Document Control

Title

Protocol for the Management of Knee Injuries (over 2 years of age) in MIUs

Author	**Author's job title**
Jo Hope	ED Matron
Directorate	**Department**
Medicine	Emergency Department

Version	Date Issued	Status	Comment / Changes / Approval
0.1	Dec 2015	Draft	Initial Version for Consultation
1.0	Jun 2015	Final	Approved by Liam Kevern (Clinician) and Chris Bowman (Clinical Director) June 2015 and published on Bob.
2.0	Jun 2015	Final	Reviewed and amended Karen Watts / Fionn Bellis
2.1	Nov 2018	Final	Reviewed and amended by Karen watts and ED Consultants. Approved at the Drugs and Therapeutics meeting 15/11/18.
2.2	June 2021	Final	Reviewed and no amendments required
3.0	Oct 21	Final	Approved by Divisional Governance Group

Main Contact	
Emergency Department North Devon District Hospital Raleigh Park Barnstaple, EX31 4JB	**Tel: Direct Dial** – 01271 322480 **Tel: Internal** – 2480 **Email**:

Lead Director
Medical Director

Superseded Documents
Knee Injuries (over 2 years of age) Protocol V2.1

Issue Date	**Review Date**	**Review Cycle**
June 2021	June 2024	Three years

Consulted with the following stakeholders: (list all)

- Fionn Bellis ED Consultant
- MIU Leads
- ED Consultants

Approval and Review Process

- Lead Clinician for Emergency Department

Local Archive Reference
G:\Policies and Protocols
Local Path
MIU
Filename

Knee Injuries (over 2 years of age) Protocol	
Policy categories for Trust's internal website (Bob) MIU	**Tags for Trust's internal website (Bob)** MIU

CONTENTS

1. Purpose

1.1. This protocol is for the use by staff employed by Northern Devon Healthcare Trust who have achieved the agreed clinical competencies to work under this protocol.

2. Presenting Symptoms

- Swelling
- Loss of function
- Deformity / Dislocation
- Pain
- Bruising
- Erythema
- Inability to weight bear
- Warmth
- Inflammation
- Pyrexia
- Wounds
- Abnormal gait

3. History

3.1. Refer to protocol for History Taking and Clinical Documentation.

Document a full history, including:

- Mechanism of injury to include:
- Valgus / varus stress
- Twisted flexed knee
- Forced flexion or hyperextension
- Dashboard impact
- Immediate swelling
- Swelling over several hours
- Locking of knee
- Knee giving way
- Previous knee injuries and surgery
- Tetanus status if wound present
- Anti-coagulant therapy – refer to medical practitioner for advice
- Any self-care measures taken

4. Clinical Examination

Look:

- Observe gait
- Swelling – supra patella pouch
- Deformity of patella
- Check alignment and contours of knees
- Compare both knees
- Bruising
- Erythema
- Wounds
- Scars / effusions
- Look for atrophy of the quadriceps muscles

Feel:

- Femur and hip
- Tibia femoral joint
- Tibial plateau – medially then laterally
- Patella and patella tendon
- Medial meniscus (slight internal rotation of tibia with knee in slight-flexion then palpate lateral meniscus along lateral joint line)
- Medial condyle and Medial Collateral Ligament
- Lateral condyle and Lateral Collateral Ligament
- Proximal tibia, fibula, head and neck
- Pulse distal to injury / warmth / capillary refill time

Move:

- Active / passive
- Straight leg raise – eliminates rupture quadriceps / patella tendon / transverse patella fracture avulsion tibial tubercle
- Extension (normal 0˚) – springy block meniscal tear
- Flexion > 135˚
- Knee at 90˚ flexion assess
- Anterior cruciate ligament (anterior drawer test) > 1.5cm
- Laxity abnormal (anterior cruciate ligament rupture)
- Posterior cruciate ligament posterior drawer test
- Foot drop may indicate peroneal nerve damage
- Assess the meniscus – use McMurray test
- Assess for effusion – pre patellar tap

Investigations:

- X-rays
- Use the Ottawa knee rule for AP and lateral views of the knee if appropriate

5. Treatment Pathway

Collateral Ligament Injuries

- Analgesia as per patient group direction (PGD) or over the counter (OTC) according to protocol for pain management in MIUs.
- Crutches
- Written advice for quadriceps exercises
- With haemarthrosis refer to orthopaedic team via the Emergency Department (ED)
- With laxity discuss with GP or ED to arrange follow up

Fractured Patella

- Consider bipartite patella which looks like a fracture
- Apply knee splint / crutches
- Refer to orthopaedics via the Emergency Department.
- Analgesia as per PGD or OTC according to protocol for pain management in MIUs.

Dislocated Patella

- Usually lateral dislocation
- May reduce spontaneously
- May be recurrent
- If competent to do so reduce under entonox as per PGD by gentle extension of knee and post reduction X-ray
- If unable to reduce refer to Emergency Department for reduction and continue analgesia
- Knee splint and fracture clinic follow up

Recurrent Dislocations

- Refer to fracture clinic

Cruciate Ligament Rupture

- Anterior – associated with medial ligament and medial meniscus tears
- Positive anterior drawer test and possible haemarthrosis and avulsion of anterior tibial spine
- Posterior – positive posterior drawer test
- Maybe haemarthrosis and avulsion of posterior tibial spine
- Refer to orthopaedic team via Emergency Department
- Delayed presentation refer to fracture clinic

Meniscus Injuries

- Twisting injury, pain, swelling, intermittent locking, feeling of instability
- Joint line tenderness and effusion

- May be McMurray's positive

Treatment:

- Locked knee – refer orthopaedic team via Emergency Department
- Possible meniscus tears
- Analgesia as PGD according to protocol for pain management in MIUs.
- Crutches
- Clinic or discuss with GP or ED to arrange appropriate follow up

Proximal Fibular Fractures

- May be part of Maisonneuve fracture of medial ankle

5.1. Treatment:

- Analgesia as PGD according to pain management protocol for MIUs.
- Check peroneal nerve for foot drop
- Crutches
- Fracture clinic

Tibial Plateau Fractures

- Associated with ligamentous rupture
- Look for swelling and haemarthrosis

Treatment:

- Analgesia as PGD according to pain management protocol in MIUs.
- Knee splint
- Refer to orthopaedics via Emergency Department

Ruptured Quadriceps Tendon

- Unable to straight raise leg
- Palpable defect in muscle insertion
- Analgesia as PGD according to pain management protocol in MIUs.
- Refer to orthopaedics via Emergency Department

Ruptured Patellar Tendon

- Unable to straight leg raise
- Palpable defect in patellar tendon and high riding patella
- Possible avulsed tibial tuberosity
- Analgesia as PGD according to pain management protocol in MIUs.
- Refer to orthopaedics via Emergency Department

Osgood – Shlatter's Disease

- Affects boys 10-15 years especially
- Recurrent pain and swelling over the tibial tubercle
- X-rays may indicate fragmented tibial epiphysis
- Treat with OTC analgesia
- Rest
- GP follow up

Bursitis

- Associated with kneeling
- Pre-patellar and infrapatellar

Treatment:

- OTC non-steroidal anti-inflammatory medicines
- Rest
- GP follow up
- If infection suspected refer to medical practitioner

6. Discharge Pathway

Ensure patient is issued with appropriate advice sheet (if available) and that patient understands the need to return if symptoms change or worsen.

DOCUMENTATION TO BE COMPLETED

- Clinical treatment record as per documentation and record keeping policies. Copy of clinical treatment record to General Practitioner; to be sent to surgery as per record keeping policy.

- For patients being transferred to secondary care, ensure a copy of the clinical treatment record is sent with patient. A copy will also be sent to surgery in normal manner.

For patients seeing their General Practitioner in next 24 hours a copy will also be sent to surgery in the normal manner.

BEFORE DISCHARGE ENSURE:

- Those patients who have been referred for further acute intervention has appropriate transport to meet their needs, all relevant treatment has been prescribed and administered and correct information and documentation is given to the patient.

- The patient understands that if condition deteriorates or they have further concerns they should seek further advice.

- The patient demonstrates understanding of advice given during consultation.

- The patient has been provided with written advice leaflet to re-enforce advice given during consultation.

- The patient demonstrates an understanding of how to manage subsequent problems.

7. References

- Bickley LS Szilagyi PG (2013) Bates' Guide to Physical Examination and History taking. Philadelphia: Lippincott Williams and Wilkins
- Clinical Knowledge Summaries (NICE July 2017) Knee Pain
- Clinical Knowledge Summaries (NICE March 2016) Knee sprains and strains
- Emergency Department Guidelines (2012) NDHTC
- McRae R(2006) Orthopaedics and Fractures (2nd Edition) Edinburgh: Churchill Livingstone
- Stiell IG et al.(1997) Implementation of the Ottawa Knee Rule for the Use of Radiology in Acute Knee Injuries JAMA 278:2075-9
- Consent Policy V5.1 (2018) NDHCT
- Medicines Policy V2 (2018) NDHCT
- Patient Group Direction Policy V4 (2016) NDHCT
- Safeguarding Children Policy (2018) NDHCT
- Protocol for Pain management in MIUs V1.0 (2016)

APPENDIX A – Essential Documentation for All Patients Attending Unit or Centre

Adults Consent

Gain consent to be seen by a nurse practitioner

Gain consent for treatment and sharing information

Clinical Presentation

If unwell assess for:

- Airway
- Breathing
- Circulation
- Disability
- Exposure

Document a full set of observations including neurological observations including Glasgow coma score if applicable.

Record EWS: if 7 or above arrange immediate transfer to secondary care.

Document pain score using numeric rating scale. For cognitively impaired patients document any signs of pain (e.g. grimaces or distress).

Safeguarding:

Ask the domestic abuse question, 'do you feel safe at home?'

- Assess for mental capacity and if person is a vulnerable adult.
- Assess for learning disability and whether patient has a hospital passport in place.
- Assess falls risk. Complete falls referral if applicable.

APPENDIX B – Essential Documentation for All Patients Attending Unit or Centre

Child and Young Persons under 18 Years Old Consent

Gain consent to be seen by a nurse practitioner

Gain consent for treatment and sharing information

Assess and document competency according to Fraser guideline if applicable.

Document name of person(s) accompanying patient.

Clinical Presentation

If unwell assess for:

- Airway
- Breathing
- Circulation
- Disability
- Exposure

Record PEWS: if any one parameter is triggered transfer to secondary care or seek advice from medical practitioner.

Use guideline Traffic Light System (NICE) 2013 if applicable.

Use guideline Feverish Illness (NICE) 2013 if applicable.

Document pain score using FLACC, Wong Baker Faces or numeric rating scale.

Safeguarding:

Complete safeguarding children questions (NICE 2003)

Any bruise in a non-mobile infant or child: follow safeguarding children policy (2018). These children must be reviewed by a Consultant in Emergency Medicine or a Consultant Paediatrician and a MASH (Multi Agency Safeguarding Hub) enquiry must be made.

DOCUMENT ALL FINDINGS IN THE CLINICAL TREATMENT RECORD AND ACT ON THEM FOLLOWING NDHCT GUIDELINES.

APPENDIX C – Competency Form

Procedure for the Management of Knee Injuries (over 2 years of age)

Procedure operational from December 2018 and expires end of December 2021

The registered health professional named below, being employees of Northern Devon Healthcare Trust based at ……. have received training and are competent to operate under this procedure

NAME *(please print)*	PROFESSIONAL TITLE	SIGNATURE	AUTHORISING MANAGER *(please print)*	MANAGER'S SIGNATURE	DATE

Keep original with the authorising manager and send a copy to: Karen Watts, Emergency Department, Northern Devon Healthcare Trust NHS, Raleigh Park, Barnstaple, Devon, EX31 4JB