or uneven surfaces secondary to a meniscal tear, which is commonly degenerative and/or traumatic in origin. The list of OPCS codes relevant to this evidence review is included in Appendix 3. The list has been rationalised to include a proposed list of codes relevant to the specific procedure under review. However this list is therefore not exhaustive and can be added to at CCG level subsequently.
Who for?	This review applies to adult patients undergoing knee arthroscopy, however as mentioned the primary focus is on patients with degenerative knee disease (without or without osteoarthritis (OA)).
Why?	Initial treatment for degenerative knee disease focuses on conservative measures including analgesia with non-steroidal anti-inflammatory drugs (NSAIDs) and local muscle-strengthening exercise[1]. However these initial measures may eventually become ineffective for some patients, in terms of pain control, functionality and overall quality of life. Therapeutic knee arthroscopy may be offered to patients with persistent symptoms refractory to non-surgical management. The intended treatment outcomes are to improve pain and function of the joint (e.g. reduce mechanical symptoms). Knee arthroscopy may be considered as an option by patients or clinicians prior to consideration of more invasive procedures e.g. knee replacement surgery[2]. However there is generally a consensus that arthroscopy should not be used as treatment for OA knee.
Why an issue?	NICE published guidance in 2008 advising that arthroscopic lavage and debridement of the knee should not be used in the treatment of OA, unless the patient has the relatively uncommon symptoms of mechanical locking[3]. However the guideline does not mention any other knee arthroscopic procedures, such as meniscectomy. Between 2000 and 2012 there has been a decrease in the number of patients undergoing arthroscopic irrigation (a decrease of 39.6 per 100,000 population (80%) [1]. However the number of patients

	undergoing arthroscopic meniscal resection from 2000 to 2012 has increased by 105.3 per 100,000 population (230%). Meniscal resection also represented the largest absolute number of procedures being performed compared with the other arthroscopic interventions (151.2 per 100,000 population). Meniscal tears are often degenerative in origin and may coexist with a degree of OA. However they can also be incidental findings in patients without knee symptoms and so their role in the context of persistent knee pain (with or without OA) is uncertain. The British Orthopaedic Association (BOA) [4] has suggested that the increased use of arthroscopic debridement and partial meniscectomy may in part be attributed to the increasing use of MRI scans for patients with knee pain, which detect meniscal tears which may or may not have clinical relevance. As described in section 3, the evidence base does not demonstrate significant or sustained clinical improvements from arthroscopic partial meniscectomy (APM) in middle and older aged patients with degenerative meniscal tears, compared with conservative treatments. Although the available evidence shows that knee arthroscopy is rarely associated with serious complications, as with all surgical procedures there are risks of associated harms (e.g. venous thromboembolism, infection and anaesthetic complications). In light of the available evidence, CCGs will need to make an assessment of the benefits and cost effectiveness of knee APM in comparison to alternative (non-surgical) treatments.
Who else does what?	There are policies in place for knee arthroscopy for all the London CCGs however there is variation between the policies. All the policies state, in accordance with the NICE guideline, that referral for arthroscopic lavage and debridement should not be offered as part of treatment for knee osteoarthritis unless the patient has a clear history of mechanical locking (not gelling, 'giving way' or X-ray evidence of loose bodies). However North West London and South West London have more detailed policies around funding for other indications for knee arthroscopy. As there are policy discrepancies, there is potential for patients not to be receiving equal access to treatments across London.

2.0 Search strategy

The London Choosing Wisely team drafted the proposed scope, following which views were sought from the wider membership which included patient, GP and consultant representatives from across London.

Overview of search strategy

The knee arthroscopy review will be in two parts:

1) Knee arthroscopy (arthroscopic lavage and debridement):
    - There is clear NICE guidance around referral for this specific procedure and all the existing London CCG policies are in accordance with this guidance
    - According to the T&F group chair, it is thought that the current commissioning policies are in general correctly applied
    - The review will therefore focus on presenting the NICE guidance and existing policies with a view to implementing one standardised pan-London policy

2) Knee arthroscopy (evidence review for partial meniscectomy):
    - Evidence for effectiveness of partial meniscectomy
    - Evidence for effectiveness of partial meniscectomy vs non-surgical management options
    - Specific clinical indications for partial meniscectomy

Search terms

The literature search was performed using the following search terms: "arthroscopy", "arthroscopic", "arthroscope", "arthroscopies", "knee", "osteoarthritis", "lavage", "washout", "debridement", "loose bodies", "meniscectomy", "partial", "degenerative", "traumatic"

Exclusions

Patients with confirmed or suspected malignancy
Patients with suspected infection
Patients with inflammatory arthropathies
Paediatric patients

2.1 Search method

An initial search was undertaken of national guidelines and CCG policies relevant to knee arthroscopy. In line with the scope agreed for this work, the literature review was intended to focus on collating information across existing CCG policies and reviewing approximately 10 research papers (level 2 policy group).

The literature review relating to partial meniscectomy was then conducted according to the following table, with Level 1 evidence sought first, continuing through the levels of evidence where necessary in the absence of higher quality evidence.

Level 1	Meta-analyses, systematic reviews of randomised controlled trials
Level 2	Randomised controlled trials
Level 3	Case-control or cohort studies
Level 4	Non-analytic studies e.g. case reports, case series
Level 5	Expert opinion

The following sources were searched in relation to the above search strategy for knee arthroscopy:

- National Institute of Clinical Excellence (NICE)
- Policies in use by CCGs (where publically available)
- Cochrane Library
- PubMed/MEDLINE
- British Orthopaedic Association (BOA)
- British Associate for Surgery of the Knee (BASK)
- Royal College of Surgeons (RCS)

Only publications relating to adult patients have been reviewed. Non-English language publications have been excluded.

3.0 Summary of findings

1) Knee arthroscopy – national guidance and London CCGs' policy review

	Summary of grade of evidence used					Other	
	Level 1	**Level 2**	**Level 3**	**Level 4**	**Level 5**	**National guidelines**	**CCG policies**
Knee arthroscopy	Not searched due to extant national guidance					✓	✓

National guidance

NICE published guidance in 2007[3] advising that arthroscopic lavage alone should not be used in the treatment of knee OA, as the available evidence does not demonstrate effectiveness in either the short or long term. The document also refers to the challenge of patient selection for other arthroscopic procedures (i.e. debridement), as lesions are typically first diagnosed on arthroscopy and there is no evidence to guide which patients or which lesions will receive clinical improvement from debridement.

The guideline was based on a literature review of research published until 2006 looking at the efficacy of knee arthroscopic lavage (in terms of improvement in pain and reduction in mechanical symptoms), which included six randomised controlled trials (RCTs), one non-randomised controlled trial and three case series. The RCTs included in the evidence review were of variable quality, with only one trial comparing arthroscopic lavage and debridement versus placebo or "sham" surgery.

This guidance was subsequently refined in line with the NICE osteoarthritis guideline published in 2008 (with a revised version published in 2014)[2]. The guideline applies to management of OA in all joints and emphasises a holistic and individualised approach to managing patients, in addition to using non-pharmacological (e.g. education and exercise) and pharmacological (e.g. analgesia and steroid injections) treatment options.

The guidance advises that patients with poorly controlled OA symptoms despite three months of non-surgical treatment should be considered for assessment for joint surgery, including total or partial knee replacement and osteotomy. It advises that clinicians should not refer patients for arthroscopic lavage and debridement as part of treatment for OA, unless the patient gives a clear history of symptoms in keeping with mechanical locking of the knee (not morning stiffness, the knee "giving way" or x-ray features of loose bodies). The publication states that, based on the evidence published until 2008, this is the only indication for the procedure which has demonstrated clinical and cost-effectiveness as a treatment for OA. The guideline itself does not state what is meant by a "clear history of mechanical locking", however in the evidence section of the full document, locking is described as a feature "normally associated with prevention of limb straightening during gait". True mechanical locking is suggestive of meniscal pathology or loose bodies in the joint and is uncommon in patients with OA knee. The guideline coincided with the publication of a Cochrane review in 2008[5], which concluded that there is "gold" level evidence that arthroscopic debridement has no benefit for undiscriminated OA (mechanical or inflammatory cause).

In 2013, a commissioning guidance document "Painful osteoarthritis of the knee" was published by the RCS, in conjunction with BOA and BASK[6]. The guideline reiterates that arthroscopic lavage and debridement should not be used in the treatment of patients with non-mechanical symptoms of pain and stiffness. The guideline advises that knee arthroscopy should be considered for patients for OA:

- For treatment purposes in patients with a clear history of mechanical locking that has not responded to at least 3 months of non-surgical treatment
- For additional diagnostic purposes where there is a need for a detailed understanding of the degree of compartment damage in the knee when considering patients for certain surgical interventions (e.g. high tibial osteotomy)

London CCG policies

All of the London CCGs have a policy in place for knee arthroscopy (see appendix 2 for further detail). In accordance with the national guidance, all the policies state that funding for arthroscopic lavage and debridement of the knee in OA will only be considered for those patients with a clear history of mechanical locking.

North West London (NWL) and South West London (SWL) have more detailed policies regarding which specific knee arthroscopic interventions will and will not routinely be funded. Indications mentioned as eligible for funding include:

Indication	**Policy states eligible for funding***	
	SWL	**NWL**
Mechanical locking in OA	✓	✓
Removal of loose body	✓	✓
Meniscal repair / resection (meniscectomy)	✓	✓
Ligament reconstruction / repair	✓	✓
Synovectomy or synovial biopsy		✓
Suspected chondral lesion		✓
Additional diagnostic purposes in specific clinical situations	✓	✓

*Further criteria and exceptions apply – see appendix 2 for more detail

Both SWL and NWL policies specifically state that arthroscopy will not be funded for primary diagnostic purposes.

The policies for the other London CCGs only mention lavage and debridement for OA and do not refer to any of the other indications mentioned above.

2) Arthroscopic partial meniscectomy – evidence review

	Summary of grade of evidence used					Other	
	Level 1	**Level 2**	**Level 3**	**Level 4**	**Level 5**	**National guidelines**	**CCG policies**
Arthroscopic partial meniscectomy	✓	✓	✓		✓		

Summary of evidence review findings

Further detail regarding the review findings, including references used, are outlined in the subsequent sections.

- The evidence base for arthroscopic partial meniscectomy (APM) shows that it may confer a small or very small benefit with regards to pain and function in the short term compared with conservative management in patients with degenerative knee disease, but that this benefit is generally not sustained in the longer term.
- The available evidence shows APM is associated with a small risk of harms, including infection and venous thromboembolism (however this is based on low quality evidence from 12 observational studies so caution should be used in interpreting the results).
- There is a lack of high quality evidence to support the use of APM in particular clinical situations in the context of degenerative knee disease.
- Systematic reviews comparing effectiveness of arthroscopic interventions have limitations, often due to heterogeneity between studies in terms of inclusion/exclusion criteria, surgical and non-surgical intervention groups, for example:
    - There is variation in use of clinical and radiological assessment in determining inclusion and exclusion criteria;
    - Inclusion of patients may be difficult to standardise, as the origin of meniscal tears in middle and older aged patients is not always well understood; they may be degenerative and/or traumatic and may signify early stages of knee OA;
    - Surgical intervention groups may include both debridement and APM and may include studies where APM is not performed; it can therefore be difficult to isolate results relating to a specific surgical intervention,
    - The conservative groups are heterogenous and may include different degrees of exercise therapy, steroid injections and sham surgery.

Background

Arthroscopic partial meniscectomy (APM) is often performed in middle or older aged patients with persistent knee pain, where there is clinical suspicion or radiological evidence of a meniscal tear. Meniscal tears can be degenerative and/or traumatic in origin and may occur in patients with or without evidence of OA. However they can also be an incidental finding in middle and older aged patients without any knee symptoms. It is thought that meniscal tears may indicate early changes of knee OA, however their significance in the context of persistent knee pain is uncertain.

The number of arthroscopic meniscectomies performed in the UK has been increasing[1], however there does not appear to be consensus around the precise indications for the

procedure or which patients are likely to benefit. There is currently no national guidance referring to the use of APM.

According to a clinical opinion piece published by the American Academy of Orthopedic Surgeons in 2002[7], arthroscopy is thought unlikely to alter the progression of arthritis and its use could potentially delay more definitive treatments, such as knee arthroplasty (joint replacement). In addition as with any surgical procedure, there is a small risk of harm from undergoing knee arthroscopy, the most common adverse events being venous thromboembolism (DVT and PE: 5.7 per 1000 procedures) and infection (2.1 events per 1000 procedures)[8]. There is evidence that meniscal resection is associated with an increased risk of OA development and progression and that larger meniscectomies are associated with poorer clinical outcomes[9-11]. Although the evidence itself does not demonstrate causation, it should be considered when balancing the benefits and risks of the procedure.

Evidence for effectiveness of partial meniscectomy versus non-surgical management and placebo surgery

Two systematic reviews[8,12] have looked at the effectiveness of arthroscopic procedures, including APM, for patients with symptomatic degenerative knee disease with or without OA.

A systematic review by Brignanardello-Petersen *et al.* was published in the BMJ in 2017[12]. The study used the results from 13 RCTs to compare the effects of arthroscopic surgery with debridement and/or partial meniscectomy with conservative management (including exercise, injections and sham surgery). In addition, data from 12 observational studies were used to assess the risk of harms. Participants were of any age and had symptomatic degenerative knee disease (defined as persistent pain affecting quality of life (QoL) and not responsive to conservative treatment), with or without OA.

The review summarised continuous outcomes (pain, function and QoL) at study level, looking at changes from baseline between the groups. The results showed:

- Both groups (arthroscopic surgery with debridement and/or partial meniscectomy and the conservative group) had a small improvement in pain over the short and long term
- The arthroscopic interventions group had a very small benefit on average in pain (5.4 point difference on a 100-point scale) and function (4.9 point difference on a 100-point scale) over the non-surgical group in the short term
- Benefits of arthroscopic surgery on long term QoL are minimal
- The arthroscopic interventions group had only very small benefits in pain and function over the conservative group in the long term
- There was low risk of serious harm from arthroscopy and there was a small risk of VTE and infection (however results were limited due to low quality evidence)

The review concludes that there is medium to high quality evidence that arthroscopy provides on average very small benefits in pain, function and QoL compared with conservative therapy in the short term but that significant benefits are not sustained in the longer term.

A systematic review by Thorlund *et al.* published in 2015[8] looked at benefits and harms of knee arthroscopic procedures, including partial meniscectomy, for middle aged and older patients with knee pain and degenerative knee disease (meniscal tears with or

without features of OA). The nine randomised controlled trials (RCTs) included involved 1270 patients who were randomised to arthroscopic intervention (including partial meniscectomy, debridement, or both) or non-surgical treatments (including placebo surgery, exercise and medical treatment). The results of the synthesis showed:

- There was a small improvement in pain in the short term for the knee arthroscopy interventions group compared with the control interventions (a difference of 2.4mm between the groups on a 0-100mm visual analogue scale);
- The small improvement in pain in the arthroscopic interventions group was not sustained in the long term;
- The overall benefit in pain relief with arthroscopic surgery (according to the primary endpoint of each trial) was comparable to the results for pain relief with paracetamol and smaller than the pain relieving effects with exercise therapy in the treatment of OA,
- There was no significant difference in physical function between the groups at any time point.

The study concludes that the small, short term improvement in pain seen in the arthroscopic interventions group is of uncertain clinical significance and needs to be balanced against the potential risk of harms and the period of recovery and rehabilitation post-operatively. The authors conclude that, in the absence of strong evidence demonstrating effectiveness of arthroscopic procedures for these patients, treatment for these patient should be in accordance with general OA management as per national guidance (e.g. exercise and lifestyle modification).

Effectiveness of meniscal debridement and APM in patients with no/mild OA

Two systematic reviews[13,15] have looked at the effectiveness of meniscal debridement and APM in patients with degenerative meniscal tears in patients with mild or no OA.

The Finnish Degenerative Meniscal Lesion Study (FIDELITY) group published the results of their multi-centre, randomised, sham-controlled trial in 2013[13]. The study looked at APM versus "sham" surgery for patients with non-traumatic degenerative meniscal tears in the absence of OA. The authors note that previous trials have assessed effectiveness of APM in the context of varying degrees of established OA and were seeking to assess effectiveness in patients prior to the development of OA, who therefore might be expected to gain the most clinical benefit most from the intervention.

There were 146 participants in the trial who were aged 35-65 years, with at least a three month history of knee symptoms consistent with a degenerative meniscal tear. Patients with a clear history of preceding trauma and those with knee OA (assessed according to clinical and radiological criteria) were excluded. All participants had a preoperative MRI to assess for meniscal tears but confirmation of eligibility occurred at the time of diagnostic arthroscopy, with randomisation to either partial meniscectomy or sham surgery occurring intraoperatively.

The primary outcomes of the trial were pain after exercise and Lysholm knee score (a questionnaire scored on a 0-100 weighted scale measuring knee pain, symptoms and function) 12 months after surgery. The results showed:

- Both study groups (partial meniscectomy and sham surgery) had a marked improvement in primary outcome measures from baseline to 12 months
- A priori and post-hoc subgroup analyses did not show between-group differences in outcomes

One of the limitations of this study is that it specifically excludes patients with OA, and so conclusions from the results can only be applied to patients with degenerative meniscal tears with no/mild OA and the findings do not apply to certain patient populations (e.g. traumatic)[14].

A systematic review and meta-analysis was published by Khan *et al.* in 2014[15]. The study looked at the effectiveness of arthroscopic meniscal debridement for degenerative meniscal tears in middle-aged patients with knee pain with no or mild OA, in comparison with non-surgical or sham treatments. The review included seven RCTs with a total of 805 patients. Primary outcomes were pain relief and joint function and were dichotomised to short term (<6 months) and long term (up to 2 years) data. The results showed:

- There was a small improvement in function for the arthroscopic surgery group but this did not meet the criteria for a minimally important difference (a measure of the smallest change in outcome which has been determined as being meaningful for the patient)
- Arthroscopic surgery did not show a significant difference between treatment arms for long-term functional outcomes
- Arthroscopic surgery did not improve pain in the short term or in the long term

In summary, the review showed that arthroscopic surgery for degenerative meniscal tears with patients with no/mild OA has minimal effect on short term or long term outcomes compared with non-operative management.

Specific clinical indications for partial meniscectomy

The literature review has not identified high quality evidence demonstrating effectiveness of APM in specific clinical indications in the context of degenerative meniscal tears, including:

- Patients with mechanical symptoms i.e. true locking of the knee
- Unstable meniscal tears
- After failure of conservative management

The FIDELITY group recently published the results of a 2-year follow up[16] of their RCT looking at APM vs placebo surgery for degenerative meniscal tears with no evidence of OA (see above). APM was also compared with placebo surgery within two subgroups of participants, those with mechanical symptoms of the knee and those with unstable meniscus tear (chosen in response to a set of questions regarding knee symptoms).

The follow up at 24 months included a patient questionnaire and a clinical examination by an independent blinded orthopaedic surgeon. The clinical examination was standardised and included meniscal tests and assessment of degenerative changes. Primary outcomes were change in WOMET score (a meniscus-specific quality of life assessment tool), Lysholm knee score and pain after exercise between baseline and 24 months. The results showed:

- Both groups (APM and placebo surgery) showed a marked improvement in all primary outcome measures
- There was no significant difference observed between the groups
- In the two subgroup analyses, assessing the effects of preoperative mechanical symptoms and unstable tears, there was no difference in any of the primary or secondary outcomes between the APM and placebo surgery groups

The authors conclude by stating that the trial does not show evidence that there is any benefit of APM in the presence of mechanical symptoms, meniscal tear characteristics or failure of initial conservative management.

A systematic review of the literature was published in the *Bone and Joint Journal* in 2016[17]. The review aimed to assess the efficacy of arthroscopic partial meniscectomy in patients with meniscal tears and degenerative change. In addition the review also sought to identify prognostic factors that could help to guide selection of patients for APM.

The review included three relatively recent RCTs (published in 2013/2014), of which only one was a double-blinded study, two older RCTs (2008 and 1993) and a prospective case control study from 2006. Two of the three recent RCTs were the only studies to only include participants with symptomatic meniscal tears and OA of the knee. The follow up period ranged from 6 to 24 months and, although age range of participants was similar, groups were otherwise heterogenous. The primary outcome measures were assessed using rating scores or scales for pain and function, but the choice of tool varied between study.

The review found no significant improvement in the primary outcome for the operative group in three RCTs, including the two recent RCTs exclusively involving participants with symptomatic tears and OA, and thus the only double blinded study. Most patients undergoing conservative management in the included studies showed clinically significant improvements, particularly for those with moderate OA.

Whilst the review authors concluded that "patients with symptomatic meniscal tears and degenerative changes in the knee can benefit from arthroscopic meniscectomy", the variation in study methodology and the lack of positive findings in the higher evidence papers questions this conclusion.

Appendix 1 – References

This section lists the references used to inform the review. Where it is relevant to provide further context or detail, content of the publication has been included in a condensed form with the intention of making it easier for Task & Finish group members to assimilate information. Full text can be found in the source documents.

Reference	Evidence level	Source	Citation or Title	Content
1	Other	The Knee	Stefan Lazic, Oliver Boughton, Caroline Hing, Jason Bernard, Arthroscopic washout of the knee: A procedure in decline, The Knee, Volume 21, Issue 2, 2014	Reference to inform background information.
2	Other	NICE (full guideline)	NICE guideline: Osteoarthritis: care and management 2008	Offer advice on the following core treatments to all people with clinical osteoarthritis: • Access to appropriate information (see recommendation 1.3.1). • Activity and exercise (see recommendation 1.4.1). • Interventions to achieve weight loss if the person is overweight or obese. Advise people with osteoarthritis to exercise as a core treatment, irrespective of age, comorbidity, pain severity or disability. Healthcare professionals should consider offering paracetamol for pain relief in addition to core treatments; regular dosing may be required. Paracetamol and/or topical non-steroidal anti-inflammatory drugs (NSAIDs) should be considered ahead of oral NSAIDs, cyclo-oxygenase 2 (COX-2) inhibitors or opioids. If paracetamol or topical NSAIDs are insufficient for pain relief for people with osteoarthritis, then the addition of opioid analgesics should be considered. Risks and benefits should be considered, particularly in older people. Do not refer for arthroscopic lavage and debridement as part of treatment for osteoarthritis, unless the person has knee osteoarthritis with a clear history of mechanical locking (as opposed to morning joint stiffness, 'giving way' or X-ray evidence of loose bodies).
3	Other	NICE	Interventional procedures guidance: Arthroscopic knee washout, with or without debridement, for the treatment of osteoarthritis 2007 (updated 2008)	Osteoarthritis of the knee can cause pain, stiffness, swelling and difficulty in walking. An arthroscopic knee washout involves flushing the joint with fluid, which is introduced through small incisions in the knee. The procedure is often done with debridement, which is the removal of loose debris around the joint. Arthroscopic knee washout, with or without debridement, is used to treat osteoarthritis of the knee. Osteoarthritis of the knee is the result of progressive degeneration of the cartilage of the joint surface.

				Treatment options depend on the severity of the osteoarthritis. The condition is usually chronic, and patients may have several treatment strategies applied at different stages. Conservative treatments include medication to relieve pain and inflammation, and physiotherapy. If there is a knee-joint effusion, fluid around the knee may be aspirated with a needle (arthrocentesis). Corticosteroids or hyaluronic acid are sometimes injected into the knee joint. If these treatments are ineffective, a knee replacement operation may be necessary. It is difficult to predict before arthroscopic washout which patients will have lesions suitable for debridement and there is very little evidence to guide selection. Specialist Advisers stated that there is uncertainty about the efficacy of this procedure. They listed the key efficacy outcomes as relief of pain and reduction of mechanical symptoms. Current evidence suggests that arthroscopic knee washout alone should not be used as a treatment for osteoarthritis because it cannot demonstrate clinically useful benefit in the short or long term. Further recommendations have been made as part of the clinical guideline on osteoarthritis published in February 2008, as follows: *Referral for arthroscopic lavage and debridement should not be offered as part of treatment for osteoarthritis, unless the person has knee osteoarthritis with a clear history of mechanical locking (not gelling, 'giving way' or X-ray evidence of loose bodies).*
4	Other	BOA/BASK Statement	Joint statement from the British Orthopaedic Association and the British Association for Surgery of the Knee. 2015	BOA/BASK released a joint statement in response to media reports relating to research published in the BMJ "Arthroscopic surgery for degenerative knee: systematic review and meta-analysis of benefits and harms" (see below). In this statement, the authors highlighted the issue of the increasing use of MRI scans in the primary assessment of patients' symptoms, which may be contributing to an over diagnosis of meniscal lesions (which are common and are of uncertain relevance in the context of knee OA). These findings may then lead to the patient being offered a surgical repair of these lesions. Advice includes: • Patients with advanced bone on bone arthritis should not generally be treated with arthroscopy. They need conservative treatment and when that is no longer efficacious, joint replacement is often appropriately advised • The grey area is the patient with some degree of arthritis but with acute on chronic pain and evidence of mechanical symptoms due to a meniscus tear. The decision on whether to operate in that circumstance is a finely balanced clinical decision. Some patients benefit and some do not. The patient may well not be in severe enough pain for a joint replacement so apart from a steroid injection, weight loss, analgesics and modification of lifestyle (again primary care interventions), a knee arthroscopy would be the next step.

				Any operation, including arthroscopy, is not without a degree of risk and it should not be recommended lightly. Informed consent, discussing risks and benefits, always need to be discussed with the patient and the decision to do a knee arthroscopy is a joint process between the patient and surgeon.
5	Level 1	Cochrane review	Arthroscopic debridement for knee osteoarthritis (Review) Laupattarakasem W, Laopaiboon M, Laupattarakasem P, Sumananont C 2008	Arthroscopic debridement (AD) consists of tidal irrigation to wash out all debris. Unstable chondral flaps, redundant synovia, degenerated menisci and ligaments, loose bodies and osteophytes are shaved away or burred down by using mechanical instruments. AD can by no means stop the degenerative process inherent in the disease, and the full thickness chondral defect is not healed. AD is expected to remove chemical and mechanical components that contribute to the symptoms of OA (Smith 1997; Cameron 2004). Although pain and functions might be improved for a certain postoperative period, it is expected that the symptoms will return over time. The authors reviewed the available literature demonstrating effectiveness from AD (which mostly consisted of level 3 evidence studies). These studies gave conflicting results in terms of the effectiveness of AD on OA symptoms. Those studies demonstrating benefit showed varying levels of improvement (40-75%) in pain and function, with better effect in those with earlier stage disease. The review found that the reports examined proposed AD as a temporary treatment for knee OA and that effects lasted in the most part two to five years. This review looked at randomised controlled trials (RCTs) and controlled clinical trials (CCTs) showing the outcomes of arthroscopic debridement of the knee compared with other surgical interventions (such as placebo or "sham" surgery) and non-surgical interventions in patients with primary or secondary OA. Patients with other joint involvement or other conditions requiring long-term NSAIDs were excluded. In addition AD combined with other procedures was also excluded. The primary outcomes were to assess the effectiveness of AD in knee OA in terms of improvements in pain and function. Secondary outcomes were to assess the stage or severity of OA where AD is most effective and the expected duration of effectiveness. The study only reviewed arthroscopic debridement of the knee. It was assumed that the procedure may also have included shaving, lavage, drilling, microfracture technique or abrasion arthroplasty, unless the study specifically stated that they were not used. Therefore the use of lavage was not assessed in distinction from debridement. The control could be any non-surgical intervention or comparative operation such as chondrocytes implantation, corrective osteotomy and replacement arthroplasty, including sham or placebo surgery. Three RCTs were included with 271 patients. The studies had different comparison groups and a moderate risk of bias. One study compared AD with lavage and with sham surgery. Compared to lavage the study found no significant difference. Compared to sham surgery placebo, the study found worse outcomes for AD at two

				weeks (WMD for pain 8.7, 95% CI 1.7 to 15.8, and function 7.7, 95% CI 1.1 to 14.3; NNTH=5) and no significant difference at two years. The second trial, at higher risk of bias, compared AD and arthroscopic washout, and found that AD significantly reduced knee pain compared to washout at five years (RR 5.5, 95% CI 1.7 to 15.5; NNTB=3). The third trial, also at higher risk of bias, compared AD to closed-needle lavage, and found no significant difference. The authors concluded that there is "gold" level evidence that arthroscopic debridement of the knee has no benefit for undiscriminated OA (mechanical or inflammatory causes).
6	Other	RCS/BOA/BASK	Commissioning guide: Painful osteoarthritis of the knee, 2013	Reference to inform background information.
7	Level 5	The Journal of the American Academy of Orthopaedic Surgeons	A Hunt, Stephen & Jazrawi, Laith & Sherman, Orrin. (2002). Arthroscopic Management of Osteoarthritis of the Knee. The Journal of the American Academy of Orthopaedic Surgeons. 10. 356-63.	Reference to inform background information.
8	Level 1	BMJ Systematic review	Arthroscopic surgery for degenerative knee: systematic review and meta-analysis of benefits and harms J B Thorlund, C B Juhl, E M Roos, L S Lohmander 2015	The objectives of the study were to determine benefits and harms of arthroscopic knee surgery (including partial meniscectomy and debridement) in middle aged or older patients with knee pain and degenerative knee disease. The knees of these patients often show degenerative changes but population based studies using MRI demonstrate that incidental findings of degenerative changes are very common in people without knee symptoms and x-ray signs of OA, which raises the question of the clinical significance of these changes. The study included randomised controlled trials assessing the benefits (pain and physical function) of arthroscopic surgery involving partial meniscectomy, debridement, or both for patients with or without osteoarthritis compared with non-surgical treatments such as sham surgery (including lavage), exercise, and medical treatment. All but one of the nine randomised clinical trials to date of arthroscopic surgery in middle aged or older people with persistent knee pain failed to show an added benefit of interventions including arthroscopic surgery over a variety of control treatments The main outcome measures of the systematic review were pain and physical function. RCTs assessing benefit of arthroscopic surgery involving partial meniscectomy, debridement, or both for patients with or without radiographic signs of osteoarthritis were included. For harms, cohort studies, register based studies, and case series were also allowed. The review also included an assessment of harms based on evidence from cohort

				studies, case series and register based studies published since 2000. The most frequent harm reported was deep vein thrombosis (four events per 1000 procedures), followed by infection, pulmonary embolism and rarely death (0.96 events per 1000 procedures). The authors comment that the heterogeneity for harms was large, with inconsistency in terminology and reporting of adverse events between the studies. The review found that there was a small but statistically significant benefit from arthroscopic surgery compared with control treatments in terms of pain relief from 3-24 months post-surgery. However the benefit was limited in time and absent at one to two years after surgery. Knee arthroscopy is associated with harms. The authors concluded that these findings do not support the practice of arthroscopic surgery for middle aged or older patients with knee pain with or without signs of osteoarthritis.
9	Other	British Medical Bulletin	Papalia, Rocco & Del Buono, Angelo & Osti, Leonardo & Denaro, Vincenzo & Maffulli, Nicola. (2011). Meniscectomy as a risk factor for knee osteoarthritis: A systematic review. British medical bulletin. 99. 89-106	Reference to inform background information.
10	Level 3	Osteoarthritis and Cartilage	The risk of osteoarthritis progression after arthroscopic partial meniscectomy (APM); data from an rct of APM vs. physical therapy, Collins, J.E. et al. Osteoarthritis and Cartilage , Volume 25 , S59	Reference to inform background information.
11	Level 1	British Journal of Sports Medicine	Eijgenraam SM, Reijman M, Bierma-Zeinstra SMA, et al Can we predict the clinical outcome of arthroscopic partial meniscectomy? A systematic review. Br J Sports Med 2018;52:514-521.	Reference to inform background information.
12	Level 1		Brignardello-Petersen R, Guyatt GH, Buchbinder R, et al Knee arthroscopy versus conservative management in patients with degenerative knee disease: a systematic review BMJ Open 2017;7:e016114. doi: 10.1136/bmjopen-2017-016114	**Objective** To determine the effects and complications of arthroscopic surgery compared with conservative management strategies in patients with degenerative knee disease. **Design** Systematic review. **Main outcome measures** Pain, function, adverse events. **Eligibility criteria** For effects, randomised clinical trials (RCTs) comparing arthroscopic surgery with a conservative management strategy (including sham surgery) in patients with degenerative knee disease. For complications, RCTs and observational studies. **Review methods** Two reviewers independently extracted data and assessed risk

				of bias for patient-important outcomes. A parallel guideline committee (BMJ Rapid Recommendations) provided input on the design and interpretation of the systematic review, including selection of patient-important outcomes. We used the GRADE approach to rate the certainty (quality) of the evidence. **Results** We included 13 RCTs and 12 observational studies. With respect to pain, the review identified high-certainty evidence that knee arthroscopy results in a very small reduction in pain up to 3 months (mean difference =5.4 on a 100-point scale, 95% CI 2.0 to 8.8) and very small or no pain reduction up to 2 years (mean difference =3.1, 95% CI −0.2 to 6.4) when compared with conservative management. With respect to function, the review identified moderate-certainty evidence that knee arthroscopy results in a very small improvement in the short term (mean difference =4.9 on a 100-point scale, 95% CI 1.5 to 8.4) and very small or no improved function up to 2 years (mean difference =3.2, 95% CI −0.5 to 6.8). Alternative presentations of magnitude of effect, and associated sensitivity analyses, were consistent with the findings of the primary analysis. Low-quality evidence suggested a very low probability of serious complications after knee arthroscopy. **Conclusions** Over the long term, patients who undergo knee arthroscopy versus those who receive conservative management strategies do not have important benefits in pain or function. The review summarised continuous outcomes (pain, function and QoL) at study level, looking at changes from baseline between the groups. All patient-reported continuous outcome scores were transformed to the scale of an index instrument and pooled results of all studies using the mean difference as the summary measure. This resulted in a score from 0 to 100 for each outcome. They then assessed the minimally important difference (MID) for each of the instruments to determine the proportion of patients who reached a change in the outcome that was larger than a MID. The studies included in the assessment of adverse events were of variable quality and inconsistent in their results. There was low risk of serious harm from arthroscopy. There was a small risk of VTE and infection.
13	Level 2	The New England Journal of Medicine	Sihvonen R , Paavola M , Malmivaara A , et al Arthroscopic partial meniscectomy versus sham surgery for a degenerative meniscal tear. N Engl J Med 2013;369:2515–24	**Background** Arthroscopic partial meniscectomy is one of the most common orthopedic procedures, yet rigorous evidence of its efficacy is lacking. **Methods** We conducted a multicenter, randomized, double-blind, sham-controlled trial in 146 patients 35 to 65 years of age who had knee symptoms consistent with a degenerative medial meniscus tear and no knee osteoarthritis. Patients were randomly assigned to arthroscopic partial meniscectomy or sham surgery. The primary outcomes were changes in the Lysholm and Western Ontario Meniscal Evaluation Tool (WOMET) scores (each ranging from 0 to 100, with lower scores indicating more severe symptoms) and in knee pain after exercise (rated on a scale from 0 to 10, with 0 denoting no pain) at 12 months after the procedure. **Results**

				In the intention-to-treat analysis, there were no significant between-group differences in the change from baseline to 12 months in any primary outcome. The mean changes (improvements) in the primary outcome measures were as follows: Lysholm score, 21.7 points in the partial-meniscectomy group as compared with 23.3 points in the sham-surgery group (between-group difference, −1.6 points; 95% confidence interval [CI], −7.2 to 4.0); WOMET score, 24.6 and 27.1 points, respectively (between-group difference, −2.5 points; 95% CI, −9.2 to 4.1); and score for knee pain after exercise, 3.1 and 3.3 points, respectively (between-group difference, −0.1; 95% CI, −0.9 to 0.7). There were no significant differences between groups in the number of patients who required subsequent knee surgery (two in the partial-meniscectomy group and five in the sham-surgery group) or serious adverse events (one and zero, respectively). **Conclusions** In this trial involving patients without knee osteoarthritis but with symptoms of a degenerative medial meniscus tear, the outcomes after arthroscopic partial meniscectomy were no better than those after a sham surgical procedure.
14	Other	World Journal of Orthopedics	Ha AY, Shalvoy RM, Voisinet A, Racine J, Aaron RK. Controversial role of arthroscopic meniscectomy of the knee: A review. World Journal of Orthopedics. 2016;7(5):287-292.	Reference to inform background information.
15	Level 1	Canadian Medical Association Journal	Arthroscopic surgery for degenerative tears of the meniscus: a systematic review and meta-analysis Moin Khan, Nathan Evaniew, Asheesh Bedi, Olufemi R. Ayeni, Mohit Bhandari CMAJ Oct 2014, 186 (14) 1057-1064	**Background**: Arthroscopic surgery for degenerative meniscal tears is a commonly performed procedure, yet the role of conservative treatment for these patients is unclear. This systematic review and meta-analysis evaluates the efficacy of arthroscopic meniscal débridement in patients with knee pain in the setting of mild or no concurrent osteoarthritis of the knee in comparison with nonoperative or sham treatments. **Methods**: We searched MEDLINE, Embase and the Cochrane databases for randomized controlled trials (RCTs) published from 1946 to Jan. 20, 2014. Two reviewers independently screened all titles and abstracts for eligibility. We assessed risk of bias for all included studies and pooled outcomes using a random-effects model. Outcomes (i.e., function and pain relief) were dichotomized to short-term (< 6 mo) and long-term (< 2 yr) data. **Results**: Seven RCTs (n = 805 patients) were included in this review. The pooled treatment effect of arthroscopic surgery did not show a significant or minimally important difference (MID) between treatment arms for long-term functional outcomes (standardized mean difference [SMD] 0.07, 95% confidence interval [CI] −0.10 to 0.23). Short-term functional outcomes between groups were significant but did not exceed the threshold for MID (SMD 0.25, 95% CI 0.02 to 0.48). Arthroscopic surgery did not result in a significant improvement in pain scores in the short term (mean difference [MD] 0.20, 95% CI −0.67 to 0.26) or in the long term (MD −0.06, 95% CI −0.28 to 0.15). Statistical heterogeneity was low to moderate for the outcomes. **Interpretation**: There is moderate evidence to suggest that there is no benefit to

				arthroscopic meniscal débridement for degenerative meniscal tears in comparison with nonoperative or sham treatments in middle-aged patients with mild or no concomitant osteoarthritis. A trial of nonoperative management should be the first-line treatment for such patients
16	Other	Annals of the Rheumatic Diseases	Sihvonen R, Paavola M, Malmivaara A The FIDELITY (Finnish Degenerative Meniscal Lesion Study) Investigators*, et al.* Arthroscopic partial meniscectomy versus placebo surgery for a degenerative meniscus tear: a 2-year follow-up of the randomised controlled trial Annals of the Rheumatic Diseases 2018;77:188-195.	**Objective** To assess if arthroscopic partial meniscectomy (APM) is superior to placebo surgery in the treatment of patients with degenerative tear of the medial meniscus. **Methods** In this multicentre, randomised, participant-blinded and outcome assessor-blinded, placebo-surgery controlled trial, 146 adults, aged 35–65 years, with knee symptoms consistent with degenerative medial meniscus tear and no knee osteoarthritis were randomised to APM or placebo surgery. The primary outcome was the between-group difference in the change from baseline in the Western Ontario Meniscal Evaluation Tool (WOMET) and Lysholm knee scores and knee pain after exercise at 24 months after surgery. Secondary outcomes included the frequency of unblinding of the treatment-group allocation, participants' satisfaction, impression of change, return to normal activities, the incidence of serious adverse events and the presence of meniscal symptoms in clinical examination. Two subgroup analyses, assessing the outcome on those with mechanical symptoms and those with unstable meniscus tears, were also carried out. **Results** In the intention-to-treat analysis, there were no significant between-group differences in the mean changes from baseline to 24 months in WOMET score: 27.3 in the APM group as compared with 31.6 in the placebo-surgery group (between-group difference, −4.3; 95% CI, −11.3 to 2.6); Lysholm knee score: 23.1 and 26.3, respectively (−3.2; −8.9 to 2.4) or knee pain after exercise, 3.5 and 3.9, respectively (−0.4; −1.3 to 0.5). There were no statistically significant differences between the two groups in any of the secondary outcomes or within the analysed subgroups. **Conclusions** In this 2-year follow-up of patients without knee osteoarthritis but with symptoms of a degenerative medial meniscus tear, the outcomes after APM were no better than those after placebo surgery. No evidence could be found to support the prevailing ideas that patients with presence of mechanical symptoms or certain meniscus tear characteristics or those who have failed initial conservative treatment are more likely to benefit from APM.
17	Level 1 (However caution regarding quality of underlying studies)	The Bone & Joint Journal	The role for arthroscopic partial meniscectomy in knees with degenerative changes. Lamplot JD, Brophy RH, Bone Joint J 2016;98-B:934–8.	**Aims** Patients with osteoarthritis of the knee commonly have degenerative meniscal tears. Arthroscopic meniscectomy is frequently performed, although the benefits are debatable. Recent studies have concluded that there is no role for arthroscopic washout in osteoarthritis of the knee**.** Our aim was to perform a systematic review to assess the evidence for the efficacy of arthroscopic meniscectomy in patients with meniscal tears and degenerative changes in the knee. **Patients and Methods** A literature search was performed, using the PubMed/MEDLINE database, for relevant articles published between 1975 and 2015. A total of six studies, including five randomised controlled trials and one cross-sectional study of a prospective

				cohort, met the inclusion criteria. Relevant information including study design, operations, the characteristics of the patients, outcomes, adverse events and further operations were extracted. **Results** The degree of osteoarthritis in the patients who were included and the rate of cross over from one form of treatment to another varied in the studies. Two randomised controlled trials showed a benefit of arthroscopic surgery in patients with limited degenerative joint disease, compared with conservative treatment. One cross-sectional study showed that patients with less severe degenerative changes had better outcomes. **Conclusion** Patients with symptomatic meniscal tears and degenerative changes in the knee can benefit from arthroscopic meniscectomy, particularly if the osteoarthritis is mild. A trial of conservative management may be effective and should be considered, especially in patients with moderate osteoarthritis.

Appendix 2 – Current CCG policies and new LCW policy

North East London (NEL)		North Central London (NCL)	South West London (SWL)	South East London (SEL)	North West London (NWL)	LCW
WELC	**BHR**	**NCP Pod**		**SEL TAP**		
City & Hackney Newham Tower Hamlets Waltham Forest	Barking Havering Redbridge	Barnet Camden Enfield Haringey Islington	Croydon Kingston Merton Richmond Sutton Wandsworth	Bexley Bromley Greenwich Lambeth Lewisham Southwark	Brent Central Ealing Hammersmith & Fulham Harrow Hillingdon Hounslow West London	
Latest policy 2015-16	**Latest policy 2018**	**Latest policy 2015-16**	**Latest policy 2017-18**	**Latest policy 2017**	**Latest policy 2017-18**	**June 2018**
Knee washout for osteoarthritis: ▪ This intervention is not routinely funded. ▪ Referral for arthroscopic lavage and debridement should only be considered in the few patients with knee osteoarthritis AND a clear history of mechanical locking i.e. not gelling, 'giving way' or X-ray evidence of loose bodies.	Knee washout for osteoarthritis: BHR CCGs will not routinely fund knee washout for osteoarthritis. With prior approval, funding requests for arthroscopic lavage and debridement should only be considered in the few patients for patients who meet all of the following criteria: · knee osteoarthritis AND · a clear	Knee washout (in patients with knee osteoarthritis) This procedure is not routinely funded by the NCL CCGs and will only be considered for funding if the criteria below are met and evidenced. Criteria for eligibility NCL will only fund arthroscopic lavage and debridement in patients with knee osteoarthritis for the following indications: · Patients with a clear history of true mechanical locking. NICE guidance states that arthroscopic lavage and debridement alone should not be used as a treatment for osteoarthritis unless the	Clinical threshold SWL CCGs fund this procedure when ALL of the criteria 1 and 2 are met. 1. Patient has/needs a) Loose body that has not responded to at least 6 months of conservative treatment OR b) Loose body with locking OR c) Meniscal repair or partial meniscectomy for traumatic meniscal tears OR d) Degenerative meniscal tears causing mechanical locking that has not responded to at least three months of conservative treatment OR e) Ligament reconstruction/ repair (including lateral	Knee washout and debridement for osteoarthritis: NICE Guidance (2008) states that "exercise should be a core treatment for people with osteoarthritis, irrespective of age, comorbidity, pain severity or disability". Analgesia for pain relief is also important and is detailed in the NICE document. Neither Cochrane reviews nor NICE found benefits from knee washout or debridement for the treatment of osteoarthritis. Therefore, as recommended by NICE 2008: Referral for arthroscopic lavage and debridement should not be offered as part of treatment for	Referral for knee arthroscopy should be considered only in the following situations: · Removal of loose body · A clear history of mechanical locking in a patient with osteoarthritis. · Meniscal surgery (repair or resection) · Ligament reconstruction/ repair (including lateral release) · Synovectomy or synovial biopsy · Suspected chondral lesion Use of knee arthroscopy as a diagnostic tool will only be funded in the following situations: · Patients with medial knee pain where the Plica syndrome is suspected.	In ordinary circumstances*, funding for arthroscopic lavage and debridement for the treatment of knee osteoarthritis is available for patients who have a clear history of a truly locked knee (i.e. inability of knee extension on clinical examination, as opposed to morning joint stiffness (aka gelling), 'giving way' or X-ray evidence of loose bodies). * If clinician considers need for referral/treatment on clinical grounds outside of these criteria, please refer to the CCG Individual Funding Request policy for further information. Arthroscopy will not be routinely funded for the

	history of mechanical locking i.e. true locking, not gelling, 'giving way' or X-ray evidence of loose bodies	patient has knee osteoarthritis with a clear history of mechanical locking NOT gelling, giving way or X-ray evidence of loose bodies because it cannot demonstrate clinically useful benefit in the short or long term. Autologous chondrocyte implantation (ACI) This procedure is not routinely funded by the NCL CCGs and will only be considered for funding if the criteria below are met and evidenced. NICE has produced technical guidance on the use of autologous chondrocyte implantation (ACI). Criteria for eligibility · ACI is NOT recommended for the treatment of articular cartilage defects except in the context of on-going or new clinical studies that are designed to generate robust and relevant outcome data. · NCL CCGs will not routinely fund health care interventions that NICE has not recommended they should only be undertaken in the context of research. Clinicians wishing to undertake such procedures should	release) that has not responded to at least three months of conservative treatment OR f) Detailed understanding of the degree of compartment damage because imaging was inadequate (e.g. considering patients for certain surgical interventions such as high tibial osteotomy). AND 2. Patient has been engaged in shared decision making to ensure he/she is well informed about the treatment options available and personal values, preferences and circumstances are taken into consideration NB: It is recommended that the SWL Patient Decision Aid is completed. This needs to be recorded in the patient's medical notes, including the written or other materials provided. Please note: SWL CCGs do not routinely fund the following procedures: · Routine lavage (knee washout), except in cases of mechanical locking of the knee due to loose bodies · Procedures restricted by NICE, e.g. knee meniscus replacement with biodegradable	knee osteoarthritis, unless the person has a clear history of mechanical locking (not gelling, 'giving way' or X-ray evidence of loose bodies).	· When Chondromalacia patellae is suspected Arthroscopy will not be funded for the following indications: · As part of treatment for osteoarthritis. · Use of knee arthroscopy as a primary diagnostic tool Intractable knee pain which may benefit from arthroscopic treatment may be funded under exceptional circumstances. Note: Patients who smoke should have attempted to stop smoking 8 to12 weeks before referral to reduce the risk of surgery and the risk of post-surgery complications. Patients should be routinely offered referral to smoking cessation services to reduce these surgical risks.	treatment of osteoarthritis (other than in the circumstances above).

		ensure they fulfil the normal requirements for undertaking research.	scaffold mosaicplasty, autologous chondrocyte implantation and trochleoplasty for patellar instability · Debridement, except in cases where there is mechanical locking · Use as a diagnostic tool, except in cases where there is on-going diagnostic uncertainty following both clinical examination and non-invasive imaging procedures (e.g. MRI) conducted by specialists. Referral for specialist consultation Prior to referral to specialist consultation conservative treatment options must be tried for 12 months. Conservative treatments include the following: Lifestyle advice Optimum pharmacological treatments Self-, or physiotherapy-guided mobilisation and strengthening exercises. Patients with mechanical locking or symptoms that worsen with conservative treatment, should be referred after shorter periods of conservative treatment. MRIs Referral for MRI scans should only be made by secondary care consultants or specialists			

			working in CCG-commissioned MSK services. Primary care should also utilise conferral systems, such as Kinesis where primary care can liaise with providers, to seek specialist advice if needed.			

Appendix 3 – OPCS codes

OPCS Codes covered within this review (and ultimately for inclusion in the policy). These are the same procedure codes referenced in the NICE guideline and the BOA commissioning guide.

Note that this list is not exhaustive and can be added to at CCG level during implementation of policy.

OPCS4	W822	Endoscopic resection of semilunar cartilage NEC
OPCS4	W851	Endoscopic removal of loose body from knee joint
OPCS4	W852	Endoscopic irrigation of knee joint
OPCS4	W858	Other specified therapeutic endoscopic operations on cavity of knee joint
OPCS4	W833	Endoscopic shaving of articular cartilage
OPCS4	Z846	Knee joint
OPCS4	Y767	Arthroscopic approach to joint
OPCS4	W802	Open debridement of joint NEC
OPCS4	W801	Open debridement and irrigation of joint
OPCS4	W803	Open irrigation of joint NEC
OPCS4	W808	Other specified debridement and irrigation of joint
OPCS4	W809	Unspecified debridement and irrigation of joint

OPCS4	W714	Open autologous chondrocyte implantation into articular structure
OPCS4	W823	Endoscopic repair of semilunar cartilage
OPCS4	W828	Other specified therapeutic endoscopic operations on semilunar cartilage
OPCS4	W829	Unspecified therapeutic endoscopic operations on semilunar cartilage
OPCS4	W834	Endoscopic articular abrasion chondroplasty
OPCS4	W835	Endoscopic articular thermal chondroplasty
OPCS4	W836	Endoscopic excision of articular cartilage NEC
OPCS4	W838	Other specified therapeutic endoscopic operations on other articular cartilage
OPCS4	W821	Endoscopic total excision of semilunar cartilage
OPCS4	W859	Unspecified therapeutic endoscopic operations on cavity of knee joint
OPCS4	W879	Unspecified diagnostic endoscopic examination of knee joint
OPCS4	W891	Endoscopic chondroplasty NEC

OPCS4	W871	Diagnostic endoscopic examination of knee joint and biopsy of lesion of knee joint
OPCS4	W892	Endoscopic harvest of autologous chondrocytes

Appendix 4 – ICD-10 codes

Below outlines the proposed ICD-10 codes for inclusion in the policy.

Note: This list can be added to at CCG level during implementation of policy.

M17.0	Bilateral primary osteoarthritis of knee
M17.1	Unilateral primary osteoarthritis of knee
M17.2	Bilateral post-traumatic osteoarthritis of knee
M17.3	Unilateral post-traumatic osteoarthritis of knee
M17.4	Other bilateral secondary osteoarthritis of knee
M17.5	Other unilateral secondary osteoarthritis of knee
M17.9	Osteoarthritis of knee, unspecified