GUIDELINES FOR THE MANAGEMENT OF CHRONIC KNEE PROBLEMS

The following guidelines are divided according to the predominant presenting symptom:

A. KNEE PAIN WITH SYSTEMIC SYMPTOMS
B. KNEE PAIN
C. SWELLING
D. GIVING WAY
E. LOCKING

A. KNEE PAIN + SYSTEMIC SYMPTOMS

COMMON DIAGNOSES	HISTORY	EXAMINATION	INVESTIGATIONS	MANAGEMENT
Tumour	General malaise Weight loss Persistent pain Previous malignancy	Bony tenderness Signs of 1°neoplasm	Abnormal plain XRs FBC, CRP, LFTs, bone chemistry Serum electrophoresis	Urgent referral
Infection	Fever Night sweats General malaise Persistent pain	Febrile Effusion Severe pain on passive movement	FBC, CRP, blood cultures Consider aspiration (send fluid to microbiology for culture + cytology for crystals)	Emergency referral
Inflammatory arthropathy (e.g. rheumatoid arthritis)	Polyarticular involvement Morning stiffness	Joint swelling Rheumatoid nodules	FBC, CRP RhF, ANA, HLA-B27 Consider aspiration (send fluid to microbiology for culture + cytology for crystals)	Rheumatology referral

B. KNEE PAIN

COMMON DIAGNOSES	HISTORY	EXAMINATION	INVESTIGATIONS	MANAGEMENT
Osteoarthritis	Older patient (usually >40 years) No history of recent injury Progressive onset of pain	Varus or valgus standing deformity Crepitus Stiffness	Joint space narrowing on weight-bearing XR	Simple analgesia Weight loss Walking aids (e.g. stick) Strengthening + stretching exercises Low impact activity Intra-articular corticosteroid Referral to specialist clinic: failure of non-surgical management, disabling pain, progressive deformity Contra-indications to surgery: recent or current sepsis, severe vascular disease, poor general health
Patellofemoral pain	Any age Anterior knee pain Pain worse on stairs Sitting pain	Patellofemoral clicking Patellofemoral crepitus	Patellar tilt or subluxation may be seen on skyline XR	Simple analgesia Exercises: quadriceps strengthening + hamstring stretching Minimise activities involving weight-bearing in flexion Orthotic assessment Referral to specialist clinic: failure of non-surgical management
Meniscal tear	Younger patient History of injury Mechanical pain Locking or catching	Joint line tenderness	Consider MRI	Referral to specialist clinic: locked knee (urgent), clear clinical features, MRI-proven diagnosis

Also consider: referred pain from lumbar spine or hip

Mechanical pain = intermittent, well-localised pain related to activity

C. SWELLING (intra-articular effusion or extra-articular swelling)

COMMON DIAGNOSES	HISTORY	EXAMINATION	INVESTIGATIONS	MANAGEMENT
Infection	See KNEE PAIN + SYSTEMIC SYMPTOMS			
Inflammatory arthritis	See KNEE PAIN + SYSTEMIC SYMPTOMS			
Osteoarthritis	See KNEE PAIN			
Meniscal tear	See KNEE PAIN			
Bursitis	Anterior pain + swelling	Extra-articular swelling (pre-patellar or infra-patellar)		Consider aspiration Simple analgesia Rest (e.g. extension splint) Activity modification Emergency referral if infected bursitis suspected
Posterior knee effusion or popliteal cyst ('Baker's cyst')	Posterior swelling	Posterior swelling Exclude DVT		Usually treat underlying cause of knee effusion Consider emergency referral if DVT suspected

D. GIVING WAY

COMMON DIAGNOSES	HISTORY	EXAMINATION	INVESTIGATIONS	MANAGEMENT
Ligament injury (e.g. ACL rupture)	History of twisting injury Episodes of giving way or lack of confidence during activity	Increased joint laxity: on varus stress, valgus stress or AP translation (anterior draw or Lachman test)	Consider MRI	Physiotherapy regime Activity modification Referral to specialist clinic: wishes to return to activities involving pivoting or jumping, frequent instability, adolescent
Patellofemoral instability (recurrent dislocation or subluxation)	Episodes of dislocation or episodes of 'catching' or giving way	Patellofemoral maltracking	Patellar tilt or subluxation may be seen on skyline XR	Quadriceps strengthening exercises Referral to specialist clinic: failure of non-surgical management, obvious maltracking
Locking or catching	See LOCKING			
Pain inhibition of quadriceps	See KNEE PAIN			

Patellofemoral tracking = the path of the patella as the knee is extended from a flexed position (e.g. with the patient sitting with their legs hanging over the edge of the examination couch)
Maltracking may be seen as a 'J' sign (the patella moves laterally as the knee reaches full extension)

E. LOCKING (sudden inability to extend knee fully due to a mechanical block)

COMMON DIAGNOSES	HISTORY	EXAMINATION	INVESTIGATIONS	MANAGEMENT
Meniscal tear	See KNEE PAIN			
ACL rupture	See GIVING WAY			
Loose body	Mechanical locking Palpable loose body	Palpable loose body	Loose body or osteochondral defect may be visible on XR	Referral to specialist clinic: clear clinical features, positive XR

Differentiate from:

- Pseudo-locking = inability to extend knee fully due to pain
- Catching = momentary difficulty in extending knee fully

NOTES

Abbreviations
RhF = rheumatoid factor
ANA = anti-nuclear antibody

Knee X-rays
Views to request:
- Weight-bearing AP view: standing AP (suspected osteoarthritis) or Rosenberg (younger patient)
- Lateral view
- Skyline patella view

Indications for MRI
- Equivocal clinical diagnosis of a meniscal or ACL injury
- Atypical pain

Plain XRs should be performed first
Examination by an experienced clinician may be as accurate as MRI