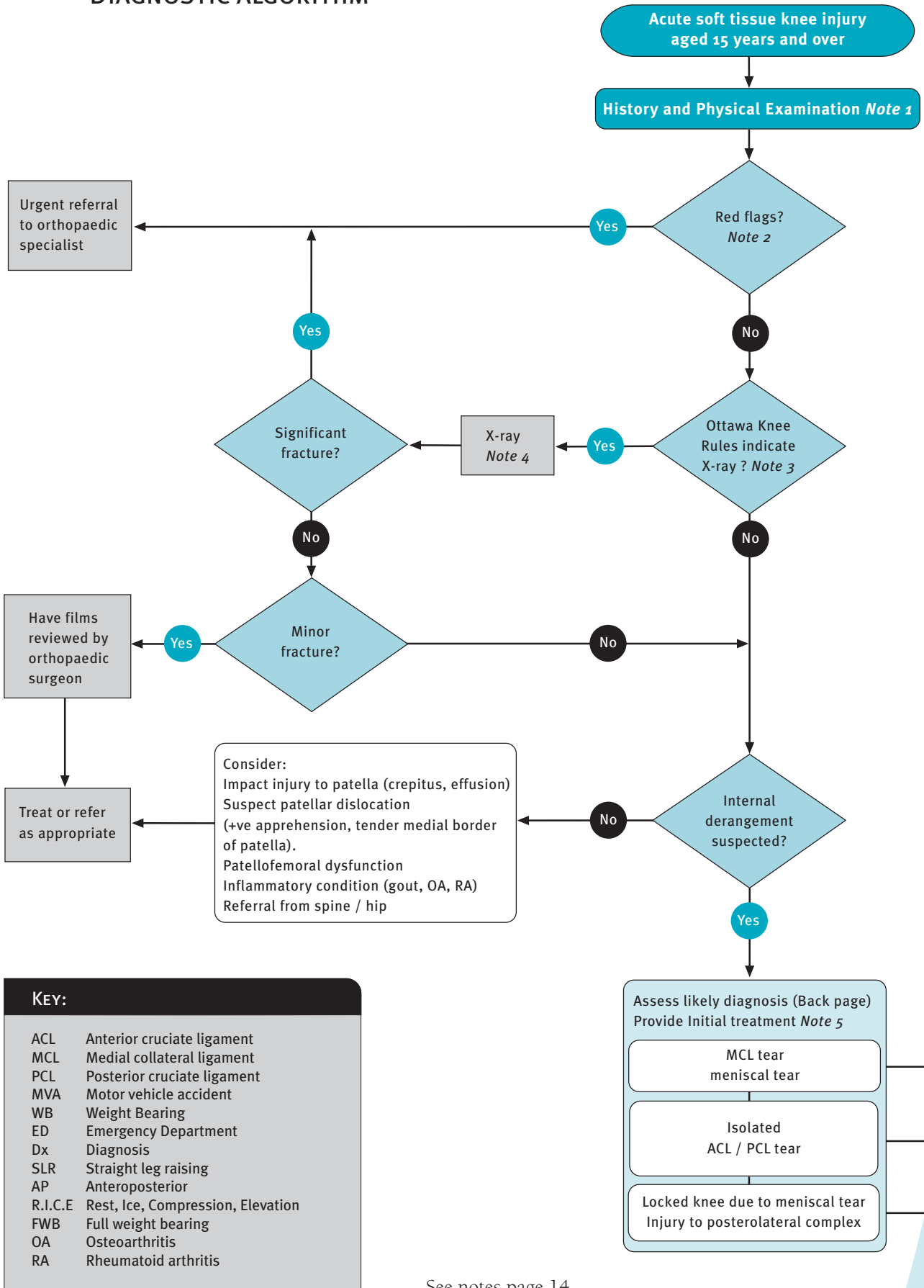


DIAGNOSTIC ALGORITHM

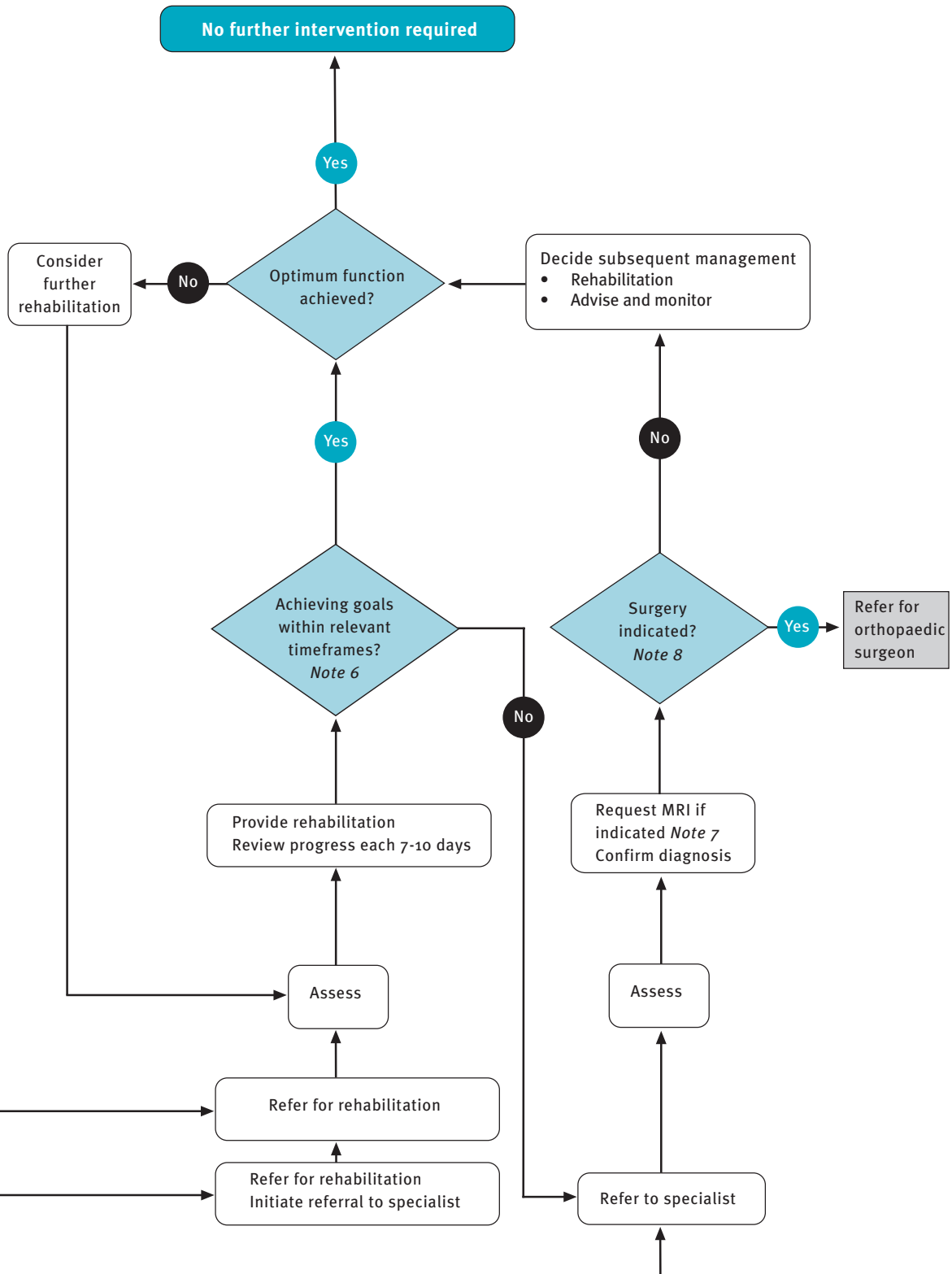


KEY:

ACL	Anterior cruciate ligament
MCL	Medial collateral ligament
PCL	Posterior cruciate ligament
MVA	Motor vehicle accident
WB	Weight Bearing
ED	Emergency Department
Dx	Diagnosis
SLR	Straight leg raising
AP	Anteroposterior
R.I.C.E	Rest, Ice, Compression, Elevation
FWB	Full weight bearing
OA	Osteoarthritis
RA	Rheumatoid arthritis

See notes page 14

MANAGEMENT ALGORITHM



NOTE 1: HISTORY AND PHYSICAL EXAMINATION

Significant History

- Mechanism of injury
- Inability to weight bear at time of injury
- Onset of swelling (extent and time frame)
- Sense of disruption / audible pop
- Locking, catching, instability
- Previous episodes, management and results
- General health / other illnesses

Significant Clinical Examination

- Swelling, bruising, abrasions, scars
- Inability to extend knee or flex knee $>90^\circ$
- Appropriate clinical tests
- Multidirectional instability

NOTE 2: RED FLAGS

- Neurovascular damage, (high velocity injury, absent pulses, foot drop, multiple plane laxity)
- Extensor mechanism rupture (unable to actively SLR; palpable gap; change in height of patella)
- Infection (fever, severe pain, Hx drug abuse)
- Bleeding disorders (Haemophilia)
- Possibility of cancer (previous Hx of tumour, persistent severe pain, night pain)

NOTE 3: OTTAWA KNEE RULES

X-ray if any of:

- Age 55+
- Tender head fibula
- Isolated tenderness patella
- Inability to flex $>90^\circ$
- Inability to bear weight (4 steps) at time of injury and in the examination

NOTE 4: X-RAY

- Standard AP with slightly flexed knee
- Horizontal across table lateral with slightly flexed knee
- AP oblique if strong suspicion of fracture not confirmed on previous views
- Skyline patellar views when patellar instability or impact injury to patella clinically suspected

NOTE 5: INITIAL TREATMENT (FIRST 72 HOURS)

- R.I.C.E.
- Paracetamol
- Aspiration if necessary
- Bracing (MCL only)

NOTE 6: REHABILITATION (ACL)

Non-operative Management Goals

- Regain joint motion and muscle strength, educate and motivate, return to work and sport, advise on activity modification if appropriate

Pre-operative Rehabilitation Goals

- Initiate rehabilitation process prior to surgery, familiarise the patient with post-operative treatment methods to gain joint motion and muscle strength, Aim for full knee extension and at least 120° flexion

Post-operative Rehabilitation Goals

- As for non-operative management, achieve clinical milestones within appropriate timeframes:

Suggested Clinical Milestones:

Acute Phase (1-3 weeks) - Full passive knee extension, $90-100^\circ$ flexion, SLR, FWB /normal gait
Intermediate Phase (weeks 4-12) - Full flexion within 8 weeks, 75-80% isometric quads strength, open kinetic chain limited to between $45-90^\circ$ (refer to text)
Functional Training (4-6 months) - Return to sport 6-9 months (85-90% isometric or isokinetic quads strength)

NB:

1. Rehabilitation is not usually indicated following arthroscopic meniscectomy. Follow surgeon's rehabilitation protocol for meniscal repairs and other ligament reconstructions or repairs
2. Review progress each 10-14 days. If not achieving goals within relevant timeframe refer to specialist

NOTE 7: INDICATIONS IMAGING MRI

- MRI should generally be used ahead of diagnostic arthroscopy
- MRI is useful when the clinical diagnosis of meniscal tear or ACL tear is difficult or in doubt
- MRI is useful for showing the true extent of a multiligament injury complex
- Atypical pain or unusual circumstances

NOTE 8: INDICATIONS FOR SURGERY FOR PEOPLE >30

ACL reconstruction

- Consider age, occupation, level of instability, level of disability
- Where modifying activity is not a viable option
- Disability and functional instability following appropriate rehabilitation

Meniscal Tears

- Disabling pain, catching and locking
- Meniscal re-attachment in younger patients

Loose body / other

- History of mechanical symptoms
- Not all radio-opacities are loose bodies: repeat X-rays are useful to see if they have moved

Diagnostic Arthroscopy

- Equivocal MRI scan
- Otherwise undiagnosed but disabling symptoms