Document Control

Title **Management of Ankle and Lower Limb Injuries (over 2 years of age) Standard Operating Procedure**			
Author			**Author's job title** Professional Lead, Minor Injuries Unit
Directorate Medicine			**Department** Emergency Department
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1.1	Oct 2015	Final	Reviewed and amended Karen Watts / Fionn Bellis
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Lead Director Medical Director			
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Superseded Documents Protocol for the Management of Ankle and Lower Limb Injuries			
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Local Archive Reference G:\Policies and Protocols **Local Path** MIU **Filename** Protocol for the Management of Ankle and Lower Limb Injuries	
Policy categories for Trust's internal website (Bob) MIU	**Tags for Trust's internal website (Bob)** MIU

2. Contents

3. Background

This Standard Operating Procedure is for the use by staff employed by Northern Devon Healthcare Trust who has achieved the agreed clinical competencies to work under this procedure.

4. Presenting Symptoms

- Swelling
- Wounds
- Deformity / Dislocation
- Warmth / Inflammation
- Pain
- Bruising / Erythema
- Loss of function
- Abnormal Gait
- Non-weight bearing

5. History

Refer to protocol for History taking and Clinical Documentation Protocol. Include hobbies and sports

- Document a full history, including:
- When, where and how injury occurred
- Mechanism including eversion / inversion injury
- Fall from height
- Immediate weight-bearing after injury
- Immediate swelling
- Pain score
- Self-care measures
- Analgesia taken
- Previous injuries to limb
- Consider neuropathy, deep vein thrombosis and other complicating illness
- Refer patients on anti-coagulant therapy for further medical advice

6. Clinical Examination

6.1. Look

- For symmetry
- Deformity and dislocations
- Swelling and bruising
- Colour

- Wounds and abrasions
- Foot drop – possible peroneal nerve injury

6.2. Feel

- Palpate from joint above to joint below

Note tenderness to:

- Knee, gastrocnemius muscle
- Fibular head or neck – possible maisonneuve fracture
- Fibular shaft
- Proximal medial and distal tibia
- Lateral malleolus and ligaments
- Anterior talofibular ligament
- Medial malleolus and deltoid ligament
- Achilles tendon
- Calcaneum
- Talus navicular cuboid cuneiforms MTP joints
- Metatarsals and base of 5th metatarsal
- Phalanges
- Capillary refill time and pedal pulse and feel for warmth

6.3. Movement

- Dorsi / plantar flexion
- Inversion / eversion
- Rotation of ankle
- Weight bearing ability
- Additional tests
- Anterior draw test
- Simmonds test

6.4. Investigations

- Ankle view using Ottawa ankle rules
- Anterior posterior and lateral views
- Observe bones on both views and mortice joint

7. Treatment Pathway

7.1. Ankle Fracture Dislocation

- Refer to Emergency department immediately as orthopaedic emergency requiring reduction.
- Examine and record skin integrity

- Check for pedal pulse
- Administer analgesia as PATIENT GROUP DIRECTION
- Administer Entonox as PATIENT GROUP DIRECTION if high pain score
- Lateral malleolus fracture with talar shift
- Displaced medial or posterior malleolus fracture
- Bimalleolar or trimalleolar fracture
- Administer analgesia as PATIENT GROUP DIRECTION
- Apply temporary below knee back slab, refer to the Emergency Department and inform orthopaedics
- Check and record presence of pulse
- If admission under orthopaedics then vital signs IV access and routine bloods will be required

7.2. Ankle Fractures

- Medial, lateral and posterior malleoli
- Assess ligaments on opposite malleolus for instability of the joint
- Refer any talar shift to orthopaedics, all other patients to attend fracture clinic 1/7
- Paediatric distal growth plate injury

Non-displaced:

- Administer analgesia as per PATIENT GROUP DIRECTION

Displaced:

- Administer analgesia as per PGD, refer to orthopaedics

7.3. Growth Plate Injury without a Fracture

- Treat all with below knee plaster of Paris backslab and crutches
- Refer to fracture clinic

7.4. Treatment for Ankle Sprains

- Follow up non-weight bearing ankle sprains by GP, MIU or local Emergency Department clinic
- Treat avulsion fractures as sprains, seek senior advice if in doubt

Advise:

- Protection – protect from further injury e.g. using a support or high top, lace up shoes
- Rest – avoid activity for the first 48-72 hours following injury and consider crutches
- Ice – apply ice wrapped in damp towel for 15-20 minutes every 2-3 hours during the day for the first 48-72 hours following injury

- Elevation – advise to rest with leg elevated and supported with a pillow until less swollen. Avoid prolonged periods without leg elevated

Advise to avoid HARM the first 72 hours after injury:

- Heat (hot baths, saunas, heat packs)
- Alcohol (increase bleeding and swelling and decrease healing)
- Running (or any other form of exercise which may cause further damage)
- Massage (may increase bleeding and swelling)

7.5. Gastrocnemius Tears

- Often occur during sport and there is pain on weight bearing and tenderness on examination usually medially
- Eliminate differential diagnosis of Deep Vein Thrombosis or ruptured Baker's cyst and Achilles tendon rupture
- Treat with analgesia, ice and crutches as per PGD if required
- Refer to GP for follow up

7.6. Achilles Tendon Rupture

- May follow sudden muscle activity. Patient feels a sudden sharp pain behind the ankle then unable to walk or stand on toes
- Assess each calf using Simmonds test and record test as normal or abnormal
- Administer analgesia as PGD if required
- Refer to orthopaedic team for either surgery or below knee plaster of Paris in equinus

8. Discharge Pathway

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

8.1. 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 the normal manner.

For patients seeing their General Practitioner in next 24 hours ensure patient is given a copy of the clinical treatment record to take with them. A copy will also be sent to surgery in the normal manner.

8.2. 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.

9. References

- Bickley l.S. Szilagyi P.G.(2013) Bates' guide to physical examination and history taking. Philadelphia: Lippincott Williams and WilkinsR. McRae Orthopaedics and Fractures (2nd Edition) 2006
- Best Bets for Acute Achilles tendon rupture 2010
- Clinical Knowledge Summaries Review (2015)
- McRae R (2006) Orthopaedics and Fractures(2nd Edition) Edinburgh: Churchill Livingstone
- Northern Devon Healthcare Trust ED Guidelines (2012)
- Stiell IG et. al.(1995) Multicentre trial to introduce the Ottawa ankle rules for use of radiology in acute ankle injuries BMJ 1995; 311:594-7

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 and document.

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

- 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 for risk of domestic abuse.
- Assess falls risk. Complete falls referral if applicable.
- Document names of persons accompanying patient.

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 Gillick competency according to Fraser guideline if applicable.
Document the name of persons 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

- Assess safeguarding
- Assess for domestic abuse in the home
- Assess for learning disability

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

APPENDIX C – Training Competency Form

Standard Operating Procedure for the Management of Ankle and Lower Limb Injuries

Procedure operational from October 2015 and expires end of October 2018

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

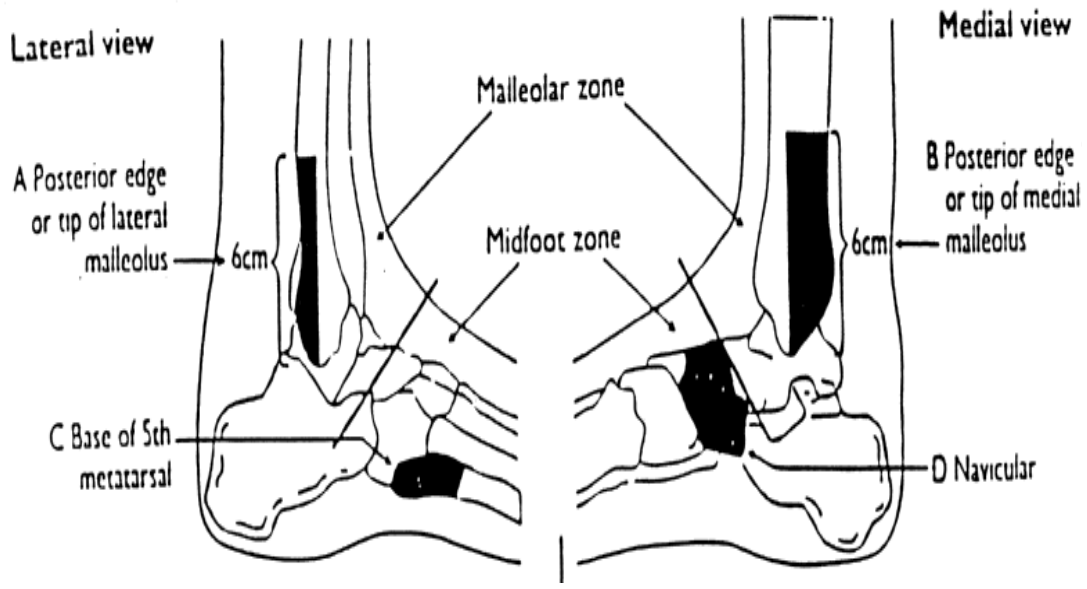
NAME *(please print)*	PROFESSIONAL TITLE	SIGNATURE	AUTHORISING MANAGER *(please print)*	MANAGER'S SIGNATURE	DATE

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

APPENDIX D – The Ottawa Ankle Rule

The rule avoids unnecessary X-rays by identifying patients likely to have significant ankle fractures
It has almost 100% specificity for clinically significant fractures, and can save up to 40% of X-rays
It is based on assessment of the ability to bear weight (four steps), and the areas of bony tenderness
It applies to children and adults presenting with acute (within 10 days) ankle injuries

The Ottawa Ankle Rule



A 2-view ankle series (Anterior/posterior (AP) and lateral) is required only if there is any pain in the malleolar zone and any of the following:

- Bone tenderness at A, the posterior edge or tip of the lateral malleolus
- Bone tenderness at B, the posterior edge or tip of the medial malleolus
- Inability to bear weight both immediately and in the Emergency Department

A 3-view foot series (Anterior/posterior (AP), oblique and lateral) is required only if there is pain in the mid-foot zone and any of the following:

- Bone tenderness at D, the navicular

Inability to bear weight both immediately and in the Emergency Department

A 2-view foot series (Anterior/posterior (AP) and oblique) is required only if there is any pain in the mid-foot zone and:

- Bone tenderness at C, the base of the fifth metatarsal

Note:

- Allow a lower threshold for radiography in the very young, the elderly, relevant past medical history, those who are difficult to assess (e.g. intoxication, learning difficulties, stroke, presence of other injuries), and after injury from violent mechanism, (e.g. fall from a height, road traffic collision).
- The rule does not apply to heel injuries e.g. fall from a height. These must be assessed independently with calcaneal views if relevant history and local tenderness.