This document has been reviewed in line with the Policy Alignment Process for Liverpool Community Health NHS Trust Services. It is a valid Mersey Care document, however due to organisational change this FRONT COVER has been added so the reader is aware of any changes to their role or to terminology which has now been superseded. When reading this document please take account of the changes highlighted in Part B and C of this form.

**Part A – Information about this Document**

<table>
<thead>
<tr>
<th>Policy Name</th>
<th>Walk in Centre Policy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Policy Type</td>
<td>Board Approved (Trust-wide) ☐</td>
</tr>
<tr>
<td></td>
<td>No Change ☐</td>
</tr>
<tr>
<td>Approval</td>
<td>As Mersey Care’s Executive Director / Lead for this document, I confirm that this document: a) complies with the latest statutory / regulatory requirements, b) complies with the latest national guidance, c) has been updated to reflect the requirements of clinicians and officers, and d) has been updated to reflect any local contractual requirements</td>
</tr>
<tr>
<td></td>
<td>Signature:</td>
</tr>
</tbody>
</table>

**Part B – Changes in Terminology** *(used with ‘Minor Change’, ‘Major Changes’ & ‘New Policy’ only)*

<table>
<thead>
<tr>
<th>Terminology used in this Document</th>
<th>New terminology when reading this Document</th>
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</table>

**Part C – Additional Information Added** *(to be used with ‘Major Changes’ only)*

<table>
<thead>
<tr>
<th>Section / Paragraph No</th>
<th>Outline of the information that has been added to this document – especially where it may change what staff need to do</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>

**Part D – Rationale** *(to be used with ‘New Policy’ & ‘Policy No Longer Required’ only)*

Please explain why this new document needs to be adopted or why this document is no longer required

<table>
<thead>
<tr>
<th>Accountable Director</th>
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<tr>
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<tr>
<td>Recommending Committee</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Approving Committee</td>
</tr>
<tr>
<td>Next Review Date</td>
</tr>
</tbody>
</table>

**Part E – Oversight Arrangements** *(to be used with ‘New Policy’ only)*

LCH Policy Alignment Process – Form 1
SUPPORTING STATEMENTS

This document should be read in conjunction with the following statements:

SAFEGUARDING IS EVERYBODY’S BUSINESS

All Mersey Care NHS Foundation Trust employees have a statutory duty to safeguard and promote the welfare of children and adults, including:

- being alert to the possibility of child / adult abuse and neglect through their observation of abuse, or by professional judgement made as a result of information gathered about the child / adult;
- knowing how to deal with a disclosure or allegation of child / adult abuse;
- undertaking training as appropriate for their role and keeping themselves updated;
- being aware of and following the local policies and procedures they need to follow if they have a child / adult concern;
- ensuring appropriate advice and support is accessed either from managers, Safeguarding Ambassadors or the trust’s safeguarding team;
- participating in multi-agency working to safeguard the child or adult (if appropriate to your role);
- ensuring contemporaneous records are kept at all times and record keeping is in strict adherence to Mersey Care NHS Foundation Trust policy and procedures and professional guidelines. Roles, responsibilities and accountabilities, will differ depending on the post you hold within the organisation;
- ensuring that all staff and their managers discuss and record any safeguarding issues that arise at each supervision session

EQUALITY AND HUMAN RIGHTS

Mersey Care NHS Foundation Trust recognises that some sections of society experience prejudice and discrimination. The Equality Act 2010 specifically recognises the protected characteristics of age, disability, gender, race, religion or belief, sexual orientation and transgender. The Equality Act also requires regard to socio-economic factors including pregnancy /maternity and marriage/civil partnership.

The trust is committed to equality of opportunity and anti-discriminatory practice both in the provision of services and in our role as a major employer. The trust believes that all people have the right to be treated with dignity and respect and is committed to the elimination of unfair and unlawful discriminatory practices.

Mersey Care NHS Foundation Trust also is aware of its legal duties under the Human Rights Act 1998. Section 6 of the Human Rights Act requires all public authorities to uphold and promote Human Rights in everything they do. It is unlawful for a public authority to perform any act which contravenes the Human Rights Act.

Mersey Care NHS Foundation Trust is committed to carrying out its functions and service delivery in line the with a Human Rights based approach and the FREDA principles of Fairness, Respect, Equality Dignity, and Autonomy
Liverpool Walk-in Centres

Clinical Handbook

Liverpool Community Health NHS Trust

Version 1.4

June 2016
Introduction

Initial Assessment Models

Adult

- Head and Neck
- Chest and Back
- Arms and Hands
- Legs and Feet
- Skin including Wound Management
- Minor Illnesses
- Mental Health
- Sexual Health

Paediatrics

- Foreign Bodies
- Head and Neck
- Chest and Back
- Arms and Hands
- Legs and Feet
- Minor Illnesses

Abbreviations

References

Contents
Disclaimer

This handbook is intended for Liverpool Walk in Centre Nurse Practitioner use within the service. The information has been tailored to make it appropriate for the patient who presents within this environment.

The information in this handbook is open for use by other health care professionals working within Liverpool Community Health (LCH). In doing so, they take responsibility in making sure that they are appropriately trained in delivering the care outlined and/or adapting it in a safe and appropriate manner to their client population.

Though every effort is made to ensure this handbook is up to date, it is still the responsibility of the individual to make sure that they are up to date with current and appropriate treatments that they are managing.

Links to web site within this handbook are for the convenience of users. LCH or the authors do not take any responsibility, implied endorsement or credibility of the service, information or product for the content of those web sites and are controlled by the individual sites privacy statements.

Up Dates

Every effort will be made to review and update this handbook on a yearly basis or before in light of any new clinical evidence and/or changes to practice such as those from National institute of Health Care and Clinical Excellence (NICE).

This will be the responsibility of service manager who may allocate this to the most appropriate person/s

Introduction

This handbook is designed to ensure that all staff working for, or on behalf of Liverpool Community Health (LCH), provides an optimal level of service delivery to the patient population and to support best practice within a community setting. Where it is in the best interest of the patient or in light of new evidence the Practitioner can deviate from this, but they must ensure that the rationale is fully documented within the patient’s clinical record as this will inform the clinical audit programme within LCH Walk in Centre’s (LWIC).

In the event of a clinical mistake a DATIX is to be completed and the incident discussed immediately with your professional line manager and every attempt made to rectify or minimize the effects / problems this may have caused, and to follow LCH Duty of Candor process. http://nww.liverpoolch.nhs.uk/Downloads/News/DOC-process.pdf

This handbook is divided into two sections an adult and paediatric section dealing with both illness and injury presentations.
Liverpool NHS Walk-in Centre (WiC) Documentation

It is paramount for the safety of yourself and your patients, that documentation is adequate and reflects your consultation and that it follows both Nursing and Midwifery Council (NMC) and LCH guidance for record keeping. Documentation forms an integral part of the LCH audit programme and forms a pathway in which to provide information that monitors and improves evidence based quality patient care.

The Code for nurses and midwives


The WiCs use an adapted medical model of documentation to ensure standardisation across all WiC’ sites providing structure for all staff completing patient documentation.

Clinical electronic records are used by WiCs and should be completed at the time of seeing patients, if this is not possible e.g. for Non-Medical Prescribers (NMP) who are reviewing patients, they should be completed as soon as possible after the event.

Good documentation can support good clinical practice and includes advice given, treatment plan etc., as lack of /or poor documentation is no defence in litigation cases or when an investigation is undertaken.

WiC previous notes should always be reviewed if patients re-attend for the same presentation.
Valid consent

Valid consent is about ensuring that the patient has full and comprehensive information relating to their consultation and any procedures undertaken within this. “Consent” is a patient’s agreement for a health professional to provide care.

Patients may indicate consent non-verbally (for example by presenting their arm for their pulse to be taken), orally, or in writing.

For the consent to be valid, the patient must:
- be competent to take the particular decision
- have received sufficient information to take it; and
- not be acting under duress.

This must be gained prior to any intervention and documented within the records, if there is any question about the patient’s capacity to understand, refer to Mental Capacity Act information.


http://nww.liverpoolch.nhs.uk/service-directory/mental-capacity-act.htm

Safeguarding Adults and Children

Safeguarding of adults and children should be managed in line with the Trust safeguarding policies. There are safeguarding folders within each individual WiC that are updated regularly by the Safeguarding Link Nurses and which contain all the relevant policies and procedures that WiC staff should adhere to. All Trust staff have mandatory safeguarding training for both adults and children with the level dependant on the job role.

Safeguarding concerns should be immediately discussed with shift leader as these can be very time consuming, so that this can be managed within the capacity of the department.

Identifying details taken at reception

These details are taken at reception and should be checked by the Practitioner. Age, gender, who is accompanying the patient as relevant, date and time is included but for any reason the patient’s notes are recorded retrospect fully, the date and time should be indicated with the reason why. E.g. Emergency outside WIC and patient brought in, details of patient not added until patient stable.
History taking and documentation for full consultation

If a patient presents with no symptoms relating to a particular system such as the ear, nose and throat (ENT) and has no relevance when a history has been taken, e.g. ENT for any patient presenting with ankle injury, the Practitioner does then not have to examine or document that system but it must be justified within the notes. E.g. ENT system not formally examined as no symptoms

Consultation documentation

Observations can be brought across from triage if normal, repeat if abnormal within the consultation. The Practitioner will document how they perceive the patient on first contact as this may have relevance later on in the examination e.g. pale, anxious, and limping

Presenting Complaint (PC) “ “ (patient’s own words)

History of Presenting Complaint (HPC) The history of this presentation should be in chronological order without jargon. For injuries this should include the site and mechanism of injury, where, when and how took place, any other related injuries at the time or previous trauma to this area, type and radiation of any pain experienced.

Review of Systems (ROS) This is a second chance to check for other symptoms and identifies the impact on other systems that may be involved. This is commonly included with HPC as you ask patient in turn for any symptoms relating to that particular system e.g. to the respiratory system - breathlessness

Past Medical History (PMH) General health, recent travel if applicable / illnesses / operations / hospitalisations / previous accidents or musculo skeletal)

Pregnancy, Birth, Neonatal, Infant History, if patient under 1 year of age Prenatal care - pregnancy / complications / Infections. Alcohol, drugs, diet, weight gain or any other concerns with pregnancy. Birth- Gestation, birth weight, mode of delivery, any difficulties / complications. Baby’s condition at birth, neonatal or special care unit, complications, illnesses / illness, infections (varicella, bronchiolitis, other)

Medications (meds) Over the counter (OTC), herbal, recreational or prescribed

Allergies Known – note response, reaction to allergen
Immunisations
Up to date – consider if moved to UK from abroad – different schedules of immunisation and vaccination.

Nutritional (where appropriate)
If patient cachexic, under the age, or failure to thrive, illness e.g. diarrhoea and vomiting.

Development (If appropriate and related to age)
Any delay in milestones / education / speech / social interactions / concerns/learning disabilities.

Family History (FH)
Significant family medical history that may have impact on this presentation and / or its management, risk factors associated with presenting complaint

Social History (SH)
Environment, Occupation for adults /who lives at home/hobbies/sports /smoking /alcohol consumption

Documentation of the physical examination
A systems approach is to be used for examination of patients within the WIC.
On examination (O/E).
Should not include symptoms, only your findings when documenting your examination

Respiratory System (RS) Respiratory rate, Sp02, added sounds (Crackles/wheezes/pleural rub), increased work of breathing - recession tracheal central / tug /use of accessory muscles. Expansion, air entry.

Cardiovascular System (CVS) Heart rate, B/P, Capillary refill, added sounds e.g. murmurs? pulses when applicable i.e. femoral; brachial delay / pedal pulse

Head, eyes, ears, nose and throat (HEENT)
Head Fontanel, Cephalic shape – under 1s,
Eyes Colour - Clear / white / blue tint / yellow. Lids -Inflammation/ swelling/ redness warmth cellulitis, PERLA, direct and consensual.
Ears Tympanic membrane - bulging/recessed /dull/ opaque/ perforation landmarks seen, cone of light.
Canals inflamed/swelling/ discharge/ debris .Tender pinna/tragus.
Redness/warmth or tenderness mastoid, Pre and post auricular nodes
Nose Patent/runny/blocked/swollen bruised/septum straight, haematoma visible?
Throat Bleeding Redness, Uvula, Swollen, Halitosis Exudate Debris (BRUSHED), plaques, mucosa moist, and check for quinsy.

Lymphadenopathy (Lymph)
Tender/size/mobility/ unilateral, which nodes e.g. cervical, femoral, axilla

**Gastrointestinal System (GI)**
Abdo – symmetrical/ soft/rigid/tender/rebound tenderness/ bowel sounds/site of tenderness/masses/scars/swelling/ ascites

**Genitourinary Systems (GU)**
External excoriation, discharge. Bleeding, urinalysis female genital mutilation (FGM)
http://www.hscic.gov.uk/fgmris

**Skin: Integumentary**
Bruises/scars/swellings/deformity/wounds/turgor.
Rashes-blanchable e.g. Papules/vesicular/maculopapular/bullae/macular/eczema/
non blanchable e.g. Petechaie/ purpura

**Neurological System (Neuro)** Cranial nerves pupillary response and size/
Romberg’s/Muscle tone/gross and fine motor skills/reflexes/sensation/co-ordination

**Musculoskeletal System (MSK) Look Feel Move**
Swelling/bruising/redness/wounds/scars/deformity
tenderness/warmth/sensation,
Range of movement/reduced or full/circulation. Pain on movement
Paraesthesia/ radiation of pain,

**Consider non-accidental injury with history and presentation where applicable.**
Documentation of Diagnosis and Management

Impression (IMP)
This is your clinical impression what your conclusion is when reviewing information gained from consultation and elicited through physical examination. To includes a differential diagnoses were appropriate. Think as broadly as possible; Bear in mind that common things happen commonly.

Management Plan and Follow Up

This is where you document how you are going to manage this patient and the discharge advice you would give. Include your current treatment plan: - medications prescribed - include advice given re side effects, administration, dose and duration of medication, if given by PGD and batch number and expiry date. Behavioural interventions / education / health promotion / anticipatory guidance, Dressings undertaken and advice re wound care. Document specific advice relating to injuries or illnesses - what to be aware of (Worsening symptoms) Document whether advice given is verbal, written or both. Written advice is preferred where possible.

Referral where appropriate document who patient is referred to including time and place.
Initial Assessment Models

There are currently two assessment models used within LCH WIC:

- Manchester Triage
- See and Treat

Manchester triage

Triage in the Liverpool WiCs follow National Manchester Triage system which has been adapted for use within the WiCs and for children, and is a method used to assess the severity of a patient’s clinical condition and assigning them a clinical priority in which to be seen in line with triage target times.

The Manchester Triage categories are as follows:

<table>
<thead>
<tr>
<th>Num</th>
<th>Colour</th>
<th>Urgency</th>
<th>Target Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Red</td>
<td>Immediate</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>Orange</td>
<td>Very urgent</td>
<td>10</td>
</tr>
<tr>
<td>3</td>
<td>Yellow</td>
<td>Urgent</td>
<td>60</td>
</tr>
<tr>
<td>4</td>
<td>Green</td>
<td>Standard</td>
<td>120</td>
</tr>
</tbody>
</table>

Some patients are more vulnerable than others or require special considerations and it will be the triage nurses responsibility to facilitate process in the best interest of not only this patient but those waiting for further assessment.

Triage Nurse

Triage nurse is responsible for:

- First aid or lifesaving interventions within the triage area.
- Providing confidential and private patient focused assessment
- The assessment of all patients within the WiC must be performed in a timely manner.
- Monitoring of all patients in the waiting area - whether they have been triaged or are awaiting a triage assessment.
- Patients who have been triaged as a low category – green, or have been given antipyretics/analgesia, may need reassessing before they are taken for a full assessment by the Nurse Practitioners.
- Keeping patients in the waiting area informed of delays, updating any available information on the board with current waiting times etc.
- Effective communication and the giving of timely information will allow the patient to understand waits, relieve anxiety and proven to reduce patient dissatisfaction.
Environment

Privacy and dignity must be maintained for all patients undergoing triage assessments. The triage door must be closed at all times when patients are being assessed.

At the start of triage duty it is essential that the Triage Nurse identifies that the following equipment is available as a minimum:

- A comprehensive set of triage guidelines and flow charts (based on Manchester Triage System)
- Gloves / hand gel / hand washing facilities
- Receivers
- Stethoscope, adult / paediatric
- Auroscope / ophthalmoscope
- Blood pressure monitor suitable for all age groups with cuffs appropriate to all age/weight ranges
- Electronic axilla thermometer (for less than 4 weeks
- Tympanic membrane thermometer for patients over 4 weeks of age
- Oxygen Cylinder
- Oxygen saturation monitors to suit all age groups
- Blood glucose monitor:
- Urine specimen bottles
- Basic dressings and equipment trolley i.e. swabs, bandages, slings, normal saline
Triage Consultations

For patients in category 2 and above - these are emergency and very urgent priority; the triage nurse will undertake ABC assessment. Where appropriate and applicable move the patient to a treatment room and hand over to an appropriate health care professional, whilst awaiting ambulance transfer. If no room or staff available the Triage Nurse will then stabilise/provide lifesaving treatment until an ambulance arrives, ambulance booking time and number is to be documented.

Triage nurse introduce themselves to the patient by name and designation ascertaining how the patient would like to be addressed. All patients should have the following documented within the triage notes:

- Presenting complaint (main reason)
- History of presenting complaint (short chronology)
- Appearance (Quick visual i.e. pale/not distressed etc.)
- Flow Chart used
- Discriminator
- Category number
- Pain score where relevant
- Minimum observations.
- Any medication given / or instructions given e.g. requested urine sample.
- Document who accompanies the adult or person with children, or vulnerable / special needs patients.

Observations Undertaken

These are dependent on the presenting complaint, the history of the complaint and any other problems identified. Inclusions for illnesses and injuries are specified below.

Patients Attending with Ailments

Minimum observations - adults and children

- Temperature
- Pulse
- Respiratory rate
- Oxygen saturation
- Blood pressure

  Known hypertensive / renal problems Blackouts/dizziness
  Chest pain or warranted by patient appearance
  Unwell child- If unable to get B/P on a child where this is required, this must be documented.
Request urine at triage to reduce time of patient waiting for completion of episode:
- Abdominal/loin pain, trauma to abdomen, loins
- Suspicion of urine infection.
- Unwell child with unknown cause.
- Pregnancy testing if warranted

Blood Glucose (BM) where indicated:

**Patients Attending with Injuries**

**Adults and children**

Though the WiCs are primarily for minor injuries, some patients do present following substantial trauma and may need to be assessed with ABC prioritisation and provided with initial first aid and immobilisation if appropriate.

**Minimum observations**

If history of head / neck injuries / abdominal and chest trauma / or substantial trauma in older or compromised patients the following observations will be required
- Temp
- Pulse
- Respiratory rate
- Sp02
- GCS /AVPU
- Blood Glucose
- Capillary refill
- Pupillary reaction

All patients presenting with a head injury should be assessed by a trained member of staff within a maximum of 15 minutes of arrival. (NICE Head Injury Guidelines 2007)
Head injuries to include age specific Glasgow Coma scale incorporating their pupillary reaction and accommodation to light
Minor Injuries

If the injury is to a limb, document in full if it is right or left, (do not use L or R)

Always document:
- The dominant hand in an upper limb injury.
- Site of injury.
- Any swelling, warmth, bruising or deformity
- Assess for sensation, circulation, pulse, colour and function below the injury.
- Assess for bony / soft tissue tenderness
- Check lacerations for injury to deep structures for example tendon / ligament and deep foreign body, if there is potential for these injuries – refer on from triage.

Minimum observations for limb injuries

- Assess for sensation, circulation, pulse, colour and function below the injury.
- Determine bone tenderness and refer for x-ray as per WIC Policy, if you are competent in this area.

Management of Patients at Triage

Triage consultation and prioritisation may result in one of four disposals from the triage room.

Following prioritisation of the patient the Triage Nurse may;
- Send the Patient back into the waiting area to wait for full assessment by nursing staff within the Centre
- Treat the patient at triage if the workload allows and you are competent to do so, and patients in the waiting area have all been triaged.
- Refer on to another provider to have care completed - if unable to complete the episode within the WiC, e.g. patients who require investigation not provided at the WiCs refer to x-ray were able to do so.
- Referred to shift Co-coordinator if the patient has special considerations (as above) or requires referral to hospital / specialist they may go by own transport or hospital taxi if it is safe to do so.

At times of escalation where the Centre is at capacity - (refer to WIC escalation policy.)

The triage nurse must keep the shift coordinator informed of any emergency situation and escalation. A DATIX should be completed when appropriate.

The patients being discharged from Triage will require a fuller history - Assessment and Treatment Plan - documenting in the triage notes
Tools that can be used in triage

Manchester Triage Pain Ladder

The Manchester Triage Pain Ladder should be used to ascertain adult patients
The Wong Baker Pain Face Scale

A modified version of the face pain scale should be used for children (Pain scale for use with children or persons with learning difficulties)

Instructions:

- Explain to the patient that each face is for a person who feels happy because he has no pain (hurt or, whatever word the patient uses) or feels sad because he has some or a lot of pain.

- Point to the appropriate face and state, “This face is . . . “
  - 0 - 1 – “very happy because he doesn’t hurt at all.”
  - 2-3 – “hurts just a little bit.”
  - 4 - 5 – “hurts a little more.”
  - 6 - 7 – “hurts even more.”
  - 8 - 9 – “hurts a whole lot.”
  - 10 – “hurts as much as you can imagine, although you don’t have to be crying to feel this bad.”

- Ask the patient to choose the face that best describes how he feels. Be specific about the pain, location and at what time pain occurred (now or earlier).

- The interdisciplinary team in collaboration with the patient / family (if appropriate); can determine appropriate interventions in response to Face Pain Ratings.
# Neonatal / Infant Pain Scale (NIPS)

**Pain Assessment** (Recommended for children less than 1 year old)
A score greater than 3 indicates pain

<table>
<thead>
<tr>
<th>Facial Expression</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 – Relaxed muscles</td>
<td>Restful face, neutral expression</td>
</tr>
<tr>
<td>1 – Grimace</td>
<td>Tight facial muscles; furrowed brow, chin, jaw, (negative facial expression – nose, mouth and brow)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cry</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 – No Cry</td>
<td>Quiet, not crying</td>
</tr>
<tr>
<td>– Whimper</td>
<td>Mild moaning, intermittent</td>
</tr>
<tr>
<td>– Vigorous Cry</td>
<td>Loud scream; rising, shrill, continuous (Note: Silent cry may be scored if baby is intubated as evidenced by obvious mouth and facial movement.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Breathing Patterns</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 Relaxed (Breathing)</td>
<td>Usual pattern for this infant</td>
</tr>
<tr>
<td>1 Change in Breathing</td>
<td>Indrawing, irregular, faster than usual; gagging; breath holding</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Arms</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 Relaxed/Restrained</td>
<td>No muscular rigidity; occasional random</td>
</tr>
<tr>
<td>1 Flexed/Extended</td>
<td>Tense, straight legs; rigid and/or rapid extension, flexion</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Legs</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 – Relaxed/Restrained</td>
<td>No muscular rigidity; occasional random leg</td>
</tr>
<tr>
<td>1 – Flexed/Extended</td>
<td>Tense, straight legs; rigid and/or rapid extension, flexion</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>State of Arousal</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 – Sleeping / Awake</td>
<td>Quiet, peaceful sleeping or alert random leg movement</td>
</tr>
<tr>
<td>1 – Fussy</td>
<td>Alert, restless, and thrashing</td>
</tr>
</tbody>
</table>
Children’s Hospital Eastern Ontario Pain Scale
Observational Pain Score based on CHEOPS

<table>
<thead>
<tr>
<th>RESPONSE</th>
<th>SCORE 0</th>
<th>SCORE 1</th>
<th>SCORE 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cry or Voice</td>
<td>No complaint / cry Normal conversation</td>
<td>Consolable Not talking or negative</td>
</tr>
<tr>
<td>2</td>
<td>Facial expression</td>
<td>Normal</td>
<td>Short grimace &lt;50% of time</td>
</tr>
<tr>
<td>3</td>
<td>Posture</td>
<td>Normal</td>
<td>Touching rubbing sparing</td>
</tr>
<tr>
<td>4</td>
<td>Movement</td>
<td>Normal</td>
<td>Reduced or restless</td>
</tr>
<tr>
<td>5</td>
<td>Colour</td>
<td>Normal</td>
<td>Pale</td>
</tr>
</tbody>
</table>

Scoring values

<table>
<thead>
<tr>
<th>Value</th>
<th>Discriminator</th>
<th>Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 or less</td>
<td>Mild pain</td>
<td>Green</td>
</tr>
<tr>
<td>4 – 6</td>
<td>Moderate pain</td>
<td>Green/yellow</td>
</tr>
<tr>
<td>7 and over</td>
<td>Severe pain</td>
<td>Orange</td>
</tr>
</tbody>
</table>
The Glasgow Coma Scale for Children (Under 3 Years)

Paediatric version of the Glasgow Coma Scale

The Paediatric version of the Glasgow Coma Scale is scored between 3 and 15, 3 being the worst, and 15 the best. Parameters scoring below dependent on response.

Best Eye Response. (4)
1. No eye opening.
2. Eye opening to pain.
3. Eye opening to verbal command.
4. Eyes open spontaneously.

Best Verbal Response. (5)
1. No vocal response.
2. Occasionally whimpers and/or moans.
3. Cries inappropriately.
4. Less than usual ability and/or spontaneous irritable cry.
5. Alert, babbles, coos, words or sentences to usual ability.

Best Motor Response. (6)
1. No motor response to pain.
2. Abnormal extension to pain (decerebrate).
3. Abnormal flexion to pain (decorticate).
4. Withdrawal to painful stimuli.
5. Localises to painful stimuli or withdraws to touch.
6. Obey commands or performs normal spontaneous movements.

Communication with the infant or child's caregivers is required to establish the best usual verbal response. ‘Grimace’ alternative to verbal responses should be used in pre-verbal or intubated patients.

Best Grimace Response (5)
1. No response to pain.
2. Mild grimace to pain.
3. Vigorous grimace to pain.
4. Less than usual spontaneous ability or only response to touch stimuli.
5. Spontaneous normal facial / oro-motor activity.
The Glasgow Coma Scale for adults

**Best Eye Response. (4)**
1. No eye opening.
2. Eye opening to pain.
3. Eye opening to verbal command.
4. Eyes open spontaneously.

**Best Verbal Response. (5)**
1. No verbal response
2. Incomprehensible sounds.
3. Inappropriate words.
4. Confused
5. Orientated

**Best Motor Response. (6)**
1. No motor response.
2. Extension to pain.
3. Abnormal flexion to pain.
4. Normal flexion to pain.
5. Localising pain.
6. Obeys Commands.
Model Triage Ailment Chest Pain

Chest pain presentation at triage

PC: - Chest Pain
ABC as patient walks into triage (General Discriminator)

ABC: - walked in not distressed
HPC 28yr old male
2/7 days mild right sided chest pain, no radiation, Recent cough and cold symptoms No shortness of breath or pain on deep inspiration. Vomited last night nil this morning

Consider analgesia and other PGDs e.g. aspirin

Observation (Minimum) Pulse:-
84 regular B/P
::120/70
Temp: - 37.C
Resps: - 24
Sa02:-98% in air

Discriminator
Airway compromise
Inadquate breathing
Shock

Category 1
Immediate
0 mins wait

Discriminator
Severe pain
Cardiac Pain
Acutely short breath Abnormal pulse

Category 2 Very Urgent 10mins wait

Discriminator Pleuritic Pain Persistent vomiting Significant cardiac history

Category 3 Urgent 60 mins wait

Discriminator Recent mild pain
Recent problem Vomitting

Category 4 Routine, non-urgent 120 mins wait

Flow Chart: - Chest Pain
Discriminator: -Recent Mild pain
Recent Problem Vomiting
Category 4
Model Triage Wrist Injury

PC: - Wrist injury
ABC as patient walks into triage
(General Discriminator)

ABC: - walked in slight distress due to pain
HPC 82 yr old female
Slipped on ice 1 hr ago on to right
Outstretched hand unable to use it since. Small 1cm laceration above ulna styloid. No other injuries

Consider analgesia and other PGDs e.g. Entonox

Observations/Assess
ABC
Dominant hand Right
Sensation Intact
Function Limited
Circulation/Pulse Radial pulse present: 90 regular
Colour: bruising and bleeding around laceration to ulna

Discriminator
Airway compromise
Inadequate breathing Shock
Exagulating haemorrhage

Category 1
Immediate
0 mins wait

Discriminator
Severe pain
Acutely short of breath Critical skin
Vascular compromise
Uncontrollable major haemorrhage

Category 2
Very Urgent 10mins wait

Discriminator
Pleuritic Pain Gross deformity Open Fracture
Uncontrollable minor haemorrhage
New neurological deficit. Bleeding disorder Inappropriate

Category 3
Urgent
60 mins

Flow Chart: -Limb Problems
Discriminator: - Open Fracture Moderate pain
Category 3

Discriminator
Recent mild pain
Recent problem
Deformity
Swelling

Category 4
Non urgent
120 mins wait

Discriminator
Airway compromise
Inadequate breathing Shock
Exagulating haemorrhage

Category 1
Immediate
0 mins wait

Discriminator
Severe pain
Acutely short of breath Critical skin
Vascular compromise
Uncontrollable major haemorrhage

Category 2
Very Urgent 10mins wait

Category 3
Urgent
60 mins

Flow Chart: -Limb Problems
Discriminator: - Open Fracture Moderate pain
Category 3

Discriminator
Recent mild pain
Recent problem
Deformity
Swelling

Category 4
Non urgent
120 mins wait
See and Treat Model

See and Treat is a model of care designed to reduce waiting times and improve the patient experience.

It has been one of the key innovations in improving the experience of patients presenting with less serious illness and injury. The aim is to assess and treat patients as soon as they arrive within a reasonable time frame, rather than asking them to wait; this is dependent on the numbers and complexity of patients presenting.

It works from the key principle that a quick assessment is undertaken by very experienced practitioner, who assesses the safety of the patient to quickly treat and discharge.

It also filters out the more seriously ill patients or those requiring longer consultation who are then referred to another practitioner for a fuller consultation who will then appropriately manage the presentation and dependent on their finding, may feel referral to secondary care is necessary.
Head Injuries

Head Injury Management within the WiCs

NICE defines head injury as any trauma to the head, other than superficial injuries to the face. [https://www.nice.org.uk/guidance/cg176](https://www.nice.org.uk/guidance/cg176)

All patients presenting with a head injury should be assessed within 15 minutes of arrival to establish whether they are at high risk of brain injury and/or cervical spine injury.

It is only after neck injury has been excluded that the assessment can continue if there is a possibility of neck involvement the patient will need to be immobilised flat on the trolley with their head secure to prevent any movement which may cause further damage

The initial triage assessment includes a brief history to determine the risk factors and the undertaking of clinical observations.

Risk Factors that may be present at Triage

- GCS less than 13 on initial assessment in the department
- GCS less than 15 at 2 hours after the injury
- Neck pain / midline tenderness or suspicion of injury to spine
- Suspected open or depressed skull fracture
- Any sign of basal skull fracture, haemotympanum, ‘panda’ eyes, cerebrospinal fluid leaking from the ear or nose, Battle’s signs
- Post traumatic seizure
- Focal neurological deficit / loss of consciousness
- Unequal / unresponsive pupil(s)
- Continuous vomiting

Observation of infants and young children (that is, aged less than 5 years) is difficult exercise and therefore should only be performed by staff experienced in the observation of infants and young children.

It is expected that all personnel involved in the assessment of infants and children with head injury will have undertaken training in the detection of non-accidental injury and have knowledge and understanding of the referral mechanisms in place for safeguarding children.

If any of the above risk factors are present in triage the triage nurse will ensure an immediate 999 ambulance is called.
Further Full Assessment

If no risk factors are identified in triage, the patient will be monitored in the waiting room with instructions to report back to triage nurse if their condition has changed.

The full assessment will include a full neurological history and assessment including history of the incident in order to identify any high energy head injury. If, following assessment of risk factors within the consultation, neurological examination and history, referral is necessary, this should then be done.

Dependent on the problems identified, the nurse should take an ABC approach and include stabilisation of cervical spine where appropriate. Observation and monitoring of physiological signs of neurological problems should also be carried out. The frequency should be dictated by the patient’s clinical condition while awaiting the ambulance.

Risk Factors – that may only be apparent at initial assessment

- History of lost consciousness
- Headaches since, resolving
- Memory problems
- Blood disorders or clotting problems
- Previous brain injury
- Irritable or altered levels of consciousness / GCS reducing
- Suspicion of intentional injury (adult or child)
- Person drunk / taken drugs
- Continuous vomiting

NICE guidance states that if a person has been involved in a high energy impact sustaining a head injury they should be assessed for possible brain injury and a CT may be required. This would need to be referred on from the WIC to an Accident or Emergency Department for specialist assessment.

Risk Factor and velocity categorising head injury impact

- High
  - Collision of 2 fast moving objects
  - Assault by thrown or falling objects
  - Falls > 1 metre (age related)
  - Pedestrian hit by car
  - Strike by gold / hockey stick
- Medium
  - Fall from standing position
  - Assault by human contact
  - Running speed collision with stationary object
**Neurological Clinical Assessment Aide Memoire Chart**

<table>
<thead>
<tr>
<th><strong>Pupils</strong></th>
<th>Direct and Consensual reaction to light</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Eye</strong></td>
<td>Up, down, left, right,</td>
</tr>
<tr>
<td><strong>Movements</strong></td>
<td>Oblique</td>
</tr>
<tr>
<td></td>
<td>Accommodation</td>
</tr>
<tr>
<td></td>
<td>Visual acuity</td>
</tr>
<tr>
<td></td>
<td>Visual Fields</td>
</tr>
<tr>
<td></td>
<td>Hand / Eye coordination</td>
</tr>
</tbody>
</table>

| **Facial** | Frown Eyebrow raise                   |
|           | Scrunch eyes (keep closed against resistance to opening) |
|           | Touch face (Temporal, Zygomatic, Mandibular, branches of facial nerve) |
|           | Smile                                  |
|           | Blow cheeks out                        |
|           | Open and close mouth against resistance|
|           | Say Aaaargh                           |
|           | Turn head left and right against resistance. |

| **Upper** | Shrug shoulders                        |
| **Limbs** | Lift arms (like wings) and keep lifted against resistance. |
|           | Squeeze fingers                        |
|           | Sensation to hand                      |
|           | Pull hand towards and push away against resistance |
|           | Flexion / extension of wrist against resistance |
|           | Spread fingers and keep spread against resistance |
|           | Adduction / abduction of thumb against resistance. |

| **Lower limb** | Straight leg raising and lowering against resistance Knee flexion and extension against resistance Foot flexion and extension against resistance |

| **Tendon tests** | Upper limb |
|                 | • Triceps |
|                 | • Biceps |
|                 | • Supinator |
|                 | Lower limb |
|                 | • Patella |
|                 | • Achilles |
|                 | • Plantar |
Referral and observations

Patients under the influence of alcohol who present to WiCs with head injuries should be referred on for further assessment.

Physiological signs should be recorded in the WIC documentation, and recorded in a way that will facilitate the transfer of the information to age specific neurological observation charts when the patient reaches the receiving hospital. It is important when the GCS changes to state in your records which areas are affected – e.g. opening, verbal response or motor response as this information will need to be transferred. The chart and clinical assessment information should be made available to the hospital / Accident and Emergency Departments either by letter or secure fax depending in the individual secondary care arrangements. Glasgow Coma Scales

Head Injury Advice :- Adult/Paediatric

If no risk factors or practitioner concerns have been highlighted during consultation, then the patient may be discharged with both written and verbal advice. Also ascertain the following and act accordingly:

- Is the patient or relative drunk/sensible
- Can the responsible person read written instruction?

The details of the advice card/leaflet should be discussed with the patients and their carers (children and vulnerable adults). If necessary (for example, patient with literacy problems, visual impairments or speaking languages without a written format) other formats should be used to communicate this information. http://patient.info/health/head-injury-instructions

Communication in languages other than English should also be facilitated.
Adults

**Head Injury Instructions Written**

Attend immediately for medical assessment at nearest Emergency Department if the patient:

- Suddenly loses consciousness
- Has a fit
- Complains of worsening headache
- Vomits repeatedly (more than 2 separate occasions after the incident)
- Is inappropriately drowsy
- Behaves abnormally / becomes very agitated
- Complains of double / blurred vision
- Any other sudden unexplained illness / behaviour
- Unsteady on feet / gait
- Parental concerns regarding a child

Also advise that they:

- Do not stay at home alone for the first 48 hours
- Avoid alcohol / contact sports
- Do make sure you stay within easy reach of a telephone and medical help
- Simple Paracetamol is appropriate for use for pain relief if needed.

http://patient.info/health/head-injury-instructions
Head Injury Management Algorithm

Patients attending WiCs with a Head Injury

Triaged within 15 minutes of arrival - ABC

**TRIAGE**
Minimum acceptable documented neurological observations:
**GCS** (adult or paediatric scales dependant on age (AVPU, **Limb movements**, B/P as appropriate, **Pulse, Respirator rate, temperature, Pupils**: size and reactivity, **SpO2**: blood oxygen saturation)

Assessment of risk factors which may indicate clinically significant injury

Awaiting further assessment
- Triage nurse monitoring
- Advise carer/patient if any change while waiting for Practitioner assessment to immediately notify triage nurse

**YES**
- GCS <13 when first assessed
- GCS<15 when assessed 2 hours after the injury
- Neck pain / midline tenderness of suspicion of injury to spine
- Sign of fracture at skull base, haemotympanum, 'panda' eyes, cerebrospinal fluid leakage or bleeding from ears or nose, Battle's sign)

**NO**

Full neurological assessment
- Cranial nerves
- Power and tone
- Co-ordination
- Any other injuries

- History loss of consciousness
- Headaches since will not resolve
- Memory problems
- Blood disorder or clotting problems
- Previous brain injury
- Irritable or alternating levels consciousness/GCS reducing
- Suspicion of intentional injury (adult or child – excludes safeguarding issues)
- Person drunk / taken drugs
- Continuous vomiting

**Considerations**
Risk Factors (ie patient lives alone)/Practitioner concerns

**ABC**
- Immobilisation / neck collar (if needed on assessment) 15 mins - 1/2 hrly neurological observations
- Arrange transport to emergency department 999 if necessary

**Discharge Plan**
- Suitable supervision
- Written Head Injury guidelines
- Letter to GP/HV/School Nurse
Neck Injuries

In February 2016 NICE published an update to assessment of spinal trauma using the Canadian cervical spine rules to identify patients at risk of spinal injuries and when to immobilise as well as recommendations on individual adaption of these rules depending on the age and other conditions that the individual may have.

https://www.nice.org.uk/guidance/NG41

The Canadian cervical spine rule for risk

The Canadian cervical spine rule applies to trauma patients who are alert (Glasgow Coma Scale of 15) and stable. It has been shown to be safe and reliable, missing only one unstable injury in a series of over 16,000 cases.

They look at risk factors both high and low

Assessing for cervical spine injury in the pre-hospital setting

https://www.nice.org.uk/guidance/ng41/resources/slide-set-2369939437

https://www.nice.org.uk/guidance/NG41

Assess whether the person is at high, low or no risk for cervical spine injury using the Canadian C-spine rule as follows:

The person is at high risk if they have at least one of the following high-risk factors:

- Age 65 years or older
- Dangerous mechanism of injury (fall from a height of greater than 1 metre or 5 steps, axial load to the head – for example, diving, high-speed motor vehicle collision, rollover motor accident, ejection from a motor vehicle, accident involving motorised recreational vehicles, bicycle collision, horse riding accidents)
- Paraesthesia in the upper or lower limbs

The person is at low risk if they have at least one of the following low-risk factors:

- Involved in a simple rear-end motor vehicle collision
- Comfortable in a sitting position
- Ambulatory at any time since the injury
- No midline cervical spine tenderness
- Delayed onset of neck pain

The person remains at low risk if they are:

- Unable to actively rotate their neck 45 degrees to the left and right (the range of the neck can only be assessed safely if the person is at low risk and there are no high-risk factors)
The person has no risk if they

- Have one of the above low-risk factors and
- Are able to actively rotate their neck 45 degrees to the left and right.

Be aware that applying the Canadian C-spine rule to people under 16 is difficult and the child’s developmental stage should be taken into account.

The NICE recommends that full in-line spinal immobilisation in should be carried out if any of the initial factors to take into consideration are present or if this assessment cannot be done.
https://www.nice.org.uk/guidance/ng41/chapter/recommendations

Carry out or maintain full in-line spinal immobilisation if:

- A high-risk factor for cervical spine injury is identified and indicated by the Canadian C-spine rule or
- A low-risk factor for cervical spine injury is identified and indicated by the Canadian C-spine rule and the person is unable to actively rotate their neck 45 degrees left and right.

Do not carry out or maintain full in-line spinal immobilisation in people if:

- They have low-risk factors for cervical spine injury as indicated by the Canadian C-spine rule, are pain-free and are able to actively rotate their neck 45 degrees left and right
- They do not have any of the factors for suspected thoracic or lumbosacral spine injury

Patients who present at WiCs will be conscious and mobile but the following factors should be taken into account when considering if there is a need to immobilise the spine.
Check if the person:

- Have they any significant distracting injuries
- If they were is under the influence of drugs or alcohol at the time of incident and delayed presentation to you
- Reported as being confused or uncooperative at the time of incident
- Had a reduced level of consciousness at initial incident
- Have had any spinal pain from the initial incident
- Complaining of any hand or foot weakness (motor assessment)
- Complaining of altered or absent sensation in the hands or feet (sensory assessment)
- Has a history of past spinal problems, including previous spinal surgery or conditions that predispose to instability of the spine.
History of the following

- Take full and accurate history
- Date and time of accident; details
- Wearing seat belt yes/ no
- Patient’s description of the injuries
- Speed car was travelling

Assessment

- Assess for mid-line bony tenderness. **If present: lie flat and immobilise the neck taking in the factors below**
- Note any loss of sensation in arms or legs – refer on to A&E
- Note any bruising or swelling
- Range of movements (only check if bony cervical spine tenderness is excluded)
- Assess Glasgow Coma Scale
- Refer to RTA flow chart (adapted from RLUBHT guidelines)

When immobilising the spine tailor the approach to the person’s specific circumstances.

The use of spinal immobilisation devices may be difficult (for example in people with short or wide necks, or people with a pre-existing deformity) and could be counterproductive (for example increasing pain, worsening neurological signs and symptoms).

In uncooperative, agitated or distressed people, including children, think about letting them find a position where they are comfortable with manual in-line spinal immobilisation.

When carrying out full in-line spinal immobilisation in people aged 16 and over, manually stabilise the head with the spine in-line using the following stepwise approach:

Fit an appropriately sized semi-rigid collar unless contraindicated by:

- A compromised airway
- Known spinal deformities, such as ankylosing spondylitis (in these cases keep the spine in the person’s current position).
- Reassess the airway after applying the collar.
- Secure the person with head blocks and tape.
Neck Injuries Following RTA

Check for mid-line BONEY tenderness

- **NO**
  - Rotate neck 45 degrees right / left

- **YES**
  - Inline immobilisation
  - Ambulance
  - Transfer to A&E

- **NO**
  - In line immobilisation
  - Ambulance
  - Transfer to A&E

- **YES**
  - Check for numbness / weakness in hands / arm

- **NO**
  - In line immobilisation
  - Ambulance
  - Transfer to A&E

- **YES**
  - Home
  - Advice sheet
  - Refer to GP if necessary
Spontaneous Torticollis Adults (Non Traumatic)

Take History

Examine neck and throat for Abscesses
Lymph Nodes
Tonsillitis

Sensory loss / disturbance in arms?

NO

Analgesia

Advise on regular neck exercises within limits of pain
http://patient.info/health/nonspecific-neck-pain

YES

Refer to A&E

Ref to GP for physio referral if not settling or difficulty mobilising
Suspected Mandibular Fractures

Suspected Mandibular Fracture

Has patient had direct blow to jaw?

**YES**

Look for
- Step in teeth/
  Malocclusion
- Numb chin
- Bruising under tongue
- Tenderness along whole of jaw
- Unable to open mouth fully
- Tenderness over tempomandibular joint
- Bleeding from ears

If one or more present, refer to A&E

**NO**

Mandibular Fracture unlikely but exclude following

**NO**

Advise re analgesia, review by GP if not settling or worsening pain
Suspected Facial Fractures

Direct trauma to face with bruising and swelling around the eye? Check visual acuity / eye movement

**NORMAL**

Are there one or more of:
- Diplopia
- Intra-orbital/upper teeth numbness
- Step deformity
- Unable to open mouth

**REDUCTED**

Refer to Maxillary Facial Dr

**YES**

Refer to A&E

Advise not to blow nose

**NO**

Facial Fracture unlikely

Advise re analgesia and worsening symptoms - review

Adults
Injury to Nose

Clinical suspicion of fracture to nose

YES

Need to exclude septal haematoma?

NO

Refer straight to ENT/A&E Dr

YES

septal haematoma

NO

Refer to next ENT clinic

Patient to review and re-attend 5/7 if deformity noted or difficulty breathing due to nasal obstruction or swelling

Deformity / problems

Advice re: treatment of swelling and first aid for epistaxis

Analgesia if necessary

Discharge with advice to review if any concerns
Epistaxis Non Traumatic

Assessment / management

ABC
Sit patient forward.
Pinch soft part of nose for Full 5 minutes if actively bleeding
Advise not to blow nose if bleeding persists
Full assessment as necessary dependent on presenting symptoms and history

History of anticoagulants / NSAIDS/ Aspirin
Bleeding disorders

NO

YES

Check BP and pulse and record
Refer to / discuss with ENT Dr

NO

Check BP is within normal limits

YES

Does patient have persistent nosebleeds?

NO

Discharge with health education management on nose bleeds

YES

Advice to make appointment with GP Practice Nurse

GP for follow up as required

Depending on the BP reading, may need discussion with medical on call / referral to Medical Assessment Unit or GP

YES

Refer to / discuss with ENT Dr

NO
Eye Conditions Management

Take History

Check Visual Acuity (may not be possible if visually impaired patient)

- **Corneal abrasion**
  - Consider pain relief with Proxymetacaine 0.5% eye drops if painful
  - Fluorescein Stain
  - Chloramphenicol ointment/drops
  - Review in WIC 2 days check for Dendritic ulceration refer ophthalmic on call if seen on review

- **Periorbital cellulitis**
  - Refer to medical registrar on call

- **Hyphaema**
  - Urgent referral to ophthalmologist or A&E Dr

- **Penetrating injury**
  - Urgent referral to ophthalmologist or A&E Dr

- **Chemical contact**
  - Check pH with only universal litmus paper (1-14)
  - Remove any solid matter – remember to evert the eyelid
  - Washout with saline 500mls
  - Toxbase to identify any specific treatment
  - Refer to A&E Dr/Ophthalmologist as indicated by Toxbase

**FB (not glass)**
- Evert upper lid
- Remove FB if possible using damp cotton bud.
- Follow procedure for cornea abrasion if required
- Or unable to remove

**FB Metal**
- Refer to Ophthalmologist rust ring maybe present after 24/24

**FB (Glass)**
- FB - Refer Ophthalmologist

*Do not evert eye lids if possibility of glass FB*
Dental Injury Management

A rational examination procedure is essential in order to establish a complete and correct diagnosis of all soft and hard tissue injuries

- Clean the face and the oral cavity with water or saline. If there are soft tissue wounds, saline will be used.
- Cleaning will make the patient feel more comfortable and facilitate extraoral and oral examination.
- Take a short medical and dental history including previous dental traumas.

Questions relating to the injury

- Identify impact zone i.e. a chin injury is often combined with crown or crown-root fractures in premolar and molar regions.
- Timeframes may be essential in relation to many injury types. In relation to a tooth avulsion the extent of time and the extraoral storage condition becomes very decisive for later treatment.
- Is there a bite disturbance may identify a luxation injury with displacement, an alveolar / tooth fracture or jaw fracture.
- Positive reaction in the teeth to cold and/or heat exposure may indicate exposed dentin and/or pulp.

Clinical examination

- Examine the face, lips and oral muscles for soft tissue lesions.
- Palpate the facial skeleton for signs of fractures.
- Inspect the dental trauma region for fractures, abnormal tooth position, tooth mobility, and avulsions.

Refer

- Tooth Avulsions/ partial avulsions to Emergency Dental team out of hours or own dentist within hours.
- Consider referral to A/E or Maxillofacial team if possibility of facial fracture.
Dental Injury Management

Carry out pain assessment
Give appropriate analgesia
Is tooth out of socket?

YES

Is the tooth missing?

YES

Is tooth mobile or out of position?

YES

Refer to A&E if any indication that it may have been inhaled

Refer to own dentist / NHS 111

YES

Refer to Maxillary Facial specialist

NO

Minimal handling, preserve in milk / saline / saliva immediately

NO

Is it a permanent tooth?

Refer to A&E if any indication that it may have been inhaled

NO

Refer to own dentist / NHS 111

YES

Is tooth mobile or out of position?

NO

Refer to Maxillary Facial at AHCH or A&E for adults

NO

Refer to own dentist / NHS 111

Associated with this injury? Extensive soft tissue damage / excessive bleeding

YES

Refer to own dentist / NHS 111

NO
Chest Injuries

Airway, Breathing, Circulation, is first assessed for any chest injury including all vital signs (i.e. respiration rate, BP, pulse, SpO2, temperature). For suspected flail segment injuries (there will be other signs of respiratory distress if this was the case), emergency referral to an A&E is necessary.

If the patient presents with any of the following they must be referred to A&E department:
- Possible multiple rib fractures, or flail segment.
- Possible fracture of the sternum.
- History of underlying chest condition this will depend on the type and severity of condition and chest injury but additional advice may be required on the management of their underlying condition e.g. COPD, asthma

All patients presenting with any degree of chest injury/pain will need thorough assessment.

Most chest injuries can be managed in a Walk-in Centre. Most common cause is from a fall or direct blow to the chest.

Take full and detailed history from the patient. Specific injury history must be taken including type, duration and radiation of pain

Examine the chest, observe any:
- Air entry
- Movement of the chest
- Bruising
- Swelling

Assessment using:
- Inspection
- Palpate
- Percussion
- Auscultation

Treatment
- Written and verbal advice
- Regular analgesia (advise depending on patients underlying condition)
- Regular deep breathing exercises to prevent chest infections especially in vulnerable patients
- Support area with hands when coughing or sneezing
- Advise patient if any concerns to return to WiC / GP / A&E depending on severity of concerns e.g. difficulty in breathing call 999
**Acute Low Back Pain**

Low back pain is common and in the majority of cases the episode is acute and resolves spontaneously within 6 weeks.

It is caused by sprains, strains, bad posture, degenerative or structural changes, inflammatory changes, physical injury, infection, fracture or even cancer. It is characterised by a range of symptoms including muscle tension or stiffness, various degrees of pain, numbness and paraesthesia and localised neurological signs.

The aim of treatment is to relieve pain and return the sufferer to their normal activity as soon as possible. This will help reduce the likelihood of developing chronic pain or disability.

Diagram to show the bones of the spine
Red Flags for Patients Presenting with Lower Back Pain

In a person presenting with low back pain or sciatica, rule out serious pathology by assessing the presence or absence of red flags. **Red flags are indicators of increased risk of serious pathology — they do not always indicate that a specific condition is present.**

Use clinical judgement when referring and deciding on the urgently of the referral when red flags suggest a serious condition. The presence of red flags does not always mean that emergency admission is required (i.e. 'serious' does not always mean 'emergency'). If in doubt discuss this with the Senior Practitioner or Orthopaedic Registrar on-call.

Serious underlying pathology is not a common presentation at WiCs but must be excluded.

**Red flags for the cauda equina syndrome include:**

- Saddle anaesthesia.
- Recent onset of bladder dysfunction or faecal incontinence. Major motor weakness.

**Red flags that suggest spinal fracture include:**

- Sudden onset of severe central pain in the spine which is relieved by lying down. Major trauma such as a road accident or fall from a height.
- Minor trauma, or even just strenuous lifting, in people with osteoporosis.
- Structural deformity of the spine.
- Point tenderness over the vertebral body

**Red flags that suggest cancer or infection include:**

- Pain that remains when lying down, aching night-time pain that disturbs sleep, and thoracic pain (which could also be caused by an aortic aneurysm).
- Onset in people older than 50 years, or younger than 20 years, of age.
- History of cancer.
- Constitutional symptoms, such as fever, chills, or unexplained weight loss.
- Recent bacterial infection (for example urinary tract infection).
- Intravenous drug misuse.
- Immune suppression.
Lower Back Pain Assessment

Diagram to show anatomy of the spinal cord

The spinal cord branches into many nerves that go into the arms, legs, hands and feet. The spinal nerves exit the spinal cord very close and proximate to the invertebral discs. This is why a herniated disc can sometimes cause a pinched nerve.

The spinal cord branches into many nerves that go into the arms, legs, hands and feet. The spinal nerves exit the spinal cord very close and proximate to the invertebral discs. This is why a herniated disc can sometimes cause a pinched nerve.

Key points to note in the history taking
- Exclude Red Flags
- Sudden or gradual onset
- Are there motor (muscle weakness/loss of power) or sensory symptoms (pins and needles/numbness)? Is the bladder or bowel affected?
- Any history of trauma including when, where and how and the impact dependant on the age of the patient

Non-specific low back pain (around 95% of consultations)

This is low back pain in which the cause of the pain cannot be attributed to any specific pathology. Sprains and strains of the back are also considered to be non-specific low back pain.

Nerve root pain (around 4% of consultations).

Specialist referral not needed within the first 4 weeks depending on signs of resolution this can be discussed with patient to attend General Practitioner in your follow up plan if symptoms persist

Mechanical is worse on movement and relieved by rest.

Inflammatory is worse at rest.
Lower Back Pain Examination

Confirm that the pain is in the lower back. People may complain of pain in the lower back when they actually have pain in an adjacent structure (e.g. the hip / kidneys) — and vice versa. In which case the Practitioner should exclude possible problems with the adjacent structures.

- Observe for bruising, signs of trauma, scoliosis.
- Assess flexion, extension, lateral flexion and rotation of the back whilst standing.
- To assess how severe symptoms are - lie patient down.
  Check for muscle wasting in lower limbs.
  Check power, sensory loss and reflexes - ankle and knee jerk.
  Assess straight leg raise (usually <45° possible sciatica)

Clinical features

Simple mechanical low back pain

- Onset usually between 20 to 55 years of age and otherwise well.
- Pain: low back, buttocks, groin or thighs (sciatica), worse on movement.
- Is exacerbated and/or relieved by mechanical factors

Back pain with nerve root symptoms and/or signs:

- Pain: one side, leg worse than back, goes into calf, foot or toes.
- Straight leg raise reproduces leg pain
- Numbness/ pins and needles in the same area as pain

Serious pathological back pain (more likely in over 55’s)

- Generally unwell, weight loss, deformity in back.
- Widespread neurological signs.
- History of cancer
- Pain: varies depending on the underlying cause and is present at rest. Starts gradually, it is progressive, unremitting and unrelenting. It can often be worse at night

Rheumatological back pain

- Family history
- Pain is often generalised and associated with early morning stiffness.
- Other joints swollen and painful, iritis, psoriasis, colitis, urethral discharge.
Management simple mechanical low back pain.

- Reassurance
- Maintain normal activities as much as possible
- Don’t frighten patients using hard to understand terminology
- Bed rest must NOT be recommended - encourage to stay active
- Analgesia as below

Management low back pain with nerve root symptoms and/or signs

Advice, treatment and follow up information given as for simple mechanical low back pain. Patients should be given advice on attending GP if:-

- They have simple back pain but have not resumed their normal activity after 3 months
- They have nerve root pain which is not resolving after 6 weeks
- An underlying inflammatory disorder such as ankylosing spondylitis is suspected.
- They develop progressive neurological deficit

Analgesia

- Paracetamol as first line treatment
- There is moderate evidence that NSAIDs are no more effective than paracetamol for acute low-back pain, but paracetamol had fewer side effects.
- NSAIDs can be tried if the patient has no contraindication such as asthma or stomach problems and paracetamol is not having effect
- If warranted on clinical examination
  - Diazepam 2 mgs up to 3 times daily as (if paraspinal muscles in spasm) required to relieve muscle spasm. A course of 2-5 days is recommended because of the risk of adverse effect is high and the danger of habituation is great.
  - If a longer and stronger dosage required the patient should be referred to their own GP or A&E as they will require monitoring and follow up.
  - If given in the WIC ensure own GP is informed if requested again patient must be referred to own GP / UC24 / OOH services.

Spinal Injuries

Advice and guidance relating to Spinal injuries can be found in the following link.

[Spinal injury: assessment and initial management | Guidance and guidelines | NICE.](https://www.nice.org.uk/guidance/cg229)
Shoulder Injuries and Management

Shoulder joint injuries can develop acutely either from a fall or injury, or chronically from repetitive strain or degenerative processes.

Assessment of shoulder injuries and sprains

Take a detailed account of injury which includes:

- Are symptoms acute or chronic?
- Are they work related or from repetitive movement?
- Has there been a previous injury / past medical history of problems at this area?

Examination

Use a systematic approach

Look

Compare both limbs.
Look for swelling, bruising, deformity, muscle wasting, scars and marks which may have been caused by safety belt etc.
Development of shoulder muscles of dominant hand may be slightly larger.

Feel

Palpate for tenderness starting at the neck /clavicle, A/C joint, scapula etc.
Check the colour and warmth of skin in distal areas and check distal pulses.
Cap refill < 2 secs.

Range of Movement

Compare arm to arm flexion, extension adduction elevation, internal and external rotation, active movement and resisted motion. Note area of pain during examination.

Clavicle

Fracture to the clavicle, normally caused by fall onto an outstretched hand, weakest point is mid clavicular and is the commonest site for a fracture. This will presents with a history of a fall or direct injury, swelling, pain which is often diffuse, and bruising to the area. There will be reduced movement due to pain and deformity may be visible.
Ensure that brachial pulse present. Adults must always be sent to the nearest A&E if fracture suspected, in broad arm sling for x-ray and further management.
**Acromio-Clavicular Joint**

Joint is made from the clavicle and the top part of the scapula known as the acromion, a ligament connects the two holding the joint stable. A direct injury may lead to damage or tearing to the ligament and can result in the joint being ‘sprung’. Patients presenting with localised swelling and pain to this area should be referred to A&E in broad arm sling for x ray and further management

**Dislocations**

Normally the result of a fall onto outstretched hand and twisting type injury. Patients present with history as above, arm held immobile at side, bulbous type deformity at the shoulder where the humerus head has come out. On palpation there is normally a gap where the head of the humerus used to sit in the joint.

**Treatment**

- Patients should be given analgesia as soon as possible, distal pulses checked
- An x ray of the affected shoulder and reduction of the dislocation should take place within the A&E Department so referral is necessary.
- The affected arm rested in a collar and cuff for transport.
- There is tendency once a shoulder has dislocated that it will re-occur. This is normally due to affected shoulder being unstable so ensure that an appropriate history of the patient has been obtained.

Dislocations may be accompanied with a fracture therefore you will be unable to take the patient through any movements without the possibility of further trauma.
Rotator Cuff Problems Impingement and Tear

There are a number of different causes of rotator cuff disorders. The most common problems include:

Rotator Cuff Tears

A tear can be caused by a single injury or can develop gradually. Rotator cuff tears can be minor / partial or full / complete depending on the degree of damage to the tendon. Minor tears to the rotator cuff are very common and may not cause any symptoms at all.

Subacromial Impingement

Also known as tendinitis, tendonitis, bursitis, trapped tendon. As the patient lifts their arm up, the rotator cuff pushes the top of the humeral head under the acromion. Anything that affects the cuff, such as minor tears or overuse after a period of inactivity, can lead to the humeral head not being pushed down properly. It therefore moves closer to the acromion. This causes pain. It can also happen due to problems with the bone of the acromion. These can include arthritis and bony spurs (protrusions).

Calcific Tendonitis

Calcific tendonitis is the name given when calcium builds up in the rotator cuff tendon. It can cause an increase in pressure in the tendon and may be extremely painful and may go away without any treatment.

Treatment for soft tissue inflammation

- Analgesia
- Early mobilisation
- Referral to GP to physiotherapy if required

Protruding shoulder blades may indicate Winged Scapula presentation. Care should be taken to ensure that a full and careful history is taken and the patient referred to A&E in a broad arm sling. This presentation may be normal in children.
Shoulder and Humerus Injury Management

Is there dislocation or neurovascular damage?

**YES**

- Analgesia

**NO**

Is there a fracture of neck of humerus / greater tuberosity?

**YES**

- Collar and Cuff (inside clothes)
- Analgesia
- Follow up next fracture clinic

**NO**

- Analgesia
- Encourage early mobilisation
- Advise patient to see own GP if injury not settled

- BAS if tolerated

- Refer to on call Orthopaedic Team at AHCH for children
- Refer to A&E for adults

Refer to on call Orthopaedic Team at AHCH for children

Refer to A&E for adults

Encourage early mobilisation

Advise patient to see own GP if injury not settled
Elbow Injury Management

This can occur with a direct blow or fall on the outstretched hand

Examine the whole of the upper limb and clavicle
Ensure presence of radial pulse distal to affected elbow
If **absent emergency referral by ambulance**

**Assess for:**
Swelling
Gross deformity
Pain at elbow on supination
Reduced movement
Bone tenderness, changes in skin colour

Fracture suspected

Yes
Collar and cuff / broad arm sling if the elbow is in a suitable position for this, wool and crepe if unable to get sling on due to the position of elbow, (Do not force flexion of the elbow to apply these.) analgesia as required.

Refer to A&E

No
Analgesia

Broad arm sling / collar and cuff
Advice on mobilisation / exercise
**Information** leaflet on soft tissue injuries

Review with own GP if further problems as X-ray may be required
Hand Injuries

Assess and refer

- Circumferential burns
- Loss of function, sensation, circulation or power
- Obvious open fractures
- Collar stud palmer space infections/ any palmer space infections
- Foreign body not visible and not easily removed
- Exposure of underlying structures
- High pressure injection injuries
- Infected lacerations which need delayed primary closure
- Nail bed laceration or nail avulsion with significant deformity and/or with a fracture terminal phalanx.
  - Sprung nail – crush injury to nail tip with the proximal nail border lying free

Assess and treat

- Minor lacerations
- Subungual hematoma
- Embedded splinters – where the wound is open
- Foreign bodies easily removed in full and not in zone 2 or flexor surface of joint
  - Primary assessment of fractures
  - Evidence of lymphangitis
  - Simple terminal phalanx infections

Assessment of fingertips and hands

- Take full and systematic history
- Examine dorsum and palm of hand
- Examine nail bed
- Skin of pulp and pulp space
- Check tissue viability
- Confirm any bony involvement
- X-ray to exclude bony injury or foreign body (if needed for radio opaque foreign bodies)
- If wound present appropriate assessment/treatment and management for individual wound should also be undertaken
**Skin**
- Palm of hand – thickened and has firm fascial attachments
- Back of hand - thin, elastic and is mobile

**Tendons**
- Superficial and deep

**Nerves**
- Median Ulnar Radial
- Altered sensibility to light touch indicates nerve injury

**Bones and Joints**
- Examine for position and alignment, clinically and if needed request radiological if appropriate

**Veins**
- Check colour, capillary refill, and perfusion of the tissues and palpate the radial pulse

**Common soft tissue injuries**
- Describe fingers by name i.e. Index, ring, middle and little
- Use the term distal, middle and proximal to describe the phalanx

**Examination of the hand**
- Look at the hand for position, swelling, bruising and any obvious deformity
- Feel for any irregularity, x-ray if any fracture or dislocation is suspected
- Test for movement, functioning of tendons and integrity of the circulation
- If a wound is present, inspect for any visible structures.
- If in doubt refer to A & E
**Mallet finger**

- Loss of active extension of the terminal phalanx
- Caused by failure of the terminal slip of the extensor mechanism at its insertion
- May involve fragment of bone from phalanx. X-ray to exclude fracture or subluxation, refer to fracture clinic
- Apply a mallet splint - PIP joint movement must be free – keep splint on 24/7 refer to fracture clinic.
  Splint 8/52 Non Fracture, 6/52 fracture
  (See flow chart page 67)

**Boutonniere deformity**

- Central slip injury may only develop after few days. Swan neck appearance see below
- Refer to A & E

**Examination for tendon injury of digits**

- Hold the other fingers in full extension and elevate the injured finger
- Hold the injured finger over the PIP joint whilst the patient moves their finger at the DIP joint
- Straighten all fingers
- Ask the patient to push their proximal phalanx against your finger, to check for strength and power of extensor tendon

**Web Space Abscess (stud collar)**

- Refer to A & E
**Avulsion of Flexor Tendons**

- These are common from the base of the distal phalanx
- Usual history of contact sport
- Absence of flexion at DIP joint, suggests avulsion fracture
- X-ray and refer to fracture clinic
- Check palm of hand and full length of the finger for swelling as tendon may have retracted

**Ulnar Collateral Ligament Injury (Gamekeepers thumb)**

- Swelling to base of thumb over MCP joint over ulna aspect of the joint
- Stress the joint by pulling the thumb with your index finger
- If unsure or any laxity or if unable to exclude due to pain refer to A & E
- Sprain – increased laxity, with a stop. Thumb spica and advice
- Rupture – increased laxity, with no stop. Referral to A&E may need x-ray to exclude fracture

**High Pressure Injection Injuries**

- Refer to A & E, will need further examination and possible surgical debridement.

**Crush Injuries**

- Initial assessment
- May need x-ray
- Deep or degloving injuries refer to A & E

**Degloving Injuries**

- Refer to A & E

**Paronychia**

- Common abscess of nail fold, sometimes under nail plate
- Will need incision and drainage if pus in evidence
- Antibiotics are not needed if erythema is localized
- Review after 24 hours not needed unless there is gross cellulites
**Pulp Space Infection**

Consider underlying cause
- Usually *staph aureus* or coliform organisms are the cause of the infection.
- May need x-ray to exclude FB
- Will need incision and drainage, refer to A & E

**Cellulitis**

- Will need assessment regarding suitability of antibiotics. This is then either prescribed or given as per PGD with appropriate follow up and monitoring
- Good practice to outline extent of cellulitis in order to monitor the progression or improvement
- If extensive refer to A & E

**X-Ray**

Nurse Practitioners who have undergone further appropriate training and are identified as being able to order appropriate x-ray’s may do following [link](http://opera.liverpoolch.nhs.uk/SIRS/Policies- and Procedures/Clinical%20Policies/Guidelines%20for%20requesting%20and%20interpretation%20of%20x-rays%20by%20Nurse%20Practitioners%20within%20LCH%20Walk-In%20Centres.pdf)

**Zones of the Hand**

![Diagram of Zones of the Hand](image)
Crush Injury Distal Phalanx

Extensive Soft Tissue Damage?

YES

Pain Relief

Assess ATT Status

High arm sling

Refer to Plastics Dr on Call

NO

X-ray to exclude fracture. Fracture present?

TREPHINE NAIL IF NECESSARY
Consider digital block

Assess ATT status *

Antibiotics

Pain Relief

Appropriate dressing, High Arm Sling Review in next Fracture Clinic

TREPHINE NAIL IF NECESSARY
Consider digital block

Appropriate dressing / splint

High arm sling

Assess ATT status

Pain Relief

Advice patient regarding sign and symptoms of infection and report back to WIC if any concerns. Follow process for checking x-ray report any discrepancy refer as appropriate
Hand or Distal Phalanx Injury

Remove any jewellery from affected hand
Check circulation/pulse/sensation distal to injury

Hand assessment – no fracture or wounds or CNS deficits identified
Record dominant hand

Thumb
Thumb Spica
(Consider allergies to Elastoplast)

Fingers
Neighbour strapping
Consider broad arm sling: dependent on assessment and amount of swelling
Pain Relief

Advice
Early mobilisation
Adult: Advice around work and sport
Child: Advice is needed around School and sport involvement
Review if worsening symptoms or not settling
Can remove and/or reapply support as appropriate for pain relief such as strapping or spica
Hand Injuries - Wounds

Remove any jewellery from affected hand. Check circulation / pulse / sensation distal to injury

Examination of limb to include a record of dominant hand

Bony tenderness / deformity / clinical symptoms

NO

YES

Apply relevant dressing / support with discharge advice

Review WIC if not settling / concerns

Refer to Fracture clinic / ortho on call

YES

Wound Present?

NO

Removal of jewellery from affected hand. Check circulation / pulse / sensation distal to injury

Examination of limb to include a record of dominant hand

Bony tenderness / deformity / clinical symptoms

NO

YES

Apply relevant dressing / support with discharge advice

X-Ray

Fracture / dislocation

Review x-ray report and follow usual process

Review WIC if not settling / concerns

Refer to Fracture clinic / ortho on call

NO

YES

Appropriate dressings
Refer to Plastics on call

X-ray if needed for FB

FB Present?

No FB

If unable to remove or in zone 2 refer to Plastics on call

Cleanse thoroughly. Apply relevant dressings and follow up

REMEMBER – Analgesia as appropriate
Fracture – Thumb Metacarpal (Thumb Fracture)

Check for Scaphoid /Carpal bones injury

Severe Displacement?

YES

Refer to Ortho on call

Immediate ambulance transfer if neurovascular deficit

BAS

NO

Neurovascular deficit

YES

THUMB SPICA/WOOL AND CREPE BAS

Pain Relief

NO

Refer to Ortho on call

Refer to next Fracture Clinic
Fracture – Finger Metacarpals

Severe Displacement?

YES

Pain Relief

NO

Neurovascular deficit

YES

BAS

NO

Refer to Ortho on call

Neighbour strapping / Wool & Crepe

BAS

Pain Relief

Refer to next Fracture Clinic
Mallet Finger

X-ray shows an Avulsion Fracture?

YES

Mallet splint
NB. Ensure tape not covering PIPJ to allow flexion at joint

Pain Relief

Neurovascular deficit

YES

Refer to Ortho on call

NO

Refer to next Fracture Clinic
Phalangeal Fractures

Fracture Base Phalanx

Neighbour Strapping

NO

BAS

Pain Relief

Refer to next Fracture Clinic

Fracture shaft or neck

Displacement / rotation? Neurovascular deficit

YES

Pain Relief

Refer to Orthopaedic Dr On - call
**No Bone Injury to Hand**

Tubigrip / Wool & Crepe / Neighbour strapping or Elastoplast  
*IF NON ALLERGIC*  
(This is dependent on the type of injury, area of hand and patient comfort)

1. **BAS if gross swelling**
2. **Pain Relief**
3. **Early Mobilisation**
   - **Pain Relief**
4. **Review in WIC if deemed necessary SOS/Discharge**

**NB**  
Give patients written advice sheet on care following injury as this indicates when to return if they have not been x-rayed.  
Further assessment may deem x-ray necessary if symptoms have worsened.  
Consider time span as per x-ray policy
Ankle and Foot Injuries

Follow Ottawa rules

Assess and refer to A&E:

- Obvious joint deformity
- Altered motor / sensory power
- Open fracture
- Circulatory impairment to affected limbs

Assess and treat:

- Undisplaced/uncomplicated ankle injuries
- Simple sprains/strains/soft tissue injuries
- Ankle injury with bony tenderness to be referred for x-ray

Assessment and examination Full and detailed history:

- Site of injury
- Mechanism of injury
- Presenting symptoms
- Previous ankle fracture

Examine above and below the injury site:

- Check the fibular head
- Compare to unimpaired limbs
- Note swelling, bruising, wounds etc.
- Feel for swelling, painful areas, distinguishing between soft tissue and bony tenderness
- Check the temperature of the impaired area

Develop a routine as suggested below to cover all anatomical structures:

- Fibular head
- Medial malleolus
- Medial ligament
- Metatarsal/tarsal bones
- Achilles tendon
- Lateral malleolus
- Posterior and anterior ligament
- Calcaneum
Examine the most painful area last
Document the following:

- Range of movement – LOOK, FEEL, MOVEMENT
- Ability to weight bear
- Laxity of joint
- Nerve and vessel sensation – neuro vascular status
- Pedal pulse, capillary refill to toes

Look

A general observation of patient’s wellness, alertness, posture, gait, symmetry, colour and breathing.

- Adequate exposure, compare limbs
- Deformity- is it bilateral
- Look for subluxation/dislocation
- Swelling-localised or wide spread, localised effusion
- Bruising- any haematomas
- Skin:- ischaemia, inflammation, infection, critical skin, redness, clammy, dry
- Rash
- Wounds
- Scars
- Muscle wasting

Feel

- Heat-warmth vs. hot joint involvement
- Tenderness- soft tissue vs. bony tenderness
- Palpate swelling- distinguish the soft swelling of synovitis fluctuating swellings of effusions and hard immobile bony swellings
- Crepitus-soft tissue vs. bony
- Follow Ottawa ankle rules for bony tenderness to the foot ( for over 18’s not for children or the intoxicated
- Foot- check navicular, cuboid, base of fifth metatarsal
- Ankle- check lateral/medial malleolus
- Check remaining metatarsals, cuneiforms, phalanges, calcaneum, and head of fibula, Achilles tendon, and calf.
- Assess ligaments; - deltoid, anterior talofibular, posterior talofibular, anterior talotibial, naviculotibial, and calcaneotibial bands.
Move

- Midtarsal joints: grasp the heel with one hand and attempt to move the tarsus up and down and from side to side
- Toe flexion: ask patient to curl their toes
- Toe extension: ask patient to straighten toes
- Toe abduction: ask patient to fan out their toes
- Toe adduction: ask the patient to hold a piece of paper between their toes.
- Assess ROM
- Inversion - 30 degrees
- Eversion - 10 degrees
- Dorsiflexion - 20 degrees
- Plantar flexion - 50 degrees
- Always active movement before passive movement
- Resisted movement
- Compare with opposite limb
- Assess power
- Tone
- Circulation/neurovascular sensation

Stress/restricted

- Evaluate stability of injured joint (underlying anatomy and physiology essential).
- Specific to each joint: resisted in inversion/ eversion/ dorsiflexion/ plantar flexion

To be aware not always possible

Follow “Ottawa Rules” guidelines for x-ray.

- Bony tenderness along posterior edge of lower 6cm of medial malleolus or tip of medial malleolus
- Bony tenderness along posterior edge of lower 6cm of lateral malleolus or tip of lateral malleolus
- Inability to weight bear (walk 4 consecutive steps) both immediately and at the time of presentation
- Also check base of 5th metatarsal and navicular, if bony tenderness advise foot x-ray.
**Ligament injury to the ankle and the management**

Three grades of ligament injury to the ankle are recognised. These are classified as:

**Grade 1 – Simple strain**
- Simple inversion injury
- Able to weight bear
- No functional demands
- Limited tenderness and swelling.

The aim of the management is to reduce pain by **P.R.I.C.E.**

http://www.nhs.uk/Conditions/Sprains/Pages/Treatment.aspx

- **Protect** Prevent further damage see information in link
- **Rest** Foot elevated to reduce swelling. Advised to walk normally as soon as possible
- **Ice** Ice pack to the swollen area 10 minutes per hour for 24-48 hours
- **Compression** Correct size elastic stocking bandage, advice patient to remove bandage at night
- **Elevation** Raise leg on chair/stool when resting

Heat may then be used for injuries older than 48hrs as directed by NICE within Ice and Heat treatment for injuries

http://cks.nice.org.uk/sprains-and-strains

**Grade 2 – Partial rupture**
- Involvement of second ligament
- Significant swelling
- Loss of function
- Problems weight bearing

The aim of the management is as a Grade 1 injury Patient needs to be reviewed in A&E or GP
  - Crutches – non-weight bearing initially, gradually to partial weight bearing then to full weight bearing.
Grade 3 – Complete rupture

- Significant injury
- Bruising and swelling
- Loss of function
- Unable to weight bear
- Ankle effusion
- Signs of instability

The aim of the management is as a Grade 1 injury. Other considerations in the management are:
- Consider these patients may benefit from an application of plaster of Paris back slabs.

Consider referring to A&E or GP to assess stability after 6/52

Other types of ankle ligament injury

Ruptured Achilles tendon

Examination

Ask patient to kneel on a chair, if there is localised tenderness, 3-4 inches above the tendon insertion, a palpable gap in the tendon with associated softness, reduced power on plantar flexion, Simmonsd test positive. (Squeezing the calf does not produce plantar flexion)

Management

Refer to A&E Department

Special tests for lower limb ligament/tendon injuries

Simmonds (also known as the Simmons-Thompson) test- Achilles tears

The calf squeeze test
Patient kneels on a chair with legs hanging over the edge
With lower legs bent up 90 degrees
The calf is squeezed.
  - Achilles tendon is still attached, the foot will flex downward.
  - Tendon is ruptured the foot will not move.
  - In a partial tear, the calf squeeze test may be normal
Adults

Anterior draw test- anterior talofibular ligament (ATFL) tear

This is to determine the stability of the anterior talofibular ligament. The lower portion of the leg is held firmly. The heel is cupped and drawn forward. If the talus (ankle bone) is drawn 4mm or greater than the uninjured side, there is likely ATFL damage.

Calf circumference

Can be measured bilaterally to check for discrepancies e.g. muscle wasting.

Achilles Tendonitis

Examination - As above

There will be diffuse swelling and tenderness within and around the tendon, pain and possible creaking during flexion/extension of the ankle joint.

Management

- Analgesia/NSAIDs dependent on patients past medical history
- Rest
- Crutches if problem weight bearing
- Ice packs
- Gentle exercise
- Review 5-7 days at the Walk In Centre

Possibly consider plaster of Paris back slab- refer to A&E department if this treatment required.
**Bony injuries of the ankle**

Most common presentation is “twisting” or “going over” on ankle, inversion injury. Assessment as for ligament injury Examination as for ligament injury Examination will show bony tenderness to the distal tibia or fibula, lateral or medial malleolus.

**Also CHECK base of 5\textsuperscript{th} metatarsal.**

**Management**

- Confirmed by x-ray (If unable to x-ray refer to A&E)
- Full explanation to patient
- Plaster of Paris back slab
- Non weight bearing – crutches
- Written and verbal advice
- Referral to next fracture clinic

Consider the age of the patient and if they can manage with plaster of Paris and crutches. May need to apply wool and crepe bandage and advise partial weight bearing for comfort of the patient.

**N.B** Children under the age of seven should not be given crutches if they are unable to use them safely advise parents/carer to restrict weight bearing (if mobile) and may need to contact orthopaedic re: - walking plaster

Consider do they need referring for Social Support?
Foot injury

Assess and Refer to A&E for adults or specialist team at RLUCH for children if any of the following are present:

- Altered motor / sensory power
- Open fracture
- Circulatory impairment to affected limbs

Assess and treat

- Undisplaced / uncomplicated foot injuries
- Simple sprains/strains/soft tissue injuries
- Foot injuries with bony tenderness, refer to x-ray

Assessment and Examination of a foot injury

Document a full and detailed history:

- Anatomical site of injury
- Mechanism of injury
- Timing of injury
- Ability to weight bear
- Any swelling or bruising
- Check pedal pulse and capillary refill

Examine above and below the injury site:

- **LOOK** – swelling, bruising, deformity. Compare with uninjured foot.
- **FEEL** – tender areas
- **MOVE** – note range of movements
- Neurovascular check
- Note any swelling, bruising or wounds
- Feel for swelling and bony tenderness

Check for bony tenderness

- Tarsal bones (navicular, cuboid, cuneiforms, talus, calcaneus)
- Metatarsal – (head, shaft and base)

Document:

- Range of movement
- Ability to weight bear

Follow “Ottawa Rules” guidelines applicable to age for x-ray
Foot x-rays are only required if there is any pain in the mid-foot zone, and any one of these findings:

- Bony tenderness at base of 5th metatarsal;
- Bony tenderness at navicular
- Inability to weight bear (walk 4 consecutive steps) both immediately and in the emergency department

**If undisplaced fracture:** Refer to next fracture clinic

**If displaced or comminuted fracture:**

Refer to A&E for adults or Orthopaedic Doctor on call for Children

**Treatment of fracture: Adults and children**

- Apply below the knee plaster of Paris , if unable to:- fully none weight bear, apply wool & crepe bandage or refer for application of plaster of Paris
- Crutches - **children must be assessed for safety to use crutches.**
- Assess home circumstances and refer accordingly
- Advice
- Fracture clinic appointment

**Bony injury of calcaneum**

Presentation after falling/jumping from a height Assessment as for ligament injury
Examination as for ligament injury
Examination will show:

- Bony tenderness to calcaneum
- Significant anterior swelling over ankle
- Pain on weight bearing

**NB: always check for mid line cervical tenderness if fallen directly on to feet from a height if present follow the management algorithm for neck injuries**
Consider other associated injuries to knee, back, **cervical spine** etc.
Management

- If no access to x-ray – refer to A&E
- X-ray
- Depending on severity refer to A&E

Otherwise:
- Plaster of Paris back slab
- Non-weight bearing – crutches
- Refer to next fracture clinic
- Written and verbal advice
- Elevation of limb

Don’t forget advice on pain management

Soft Tissue Injuries

If bony injury has been excluded: Consider cause-
- Plantar fasciitis
- Tendonitis
- Ligament strain/ tear

Always remember to
- Check pedal pulse and capillary refill
- Check for underlying medical conditions (i.e. diabetes)
- Assess home circumstances
- Apply double Tubigrip give advice on when to remove
- Give patient verbal and written advice especially on care following injury which inform patient what to do if they have not been x-rayed
- Document all findings and information given to patients

http://www.nhs.uk/Conditions/Sprains/Pages/Treatment.aspx
May need referral to physiotherapy by own GP If no improvement after 4-6 weeks
Assessment of Ankles Using the ‘Ottawa Rules’

X-Ray if

- Patient
- Unable to weight bear for 4 steps in the department
- Unable to weight bear following initial accident.
  - If tender from lateral malleolus + 6cm up, then X-ray ankle
  - If tender over base of 5th metatarsal, then X-ray foot.
  - You rarely need to X-ray both.

**An ankle X-ray** series is required only if there is any pain in malleolar zone and any of these findings.

- Bony tenderness at A
- Bony tenderness at B
- Inability to weight bear both immediately and in WIC

**A foot X-Ray series** is required only if there is any pain in midfoot zone and any of these findings.

- Bony tenderness at C
- Bony tenderness at D
- Inability to weight bear both immediately and in WIC
Ankle Fractures

Dislocated

YES

Pain Relief

Refer to Ortho on call – IMMEDIATE transfer A/E by immediate ambulance

NO

Displaced fracture

Pain relief

Wool & crepe bandage

Crutches NWB

Refer orthopaedic specialist on - call

Un-displaced fracture

Wool & Crepe

Crutches and NWB

Pain relief

Advice re: elevation & analgesia

REFER TO NEXT AVAILABLE FRACTURE CLINIC

Soft Tissue Ankle Injuries

Able to weight bear?

**YES**
- Double Tubigrip – if required
- Pain relief
- **P**rotect
- **R**est
- **I**ce
- **C**ompression
- **E**levation
- R/V WIC / GP if not settling or concerned

**NO**
- Double Tubigrip OR Wool & Crepe
- Crutches
- **P**rotect
- **R**est
- **I**ce
- **C**ompression
- **E**levation
- Pain relief
- Review in 1 week (also return crutches)

**NB**
Give patients written advice sheet on care following injury as this indicates when to return if they have not been x-rayed as patient may need reassessment

WRITTEN ADVICE SHEET – SPRAIN/CRUTCHES
http://www.nhs.uk/Conditions/Sprains/Pages/Treatment.aspx
Principles of foot injury examination in the clinical area

<table>
<thead>
<tr>
<th>Assessment Of The Foot</th>
<th>Comments</th>
<th>Mark</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Functional Anatomy And Physiology Of The Foot</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>History Taking</strong></td>
<td>When?- always establish time of injury.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>How? - how did it happen.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Where? - where patient is injured contributes to mechanism of injury.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>What? - tells the possible extent of damage?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Who - actually identifies the perpetrator of an injury, i.e. NAI.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pain score appropriate to age</td>
<td></td>
</tr>
<tr>
<td><strong>Mechanism Of Injury</strong></td>
<td>Follow the how, where and what for clear mechanism of injury</td>
<td></td>
</tr>
<tr>
<td><strong>Feel</strong></td>
<td>Heat: warmth vs. hot, joint involvement</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tenderness: soft tissue vs. bony</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Crepitus: soft tissue vs. bony</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Follow the Ottawa ankle rules for bony tenderness to the foot over 18’s, not for children or the intoxicated.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The navicular, cuboid, base of fifth metatarsal, (Ottawa bony sites).</td>
<td></td>
</tr>
<tr>
<td></td>
<td>check the rest of metatarsals, uniforms, phalanges, calcaneum</td>
<td></td>
</tr>
<tr>
<td><strong>Move</strong></td>
<td>Assess the ROM</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Inversion- 30 degrees</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Eversion- 10 degrees</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dorsiflexion-20 degrees</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Plantar flexion- 50 degrees</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Always active movements before passive</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Resisted movement</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Compare with opposite limb</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Assess power; MRC scale 1-5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tone</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Circulation/neurovascular sensation</td>
<td></td>
</tr>
</tbody>
</table>
**Stress/Resisted**
- Evaluate stability of injured joint (underlying anatomy and physiology essential).
- Specific to each joint: resisted in inversion/Eversion
- To be aware not always possible on acute presentation

Consider for further investigations

**Look - general observation of patients**
**wellness, alertness, posture, gait, symmetry, colour and breathing**
- Adequate exposure, compare limbs
- Deformity
- Swelling
- Bruising
- Skin: ischaemia, inflammation, infection, critical skin.
- Wounds
- Scars
Ankle Fractures


https://www.nice.org.uk/guidance/ng37
Common and serious causes of knee pain by age group

Presentation of knee pain across the ages is a common presentation within the WIC, a good history including relationship to what may happen within the age range will lead to an appropriate diagnosis, see table below.

<table>
<thead>
<tr>
<th>Children and adolescents (&lt; 18 years of age)</th>
<th>Younger adults (18–50 years of age)</th>
<th>Older adults (&gt; 50 years of age)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patello-femoral pain (usually adolescents) Osgood-Schlatter's disease (in inferior portion of patellar tendon)</td>
<td>Patello-femoral pain (usually young adults)</td>
<td>Osteoarthritis</td>
</tr>
<tr>
<td>Sinding–Larsen–Johansson syndrome (Proximal portion of patellar tendon)</td>
<td>Trauma (cruciate and collateral ligament sprains, meniscal tears)</td>
<td>Gout and pseudo-gout</td>
</tr>
<tr>
<td>Referred pain from hip (e.g. slipped capital femoral epiphysis)</td>
<td>Joint hypermobility syndrome</td>
<td>Baker’s cyst</td>
</tr>
<tr>
<td>Hypermobility syndrome Growing pains</td>
<td>Bursitis Inflammatory arthritis</td>
<td>Referred pain from osteoarthritis of hip</td>
</tr>
<tr>
<td>Patellar subluxation/instability Osteochondritis dissecans, Osteomyelitis and septic arthritis</td>
<td>Septic arthritis Early osteoarthritis (previous injury)</td>
<td>Degenerative meniscal tear Septic arthritis</td>
</tr>
<tr>
<td>Tumours, Patellar tendonitis Discoid lateral meniscus</td>
<td>Medial plica syndrome</td>
<td></td>
</tr>
</tbody>
</table>

Note: this is a guide only. Many of the conditions listed by aged group can occur in other age groups (for example septic arthritis can occur in any age group). Each condition is placed in the age group in which it is most likely to occur. This information is based on expert opinion only.

http://cks.nice.org.uk/knee-pain-assessment
In growing Toenail – Management

For Patients Requiring Podiatry/Chiropody

<table>
<thead>
<tr>
<th>Severe infection in any patient eg/ inflammation which extends across the distal IP joint</th>
<th>Minor infection in high risk patient e.g. diabetic, immuno-suppressed, connective tissue disorders, long-term steroids</th>
<th>High risk patient – no apparent infection but pain in area of toenail</th>
<th>Low risk patient – no apparent infection but pain in area of toenail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Refer immediately to podiatry (fax application form) Prescribe appropriate antibiotics</td>
<td>Assess for other causes of pain, Refer to podiatry (fax application form)</td>
<td>Refer patient to podiatry as routine – fax application form</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Apply appropriate dressing to infected toe and cover with tubi-gauze (appropriate size) Do not encircle toe with strapping</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Ensure adequate pain relief</td>
</tr>
</tbody>
</table>

http://patient.info/health/ingrowing-ingrown-toenails

NB diabetic with infection to foot should be referred to Accident and Emergency department if an immediate referral cannot be made e.g. over the weekend or bank holidays.
Indicative chart showing possible causes of some foot pain depending on the area the pain is located.

- **Metatarsalgia** - Pain in the metatarsal region of the foot more commonly known as the ball of the foot. This is a common problem that affects metatarsal joints and bones.
- **Morton’s Neuroma** - Pain, swelling or inflammation of a nerve, usually between the third and the fourth toes.
- **Morton’s Toe** - A condition where the second toe is larger than the great toe and this leads to excessive pressure on the second metatarsal head (in line with the second toe in the ball of the foot region).
- **Heel Spur** - An abnormal growth of the heel bone which is usually seen as a protrusion in the center of the heel.
- **Plantar Fascitis** - An inflammation of the plantar fascia, the thick tissue which runs from the heel to the metatarsals. This happens due to excessive stretching of the tissue and can lead to heel pain as well.
- **Heel Pain** - Pain in the heel upon weight bearing.

- **Hallux Valgus or Bunion** - Indicates a condition when the great toe deviates inwards and there’s a prominent bump protruding out of the foot near the big toe joint.
- **Plantar Fasciitis** - An inflammation of the plantar fascia, the thick tissue which runs from the heel to the metatarsals. This happens due to excessive stretching of the tissue and can lead to heel pain as well.
- **Arch Pain** - Pain or burning sensation in the inner arch of the foot.
- **Post-Tib Tendonitis** - Pain along the inside of the foot and ankle where the posterior tibial tendon runs. This pain happens when the tendon is inflamed due to injury or overuse.
- **Achilles Tendonitis** - Inflammation of the Achilles tendon that runs along the back of the leg and inserts into the heel causing pain and discomfort.
Acute Traumatic Wounds Guidelines

Introduction

The majority of patient presenting in LWIC with a wound, do so with an acute traumatic wound which require assessment, management and treatment dependent and the mechanisms, classification, type, history and assessment. Some patients presenting to the WIC do so with a chronic wound. On presentation, these patients are normally transferred to the treatment rooms. There are certain situations where it is more convenient for the patient such as on the way to or from work or at first presentation, these patients will then present for treatment. A traumatic wound is defined as a sudden breach in the surface integrity of the skin caused by a variety of methods and causes cells that would normally be connected to become separated.

The management and assessment of chronic wounds is already covered within Liverpool Community Health Trust guidelines on the management of chronic wounds and can be found on the Intranet: http://opera.liverpoolch.nhs.uk/SIRS/Policies-and-Procedures/Clinical%20Policies/Wound%20Assessment%20Guideline.pdf

Wounds

Wound healing is a complex and dynamic process with the wound environment changing with the changing health status of the individual. In healthy individuals with no underlying factors, an acute wound should heal within three weeks, see table below, with remodelling occurring over the next year or so. If a wound does not follow the normal trajectory, it may become stuck in one of the stages and the wound then becomes chronic.

Wound Healing Phases

<table>
<thead>
<tr>
<th>Phase of Healing</th>
<th>Days Post Injury</th>
<th>Cells involved in phase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Haemostasis</td>
<td>Immediate</td>
<td>Platelets</td>
</tr>
<tr>
<td>Inflammation</td>
<td>1 - 4 days</td>
<td>Neutrophils</td>
</tr>
<tr>
<td>Proliferation</td>
<td>4 - 21 days</td>
<td>Macrophages, Lymphocytes, Angiocytes, Neurocytes</td>
</tr>
<tr>
<td>Granulation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contracture</td>
<td>21 days – 2 years</td>
<td>Fibroblasts / Keratinocytes</td>
</tr>
<tr>
<td>Remodelling / Maturation</td>
<td>years</td>
<td>Fibrocytes</td>
</tr>
</tbody>
</table>
Alterations that disrupt controlled healing processes would extend tissue damage and repair. The patho-biological state may lead to chronic or non-healing wounds or excessive fibrosis. Factors that affect these phases are covered within the clinical guidelines ‘A Practical Guide to the Management and Treatment of Wounds in Primary Care’ accessed via the intranet and will form an important component of the initial assessment of the patient.


**Classification of wounds**

There are two classifications of traumatic wounds, Closed and Open, which are then divided into definitions dependent on the mechanism of injury.

<table>
<thead>
<tr>
<th>Classification</th>
<th>Mechanism / description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Closed</strong></td>
<td></td>
</tr>
<tr>
<td>Contusion</td>
<td>Bruise that is usually produced by impact from a blunt object and that does not cause a break in the skin</td>
</tr>
<tr>
<td>Haematoma</td>
<td>A collection of blood beneath the skin surface usually following contusion</td>
</tr>
<tr>
<td><strong>Open</strong></td>
<td></td>
</tr>
<tr>
<td>Laceration</td>
<td>A tear, or split in the skin usually caused by a sharp edge of some kind</td>
</tr>
<tr>
<td>Abrasion</td>
<td>Usually only involved the superficial epithelium caused through scrapping and friction force. If more extensive, can cause cell damage resulting in the release of fluid</td>
</tr>
<tr>
<td>Puncture Wounds</td>
<td>A narrow and deep hole to the skin surface caused by long sharp object such as nails, bites, knives and broken glass</td>
</tr>
<tr>
<td>Burn</td>
<td>An injury caused by heat, cold, electricity, chemicals, light, radiation or friction.</td>
</tr>
<tr>
<td>Scald</td>
<td>A scald is a type of burn injury caused by hot liquids or gases</td>
</tr>
<tr>
<td>Crush Injury</td>
<td>When a body part of subjected to a high degree of force or pressure, usually after being squeezed between two heavy objects, splitting the skin and shattering or tearing underlying structures.</td>
</tr>
<tr>
<td>Avulsions</td>
<td>Occur when an entire structure or part of it is forcibly pulled away, such as the loss of a permanent tooth or an ear lobe. Explosions, gunshots and animal bites may cause avulsions</td>
</tr>
<tr>
<td>De-gloving</td>
<td>This is when avulsion of the skin of the hand (or foot) in which the part is skeletonised by removal of most or all of the skin and subcutaneous tissue</td>
</tr>
</tbody>
</table>
Initial Assessment of the Patient

The WiCs use the Triage system for initial assessment of all patients which involved the immediate emergency assessment of airway, breathing and circulation to promptly address any life threatening situations which should be address prior to wound management.

A systematic approach using medical model is followed throughout the assessment of all patients including those presenting with a wound starting with the presenting complaint (PC) which is simply a statement of what the patient is presenting with e.g. laceration to scalp.

A detailed history of the presenting complaint (HPC), in this case a wound.

What led to the injury Including the mechanism (How) time (When) and where sustained (Where) and structures involved which may highlight the need for further observations such as neurological observations in a patient with scalp laceration who has been hit with some force around the head, sustaining not only the laceration but a head injury.

Management of head injuries with covered within the head injury section as well as triage section of within the WiCs policies.

During assessment it is vital to envisage any underlying structures of the wound to exclude or address any further damage ensuring appropriate management and referral takes place relevant to the individual patient injuries.

Systematic Wound Assessment

History taking and documentation

The age of the client is noted, this can have an impact not only on the wound healing but the choice of dressings you may use.

Presenting complaint (PC) Laceration / Abrasions / Puncture Wound etc.

History presenting complaint (HPC), Mechanisms – What happened / how / why / when / where? The Practitioner can then critically assess:-

<table>
<thead>
<tr>
<th>What</th>
<th>What has happened, if the injury relates to this in order to exclude or follow up any non-accidental concerns or related problems?</th>
</tr>
</thead>
<tbody>
<tr>
<td>How</td>
<td>Will include exclusion of possibility of foreign material such as glass within the wound</td>
</tr>
<tr>
<td>Why</td>
<td>May uncover underlying medical problems such as collapse rather than tripped</td>
</tr>
<tr>
<td>When</td>
<td>Would give a time frame around closure or possible infection of the wound</td>
</tr>
<tr>
<td>Where</td>
<td>Would supply additional information on other factors such as contaminants</td>
</tr>
</tbody>
</table>
**Past Medical History (PMH)** allergies, medication, smoking, alcohol consumption and lifestyle including relative occupation or activity can all affect wound healing increasing wound management problems and should be noted within patient records.

**Immunisation** status is recorded and managed accordingly, their immunity against tetanus or on identification of a tetanus prone wound

On examination (O/E) includes documenting the following:-

**Wound** Type / size / location(s) / shape / direction and depth / bruising / active bleeding / surrounding skin condition / presence of any foreign bodies / missing or devitalised tissue

**Palpation** To assess swelling / deformity / underlying structures / crepitus

**Movement** In order to exclude tendon /bone involvement especially if a digit is involved

**Sensation** To exclude nerve damage or involvement

**Circulation** To ensure no involvement of deeper vessels

**Impression** What you feel the patient now needs addressing

Here are two examples:
- 4cm linear laceration, gaping in need of closure, appropriate for suturing
- 1 ½ cm laceration to lips involving the vermillion border which need referring to plastic surgeons for cosmetic closure

**Management** This is depending on each individual patient and relates to your clinical findings. The Practitioner should work within their own level of experience and competency and refer to another practitioner / secondary care where this is outside of their scope of practice or outside of the remit of the WiCs.

The management will include x-ray if glass or radio opaque objects are suspected of contaminating the wound.

**Follow up** Is part of the management and would include such things as referral to Treatment Room and what to do and look for, if there are any complications, all advice given to the patient must be documented and state whether this is verbal or written advice, written advice is preferred.
Referral

Is also part of the management if indicated and may be required if tendon circulation or nerve damage has been identified during the assessment or cosmetic closure is required.

Contusions / Haematomas

Ecchymosis is the medical term for a bruise, or blood that has leaked out of a broken blood vessel under the skin that is caused by an injury. Another word for this injury is a Contusion. An ecchymosis tends to be flat while a haematoma has more of a three dimensional character to it, these are both classed as closed wounds.

Assessment of patients presenting with contusions or haematomas should be carried out as outlined in appropriate section, ensuring that the cause and any underlying injuries, problems and complications have been explored prior to assessment.

Bruising

Visual acuity should be documented for all eye problems and if for any reason this is not undertaken you must document the reason why.

Bruising or Black Eye (Ecchymosis)

Ecchymosis occurs from some type of trauma to the eye, which causes the tissue around the eye to become bruised. The Practitioner must examine the eye closely to make sure there is no damage to the actual eye itself i.e. Hyphema. Penetrating trauma, blow out fractures of the orbit and head injuries should also be excluded and if present assessed and referred to the appropriate specialty if warranted.

Most black eyes heal completely and do not cause any damage to the eye.

Treatment may include:

• Cold compresses to the eye for the first 24 hours
• Warm compresses to the eye after the first 24 hours
• Continued compresses until the swelling stops
• Head elevated to help decrease the amount of swelling

It is important to know that the swelling and bruise may appear to spread and go down the cheek or to the other eye, this is normal.

In general, superficial haematoma’s of skin, soft tissue, and muscle tend to resolve over time.

Haematoma’s of the skin and soft tissues are often treated with RICE (rest, ice, compression, elevation)

The pain of a haematoma is usually due to the inflammation surrounding the blood...
and may be treated with Over the Counter pain medications. The choice of medication depends upon the underlying health of the patient.

One common complication of all haematoma’s is the risk of infection. While the hematoma is made of old blood, it has no blood supply itself and therefore is at risk for colonisation with bacteria.

Haematoma’s associated with an open wound will need to be removed Larger haematoma’s in closed wounds may need to be evacuated, referral will be dependent on the site along with the Practitioners assessment of the patient and clinical experience, ensuring that this is within the competency of the Practitioner/s when the patient presents.

**Hyphaema**

Hyphaema is a collection of blood in the anterior chamber usually from blunt Trauma and should be referred on to Ophthalmology

Hyphaema’s cause irritation and inflammation. Symptoms depend upon their location and whether the size of the associated swelling and inflammation causes structures nearby to be affected. The common symptoms of inflammation include redness, pain, and swelling.

**Subungual haematomas**

This is a result of crush injuries to the fingers or toes. Bleeding occurs under the fingernail or toenail and since it is trapped, pressure builds causing pain. Trephination, or drilling a hole through the nail to remove the blood clot, relieves the pressure and resolves the injury. A new nail grows over time. If injury to the bone is suspected and trephining has taken place antibiotic cover is needed as it would now be classed as an open fracture crush injuries distal phalanx .crush injuries
Septal hematomas

Occur with nasal trauma. A septal hematoma may form associated with a broken nose. If not recognized and treated, the cartilage can break down and cause a perforation of the septum. Examination includes visualising the interior of both nostrils; an auroscope speculum may be used and disposed of afterwards.

If a septal haematoma is identified or cannot be excluded referral acute care ENT specialty should be made.

http://emedicine.medscape.com/article/149280-overview

Auricular hematoma

A hematoma may develop following blunt force trauma to the ear. Hematoma may strip the perichondrium from the elastic cartilage of the pinna which will cause devascularised cartilage that may undergo necrosis and/or infection, with consequent deformity known as a cauliflower ear.

All such cases should be referred to ENT specialty for urgent drainage and ongoing management as they frequently fill up again following drainage.

**Acute Wound cleansing / debriding**

Classification of wounds based on degree of microbial contamination

<table>
<thead>
<tr>
<th>Classification</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contaminated</td>
<td>Contaminated wounds are open, fresh, traumatic wounds &lt; 4 hours old or wounds from surgical operations involving major breaks in sterile technique or gross spillage from the gastrointestinal tract.</td>
</tr>
<tr>
<td>Dirty</td>
<td>Purulent inflammation (e.g. abscess); preoperative perforation of respiratory, gastrointestinal, biliary or genitourinary tract; penetrating trauma or open traumatic wounds &gt; 4 hours old.</td>
</tr>
</tbody>
</table>

Adapted from Robin Chard AORN Journal 2009

A wound classification system formula used by surgical team used for grading the extent of microbial contamination, has four categories which is then used to indicate the chance that a patient will develop an infection.

All traumatic wounds that constitute a breech in the skin integrity fall within the last two categories presenting at the Liverpool LWIC making them either contaminated or dirty, see classification above.

The object of cleaning the wound is to remove both organic and inorganic debris to create an optimum healing wound environment and is an essential part of the wound management.

Cleansing and removal of foreign bodies and devitalised tissue has been shown to reduce infection. Dead tissue, foreign debris, devitalised tissue and haematomas must be removed to reduce the number of contaminating bacteria and deprive any remaining of their breeding environment, by doing so you ensure that the remaining tissue is viable with a good blood supply.

If there is extensive devitalized tissue or the repair of the wound is beyond competencies of the Practitioner to repair then they should be referred appropriately.

Deeper structure involvement such as muscles and tendons should be referred prior to any wound closure for further assessment.

Embedded foreign debris should be removed as soon as possible. Removal of embedded foreign particles requires either local or regional anaesthesia. A sterile scrub brush soaked in saline may be used to removes the embedded debris from wounds especially gravel from abrasions preventing a ‘tattoo’ effect making a more cosmetically aesthetic wound.
If glass or a radio opaque material is the suspected foreign body an x-ray of the wound should be ordered if access to x-ray is not available then the patient will need to be referred to a service where this is available.

1.9 % Normal saline is regarded as the most appropriate and preferred cleansing solution within the WIC because it is a nontoxic, isotonic solution that does not damage healing tissues it is also versatile as it is dispensed in pods for accurate irrigation if required.

Tap water is commonly used to initially remove large amounts of contaminants in acute wounds prior to assessment both these solutions have been found to be affective and appropriate according to evidence based reviews.

Infection control measures should be followed for both the environment and cleansing and dressing of the wounds.

The Practitioner should assess the risk of exposure to blood and body fluids and select and wear the appropriate personal protective equipment. For example, trephining of a subungual hematoma where the Practitioner identifies possible risk of contamination to eyes and wears goggles.

The link below provides guidance to staff in risk assessment, selection and wearing of appropriate protective clothing in order to prevent infection transmission to themselves and patients. http://opera.liverpoolch.nhs.uk/SIRS/Policies-and-Procedures/ Clinical%20Policies/Forms/AllItems.aspx?View={B8AE8862-CF38-4369-9B63-18F358F65C67}&FilterField1=Category&FilterValue1=Infection%20Control

**Aseptic technique** is used and there are two methods:

- No touch using forceps
- the application of sterile gloves when there is a need to touch the dressing field, instruments and /or the wound

The most appropriate aseptic technique should be used following assessment of the wound by the Practitioner. Staff should follow LCH guidance on hand hygiene, handling of sharps and management of spillages within the environment you are working in, it can be accessed via the intranet by the above link.

**Wound Debridement**

Debridement is an integral part of wound management and all Practitioners should be aware of the range of options available.

Although it is not necessary for Practitioners to always personally be able to perform debridement, they should have sufficient understanding to recognise which technique is the most appropriate for the individual patient and his/her wound.
Debridement is the removal of non-viable tissue from the wound bed to encourage wound healing. Wound debridement is an essential part of wound care and its role in the preparation of the wound bed is well documented.

Within the Walk in Centres patients present with acute and chronic wounds, acute wounds may contain gravel, dirt and other foreign bodies e.g. glass, chronic wounds often contain sloughy tissue, which can harbour bacteria and act as a barrier to healing. The availability of nutrients and oxygen and presence of ischaemic tissue make this an ideal environment in which both aerobic and anaerobic bacteria can multiply (White and Cutting, 2008), increasing the risk of malodour and infection.

One of the key findings of a multidisciplinary UK consensus was that access to debridement should be based on clinical need and not the skill of the clinician. It is important that the decision to debride and the method of debridement selected is the most effective for the patient, the amount of non-viable tissue to be removed and the anatomical location of the wound, and should form part of the overall wound management plan for the patient.

Methods of debridement

Evidence defining the best method of debridement is scarce. In clinical practice, a range of debridement techniques are in use in the UK, Nurse Practitioners within the LWIC will decide whether the wound is able to be debrided within the LWIC using appropriate dressings or if further intervention is required from Specialist Teams for sharp / surgical debridement.

Nurses undertaking Sharp debridement within the LWIC must be able to evidence their competence and have updated on current practices from National and local guidelines.

Autolytic

Autolytic debridement includes hydrogels, hydrocolloids, cadexomer iodine and honey to name a few. In choosing dressings that promote autolytic debridement, it is important to consider the moisture balance in the wound and take necessary steps to avoid maceration by the use of a suitable skin protectant or barrier film. http://opera.liverpoolch.nhs.uk/SIRS/Policies-and-Procedures/Clinical%20Policies/Wound%20Debridement%20Guideline.pdf
Hydro surgical

Hydro surgical debridement involves lavage with sharp debridement

Mechanical

Traditional methods of mechanical debridement are considered potentially harmful, newer methods have revolutionised practice. More recently, an active debridement pad has been agreed by NICE for acute and chronic wound debridement.

http://www.nice.org.uk/guidance/mtg17

Sharp

Sharp debridement is the removal of necrotic, sloughy tissue or ragged wound edges which may be non-viable, Nurse Practitioners within the WiCs should not undertake this unless competence can be evidenced.

When Is Referral Necessary?

If any doubt exists as to the diagnosis or treatment pathway, referral for assessment and advice from the specialist wound care or tissue viability team should occur prior to debridement.

Wounds that should not be debrided without specialist involvement are:

- Patients attending that have had surgery and are attending for redressing – any issues should be referred back to the surgical team
- Wounds on the hands, feet or face were cosmetic or functional problems may occur – e.g. Over flexor surfaces. These wounds require multidisciplinary involvement.
- Lower limb wounds on patients with arterial disease who require the assessment and advice of the vascular team
- Patients with inflammatory conditions such as pyoderma gangrenosum where active debridement may lead to wound deterioration. These patients require review by the dermatology team
- Wounds that are associated with congenital malformation or when malignancy is suspected or the normal anatomy is changed. The wound location will decide the correct team involvement - this will usually be the plastic surgical team
- Patients with a prosthetic implant in the region of the wound require a review and advice from the appropriate surgical team
- Caution is advised when patients have clotting disorders or are on anticoagulant therapy. Patients who have active, untreated wound infection require urgent intervention covered by antibiotic therapy.
- Patients with neuropathy if wounds are in areas of decreased sensation.
Foreign Bodies (FB)

- X-ray wounds if history of smashed/shattered radiopaque substance (glass, metal) or if a deep wound is present.
  - An X-ray of superficial wounds where FB can be seen easily or if cut from intact/single piece of glass is not required if there is no sensation of FB.
- If there is a butterfly or earring stud in the ear lobe – remove under local anaesthetic or Entonox.

Foreign bodies only to be removed within a LWIC dependent on individual Practitioners competence level

- Punch injury – if the knuckle strikes the incisor
- If wound present may involve extensor tendon and /or joint capsule
- These injuries need to be referred to A & E for exploration of the wound
- Human bite injuries need antibiotic cover for gram negative and gram positive organisms
  http://www.panmerseyapc.nhs.uk/formulary/documents/05-00-00_infections.pdf
- Consider referral to A/E for Post Exposure Prophylaxis depending on history.

Abrasions

This is when an abraded area the skin is worn off it is usually superficial but painful as the nerve endings are exposed.
Patient should be assessed according wound assessment process detailed earlier in this document
Often these abrasions occur in a road, Park or public highway resulting in gravel / dirt being embedded which may result in infection and ‘tattooing’. Removal may include the use of a sterile scrubbing brush and appropriate analgesia as required.
Cleaning and debriding of wounds
Patients presenting with these wound should be told to observe for signs infection (See wound care advice and dressed according to the acute traumatic wound dressing sheet matrix.
Puncture wounds/penetrating wounds and bites

These wounds are described as penetrating wounds in which fine paths have been made by a pointed object. Plantar puncture wounds being the most common

- Assess wound exclude involvement of under lying tendons/organs/bone: initial triage will include vital signs if appropriate (for Haemorrhaging/chest/throat/abdomen involvement)
- Clean, debride and remove/exclude foreign bodies (FB) i.e. thorns, glass (X-Ray if radio-opaque)
- Assess depth, if unable to do this may need to consider exploring depending on location and underlying structures -will then need referral depending on site and Practitioners competencies
- Consider antibiotics and tetanus status/immunoglobulin.
- Bites are not sutured, prophylactic antibiotics needed (See current antimicrobial guidelines on intranet or hard copy)
  http://www.panmerseyapc.nhs.uk/formulary/documents/05-00-00_infections.pdf

Refer to secondary care:

- Penetrating wounds involving arteries, joints, nerves, muscles, tendons, bones, or the central nervous system. Note: penetrating bites to the hands or feet are at particular risk of infection and serious complications.
- Facial wounds (excluding very minor wounds).
- Bites where there is a possibility of a foreign body (for example a tooth) in the wound.
- Devitalized wounds where debridement is required.
- Bites where the severity of the injury is difficult to assess.
- People with severe cellulitis, or with infected bite wounds that are not responding to treatment, or who are systemically unwell.
- People with an increased risk of infection — including those with diabetes or cirrhosis, those who are immunocompromised, and asplenic individuals (especially if they are not taking prophylactic penicillin).
- Injuries requiring reconstructive surgery.
- Bites to poorly vascularized areas such as ear cartilage/nose cartilage.
- If adult bites have been inflicted on a child, consider child protection issues. Follow local policies for referral of children considered at risk

NICE guidelines accessed 09/10/15
http://cks.nice.org.uk/bites-human-and-animal
Lacerations

Again, initial assessment is undertaken as outlined above. Assess wounds under optimal lighting with minimal bleeding. Important structures underlying any lacerations should be assumed to be involved until proven otherwise. Motor, sensory and vascular function must always be assessed and documented. Injuries to the fingers and hands account for the majority of such cases that may present to the WiC. The primary goals of appropriate wound care for lacerations include avoiding infection, restoring function and leaving an aesthetically pleasing scar where possible. Most wounds in LWIC are closed by primary Intent: this is when wound edges are brought together so that they are adjacent to reach other (re-approximated).

Exclusions / Referral

- Excessive length of depth, potentially requiring a toxic dose of local anaesthesia to obtain adequate analgesia
- Severe contamination requiring extensive cleansing or debridement
- Open fractures, tendon, nerve or major blood vessel injury
- Complex structures requiring meticulous repair (eyelid/ear cartilage)
- Aesthetic reasons such as involving vermillion border of the lips
- Beyond the competency of Practitioners within the WiC
- Deep wounds involving joint spaces or Zone 2 of the hand wounds – flexor surface
Lacerations fall into several categories, for example, a tear or split in the skin usually caused by a sharp edge of some kind of a direct force causing swelling and the skin to split.

The management of acute laceration wounds involves:
- Assessment to determine the need for closure
- Manage any pain: administer appropriate analgesia as needed (Paracetamol/lignocaine/Entonox)
- Thorough cleansing and removal of foreign bodies
- Identification of suitable closure method if needed
- The prevention of tetanus
- Dressing choice appropriate to injuries / site (see dressing matrix)
- Returning the patient to full function as soon as possible
- Discharge advice and follow up plan.

Infected wounds should not be closed. If the risk of infection is high or the wound is over 12 hours old, then the wound should be left open and covered with an appropriate dressing and prescribed appropriate antibiotic. Consider referral for secondary closure of infected wounds.

**Mouth and Tongue Lacerations**

Because of the rich vascularity of the soft tissues of the mouth, impact injuries often lead to dramatic haemorrhages that send patient to the WiCs with relatively trivial lacerations.

Blunt trauma to the face can cause secondary lacerations of the lips, frenulum, buccal mucosa, gingiva and tongue.

Unlike the cosmetically important facial lacerations that are almost always closed primarily, the majority of intraoral lacerations may be left open and will heal well without repair. Patients should be informed that the area may ulcerate as part of the healing process. Small puncture lacerations through the lip may not require complete closure: the external portion may be repaired while the intraoral portion is allowed to heal without sutures. Assessment is undertaken as outlined early within the wound section.

Through and through lacerations – full thickness - should be referred for assessment.

Lacerations that involve the vermilion border of the lips should be referred to the Plastic Surgeons for appropriation of wound edges even 1mm of misalignment can be very noticeable.

Vermilion borders where the red part of the lip ends and the white skin begins
Torn Frenulum

The membrane between the upper gum and upper lip is called the frenulum and has no useful purpose so it is best to let a torn frenulum heal on its own. Practitioners should exclude non-accidental injury depending on the age of the patient, history given of the injury and its mechanism.

Tongue Lacerations

Small lacerations and avulsions heal well without intervention. If the laceration is gaping, and at the edges may give a bifid or grooved appearance if left to epithelialize. Most tongue lacerations do not require sutures.

- Tongue lacerations in children are known to heal well without intervention
- Simple linear lacerations, especially if centrally located, heal with minimal risk of infection

Refer if:

- Bisecting wounds
- Large flaps
- Persistent bleeding
- Wound larger than 2 cm
- Gaping wounds especially at the edges of tongue
- U shaped lacerations
- Avulsion or amputation injuries

Mouth and Tongue

Advice

- Rinse the mouth with diluted salt water 3-4 timers per day
- Mouthwashes if appropriate
- Apply cold compresses to the face
  - Wrap ice in moist hand towel
  - Do not apply ice directly to skin
  - Apply for 20-30 minutes, every 1-2 hours, for the first few days
- Drink cold liquids
- Eat a soft diet
- Analgesia as require for pain
- Take prescribed medication as directed.
### Fingertip Injuries

If more than 1/3 of pulp lost or laceration extends into nail bed, refer to with plastics. If trauma involving bony injury and open wound ensure treated with antibiotics as this is classed as open fracture.

### Skin Tears

Are commonly classified as traumatic wounds occurring principally on the extremities of older adults, as a result of friction alone or shearing and friction forces which separate the epidermis from the dermis (partial thickness wound) or which separates both the epidermis and the dermis from underlying structures (full thickness wound).

Initial assessment will be undertaken as outlined in and categorised. Management is carried out according to the problems encountered and structure involved this is including education and ongoing care.

#### Classification of skin tears

| Category 1 | Skin tears without loss of tissue  
Linear: in which the epidermis and dermis are pulled in one layer from the supporting structure  
Flat: where the dermis and epidermis are separated but the epidermal flap covers the dermis to within 1mm of the wound margin |
| --- | --- |
| Category 2 | Two types:  
- Little loss of tissue <25%  
- Moderate to large loss of tissue > 25% of the flap has disappeared during trauma |
| Category 3 | Involves the entire loss of tissue. It can be cause at the initial trauma or subsequent necrosis of skin flap |

#### Management of Skin Tears / Flap Lacerations:—see chart below

#### Ongoing Management / Health Promotion

Refer patient to Treatment Room: These wounds need monitoring of signs of infection as patient usually have contributing factors to delayed healing and increased infection risk i.e. age / diabetes.

Dressing should be left in place for at least 3/7 days to allow skin to re-establish itself earlier if thought to become infected (see below).

Elevation if lower limb at rest to reduce pain and oedema.

Advice needed on prevention of further injury (e.g. caught on old shopping trolley).

To return to WiC if they feel the wound is becoming infected (increased in pain, heat redness. Colour change, cellulitis/oedema).
<table>
<thead>
<tr>
<th>Problem</th>
<th>Treatment</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Category 1</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skin flap rolls up on itself. Wound become dry</td>
<td>Cleanse wound, remove carefully damaged skin cells. Without pulling or applying tension, gently unfold and smooth out the flap completely over the wound</td>
<td>Rinsing promotes greater flexibility of the flap, in returning it to its initial position. Allow healing to take place by primary intervention</td>
</tr>
<tr>
<td>Wound fragile and needs protection</td>
<td>Cover with silicone coated net dressing</td>
<td>Adhere gently to skin flap and surrounding skin, but not to the wound surface. Allows flap to remain in position</td>
</tr>
<tr>
<td>Exudate and oedema</td>
<td>Apply appropriate secondary dressing to absorb exudates i.e. foam. Secure with a light bandage</td>
<td>Prevents maceration of surrounding skin. Bandage will help prevent further bleeding, removes oedema from under skin flap and limits the formation of oedema</td>
</tr>
<tr>
<td><strong>Category 2</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Limited loss of tissue of &lt;25% is treated as a category 1 tear. Skin tear &gt;25% loss of tissue, exudates production is decreased causing wound to become dry</td>
<td>Apply silicone net dressing and hydrogel sheet, cover with vapour permeable dressing, padding and light bandage</td>
<td>To hydrate wound and maintain warm moist environment</td>
</tr>
<tr>
<td><strong>Category 3</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skin ripped off or flap necrotised, causing a dry wound. Treated as an abrasion</td>
<td>Cleanse wound, apply silicone net dressing. Apply appropriate secondary dressing</td>
<td>Protects wound against bacterial invasion. If large tissue loss any tendon/bone exposure refer: transfer with saline soak and wrap in film for transfer</td>
</tr>
</tbody>
</table>
Crush injuries/wounds

A crush injury is when a part of the body is caught between two objects that are being pushed together by a high pressure. There are varying degrees of crush injuries, from slamming a finger in a door to limbs being trapped and crushed for an extended period of time.

Most often accidental, crush injuries are responsible for broken bones, severe bruising, bleeding, lacerations and compartment syndrome.

Patients presenting at the WIC with a crush injury are assessed as outlined and will direct Practitioners management depending on the severity of wound, area involved, duration and force of the crushing incident.

Management

- Clean the wound
- Exclude underlying nerve /deep tissue damage/bone involvement
- Haematomas and contusion management
- Tetanus management
- If a fracture is suspected send/refer patient for an x-ray
- If fracture present or suspected then provide antibiotic prophylaxis to prevent possible osteomyelitis especially if trephined a subungual hematoma
- Close wound as appropriate

Follow up Advice

- Elevate limbs/digits in broad / high arm sling if appropriate
- Wrapped Ice over affected area if warranted ( not over wound as cold will delay healing)
- Referral to treatment rooms if further redressing needed
- Advise to observe for sign infection
- Advice on early signs compartment syndrome if needed Early warning signs of compartment syndrome
- Severe pain in the affected extremity, out of proportion to the injury
- Significant swelling and tightness in the forearm/leg/hand/foot tissues
- Pain with passive stretch of a muscle group (e.g., passive extension of the fingers or wrist stretches the flexor muscles and causes pain in the volar forearm, whereas passive flexion of the fingers or wrist stretches the extensor muscles and causes pain in the dorsal forearm)
- Tingling or numbness in the hand or foot, along the nerve distributions

Treatment of compartment syndrome is a true surgical emergency – Emergency transfer to A/E or Ortho on Call.
Degloving/Avulsion

Any de-gloved /avulsed wound with potentially non-viable tissues must be referred to an Emergency Department for specialist intervention. Assessment as outlined above and including documenting nerve and blood supply to any flap or other injured tissues.

Smaller than 2cm

- Assess suitability managing wound in primary care
- Clean
- Assess tetanus status possibility need for immunoglobulin
- If only partial avulsion replace flap
- Closure according to assessment
- Avulsions with tissue loss may need to heal by secondary intent
- Dress according to the dressing matrix
- Ensure the wound is reviewed by an appropriately skilled Practitioner.
- Advise to observe for infection – increased, pain, swelling, heat/ discharge etc. and to return if concerned.
- For follow up dressings refer to treatment rooms.
Skin Closure Methods

Commonest forms of materials available to Practitioners for wound closure are Sutures, Wound Closure Strips or Skin Glue. The most appropriate method for the individual presenting is identified at initial assessment and discussed with the patient to gain their informed consent. Nurse Practitioners within the LCH WiCs must have completed their competencies which include wound closure, suturing and infiltration, within the WiC Competency Framework prior to undertaking these skills.

The Practitioner must choose the method of closure suitable for the individual that maximizes the opportunity for healing and minimises the risk of infection and is acceptable to the patient following informed consent.

Skin Glue

Wound glue should **not be used** when:-

- The patient is restless or uncooperative
- The wound is deep or actively bleeding
- The wound is contaminated or over a joint
- The wound is close to the eyes
- Wounds extend to or within the mucosal membranes
- Wounds in moist areas e.g. armpits
- Hair is dense e.g. scalp – some skin glues e.g. hystoacryl can cause a thermal reaction and destroy hair follicles resulting in bald patches
- Sufficient tension is required to oppose the edges of the laceration

Skin Glue: Method

- Analgesia if required
- Clean the wound
- Debride the wound
- Approximate the edges of a clean, dry wound and holding the edges together
- Apply the glue sparingly along the length of the wound, either in small dots or in a continuous line to form a bridge over the wound site as per manufacturers advice.
- Do not apply glue within the wound.( this will hold wound open and delay healing )
- Hold the wound together as directed by the manufacturers leaflet.
- Apply a dry dressing for wounds if needed - although the glue forms a waterproof barrier.( ensure the glue is dry)
- The adhesive will come away of its own accord within about 10 days.
Follow up advice given on :-  
- Not to rub, scratch, pick wound or pull at edges if adhesive begins to lift  
- Light showers only permitted  
- Protect wound during healing phase  
- Not to apply barrier creams or expose to prolonged sunlight or tanning beds

Wound closure strips

Wound closure strips are adhesive and although tensile are useful for superficial wounds where minimal tension is required. Wound closure strips should not be used on hairy areas such as the scalp, on sites subject to flexion or stress or, on the face where the wound is deeper than the epidermal layer.

Wound closure demonstration - https://www.youtube.com/watch?v=C5m0CYCt59E
- Approximate the edges of a clean dry wound and secure the first strip centrally to align the wound edges. Take care not to allow the wound edges to curl inwards.
- Place subsequent strips 3mm apart. Do not completely cover the wound.
- Strips may in addition be placed parallel to the wound edges to strengthen the closing strips.
- Ensure the wound closure strips do not circumvent a digit.
- Cover with a non-adherent dressing if required.
Suturing

Sutures are the preferred method for closure in wounds over 5 cm long or are subjected to tension and flexing of the area where the wound is located. Assessment and exclusions for suturing are outlined in assessment section

Process

- Assess patients need for analgesia and the type
- Clean the wound edges
- If competent Insert lidocaine if required - either locally or by digital block according to PGD if Competencies are signed off or via a competent Non-medical prescriber
- [https://www.youtube.com/watch?v=jDYwvn1AgU8](https://www.youtube.com/watch?v=jDYwvn1AgU8)
  Demonstration – inserting lidocaine accessed 9/10/15 (you may need to cut and paste the link into browser to open this)
- Pain during infiltration can be reduced by, using a 25-gauge needle, infiltrating through the cut edge of the wound into the sub-dermal tissue and infiltrating slowly
- Starting at the wound edges, inserting needle above the subcutaneous fat, parallel to and just deep of the dermis.
- Draw back to ensure no blood - before injection to avoid intra-vascular injection, allow time for the anaesthetic to work.
- Select appropriate suture for the wound as per table that will hold the tissue safely without the risk of snapping.
- Synthetic, monofilament sutures, such as Novafil, are preferable to silk which may cause a tissue reaction
- [https://www.youtube.com/watch?v=nY1EqzJ8pjY](https://www.youtube.com/watch?v=nY1EqzJ8pjY)
  Suture demonstration (you may need to cut and paste the link into browser to open this)
- The first suture is place centrally to allow opposition of the wound edges.
- Sutures should be placed 5mm from the wound edge at right angles to the wound
- Record the number of sutures inserted and tell the patient.
- Apply a dressing according to dressing matrix appendix...wounds over flexion surface may require bandaging to prevent flexion
- Give appropriate follow up information where and when to return for removal/wound assessment
- Provide warning signs e.g. infection, when to be reviewed before suture removal if necessary
Suture Removal

Sutures are removed as soon as the wound is strong enough to stay closed without them. Guidance to suture material and removal of sutures from NICE - Lacerations – accessed 9/10/15  [http://cks.nice.org.uk/lacerations](http://cks.nice.org.uk/lacerations)

<table>
<thead>
<tr>
<th>Wound area</th>
<th>Suture</th>
<th>Days in situ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scalp</td>
<td>3/0 or 4/0 Novofil</td>
<td>7 -10 days</td>
</tr>
<tr>
<td>Face</td>
<td>5/0 or 6/0 Novofil</td>
<td>3-5days</td>
</tr>
<tr>
<td>Hands feet and upper limbs</td>
<td>4/0 or 5/0 Novofil</td>
<td>7-10 days</td>
</tr>
<tr>
<td>Trunk and lower limbs</td>
<td>3/0 or 4/0 Novofil</td>
<td>7-10 days</td>
</tr>
<tr>
<td>Wounds with external stressors (e.g. over joints)</td>
<td>4/0 Novofil</td>
<td>10-14 days</td>
</tr>
</tbody>
</table>

Wound Care - Patient Advice

- Advise on analgesia and use PGD / prescribe if required.
- Keep the wound clean and dry until the surface layer has healed or until sutures are removed. Larger wounds may take longer
- Keep dressings in place if appropriate as a barrier to dirt and microorganisms.
- Return if exudate or blood oozing through dressing or if it becomes wet or signs of infection- increased, pain swelling or redness/warmth.
- Advise if it is possible to shower depending on type of dressing and if the dressing can be adequately covered to keep dry.
- Elevate lower limbs to keep swelling to a minimal level
- Exercising affected limbs will increase the blood supply to a wound but avoid excessive movement of the wound site itself as this can delay healing.
- A good diet will aid the healing process.
- If scarring is likely advise that the skin continues to heal for up to two years so cosmetic results will improve in most cases.
- Follow up advice – Refer to treatment rooms or specialist teams if appropriate
**Procedure for Removal of Sutures**

**Equipment required:**
Dressing trolley – cleaned as per infection control policy, suture removal pack / suture remover and sterile gloves normasol, sterile gauze, appropriate dressings.

**Procedure**
- Clean the dressing trolley
- Gather and open the required equipment using a sterile technique – normasol gauze, suture remover, basic dressing (or suture removal pack if available)
- Wash hands and open stitch cutter
- Assess wound to ensure suture removal is appropriate and to anticipate whether a dressing / steristrips may be required.
- Count the number of stitches to be removed
- Grasp the side of the suture with the knot on and gently lift away from skin
- Using the stitch cutter, cut the stitch as close to the skin as possible
- Gently pull the stitch through the skin, do not use undue force
  - At any point, if you are concerned about the integrity of the wound, review whether removal is appropriate
  - If in doubt, seek more advice from experienced Practitioner regarding removal of alternate sutures / steristrips etc.
  - Count the number of stitches removed
  - If necessary, clean the wound gently and apply and appropriate
  - Dispose of sharps in sharps bin and other equipment in clinical waste bag
- Wash hands
- Document procedure in patient notes
Minor Burns and Scalds

History and assessment of body surface area
(Use Lund & Browder Chart / Rule of 9's or patients palm including fingers)
Adequate Pain Relief

More than 5% partial thickness or any full thickness burn

No

Yes

Are any of the following present?
- Airway complications (history of significant choking / coughing at any time in episode, or fire in enclosed space)
- Inhalational burns
- Significant burns to hands Full thickness burns
- Burns to the genitalia, face or neck Eye involvement
- Circumferential burns of limbs, digits, or torso
- Electrical burns Chemical Burns
- Possible NAI

Yes

Refer to Burns Unit A&E / plastics

No

Manage Blisters/burn as per NICE Guidelines (deroof if large blister – for patient comfort or if further assessment of wound depth is required

Clean and dress with appropriate dressing as per wound matrix

Review 24-48 hours for infection /burn depth check
Refer adult and children over age of 5 to treatment rooms for redressing
Burns and Scalds assessment tools
(Northern Burn Care Network)

LUND-BROWDER CHART:- Estimating Percentage of Total Body Surface Area
(Exclude erythema). The Lund-Browder chart is the most accurate method for estimating burn extent, and should be used in the evaluation of all paediatric patients.

Relative Percentage of Body Surface Area Affected by Growth

<table>
<thead>
<tr>
<th>Age in years</th>
<th>0</th>
<th>1</th>
<th>5</th>
<th>10</th>
<th>15</th>
<th>Adult</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-head (back or front)</td>
<td>9½</td>
<td>8½</td>
<td>6½</td>
<td>5½</td>
<td>4½</td>
<td>3½</td>
</tr>
<tr>
<td>B-1 thigh (back or front)</td>
<td>2¼</td>
<td>3¼</td>
<td>4</td>
<td>4¼</td>
<td>4½</td>
<td>4¾</td>
</tr>
<tr>
<td>C-1 leg (back or front)</td>
<td>2½</td>
<td>2½</td>
<td>2¾</td>
<td>3</td>
<td>3¼</td>
<td>3½</td>
</tr>
</tbody>
</table>

Palm trick- Use the patient’s palm size to represent approximately 1% TBSA (INCLUDE FINGERS)

TBSA = Total Body Surface Area
## Burn Classification Matrix

<table>
<thead>
<tr>
<th>Classification</th>
<th>Presentation</th>
<th>Involvement</th>
<th>Healing Time</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Superficial burns (i.e., sunburn or minor scalds)</td>
<td>Usually dry, erythematous, slightly painful and no blisters</td>
<td>Epidermis and the superficial part of the dermis</td>
<td>10-21 days</td>
<td>Resolves in 48-72 hours with comfort measures. Healing is uneventful. Blisters left intact.</td>
</tr>
<tr>
<td>Partial thickness burns</td>
<td>Painful, red and moist wound.</td>
<td>Some damage to the dermis</td>
<td>10-21 days</td>
<td>Initial Burns Unit referral depending on extent.</td>
</tr>
<tr>
<td>Partial thickness burns</td>
<td>Pale or red areas which may or may not be painful. Usually less blistering.</td>
<td>Deeper layers of the dermis</td>
<td>3-6 weeks with some scarring on burn depth.</td>
<td>Refer</td>
</tr>
<tr>
<td>Deep partial thickness burns</td>
<td>Painless, dry, leathery, white or brown wound.</td>
<td>Destroyed entire dermis</td>
<td>Usually requires grafting.</td>
<td>Refer</td>
</tr>
<tr>
<td>Full thickness burns</td>
<td>Can constrict blood vessel movement or cause distal ischemia in limbs/digits.</td>
<td></td>
<td>May need escharotomy</td>
<td></td>
</tr>
</tbody>
</table>
Burns and Scalds

- Cool the burn in lukewarm water for at least 20 minutes post injury
- Assess depth, size and type of burn or scald – see assessment tools Lund and Bower or rule of nine / patients palm for % of burn - and matrix for type of burn
- Check Tetanus Status
- Emergency transfer:
  - Wrap burns in cling film – where appropriate
- Treat burns that do not need referral as per matrix /NICE guidelines

Chemical burns

- Irrigate under a running tap Contact the TOXBASE with your Centres ID and Password. Treat as per recommendations
- Remove all contaminated clothing
- Water irrigation is the main initial therapy
- Small hydrofluoric acid burns (<1cm2) can be lethal these require intensive therapy. Contact National Poison Centre to get information about antidote for affecting agent while waiting to transfer patient by immediate ambulance
- Lime burns continue to burn: refer to Burns Unit

Electrical burns

- Refer to secondary care for admission.
- Conduction of current through the heart can cause myocardial damage and dangerous arrhythmias
- ECG monitoring is necessary for 24 hrs. post injury
- Remember that small entrance or exit wounds may be associated with severe deep tissue damage.

Criteria for Referral /Admission

- Burns > 10%
- Full thickness burns > 5%
- Burns of face/neck- consider inhalation burn
- Hands if over joints or circumferential, feet, genitalia, perineum and burn affecting major joints
- Electrical/chemical burns/circumferential limb or chest burns
- Inhalation burns
- Elderly / child burn patients – consider safeguarding
- Burn injuries in patients with a pre-existing disorder which could complicate management e.g. neuropathy
- Any burn associated with trauma
Guidelines for Wound Dressing

<table>
<thead>
<tr>
<th>The Rule of Categorisation</th>
<th>Learn about dressings by generic category and compare new products with those that already make up the category</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Selection</td>
<td>Select the most safe and effective user-friendly and cost-effective dressing available.</td>
</tr>
<tr>
<td>3. Change</td>
<td>Base frequency of dressing changes on assessment of the patient, wound and dressing, not on standardized routines.</td>
</tr>
<tr>
<td>4. Evolution</td>
<td>As the wound moves through the phases of the wound-healing process, evolve the dressing protocol to optimize wound healing.</td>
</tr>
<tr>
<td>5. Practice</td>
<td>Practice with dressing materials is required to learn their performances, parameters and related tricks of the trade.</td>
</tr>
</tbody>
</table>

Dressing properties
Consider if based on porcine or bovine gelatin in relation to religions and vegetarians.

<table>
<thead>
<tr>
<th>Silicone</th>
<th>Prevention of trauma to wound,</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrocolloid</td>
<td>Low to moderately exuding wounds, conformable, not to be used on infected wounds</td>
</tr>
<tr>
<td>Fibrous</td>
<td>Mix of hydrocolloid and alginate, exuding lesions, granulating wounds, Deepener cavity wounds and sinuses the ribbon packing is generally preferred. Easy to remove without causing pain or trauma, minimal residue on the surface of the wound.</td>
</tr>
<tr>
<td>Alginates</td>
<td>Haemostatic properties Suitable for sloughy wounds, produce a degree of exudate, need moisture - not indicated for dry sloughy wounds or those covered with hard necrotic tissue.</td>
</tr>
<tr>
<td>Foams</td>
<td>Low to Medium exuding wounds Wound protection</td>
</tr>
<tr>
<td>Hydrocolloid fibre</td>
<td>Suitable for any wound with moderate to high levels of exudate Sloughy wounds with high levels of exudate which are causing maceration using a hydrogel or alginate</td>
</tr>
<tr>
<td>Silver sulphadiazine</td>
<td>Can be useful for treating burns and skin loss to finger tips for the first 24hours – then review wound</td>
</tr>
</tbody>
</table>
## Acute Wound Primary Dressing Sheet Matrix

<table>
<thead>
<tr>
<th></th>
<th>Lacerations</th>
<th>Abrasions</th>
<th>Puncture wounds / Bites</th>
<th>Burns scalds</th>
<th>Contusion /haematoma</th>
<th>Avulsion / degloving</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Superficial</strong></td>
<td>Low Adherent</td>
<td>Low adherent/Film</td>
<td>Dressing only if required</td>
<td>Leave free when possible</td>
<td>NB if haematoma still forming compression in the form of crepe or elastic tubular bandage may be applied to reduce this.</td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Partial thickness</strong></td>
<td>Skin Closure of choice</td>
<td>Low Adherent/Film</td>
<td>Low adherent/Film Low adherent/film, Silicone if appropriate</td>
<td>Foam high exudate</td>
<td>Low adherent/film, Silicone if appropriate</td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Deep</strong></td>
<td>Skin closure choice</td>
<td>Low adherent/silicone</td>
<td>Low adherent/Film Low adherent/film, Silicone if appropriate</td>
<td>Foam high exudate</td>
<td>Low adherent/film, Silicone if appropriate</td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Full thickness</strong></td>
<td>Skin closure choice</td>
<td>Low adherent/silicone</td>
<td>Low adherent/Film Low adherent/film, Silicone if appropriate</td>
<td>Cling film for emergency transfer</td>
<td>Not applicable</td>
<td>Silicone/low adherent</td>
</tr>
<tr>
<td><strong>Special considerations</strong></td>
<td>dependent on area and patient Skin tears tibia: Elevation limb Elasticated bandage/ crepe exclude deeper structure injury</td>
<td>Hydrogel+/- antimicrobial if indicated debridement and removal of ingrained debris -Hydrogels Clinically infected wounds -oral antibiotic is indicated</td>
<td>Prophylactic Antibiotic cover Consider toileting /Film or Low Adherent if patient requires transfer.</td>
<td>Topical antimicrobial if clinical infected and oral antibiotics may be indicated as these are acute presentations.</td>
<td>Consider evacuation of large haematomas - Appropriate dressing and Referral</td>
<td>For transfer to specialist</td>
</tr>
</tbody>
</table>

*NB* If haematoma still forming compression in the form of crepe or elastic tubular bandage may be applied to reduce this.

*Not applicable*
**Human Bites Management**

NAI always considered if history/age child causing concern.

Is the skin broken?

- **YES**
  - Bite in a cosmetic area?
    - **NO**
      - Consider x ray to exclude any tooth fragments in wound if applicable
  - Irrigate wound thoroughly
  - Apply appropriate dressing
  - Review in WIC 1/52
  - Assess Tetanus status
    - Along with possible need for Immunoglobulin (HATI) if anaerobic conditions present
  - Prescribe antibiotics

- **NO**
  - Assess for further damage
  - **NO**
    - Discharge
  - **YES**
    - DEEP STRUCTURAL DAMAGE?
      - TENDONS / NERVES / BONE ESPECIALLY IF DIGIT
      - Refer A&E / Orthopaedic
      - Bite wounds may be contaminated with pathogens even if there are no clinical signs of infection. Bacteria that often contaminate human bites include streptococci, staphylococcus aureus, haemophilus spp and bacteriodes spp and other anaerobes. Transmission of viruses (e.g. hepatitis B, hepatitis C, HIV) following human bites is much less common
  - Risk present
    - Refer to A&E as fuller risk assessment needs to take place, as may need HBIG dependent on vaccination status. Given within 24 hrs.
    - Clean and dress the wound as appropriate
  - No risk present
    - Advice re: rest elevation according to affected area
    - Health education patient/parent for signs of infection
Blood Borne Viruses Risk Assessment

Blood borne viruses: A risk assessment should be made and, where appropriate, hepatitis B vaccine/immunoglobulin (see table below) and/or HIV post-exposure prophylaxis (PEP) should be offered.

PEP is a course of anti-HIV medication. You must start the treatment as soon as possible after you’ve been exposed to HIV, ideally within a few hours. The medicines must be taken every day for four weeks.

PEP is unlikely to work if it’s started after 72 hours (three days) and it won’t usually be prescribed after this time.

PEP makes infection with HIV less likely. However, it’s not a cure for HIV and it doesn’t work in all cases. Some strains of HIV aren’t affected by the medicines.

All patients thought to require PEP following risk assessment will be referred to the appropriate speciality for counselling and follow up. For adults this would be Royal Liverpool and Broadgreen University Hospital Trust (RLBUHT) or Aintree University Hospital (UHA) and children to Alder Hey children’s hospital (AHCH).

Risk Assessment

The risk assessment should take the following into account:

- The vaccination status of the victim
- Whether the source is known to be HIV positive, hepatitis B surface antigen (HBsAg) positive or hepatitis C positive;
- Whether the victim is known to be HIV positive, HBsAg positive or hepatitis C positive
- Whether the course is available and willing to be tested. Ideally the status of the biter should be investigated. For most community situations the status of the source will not be known and it will not be practicable to obtain blood for testing.

http://patient.info/doctor/hiv-post-exposure-prophylaxis

HIV

Guidance needs to be given for people who have been bitten by someone known to have an illness usually associated with HIV. In these circumstances expert advice should be sought immediately (e.g. for a consultant in infectious diseases or a virologist) about whether PEP should be considered. The risk of transmission of HIV through a bite is unknown but is likely to be extremely small.
**Tetani, Tetanus Immunisation and Immunoglobulin**

Clostridium tetani (C. tetani) are anaerobic, gram positive, spore forming bacteria. These spores are found in soil, dust and animal faeces, and may persist for years. C. tetani spores are very resistant to heat and usual antiseptics but do not survive in the presence of oxygen. C. tetani enters the body through a wound. Infection takes hold in deep or large wounds (e.g. punctures, scrapes, burns) in the ideal anaerobic environment

- Average incubation period lasts 8 days (range 3 – 21 days)
- Multiple toxins, including tetanospasmin, are produced with growth of bacteria and disseminated via blood and lymphatic system

Toxin then binds within the central nervous system blocking normal release of inhibitory neurotransmitters and results in unopposed muscle contraction and spasm which can eventually lead to death.

Active immunity with tetanus vaccine protects against tetanus in the majority of cases, 5 doses given at the appropriate intervals gives lifelong immunity. The Department of Health (DoH) scheduled tetanus vaccination recommendations can be accessed through the link below


Thorough cleaning of wounds is essential in preventing environments suitable for the production of exotoxins, delayed healing and wound infection. If the wound, burn or injury sustained is considered high risk, they are classified as tetanus prone wounds

In these cases, human tetanus immunoglobulin should be given for immediate protection, irrespective of the tetanus immunisation history of the patient. The patient is also assessed for patient immunoglobulin if deemed to have tetanus prone wound, only a small supply is kept in WiCs if appropriate they may need to be referred to the A&E department if stocks are depleted.

**Protetanus**

Protetanus testing significantly reduces the number of unnecessary tetanus boosters and immunoglobulin injections and is a quick and easy to perform test for anti-tetanus antibodies that allows WIC staff to check the tetanus status of patients before initiating prophylactic treatment.

Protetanus testing kits are available in each WIC and a result is available in 10 minutes.

Follow Manufacturer’s instructions for using and reading the results of the test and record the results in the documentation. Treat patient accordingly.

**Test patients for anti-tetanus antibodies before giving unnecessary immunoglobulin or vaccine.**
**Anti-Tetanus Toxoid and Human Anti Tetanus Immunoglobulin guidance**

LWIC Practitioners will immunise patient according to both their immunisation status and the identification of a tetanus prone wound


<table>
<thead>
<tr>
<th>Immunisation status</th>
<th>Clean wound Vaccinated with Tetanus Toxoid</th>
<th>Tetanus prone wound</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Tetanus Toxoid Immunoglobulin</td>
</tr>
<tr>
<td>Fully immunised</td>
<td>None required (unless next dose due soon and convenient to give now)</td>
<td>Give if high risk i.e. wounds or burns that require surgical intervention and when treatment is delayed for more than six hours. wounds or burns that show any of the following characteristics: a significant degree of devitalized tissue, puncture-type injury particularly in contact with soil or manure wounds containing foreign bodies compound fractures wounds or burns in patients who have systemic sepsis.</td>
</tr>
<tr>
<td>Patient has received a total of five doses of vaccine at appropriate intervals</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary immunisation complete, boosters incomplete but up to date</td>
<td>A reinforcing dose of vaccine and further doses as required to complete the recommended schedule (to ensure future immunity)</td>
<td>Yes: one dose of human tetanus immunoglobulin in a different site</td>
</tr>
<tr>
<td>Primary immunisation incomplete or boosters not up to date</td>
<td>An immediate dose of vaccine followed, if records confirm this is needed, by completion of a full 5-dose course to ensure future immunity</td>
<td></td>
</tr>
<tr>
<td>Not immunised or immunisation status not known or uncertain</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Insect Bites / Stings

Minor insect bites or stings often present with localized pain, swelling, and erythema at the site of the bite or sting. Most can be managed symptomatically.

- Remove the Sting as soon as possible by flicking or scraping with a fingernail, piece of card or blunt instrument
- Do not squeeze the stinger as this will cause more venom to go into the skin so it should not be remove with tweezers / forceps etc.
- Wash the area of the bite or sting with soap and water.
- Ice may be applied to reduce swelling, if present.
- Advise patient not to scratch, as this will cause an increase in itching and swelling, and increase the chance of infection.
- If there are signs of a severe allergic reaction (generalized symptoms, breathing difficulties, and/or hypotension) seek urgent medical help.
- Bites from fleas, mites, and bedbugs may be due to an infestation. The source of the infestation should be confirmed and eliminated (see Identifying the source for more information).

Treat the bite or sting as follows: [http://cks.nice.org.uk/insect-bites-and-stings#](http://cks.nice.org.uk/insect-bites-and-stings#)

- Paracetamol or ibuprofen, Cold Compresses.
- Local itching can be treated with topical Crotamiton. Alternatively, consider using a mild potency topical corticosteroid (e.g. hydrocortisone 1%).
- Apply Crotamiton 2–3 times a day. For children under 3 years old, apply Crotamiton once a day only.
- Apply topical hydrocortisone sparingly to the affected area once or twice a day for no longer than 7 days.
- Consider an oral sedating antihistamine at night if the itch is interfering with sleep.

The following treatments are not recommended for the treatment of insect bites or stings:

- Topical combination products containing a topical corticosteroid plus Crotamiton
- Topical antihistamines
- Calamine lotion
- Vinegar
- Bicarbonate of soda
Large Bites and Stings

Large local reactions present with severe pain, and oedema that extends beyond the site of the sting or bite.
Most can be managed symptomatically.

- Treat pain Paracetamol or Ibuprofen
- Large local allergic reactions should be treated with a short course of an oral antihistamine.
- A non-sedating antihistamine may be given to control daytime symptoms, consider also sedating antihistamine at night if the itch is interfering with sleep.
- If there is localised severe swelling / erythema, consider a short course of an oral corticosteroid (e.g. prednisolone for 3–5 days)
- For adults use prednisolone 40 mg once a day for 3–5 days depending on the severity of the reaction.
- For children use prednisolone 1–2 mg/kg once a day for 3–5 days.

Tick Bites

Protect bare hands with a tissue or gloves to avoid contact with tick fluids during removal.
- Grab the tick close to the skin with fine forceps.
- Gently pull straight up not twisted or jerked as it is being removed, as the mouth parts can separate from the body and remain under the skin causing infection check the whole Tick has been removed,
- After removing the tick, wash your hands with soap and water.
- Clean the tick bite with an antiseptic such as iodine scrub, or soap and water.

Petroleum jelly, alcohol, or a lit match, are ineffective for removing Ticks

Advice should include that if a rash appears at the site of the bite, or a fever develops, medical advice should be sought for possible tests to exclude / confirm Lyme disease. A routine referral is not required.
For further information see the CKS topic on Lyme disease.

http://cks.nice.org.uk/insect-bites-and-stings#!
Human and Animal Bites

Initial care of a human bite wound:

- If the wound has just occurred, encourage it to bleed, unless it is already bleeding freely and Irrigate thoroughly with warm, running water or saline
- Perform comprehensive wound assessment
- **Wound closure is rarely advised in primary care.** If the wound requires closure this should be referred to A/E
- Advise analgesia for pain relief, if required.
- Prescribe prophylactic antibiotics for all human bite wounds under 72 hours old, even if there is no sign of infection [http://www.panmerseyapc.nhs.uk/formulary/documents/05-00-00_infections.pdf](http://www.panmerseyapc.nhs.uk/formulary/documents/05-00-00_infections.pdf).
- Where body tissue has been torn off as a result of a bite, wrap any torn off parts (for example part of an ear) in clean tissue and store in a plastic bag surrounded by ice for transport to hospital.
- Seek immediate advice from a consultant in infectious diseases for anyone considered to be at risk of HIV or hepatitis B.

**Allow the following bite wounds to heal without formal closure:**

- Bite wounds over 24 hours old.
- Infected bite wounds.
- Deep puncture wounds.
- Bites to the hands and feet.

For more information, see managing risk of a viral infection.

**Refer to secondary care the following bites:**

- Penetrating wounds involving arteries, joints, nerves, muscles, tendons, bones,
- **Note: penetrating bites to the hands or feet are at particular risk of infection and serious complications.**
- Facial wounds (excluding very minor wounds).
- Bites where there is a possibility of a foreign body (for example a tooth) in the wound.
- Wounds which might benefit from closure.
- Devitalized wounds where debridement is required.
- Bites where the severity of the injury is difficult to assess.
• People with severe cellulitis
• Wounds that are not responding to treatment, or systemically unwell.
• increased risk of infection — including those with diabetes or cirrhosis, immunocompromised, and asplenic individuals (especially if they are not taking prophylactic penicillin).
• Bites that might need reconstructive surgery.
• Children with scalp wounds (for X-ray).
• Bites to poorly vascularized areas e.g. ear cartilage/nose cartilage.

If an animal has bitten a child, consider the possibility of poor parenting and supervision. **Follow LCH safeguarding policies** for referral of children considered at risk and complete the Trigger List as per the Safeguarding folders found in each Walk-in Centre.

**If there is a possibility that the person has been exposed to rabies, seek immediate advice from the Virus Reference Department of the Health Protection Agency. For more information see NICE managing someone at risk of rabies.**
Insect Bites and Stings Management

Are there signs of anaphylaxis?
E.g. rash, selling, dyspnoea, wheeze etc.

**NO**

Is the sting causing irritation / pain to patient?

**YES**

Remove any visible sting

**NO**

Remove any visible sting

Clean and dress appropriately

Consider chlorphenamine to relieve itching
Antibiotics for secondary infection if present

*Bear in mind drug interactions and antimicrobial resistance (AMR)*

Pain relief

**YES ABC**

Anaphylaxis management as required and PGD 999

**NO**

Clean and dress appropriately

Reassure as necessary

Give follow up advice re: topical agents
Signs of allergic reaction. Suggest antihistamines or issue them

http://patient.info/health/insect-bites-and-stings-leaflet
Rashes

For adult rashes and infections including effect in pregnancy, please refer to the Paediatric section.

Minor Illnesses

Adult Tonsillitis

Tonsillitis is inflammation of the tonsils caused by an infection. The tonsils tend to atrophy in early adulthood. In laryngitis there are few visible signs of infection but with soreness lower down the throat often associated with a hoarse voice. Inflammation of the oropharynx but not the tonsils is known as Pharyngitis. Tonsillitis is most frequent in children aged 5-10 years and young adults between 15 and 25 years.

Signs and symptoms

- Pain in the throat is sometimes severe and may last more than 48 hours, along with pain on swallowing.
- Referred ear pain
- Headache.
- Changes in the voice
- Redness and swelling to tonsils which may be coated or have white flecks of pus on them.
- High temperature.
- Cervical lymphadenopathy.
- Classical streptococcal tonsillitis has an acute onset, headache, abdominal pain and dysphagia.
- Tonsillitis tends to be misdiagnosed, leading to inappropriate treatment with antibiotics.

Differential diagnoses

**Viral infection** the symptoms are usually milder and often related to the common cold

**Coxsackie virus**, small blisters develop on the tonsils and the roof of the mouth. The blisters erupt in a few days and are followed by a scab, which may be very painful.

**Infectious mononucleosis (glandular fever)** Patients are quite unwell with very large and purulent tonsils and a long-lasting lethargy – over 10/7. An enlarged spleen is classically described and infrequently found mostly in teenagers.
Herpes simplex virus (HSV) infection, especially in adolescents and young adults. Streptococcal infection - sore, swollen throat with coated tonsils, high temperature, and halitosis. The differences are variable and it is impossible to tell on inspection if the infection is viral or bacterial.

Check that the patient is not taking a drug that may cause agranulocytosis.

Epiglottitis requires immediate admission. Unusual bacteria may be involved including gonococcal infection. Unilateral enlargement of the tonsils, especially in the elderly, may indicate malignancy.

It is not uncommon for HIV infection to present with ENT symptoms, especially in children. The most common presentations are cervical lymphadenopathy, oroesophageal candidiasis and otitis media.

Diagnostic criteria

Culture of Group A beta-haemolytic streptococcus (GABS) is inefficient as a diagnostic criterion, as it is too slow and it fails to differentiate between infection and carriage. There are four Centor Criteria that may be used.

- History of fever
- Tonsillar exudates
- No cough
- Tender anterior cervical lymphadenopathy

Patients with one or none of these criteria are unlikely to have GABS. Consideration of antibiotic prescription should be limited to patients with three or four criteria. If the patient does not fit the criteria the practitioner will advise on conservative management. Another option if there is a possibility of symptoms increasing the practitioner may decide to give a delayed prescription taking in to account the individuals patients circumstances and including the rationale within their documentation.

http://patient.info/health/tonsillitis-leaflet
Mental Health

The number of patients presenting at WiCs with mental health issues is increasing, and Practitioners are faced with the difficulty of how to safely assess, advise and refer these patients appropriately.

The use of Threshold Assessment Grid (TAG) following a pilot in Liverpool City Walk-in-Centre (LCWIC) when used part of the assessment process demonstrated positive outcomes for mental health sufferers.

Staff found it provided them with guidance and structure to their history-taking and management, allowing them to obtain the relevant information from their patient in order to assess severity so improving communication and referral to local mental health services.

Threshold Assessment Grid (TAG) score sheet TAG assesses the severity of a person's mental health problems.

For each domain (numbered 1 to 7), tick ONE statement that best applies to the person being assessed. There should be a total of 7 ticks on the completed grid (one for each domain).

Then for each level of severity (e.g. 'None', 'Very Severe') add the number of ticks and record in the box at the bottom of the column. 'Very Severe' is only available for domains where life-saving emergency action by specialist mental health teams may be required. The checklist provides some guidance on the issues to consider when assessing each domain - they are not intended to be prescriptive. Further information on the TAG is available from www.iop.kcl.ac.uk/prism/tag.

The TAG assessment tool and guidance

www.iop.kcl.ac.uk/prism/tag


Purpose of TAG

TAG is a brief assessment of the severity of an individual’s mental health problems. Instructions for completing it are contained on the score sheet, and this page provides further guidance. TAG is very easy to complete, requiring seven ticks on the Score Sheet. It is rated by staff for people who have (or are believed to have) mental health problems. Information on diagnosis should be recorded separately, if required.
TAG use within WiCs

- To communicate with GPs and other agencies (e.g. social services) who think someone has mental health problems and referral is needed
- Referral in to CRISIS specialist mental health team - by appending a TAG to their referral letter, specialist mental health services will be helped to prioritise those most in need of help.
- Gives a means of agreeing between agencies at what point in the care system people should receive help - this might be done by locally agreeing thresholds for referral.

Completing TAG

TAG has seven domains covering the areas of Safety (two domains), Risk (two domains), and Needs and Disabilities (three domains).

In each domain on the Score Sheet, you should tick one box, to indicate the rating of severity for that domain (ranging from ‘None’ to ‘Very Severe’). A checklist is provided for each domain, to indicate some of the important aspects to consider. The checklists are based on evidence and current practice, but must be used in conjunction with clinical judgement.

If an aspect which is relevant to the person is not on the checklist, it should still inform the ratings made.

The rating chosen should be the one that best applies to the person being assessed. The time frame is not specified, since problems (e.g. violence) may only occasionally occur, but still be ongoing causes of concern. As a general guide, however, consider problems in the last month, but also include current concerns which originate from before this period.

**Example** - Domain 1. Intentional Self-Harm

Looking across the row, if ‘High risk to physical safety as a result of deliberate self-harm or suicide attempt’ is the statement that best applies to the person, and then tick this box. This rating is classified as ‘Severe’ (shown at the top of the grid). When all seven domains have been ticked (once in each domain), the assessment is complete. If desired, the number of ticks for each column can be recorded in the first row at the bottom. (The total should then add up to seven).

**Example: if there are three ticks in the ‘Severe’ column, write ‘3’ in the box at the bottom of the ‘Severe’ column.** Also, if desired, the TAG score can be calculated, by recording the total weighted score for each domain (e.g. 2 points for each Moderate rating) in the second row at the bottom, and then adding those scores together. The maximum TAG score is 24.
## Threshold Assessment Grid (TAG)

<table>
<thead>
<tr>
<th>Domain</th>
<th>NONE</th>
<th>MILD</th>
<th>MODERATE</th>
<th>SEVERE</th>
<th>VERY SEVERE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Safety</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Domain 1</td>
<td>Intentional self-harm</td>
<td>No concerns about risk of deliberate self-harm or suicide attempt</td>
<td>Minor concerns about risk of deliberate self-harm or suicide attempt</td>
<td>Definite indicators of risk of deliberate self-harm or suicide attempt</td>
<td>High risk to physical safety as a result of deliberate self-harm or suicide attempt</td>
</tr>
<tr>
<td>Domain 2</td>
<td>Un-intentional self harm</td>
<td>No concerns about unintentional risk to physical safety</td>
<td>Minor concerns about unintentional risk to physical safety</td>
<td>Definite indicators of unintentional risk to physical safety</td>
<td>High risk to physical safety as a result of self-neglect, unsafe behaviour or inability to maintain a safe environment</td>
</tr>
<tr>
<td><strong>Risk</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Domain 3</td>
<td>Risk from others</td>
<td>No concerns about risk of abuse or exploitation from other individuals or society</td>
<td>Minor concerns about risk of abuse or exploitation from other individuals or society</td>
<td>Definite risk of abuse or exploitation from other individuals or society</td>
<td>Positive evidence of abuse or exploitation from other individuals or society</td>
</tr>
<tr>
<td>Domain 4</td>
<td>Risk to others</td>
<td>No concerns about risk to physical safety or property of others</td>
<td>Antisocial behaviour</td>
<td>Risk to property and/or minor risk to physical safety of others</td>
<td>High risk to physical safety of others as a result of dangerous behaviour</td>
</tr>
<tr>
<td>Needs and Disabilities</td>
<td>Adult</td>
<td>No concerns about basic amenities, resources or living skills</td>
<td>Minor concerns about basic amenities, resources or living skills</td>
<td>Marked lack of basic amenities, resources or living skills</td>
<td>Serious lack of basic amenities, resources or living skills</td>
</tr>
<tr>
<td>------------------------</td>
<td>-------</td>
<td>-------------------------------------------------------------</td>
<td>---------------------------------------------------------------</td>
<td>----------------------------------------------------------</td>
<td>--------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Domain 5</strong></td>
<td>Survival</td>
<td>No concerns about basic amenities, resources or living skills</td>
<td>Minor concerns about basic amenities, resources or living skills</td>
<td>Marked lack of basic amenities, resources or living skills</td>
<td>Serious lack of basic amenities, resources or living skills</td>
</tr>
<tr>
<td><strong>Domain 6</strong></td>
<td>Psychological</td>
<td>No disabling or distressing problems with thinking, feeling or behaviour</td>
<td>Minor disabling or distressing problems with thinking, feeling or behaviour</td>
<td>Disabling or distressing problems with thinking, feeling or behaviour</td>
<td>Very disabling or distressing problems with thinking, feeling or behaviour</td>
</tr>
<tr>
<td><strong>Domain 7</strong></td>
<td>Social</td>
<td>No disabling problems with activities or in relationships with other people</td>
<td>Minor disabling problems with activities or in relationships with other people</td>
<td>Disabling problems with activities or in relationships with other people</td>
<td>Very disabling problems with activities or in relationships with other people</td>
</tr>
<tr>
<td><strong>No of ticks</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TAG score</strong></td>
<td>0 points for each None rating</td>
<td>1 point for each Mild rating</td>
<td>2 points for each Moderate rating</td>
<td>3 points for each Severe rating</td>
<td>4 points for each V Severe rating</td>
</tr>
</tbody>
</table>
## 1. Intentional Self-Harm

**Individual factors:**
- expressing suicidal intent
- clear plan
- available means
- preparations
- hopelessness
- no confidant, e.g. partner, friends, professionals
- poor coping resources
- lack of blocks to self-harm

**Consider risk factors:**
- past history of deliberate selfharm
- (i) alcohol/drug abuse
- OR
  (ii) diagnosis (e.g. depression, personality disorder, schizophrenia)
- (i) AND (ii) = increased risk
- physical illness/disability
- recent GP contact
- recent psychiatric hospitalisation
- recent loss
- no friends/family
- living alone
- unskilled worker
- unemployment
- older people
- male (especially young males)

## 2. Unintentional Self-Harm

**Consider self-neglect:**
- lack of self-care
- not eating or drinking appropriately

**Consider unsafe behaviour:**
- not seeking help for problems posing risk
- refusing appropriate help eg not taking medication
- not claiming benefits
- lack of awareness of own safety in home e.g. fire risk
- risky sexual behaviour
- substance misuse
- wandering

**Consider the inability to maintain a safe environment:**
- unable to manage accommodation
- not paying rent
- running up debts

## 3. Risk From Others

**Consider different types of abuse or exploitation:**
- physical
- sexual
- emotional
- racial
- financial
- neglect

**Consider risk from:**
- staff
- relatives
- friends
- neighbours
- strangers
- treatments

**Consider risk of abuse by carer:**
- severe stress
- mental illness/alcohol / drug abuse in carer
- carer refusing help
- history of abuse by or to Carer

**Consider risk from society:**
- history of abusive / exploitative relationships
- harassment from public
- use of home by unwanted others
- inadequate home security
- fear of retaliation for reporting abuse
### 4. Risk To Others

**Consider risk to:**
- children & other dependents
- partners
- carers
- staff
- neighbours
- strangers

**Consider risk factors:**
- current threats, especially to a named person
- history of violence to people/property
- carer’s concern
- access to weapons
- no blocks to violence e.g. fear of consequences
- history of arson
- unemployment
- drug/alcohol abuse
- stress
- voices telling person to harm someone
- paranoia
- risky sexual behaviour
- anti-social behaviour e.g. unsafe driving
- lack of information about person’s history
- no trusting relationship with professionals

### 5. Survival

**Consider whether the person has problems with:**
- a home
- heating for the home
- essential amenities (e.g. washing facilities, toilet, cooker, bed)
- the ability to look after their home
- the ability to keep adequately clean and tidy
- enough food & fluids
- clothing
- enough money to live on
- mobility
- the ability to use public transport
- the ability to cope with physical health problems

### 6. Psychological

**Consider:**
- overactive, aggressive, disruptive or agitated behaviour
- problems with hallucinations & delusions
- cognitive problems with memory, orientation & understanding
- mood problems e.g. depressed, manic, anxious
- problems with reading or writing
- a lack of coping strategies
- attitude to problems
- help seeking behaviour
- spiritual problems
- feelings of alienation

### 7. Social

**Consider problems in relationships with others:**
- lack of ability to make or maintain friendships
- lack of supportive relationships
- lack of intimate relationship
- sexual problems
- communication problems
- unable to handle daily hassles

**Consider problems in activities:**
- leisure
- unpaid work
- paid work
- education
- travel
- lack of personally meaningful life
Sexual Health

Emergency Contraception

For any patients requesting emergency contraception, it is vital that the following information be recorded and confirmed:

- Patient under the age of 16 must have it recorded in their notes whether Fraser Guidelines have been followed and the age of the partner must also be obtained to comply with Trust Safeguarding procedures.
- Patients under the age of 13, refer to Trust Safeguarding Children Policy and discuss with Nurse in Charge, Safeguarding Link Nurse or Trust Safeguarding Team for further advice
- Current method of contraception
- Number of hours since unprotected sexual intercourse (UPSI)
- Regular or casual partner (casual partners increase the risk of Sexually Transmitted Infections)
- First day last menstrual period
- Usual cycle length
- Approximate risk day in cycle (this is the possible ovulation day that occurs 14 days before the commencement of the menstrual cycle)
- Any problems / adverse reactions to taking any previous progesterone only emergency contraception (POEC)

Ovulation

Ovulation is part of the menstrual cycle and occurs when hormones change allowing the ovum to be released if sexual intercourse takes place shortly after ovulation pregnancy can occur
The probability of pregnancy rises steadily until the two days before and including the day of ovulation due to survival of sperm within the woman always occurring 14 days before the woman's period commences.
If their periods are irregular it will be difficult to predict date of ovulation and caution should be used when deciding if post coital contraception is needed when requested

Note

- UPSI > 72 hours ago
- any other risk this cycle
- already been prescribed / taken POEC this cycle
- known allergy to Levenorgestrel
- any contraindicated medicine
- any contraindicated medical conditions

If yes, to any of the above PGD is not necessarily contraindicated but may be off license for issue under Trust PGD, therefore advice should be sought with patients consent e.g.
Nurse Prescriber or the patient signposted to appropriate service eg Abacus Sexual Health Service
http://opera.liverpoolch.nhs.uk/SIRS/Policies-and-Procedures/Patient%20Group%20Directions/011%20Levonorgestrel%20PGD.pdf

- if no contraindications
- IUD to be discussed as gold standard
- efficacy potential side effects and risks of POEC discussed with patient
- Sexual Health / STI services discussed and ongoing contraception advice given
- Safe sex health promotion discussed/condoms issued as required
Emergency Contraception

Patient attends requesting Emergency Contraception (EC)

- Date and time of unprotected sexual intercourse (UPSI) assessed
- Any previous risk of pregnancy
- All 3 EC options discussed:
  - Levonelle: Most effective within first 24 hours, licensed for up to 72 hours of UPSI. Can be given up to 96 hours (off license) if other methods not appropriate. Can be issued as per PGD.
  - Ella one: Licensed up to 120 hours of UPSI. Can only be issued once per cycle. If prescriber not available the patient should be referred to sexual health at the next opportunity.
  - GOLD STANDARD Emergency IUD: Available via Sexual Health Service, patient should be referred to a sexual health clinic at the next opportunity. Can be fitted up to and including day 19 of a regular cycle, or within 5 days of UPSI if a single episode and no risk of implanted pregnancy.
- Consider: Medical eligibility for each method; LMP and cycle length, number and timings of episodes of UPSI, current contraception use and need for additional contraception with chosen method, previous EC use, drug interactions, patient choice.

STI screening should be considered and discussed with any patient attending for EC

Consider on-going method of contraception when issuing EC and the possibility of “quick starting”. Advise attendance to Sexual Health clinic to discuss further
Paediatrics

Swallowed a Foreign Body / Coin

Is the foreign body radio opaque?

- **YES**
  - Did child cough or display any symptoms of respiratory problems since ingestion?
    - **YES**
      - Refer to AHCH for radiograph of chest and neck soft tissue or use of metal detector
    - **NO**
      - Discuss with or refer to A&E Dr if any concerns

- **NO**
  - Did child cough or display any symptoms of respiratory problems since ingestion?
    - **YES**
      - Reassure Clinical & Radiological review only if symptomatic or if FB not seen to be passed in stool within 5 days
    - **NO**
      - Refer to A&E Dr

Swallowed batteries or corrosive substance must be referred immediately to A/E

http://patient.info/doctor/swallowed-foreign-bodies
Foreign Body (FB) in Ear

History of bleeding / pain in ear and FB inserted?

If visible, consider removal of FB
For Practitioners who are competent in this skills

If deep, refer to Rapid ENT clinic at Alder Hey / M Clinic RLUH

If alive (e.g. moth) kill with olive oil, try and remove or refer to next ENT clinic

Consider pain relief

If removal is successful, visualise ear canal and TM for damage

No damage

If perforation, GP follow up

Discharge

Inserted batteries should not be syringed out but referred immediately to AHCH ENT
http://patient.info/doctor/foreign-bodies-in-the-ear
**Foreign Body in Nose**

http://patient.info/doctor/nasal-injury-and-nasal-foreign-bodies

If visible, consider removal x1 attempt (using whichever method NP considers appropriate) forceps? Blowing nose

**For Practitioners who are competent in this skills**

Successfully removed

**YES**

Discharge

**NO**

Is FB a battery or a nut?

**YES**

Refer to ENT on call

**NO**

Next AHCH: ENT casualty clinic Monday / Wednesday 12-1 pm
Injury to Nose

http://patient.info/doctor/nasal-injury-and-nasal-foreign-bodies

Clinical suspicion of fracture to nose

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Need to exclude septal haematoma?</td>
<td>Need to exclude septal haematoma?</td>
</tr>
<tr>
<td>NO</td>
<td>YES</td>
</tr>
<tr>
<td>Refer straight to ENT/A&amp;E Dr</td>
<td>septal haematoma</td>
</tr>
<tr>
<td>Patient to review and re-attend 5/7 if deformity noted or difficulty breathing due to nasal obstruction or swelling</td>
<td>Analgesia if necessary</td>
</tr>
<tr>
<td>Deformity / problems</td>
<td>Discharge with advice to review if any concerns</td>
</tr>
<tr>
<td>Refer to next ENT clinic</td>
<td>Advice re: treatment of swelling and first aid for epistaxis</td>
</tr>
</tbody>
</table>

Further guidance on head injuries can be found in the Adults section
Paediatric Neck Injuries

Assessing range of movement in the neck
https://www.nice.org.uk/guidance/cg176/chapter/1-Recommendations#criteria-for-performing-a-ct-head-scan-2

Be aware that in adults and children who have sustained a head injury and in whom there is clinical suspicion of cervical spine injury, range of movement in the neck can be assessed safely if no high-risk factors (High risk factors) and at least 1 of the following low-risk features apply.

The patient:
- was involved in a simple rear-end motor vehicle collision
- is comfortable in a sitting position in the emergency department
- has been ambulatory at any time since injury
- has no midline cervical spine tenderness
- Presents with delayed onset of neck pain.

https://www.nice.org.uk/guidance/ng41
https://www.nice.org.uk/guidance/ng41/resources/slide-set-2369939437

Do not immobilise the cervical spine in people who have low-risk factors, are pain free and are able to actively rotate their neck 45 degrees left and right.

If the child has walked in sitting pain free in the waiting area prior to triage turning their neck freely from left to right it would indicate that they were low risk.

Assess whether the person has a high or low-risk factor for cervical spine injury is recommended using the Canadian C-spine rule applying it to children can be difficult, the child's developmental stage should be taken into account.

When carrying out in-line spinal immobilisation in people under 16,

Manually stabilise the head with the spine in-line using the stepwise approach above and consider:
- Involve family members or carers if appropriate

Immobilisation of the cervical spine of the child less than 8 years of age using the same technique employed for adults will force the child’s cervical spine into flexion this is due to the relatively large head of the child.

Thoracic elevation or occipital recess is required to properly immobilise a child 8 years of age or younger in the desired neutral position.

https://www.uic.edu/com/ferne/pdf/aaem_barcelona_0903/strange_toddler_aaem_barcelona_0903.pdf
Paediatrics

The use of a properly fitted semi-rigid collar will reduce the flexion but will not eliminate it as stated above the upper back area of a child needs to be elevated when immobilising if they are less than 8 yrs and a spinal injury is suspected as occipital recesses are not available within the WiCs.

Children 8 years and over can be immobilised as for an adult.

Some children are predisposed to cervical injuries more than others and this should be taken into consideration when taking a history. This includes children with Down Syndrome (atlano-axial instability), Klippel-Feil syndrome (congenital fusion of cervical spine), previous cervical spine surgery, and other syndromes affecting the cervical spine.

The risk factors of a significant neck injury is also included within the head injuries risk factors due to its close proximity and if identified it is recommended that the practitioner attempts a full cervical spine immobilisation.

**Paediatric injuries of the Chest and Back**

For Paediatric injuries of the chest and back, please refer to the Adults Chest and Back section.

**Paediatric Injuries of the Shoulders, Arms and Hands**

For further information on the management of injuries to the legs and ankles, please refer to the Adults Arms and Hands section.
Paediatric Forearm injury

Consider NAI for all injuries

No bony injury

Appropriate splint and discharge advice

Pain Relief

Review x-ray report and arrange follow up if appropriate

Buckle fracture lower radius and ulna. Children: minimally angled greenstick fracture forearm, undisplaced fracture

Futura splint

Pain Relief

Refer to next fracture clinic

Displaced fracture including angulated greenstick

Pain Relief

Splint and Sling

Refer to Ortho on call

Displaced fractures should not be x-rayed in WIC and should be immediately referred to A/E by appropriate transport – e.g. emergency ambulance if neurovascular / sensory compromise.

https://www.nice.org.uk/guidance/ng37/
Paediatric Elbow Injury

This can occur with a direct blow or fall on the outstretched hand

Examine the whole of the upper limb and clavicle
Ensure presence of radial pulse distal to affected elbow
If absent emergency referral by ambulance

**Indications for x-ray**
- Swollen
- Gross deformity
- Pain on supination at the elbow
- Reduced movement
- Bone tenderness, changes in skin colour

Un-displaced fracture and/or effusion (positive fat pad sign on x-ray)
Discuss with orthopaedic specialist on call if fracture of media epicondyle

Displaced fracture

Analgesia

Support

Refer to Orthopaedic specialist on call

No Fracture

Analgesia

Broad arm sling / collar and cuff
**Information:** on gentle mobilisation when pain settled / sport / work / warning signs
Review 1/52 with x-ray report

Analgesia

Collar and cuff / broad arm sling

Next day fracture clinic
Paediatric Shoulder Injuries

Clavicle

Fracture to the clavicle, normally caused by fall onto an outstretched hand, weakest point is mid clavicular and is the commonest site for a fracture.

Presents with a history of a fall or direct injury, swelling, pain which is often diffuse, and bruising to the area.

There will be reduced movement due to pain.

Diagnosis with x ray, treatment, rest arm in either collar and cuff or broad arm sling, analgesic for pain and early mobilisation.

Patient with a fracture of the lateral aspect of the clavicle involving the A/C joint may require internal fixation.

See flowchart for adults
Paediatric Injuries of the Legs and Ankles

For further information on the management of injuries to the legs and ankles, please refer to the Adults Foot and Ankle section

https://www.nice.org.uk/guidance/ng37/

Knee Injuries

Common and serious causes of knee pain by age group

In the history, note:

- Type of injury
- Any crack heard
- Swelling and speed of onset
- History of locking

Indications for x-ray

- Inability to weight bear - exclude other limb injuries e.g. hip trauma as it may be this area that requires x-ray and or referral
- Acute effusion following trauma (haemarthrosis)
- Bone tenderness

<table>
<thead>
<tr>
<th>Any fracture</th>
<th>Splint with Wool &amp; Crepe</th>
<th>Analgesia</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Crutches and NWB</td>
</tr>
<tr>
<td>Any gross effusions / haemarthrosis</td>
<td>Wool &amp; Crepe</td>
<td>Refer to Ortho on call</td>
</tr>
<tr>
<td>No fracture or gross effusions</td>
<td>Supportive Bandage Double Tubigrip</td>
<td>Analgesia</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Knee exercise advice</td>
</tr>
<tr>
<td></td>
<td></td>
<td>R/V SCWIC 1/52 sooner if needed</td>
</tr>
</tbody>
</table>
Paediatric Ankle Fractures

If obviously displaced or dislocated then do not x-ray within the WiCs cause unnecessary movement increasing risk sensory/circulatory deficit as well as pain increase.

- **Yes**
  - Pain relief
  - Protect from unnecessary movement
  - Check pulses and do not attempt to straighten
  - **Immediate** referral to A/E via ambulance
  - Orthopaedic On Call or A/E via 999 ambulance

- **Dislocation**
  - Displaced / unstable fracture
  - Pain relief
  - Immobilise
  - **Immediate** referral to Orthopaedic On Call or A/E via 999 ambulance

- **No**
  - Un-displaced stable fracture
  - Pain relief
  - Plaster back slab or wool and crepe bandage
  - Crutches NWB
  - Worsening / management advice
  - Fracture Clinic Appt.

Children under the age of seven should not be given crutches if they are unable to use them safely, correct use should be assessed prior to discharge. Advise Parents to restrict weight bearing if fracture suspected. Refer to Ortho on call for a Walking Plaster if unable to use crutches.
Paediatric Minor Illnesses

Febrile Children Younger Than 5 Years


Viruses cause the majority of febrile illnesses in young children.

Infants usually present with non-specific symptoms and signs of illness. General aspects of the child's behaviour and appearance provide the best indication of whether a serious infection is likely.

Neither the degree of the fever, its rapidity of neither onset nor its response to antipyretics is good predictors of serious illness by themselves.

Any febrile child under 5 years who appears unwell without a clear focus should be investigated, irrespective of degree of fever – Refer to AED

Detection of a Fever

- In infants under the age of 4 weeks, body temperature should be measured with an electronic thermometer in the axilla.

- In children aged from 4 weeks to 5 years, body temperature should be measured using one of the following methods:
  - Electronic thermometer in the axilla
  - Chemical dot thermometer in the axilla
  - Infra-red tympanic thermometer.

- Reported parental perception of a fever should be considered valid and taken seriously by healthcare professionals.

Clinical assessment of the child with fever

<table>
<thead>
<tr>
<th>Measure and record</th>
<th>Assess for signs of dehydration</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Temperature</td>
<td>• Prolonged capillary refill time</td>
</tr>
<tr>
<td>• Heart rate</td>
<td>• Abnormal skin turgor</td>
</tr>
<tr>
<td>• Respiratory rate</td>
<td>• Abnormal respiratory pattern</td>
</tr>
<tr>
<td>• Capillary refill time</td>
<td>• Weak pulse</td>
</tr>
<tr>
<td></td>
<td>• Cool extremities</td>
</tr>
</tbody>
</table>
Normal range of vital signs

<table>
<thead>
<tr>
<th>Age</th>
<th>Respiratory rate</th>
<th>Heart rate</th>
<th>Blood pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 month</td>
<td>30-60</td>
<td>120-160</td>
<td>60-90/40-60</td>
</tr>
<tr>
<td>3 months</td>
<td>30-60</td>
<td>120-160</td>
<td>74-100/50-70</td>
</tr>
<tr>
<td>6 months</td>
<td>30-60</td>
<td>120-160</td>
<td>74-100/50-70</td>
</tr>
<tr>
<td>9 months</td>
<td>30-60</td>
<td>120-160</td>
<td>74-100/50-70</td>
</tr>
<tr>
<td>1 year</td>
<td>24-40</td>
<td>90-140</td>
<td>80-112/50-60</td>
</tr>
<tr>
<td>18 months</td>
<td>24-40</td>
<td>90-140</td>
<td>80-112/50-60</td>
</tr>
<tr>
<td>2 years</td>
<td>24-40</td>
<td>90-140</td>
<td>80-112/50-60</td>
</tr>
<tr>
<td>3 years</td>
<td>22-34</td>
<td>80-110</td>
<td>82-110/50-78</td>
</tr>
<tr>
<td>5 years</td>
<td>22-34</td>
<td>80-110</td>
<td>82-110/50-78</td>
</tr>
<tr>
<td>6 years</td>
<td>18-30</td>
<td>75-100</td>
<td>84-120/54-80</td>
</tr>
<tr>
<td>8 years</td>
<td>18-30</td>
<td>75-100</td>
<td>84-120/54-80</td>
</tr>
<tr>
<td>10 years</td>
<td>18-30</td>
<td>60-90</td>
<td>84-120/54-80</td>
</tr>
<tr>
<td>12 years</td>
<td>12-16</td>
<td>60-90</td>
<td>94-140/62-88</td>
</tr>
<tr>
<td>14 years</td>
<td>12-16</td>
<td>60-90</td>
<td>94-140/62-88</td>
</tr>
</tbody>
</table>

Spotting the sick child

The Department of Health have commissioned web site with interactive tools department of health to support health professionals in the assessment of the acutely sick child.

This interactive website is designed for healthcare professionals to improve their skills at assessing the top 7 commonest acute problems for which children see their family doctor, or go to an urgent care clinic or emergency department.

The website is split into 5 main areas; starting with ‘Basic Child Assessment’ followed by ‘Symptoms’. This area then has 7 sections: Difficulty in Breathing, Fever, Rash, Fits, Dehydration, Abdominal Pain and Head Injury.

Each section gives you key background information, key points in the history, key points in the examination and ‘red flag’ conditions to look out for.

It is free to register and can be adapted to suit the individual practitioners own learning needs depending on experience and can be accessed from the link below

https://www.spottingthesickchild.com/login
Clinical assessment of the child with fever

Children whose signs and symptoms suggest an immediately life threatening illness should be referred immediately for emergency medical care by the most appropriate means of transport (usually 999 ambulance)

### Traffic Light System for identifying risk of serious illness

<table>
<thead>
<tr>
<th>COLOUR Of Skin, Lips and mucous membrane</th>
<th>GREEN – low risk</th>
<th>AMBER – intermediate risk</th>
<th>RED – high risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Normal colour</td>
<td>• Pallor reported by parent/carer</td>
<td>• Pale / mottled/ashen blue</td>
<td></td>
</tr>
<tr>
<td>ACTIVITY</td>
<td>• Responds normally to social cues</td>
<td>• Not responding normally to social cues</td>
<td>• No response to social cues</td>
</tr>
<tr>
<td>• Content/smiles</td>
<td>• Drinks well or awakens quickly</td>
<td>• Wakes only with prolonged stimulation</td>
<td>• Appears ill to a healthcare professional</td>
</tr>
<tr>
<td>• Strong normal cry/not crying</td>
<td>• Tachypnoea RR &gt; 60/min</td>
<td>• Decreased activity</td>
<td>• Unable to rouse or if roused does not stay awake</td>
</tr>
<tr>
<td></td>
<td>Age &gt; 12 months</td>
<td>• No smile</td>
<td>• Weak high pitched or continuous cry</td>
</tr>
<tr>
<td></td>
<td>RR 40/min Age &gt; 12 months</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Oxygen saturation ≤ 95% in air</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Crackles</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RESPIRATORY</td>
<td>• None entered in by NICE</td>
<td>• Nasal flaring</td>
<td>• Grunting</td>
</tr>
<tr>
<td>• Responds normally to social cues</td>
<td>• Tachypnoea RR &gt; 50/min Age 6-12 months</td>
<td>• Tachypnoea RR &gt; 60/min</td>
<td></td>
</tr>
<tr>
<td>• Content/smiles</td>
<td>• Sinus party RR 40/min Age &gt; 12 months</td>
<td>• Moderate or severe chest indrawing</td>
<td></td>
</tr>
<tr>
<td>• Stays awake or awakens quickly</td>
<td>• Oxygen saturation ≤ 95% in air</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Strong normal cry/not crying</td>
<td>• Crackles</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CIRCULATION AND HYDRATION</td>
<td>• Normal skin and eyes</td>
<td>• Tachycardia (bpm)</td>
<td>• Reduced skin turgor</td>
</tr>
<tr>
<td>• Moist mucous membranes</td>
<td>&lt;12 months &gt;160</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>12-24 months &gt;150</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2-5 years &gt;140</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dry mucous membrane</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Poor feeding in infants</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CRT ≥ 3 seconds</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reduced urine output</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OTHER</td>
<td>• None of the amber or red signs or symptoms</td>
<td>• Age 0-3 months, temperature ≥ 38°C</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Non blanching rash</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Bulging fontanelle</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Neck stiffness</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Status epilepticus</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Focal neurological signs</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Focal seizures</td>
<td></td>
</tr>
</tbody>
</table>

Liverp
Children with any ‘RED’ features but who are not considered to have an immediately life threatening illness should be referred urgently to the care of a paediatric specialist.

Children with any ‘AMBER’ features and no diagnosis has been reached, healthcare professionals should provide patients or carers with a ‘safety net’ or refer to a specialist paediatric care for further assessment.

Children with ‘GREEN’ features only can be managed at home with appropriate advice for parents and carers, including when to see further attention from the healthcare services.

When assessing children with learning disabilities, take the individual child’s learning disability into account when interpreting the traffic light table

Do not use duration of fever to predict the likelihood of serious illness. However, children with a fever lasting more than 5 days should be assessed for Kawasaki disease [http://www.nhs.uk/conditions/Kawasaki-disease/Pages/Introduction.aspx](http://www.nhs.uk/conditions/Kawasaki-disease/Pages/Introduction.aspx) (see recommendation 1.2.3.10 NICE 2013)

Recognise that children with tachycardia are in at least an intermediate-risk group for serious illness. Use the Advanced Paediatric Life Support (APLS) criteria below to define tachycardia: [NICE guidance 2.2.13 new 2013]

<table>
<thead>
<tr>
<th>Age</th>
<th>Heart rate (bpm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;12 months</td>
<td>&gt;160</td>
</tr>
<tr>
<td>12–24 months</td>
<td>&gt;150</td>
</tr>
<tr>
<td>2–5 years</td>
<td>&gt;140</td>
</tr>
</tbody>
</table>

Recognise that a capillary refill time of 3 seconds or longer is an intermediate-risk group marker for serious illness (‘amber’ sign).
## Signs and symptoms suggestive of specific disease when assessing children with a fever

<table>
<thead>
<tr>
<th>Diagnosis to be considered</th>
<th>Symptoms and signs in conjunction with fever</th>
</tr>
</thead>
</table>
| Meningococcal disease     | Non-blanching rash, particularly with 1 or more of the following:  
  - an ill-looking child  
  - lesions larger than 2 mm in diameter (purpura)  
  - capillary refill time of ≥3 seconds  
  - neck stiffness  
| Bacterial meningitis       | Neck stiffness  
  Bulging fontanelle  
  Decreased level of consciousness  
  Convulsive status epilepticus  
| Herpes simplex encephalitis | Focal neurological signs  
  Focal seizures  
  Decreased level of consciousness  
  [http://patient.info/doctor/encephalitis](http://patient.info/doctor/encephalitis) |
| Pneumonia                  | Tachypnoea (respiratory rate >60 breaths/minute, age 0–5 months; >50 breaths/minute, age 6–12 months; >40 breaths/minute, age >12 months)  
  Crackles in the chest  
  Nasal flaring  
  Chest indrawing  
  Cyanosis  
  Oxygen saturation ≤95%  
| Urinary tract infection    | Vomiting  
  Poor feeding  
  Lethargy  
  Irritability  
  Abdominal pain or tenderness  
  Urinary frequency or dysuria  
  [https://www.nice.org.uk/guidance/cg54/chapter/1-Guidance](https://www.nice.org.uk/guidance/cg54/chapter/1-Guidance) |
| Septic arthritis           | Swelling of a limb or joint  
  Not using an extremity  
  Non-weight bearing  
| Kawasaki disease           | Fever for more than 5 days and at least 4 of the following:  
  - bilateral conjunctival injection  
  - change in mucous membranes  
  - change in the extremities  
  - polymorphous rash  
  - cervical lymphadenopathy  
Following assessment and the child is deemed to be suitable for management at home


Management by the non-paediatric practitioner

If any 'amber' features are present and no diagnosis has been reached, provide parents or carers with a 'safety net' or refer to specialist paediatric care for further assessment. The safety net should be 1 or more of the following:

The ‘safety net’ should be one or more of the following:

- Providing the parent/carer with verbal and/or written information on warning symptoms and how further healthcare can be accessed.
- Arranging a follow-up at a specified time and place depending on clinical need
- Liaising with other healthcare professionals, including out-of-hours providers, to ensure direct access for the child if further assessment is required.

Management at home

Instruct the parents

- To offer the child regular fluids (where a baby or child is breastfed the most appropriate fluid is breast milk)
- How to detect signs of dehydration by looking for the following features:
  - Sunken fontanelle
  - Dry mouth
  - Sunken eyes
  - Absence of tears
  - Poor overall appearance
- To encourage their child to drink more fluids and consider seeking further advice if they detect signs of dehydration
- Information how to identify a non-blanching rash
- That they should check their child during the night
- That they should keep their child away from nursery or school while the child’s fever persists but to notify the school or nursery of the illness if diagnosis has been made (this may dictate the time off school/nursery).
**Antipyretic interventions**

- Tepid sponging is **not** recommended for the treatment of fever
- Children with fever should not be under dressed or over wrapped
- Consider either paracetamol or ibuprofen as an option if the child appears distressed or is unwell
- **Do not** routinely give antipyretic drugs to a child with a fever with the sole aim of reducing body temperature continue only as long as the child appears distressed.
- **Do not** administer paracetamol and ibuprofen at the same time.
- Consider alternative agent if the persists or reoccurs before the next dose is due


*Child can be managed at home with appropriate care advice, including when to seek further help.*

---

**Traffic light symptoms and signs of serious illness**

- **If all green and no amber or red**
  - Child can be managed at home with appropriate care advice, including when to seek further help

- **If amber features and no diagnosis reached**
  - Provide parents/carers with a safety net or refer to a paediatric specialist for further assessment

- **If any red features**
  - Refer child urgently to paediatric specialist

---

**Do symptoms and/or signs suggest an immediately life-threatening illness?**

- **Yes**
  - Refer immediately to emergency medical care by the most appropriate means of transport (usually 999 ambulance)

- **No**
  - Look for *traffic light* symptoms and signs of serious illness
Children - Disposal after Assessment

Can I make a clinical impression/diagnosis?
- Yes
- No

Have I or any colleagues within the WIC the knowledge, skills and experience to manage this patient appropriately?
- Yes
- No

Is the need for acute referral A&E or speciality team?
- Yes
- No

Treat

Discharge

Home With advice

Referrals to GP or follow up as needed

Transfer appropriately to Alder Hey

Does it need to be seen now?
- Yes
- No

Discuss with senior doctor

Refer to GP

Arrange appointment as discussed

On call GP/OOH

Does it need to be seen now?
- Yes
- No

GP/PN appointment
Paediatrics

Febrile Convulsion Guideline

The typical signs and symptoms of Febrile Convulsions are:
http://cks.nice.org.uk/febrile-seizure

- Temperature – evidence of pyrexia on presentation or good history of fever at home Identify
- Occur in a child of 6 months to 5 years of age.
- Last no longer than 3–6 minutes.
- Are of a generalized tonic-clonic type, presenting with body stiffening; twitching of the face, arms, and legs; eye rolling; jerking of the arms and legs; staring; loss of consciousness.
- Complete recovery of consciousness within 1 hour.
- May occur in a child who has had a previous febrile seizure.
- Length of fit should be no longer than 3-6 minutes duration
- No evidence of meningitis – no neck stiffness, rash, reduced level of consciousness etc.

Febrile Convulsion Pathway

If fitting on arrival

ABC
- Protect from injury
- Cushion head
- Do not put anything in their mouth
- Dial 999
- Give 02 if required
- Vital sign (Temp/RR/HR/GCS and BM while awaiting ambulance)

History of a fit on arrival

First febrile convulsions
- Give antipyretic if not already given

Previous febrile convolution
- Give antipyretic if required

Establish focus of infection and treat appropriately

Refer to Alder Hey A&E

If no focus refer to Alder Hey

Discharge
- Give febrile convolution advice sheet
- Ensure parents have appropriate information
http://patient.info/health/febrile-seizure-febrile-convulsion
Bronchiolitis
https://www.nice.org.uk/guidance/ng9

Definition

Bronchiolitis is a viral lower respiratory tract infection, generally affecting children under 2 years age common in the 1st year life, peak incidence around 3-6 months age. Acute viral bronchiolitis occurs predominantly in children under 1 year. Approximately 1 in 3 infants will develop clinical bronchiolitis in the first year of life with 2–3% of all infants require hospitalisation. The condition starts with an upper respiratory tract infection with nasal obstruction that over 3–4 days progresses to involvement of the bronchioles with associated progressive dyspnoea and poor feeding.

Bronchiolitis is seasonal, peaking in the winter months, most significantly over a 6–8 week period. The most common viral infection is respiratory syncytial virus (RSV) which occurs in up to 80% of cases. Bronchiolitis is a self-limiting condition, lasting around 7-10 days, but a cough maybe persistent for weeks. If presenting within the first 3 days of illness the risk of deterioration must be considered, peak severity is usually at around day 2-3 of the illness. Bronchiolitis is a clinical diagnosis and, as such, it is important to recognise indicative clinical characteristics. Typical features have significant potential overlap with other diagnoses including viral induced wheeze and pneumonia, highlighting the importance of a thorough, detailed history and clinical examination.

Bronchiolitis can be life threatening particularly in premature infants and those with underlying respiratory, cardiac, neuromuscular and immunological conditions. These children require special consideration (Risk factors)


Assessment and diagnosis

Follow the National Institute for Health and Care Excellence (NICE) guidance for the assessment of feverish illness in children (in those aged under 5 years) to gauge the severity of the disease and its effects on the child dependent on age and symptoms.

When diagnosing bronchiolitis, take into account that it occurs in children under 2 years of age and most commonly in the first year of life, peaking between 3 and 6 months and that symptoms usually peak between 3 and 5 days, and that cough resolves in 90% of infants within 3 weeks.

Diagnose bronchiolitis if the child has a coryzal prodrome lasting 1 to 3 days, followed by:
- Persistent cough and
- Either tachypnoea or chest recession (or both) and
Either wheeze or crackles on chest auscultation (or both).

When diagnosing bronchiolitis, take into account that the following symptoms are common in children with this disease:

- Fever (in around 30% of cases, usually of less than 39°C)
- Poor feeding (typically after 3 to 5 days of illness).

When diagnosing bronchiolitis, take into account that young infants with this disease (in particular those under 6 weeks of age) may present with apnoea without other clinical signs.

**Ensure that examination includes assessment of the following in order to gauge the severity and exclude differential diagnosis:**

**General appearance:** Assessed as the child /infant is brought in to triage/assessment
Skin/lip colour normal, eyes moist?, production tears if child/infant crying

**Behavior:** Note any Irritability or exhaustion  and any signs of hypoxemic

**Observations:** Sp02 .Respiratory rate and effort .Heart rate .Temperature

**PC:** carer words, what do they feel is the problem

**HPC:** Is the history in keeping with the normal trajectory of bronchiolitis, does a differential diagnosis have to be considered? risk factors not observed such as apnoeic episode at home. Drinking and feeding normally?

**BH:** risk factors prematurity

**Nutrition Adequately:** hydrated for age

**PMH:** Any indication risk factors i.e. under investigation neuromuscular problems that may influence referral criteria

**HEENT:** Coyzal symptoms. Fully examine note any symptoms such as exudate on tonsils, bulging TM

**Lymph:** Any cervical lympanopathy

**R/S:** Auscultation: Is there an audible wheeze? Is there use of accessory muscles of respiration or any nasal flaring? Tachypnea, effort such as use of accessory muscles grunting

**CVS:** Heart sounds, centrally cyanosed? Heart rate, tissue turgor, capillary refill, and peripheral circulation, tachycardia for age?

**GUT:** Nappies wet?
Paediatrics

**GIT:** Abdominal pain, constipation, guarding?

**MSK/CNS:** Using all limb equally and freely age appropriate? No neurological symptoms

**Skin:** Normal turgor, any rashes? If so what type rash and is it blanchable?

**Assessment of Severity**

Use table below to assess severity of illness and follow pathway on for appropriate treatment

<table>
<thead>
<tr>
<th>OBSERVATIONS</th>
<th>MILD</th>
<th>MODERATE</th>
<th>SEVERE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respiratory Rate</td>
<td>&lt;50</td>
<td>50-70</td>
<td>&lt;70</td>
</tr>
<tr>
<td>Pulse Rate</td>
<td>&lt;140</td>
<td>Tachycardia</td>
<td>Extreme tachycardia or bradycardia</td>
</tr>
<tr>
<td>Recession/Tracheal Tug</td>
<td>Mild</td>
<td>Moderate</td>
<td>Severe Marked at rest</td>
</tr>
<tr>
<td>02 Sats</td>
<td>≥94%</td>
<td>&lt;94</td>
<td>≤92%</td>
</tr>
<tr>
<td>Colour</td>
<td>Pink</td>
<td>Pink</td>
<td>Cyanosis</td>
</tr>
<tr>
<td>Conscious level</td>
<td>Alert</td>
<td>Alert</td>
<td>Lethargy</td>
</tr>
<tr>
<td>Apnoea</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Feeding (% usual feeds)</td>
<td>&gt;75%</td>
<td>50-75%</td>
<td>&lt;50%</td>
</tr>
</tbody>
</table>

**Immediately refer**

If they have any of the following:
- Apnoea (observed or reported)
- Child looks seriously unwell to practitioner
- Severe respiratory distress, for example grunting, marked chest recession
- Respiratory rate of over 70 breaths /minute
- Central cyanosis
- Persistent oxygen saturation of less than 92% when breathing air.
Paediatrics

Consider referral if:
- Respiratory rate of over 60 breaths/minute
- Difficulty with breastfeeding or inadequate oral fluid intake (50–75% of usual volume, taking account of risk factors (see when to admit in this pathway) and using clinical judgement)
- Clinical dehydration.

When deciding whether to refer a child with bronchiolitis to secondary care, take account of the following risk factors for more severe bronchiolitis:
- Chronic lung disease (including bronchopulmonary dysplasia)
- Haemodynamically significant congenital heart disease
- Age in young infants (under 3 months)
- Premature birth, particularly under 32 weeks
- Neuromuscular disorders
- Immunodeficiency.

When deciding whether to refer a child to secondary care, take into account factors that might affect a carer’s ability to look after a child with bronchiolitis such as:
- Social circumstances
- Skill and confidence of the carer in looking after a child with bronchiolitis at home
- Confidence in being able to spot red flag symptoms (see information on red flags in safety information when looking after a child at home in this pathway)
- Distance to healthcare in case of deterioration

Is this child safe to manage at home?

**Child discharged home**

Provide key safety information for parents and carers to take away for reference for children who will be looked after at home. This should cover:
- How to recognise developing 'red flag' symptoms:
  - Worsening work of breathing such as grunting, nasal flaring marked chest recession.
- Fluid intake is 50–75% of normal or no wet nappy for 12 hours
- Apnoea or cyanosis
- Exhaustion (for example, not responding normally to social cues, wakes only with prolonged stimulation)
- People should not smoke in the child's home because it increases the risk of more severe symptoms in bronchiolitis
- How to get immediate help from an appropriate professional if any red flag symptoms develop
- Arrangements for follow-up if necessary.
Bronchiolitis Pathway
https://www.nice.org.uk/guidance/ng9

Consider stage of illness
Consider any risk factors

Observe for up to an hour if needed

Meets discharge criteria:
• Temp <38C axilla
• Taking ¾ usual feeds*
• SaO2>94%
• RR <50/min
• HR <140/min

Prompt referral to RLCH Use clinical judgement for mode of transport i.e. own transport/taxi

Discharge home
• Advise re home care, small frequent feeds
• Advise parent child can be symptomatic for around 2/52 and advise to return if:
  → increased work of breathing
  → Reduced feeding
• Ensure parents have access to follow up e.g. telephone numbers etc.

• Administer O2 to maintain adequate saturation if O2 Sats <92%
• Observe closely for deterioration

Life threatening
02 Sats <90%
Agitated/exhausted
Grunting
Apnoeic episode
Recurrent apnoea

Prompt referral to RLCH Use clinical judgement for mode of transport i.e. own transport/taxi

999
Give O2 to maintain SATS>92%

If uncertain of diagnosis refer to Alder Hey

*NB Infants >6/12 and on mixed feeding daily total should be 600-800mls
Guideline for the Treatment of Croup

Definition
Viral croup (acute laryngotracheobronchitis) is one of the most common respiratory illnesses and the most common cause of upper airway obstruction in children 6 months – 6 years. It is characterised by varying degrees of inspiratory stridor, barking cough as a result of inflammation and oedema in the larynx and subglottic area.

Aetiology
- Generally caused by parainfluenza virus (types 1, 2 & 3)
- Pathogens less commonly causing croup are respiratory syncytial virus, adenovirus, enterovirus, rhinovirus, influenza virus
- Rarely measles & herpes simplex virus.

Incidence
- Most common between ages of 6 months & 3 years
- (Can occur as young as 3 months and as old as 15 years but less common)
- Peak incidence age 2 years old.
- Male to female ratio 3:2
- Most prevalent in autumn and winter months

Transmission
- By droplet and/or direct contact

Incubation Period
- 2 – 6 days

Clinical Manifestations
- Typically preceded by prodromal period (12 – 48 hrs.) consisting of rhinorrhoea, mild cough and low grade fever
- Child then develops characteristic barking cough, hoarseness and inspiratory stridor
- Symptoms are characteristically worse at night
- Symptoms aggravated by agitation and crying
- More than 80% children have mild symptoms that resolve in 2 – 5 days

Initial Assessment

A Airway – stridor, note presence & severity
B Breathing – respiratory rate, colour, SaO2 monitoring if tolerated, observe for use of accessory muscles, recession
C Circulation – pulse, capillary refill time
In Emergencies consider use of appropriate Resus Guidelines and include;
D Disability – neuro assessment
E Exposure – expose to assess for rashes / wounds etc
DO’s
• Keep child as calm as possible
• Observation is key – “hands off” approach initially
• Allow child to maintain their airway in their own position
• Oxygen to maintain SaO2 above 95%
• Support airway as able

DON’Ts
• Try to force the child to change their position or remove them from parent
• Examination of throat remains controversial – Risk of increased distress to the child must be balanced with information likely to be gained by direct visualization.

Diagnosis
This is generally made from the history and clinical presentation.

http://patient.info/doctor/croup-pro

Differential Diagnosis

Foreign body inhalation:
Important to ask specifically about onset of symptoms – sudden onset of stridor in a healthy child accompanied by choking/coughing and history of playing with small objects.

Epiglottitis:
Stridor, sudden onset of high fever, toxic appearance, drooling
Sits forward with neck extended
Uncommon since Hib vaccination

Bacterial tracheitis:
High fever, toxicity, increasing respiratory distress
Unresponsive to treatment for viral croup

Spasmodic Croup:
Sudden onset at night, usually resolves in morning, no associated fever or coryzal symptoms. Often associated with atopy.

Retropharyngeal or Peri tonsillar abscess:
Muffled voice, fever, appears ill, stiff neck

Other causes:
Diphtheria – rare
Acute anaphylaxis
Thermal injury
Tracheomalacia & laryngomalacia – presents in first month of life, child well
### Differentiation between Croup, Tracheitis and Epiglottitis

<table>
<thead>
<tr>
<th></th>
<th>Croup</th>
<th>Tracheitis</th>
<th>Epiglottitis</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cause</strong></td>
<td>Viral</td>
<td>Staphylococcus</td>
<td>Haemophilus influenza B aureus</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td>6m - 3yr</td>
<td>Any age</td>
<td>2 - 6yr</td>
</tr>
<tr>
<td><strong>Onset</strong></td>
<td>Gradual</td>
<td>Gradual</td>
<td>Sudden</td>
</tr>
<tr>
<td><strong>Pyrexia</strong></td>
<td>Mild</td>
<td>&gt;38 °C</td>
<td>&gt;38 °C</td>
</tr>
<tr>
<td><strong>Abnormal respiratory sounds</strong></td>
<td>Barking cough, stridor</td>
<td>Barking cough, stridor</td>
<td>Muffled, guttural cough</td>
</tr>
<tr>
<td><strong>Swallowing</strong></td>
<td>Normal</td>
<td>Difficult</td>
<td>Very difficult with drooling</td>
</tr>
<tr>
<td><strong>Posture</strong></td>
<td>Recumbent</td>
<td>Sitting</td>
<td>Tripod</td>
</tr>
<tr>
<td><strong>Facies</strong></td>
<td>Normal</td>
<td>Anxious</td>
<td>Anxious, distressed, toxaemic</td>
</tr>
</tbody>
</table>


### Assessment of Croup Severity

**Assessment of severity using the modified Westley clinical scoring system for croup**

- **Inspiratory stridor:**
  - Not present - 0 points
  - When agitated/active - 1 point
  - At rest - 2 points

- **Intercostal recession:**
  - Not present - 0 points
  - Mild - 1 point
  - Moderate - 2 points
  - Severe - 3 points

- **Air entry:**
  - Normal - 0 points
  - Mildly decreased - 1 point
  - Severely decreased - 2 points

- **Cyanosis:**
  - None - 0 points
  - With agitation/activity - 4 points
  - At rest - 5 points

- **Level of consciousness:**
  - Normal - 0 points
  - Altered - 5 points

**Possible score 0-17:**

- 0-3 = mild croup
- 4-6 = moderate croup
- >6 = severe croup
## Severity assessment

<table>
<thead>
<tr>
<th>Mild</th>
<th>Moderate</th>
<th>Severe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Occasional barking cough</td>
<td>Frequent barking cough</td>
<td>Frequent barking cough</td>
</tr>
<tr>
<td>None to minimal stridor at rest</td>
<td>Easy audible stridor at rest</td>
<td>Prominent inspiratory stridor, occasionally expiratory stridor</td>
</tr>
<tr>
<td>None to minimal recession at rest</td>
<td>Mild recession</td>
<td>Marked recession</td>
</tr>
<tr>
<td>Air entry normal</td>
<td>Air entry normal</td>
<td>Decreased air entry</td>
</tr>
<tr>
<td>No tachycardia</td>
<td>Tachycardia</td>
<td>Tachycardia</td>
</tr>
<tr>
<td>Respiratory rate normal</td>
<td>Respiratory rate raised</td>
<td>Respiratory rate raised</td>
</tr>
<tr>
<td>Sa02 &gt; 95% *</td>
<td>Sa02 &gt; 95% *</td>
<td>Sa02 &lt; 95%</td>
</tr>
<tr>
<td>No distress or agitation</td>
<td>None or little distress or agitation</td>
<td>Significant distress &amp; agitation</td>
</tr>
<tr>
<td>Alert</td>
<td>Alert</td>
<td>Drowsy/disorientated</td>
</tr>
</tbody>
</table>

- Oxygen desaturation is a late sign and unreliable of croup severity
- Oximetry can never substitute for good clinical assessment
- Loudness of stridor is **not** a good indicator of the severity of croup
Pathway for the Treatment of Croup within LWIC ‘s

- **Mild**
  - Single dose of oral dexamethasone 150 mcgs/ kg orally
  - Discharge home with advice on worsening symptoms e.g. attend A&E or Alder Hey

- **Moderate**
  - Single dose of oral dexamethasone 150 mcgs/ kg orally
  - Transfer to A&E Alder Hey for observation and further assessment. Use clinical judgement re: method of transfer

- **Severe**
  - CALL 999
  - $O_2$ to maintain $SAO_2$ above 95%
  - Single dose of oral dexamethasone. 150 mcgs/ kg orally if possible while awaiting transfer
  - Transfer to A&E Alder Hey by 999 ambulance.
Rough guide to Dexamethasone dosage in relation to children's weight

Dexamethasone oral solution 2mg/5mls

0.25ml = 0.1mg  0.5ml = 0.2mg  1ml = 0.4mg  2ml = 0.8mg
3ml = 1.2mg  4ml = 1.6mg  5ml = 2mg  6ml = 2.4mg

NB:- This is just a guide so that you are confident in your calculation. The specific weight of the child will dictate the dose.

<table>
<thead>
<tr>
<th>Weight of Child</th>
<th>150mcg per KG body weight</th>
<th>Approximate age range for weight</th>
<th>Volume of oral dexamethasone solution (2mg/5ml) Use 1 ml syringe</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 kg</td>
<td>0.6 mg</td>
<td>2+ months age</td>
<td>1.5 mls</td>
</tr>
<tr>
<td>5 kg</td>
<td>0.75 mg</td>
<td></td>
<td>1.9 mls</td>
</tr>
<tr>
<td>5.5 kg</td>
<td>0.825 mg</td>
<td></td>
<td>2.1 mls</td>
</tr>
<tr>
<td>6 kg</td>
<td>0.9 mg</td>
<td>6+months</td>
<td>2.3 mls</td>
</tr>
<tr>
<td>6.5 kg</td>
<td>0.97 mg</td>
<td></td>
<td>2.4 mls</td>
</tr>
<tr>
<td>7 kg</td>
<td>1.05 mg</td>
<td></td>
<td>2.6 mls</td>
</tr>
<tr>
<td>7.5 kg</td>
<td>1.125 mg</td>
<td></td>
<td>2.8 mls</td>
</tr>
<tr>
<td>8 kg</td>
<td>1.2 mg</td>
<td></td>
<td>3 mls</td>
</tr>
<tr>
<td>8.5 kg</td>
<td>1.275 mg</td>
<td>12+ mths</td>
<td>3.2 mls</td>
</tr>
<tr>
<td>9 kg</td>
<td>1.35 mg</td>
<td></td>
<td>3.4 mls</td>
</tr>
<tr>
<td>9.5 kg</td>
<td>1.425 mg</td>
<td></td>
<td>3.6 mls</td>
</tr>
<tr>
<td>10 kg</td>
<td>1.5 mg</td>
<td></td>
<td>3.8 mls</td>
</tr>
<tr>
<td>10.5 kg</td>
<td>1.575 mg</td>
<td></td>
<td>3.9 mls</td>
</tr>
<tr>
<td>11 kg</td>
<td>1.65 mg</td>
<td></td>
<td>4.1 mls</td>
</tr>
<tr>
<td>11.5 kg</td>
<td>1.725 mg</td>
<td></td>
<td>4.3 mls</td>
</tr>
<tr>
<td>12 kg</td>
<td>1.8 mg</td>
<td>4+ yrs</td>
<td>4.5 mls</td>
</tr>
<tr>
<td>12.5 kg</td>
<td>1.875 mg</td>
<td></td>
<td>4.7 mls</td>
</tr>
<tr>
<td>13 kg</td>
<td>1.95 mg</td>
<td></td>
<td>4.9 mls</td>
</tr>
<tr>
<td>13.5 kg</td>
<td>2.025 mg</td>
<td></td>
<td>5.1 mls</td>
</tr>
<tr>
<td>14 kg</td>
<td>2.1 mg</td>
<td></td>
<td>5.3 mls</td>
</tr>
<tr>
<td>14.5 kg</td>
<td>2.175 mg</td>
<td></td>
<td>5.4 mls</td>
</tr>
<tr>
<td>15 kg</td>
<td>2.25 mg</td>
<td></td>
<td>5.6 mls</td>
</tr>
<tr>
<td>15.5 kg</td>
<td>2.325 mg</td>
<td></td>
<td>5.8 mls</td>
</tr>
<tr>
<td>16 kg</td>
<td>2.4 mg</td>
<td></td>
<td>6 mls</td>
</tr>
<tr>
<td>16.5 kg</td>
<td>2.475 mg</td>
<td></td>
<td>6.2 mls</td>
</tr>
<tr>
<td>17 kg</td>
<td>2.55 mg</td>
<td></td>
<td>6.4 mls</td>
</tr>
</tbody>
</table>
Acute Gastroenteritis Guideline for children


**Gastroenteritis** is a transient disorder due to enteric infection with viruses, bacteria, or parasites. It is characterised by the sudden onset of diarrhoea, with or without vomiting.

Acute diarrhoea is defined as three or more episodes of partially-formed or watery stool in a day, lasting for less than 14 days.

Children with gastroenteritis:
- Diarrhoea usually lasts for 5–7 days, and in most it stops within 2 weeks.
- Vomiting usually lasts for 1–2 days, and in most it stops within 3 days.

**Incidence:** Common in all age groups (peak age for infection between 6 months & 2 years) and is seen sporadically in nurseries, schools and communities in epidemic proportions, more frequently seen in the winter.

**Incubation period:** 24 to 48 hrs.

**Communicability:** Mode of spread is by faecal-oral or respiratory route.

**Subjective data:**
- Vomiting: Assess duration, frequency, character, amount.
- Diarrhoea: Assess duration, frequency, consistency of stools, presence of blood or mucous. Stools are loose with unpleasant odour, blood or mucous are rarely present.

**Pertinent subjective data to obtain:**
- History of exposure to others with similar symptoms.
- History of illness in the community.
- Elevated temperature.
- Abdominal pain.
- Weight loss.
- Urinary output: frequency and amount.
- Type and amount of feedings prior to and since onset.
- Exposure to foodstuffs outside of the home.
- Ingestion of drugs/toxins substances.
- Recent travel abroad.

**Assessment**
Diagnosis is made by history of exposure, clinical course, and clinical picture with the importance on if they should be transferred to secondary care or managed at home dependent on level and severity of possible dehydration or if a differential diagnosis is suspected.
Assessment of dehydration

It is important to assess hydration in acute gastroenteritis as hydration status determines the immediate management of this condition. The infant or child with profuse watery diarrhea and frequent vomiting is most at risk.

Dehydration can be rapid in onset with potentially fatal consequences but correctly managed the majority of cases will not need direct referral to hospital and can be managed at home.

At increased risk of dehydration:
- Children younger than 1 year, especially those younger than 6 months
- Infants who were of low birth weight
- Children who have passed five or more diarrhoeal stools in the past 24 hours
- Children who have vomited three times or more in the past 24 hours
- Children who have not been offered or have not been able to tolerate supplementary fluids before presentation
- Infants who have stopped breastfeeding during the illness
- Children with signs of malnutrition.

Certain clinical signs and symptoms can quantify the extent of an infant/child’s dehydration.

It is important to;
- Assess the level of dehydration
- Comprehensive history number of stools and vomits in the past 24 hours
- Presence of any blood or bile.
- Amount of oral fluids taken
- Frequency of wet nappies.

Possible indicators of other diagnoses/differential other than gastroenteritis
- Temperature of 38°C or higher (younger than 3 months)
- Temperature of 39°C or higher (3 months or older)
- Shortness of breath or tachypnoea
- Altered conscious state
- Neck stiffness
- Bulging fontanelle (in infants younger than 1 yr.)
- Non-blanching rash Blood and/or mucus in stool
- Bilious (green) vomit
- Severe or localised abdominal pain
- Abdominal distension or rebound tenderness

Management

If infant/child is not dehydrated a trial of oral fluids should be commenced at triage. If small sips cannot be tolerated, use of a syringe can especially help in infants.

After assessing the level of dehydration and ability to tolerate oral fluids a decision can be made as to the suitability of discharging the child home and is usually those children with no dehydration or mild dehydration excluding those with high risk for complications or/who cannot be adequately cared for at home should be considered for referral to hospital.
ABCDE approach and 999 referral for children in clinical shock and emergency transfer for those with red flag signs for increasing severity of dehydration within the amber severity chart

Infant/Child with **mild-moderate dehydration** who are not tolerate oral fluids while within the WiCs will be referred to hospital

Advice will be given on prevention dehydration

**Preventing dehydration**

In children with gastroenteritis but without clinical dehydration:
- Continue breastfeeding and other milk feeds
- Encourage fluid intake
- Discourage the drinking of fruit juices and carbonated drinks (especially in children at **increased risk of dehydration**)
- Offer oral rehydration therapy solution as supplemental fluid to children at **increased risk of dehydration**

**Oral rehydration therapy (ORT)**

Give 50 ml/kg low-osmolality over 4 hours, plus for maintenance, often and in small amounts.

Continue breastfeeding.

Consider supplementing with usual fluids (including milk feeds or water, but not fruit juices or carbonated drinks).

Ask parents to monitor the child’s response to ORT regularly

**Fluid management and nutrition after rehydration**

**Fluid management**

Encourage breastfeeding, other milk feeds and fluid intake.

Consider advising parent to give 5 ml/kg ORT solution after each large watery stool to:
- children younger than 1 year (especially those younger than 6 months)
- infants who were of low birth weight
- children who have passed six or more diarrhoeal stools in the past 24 hours
- children who have vomited three times or more in the past 24 hours.

If dehydration recurs, start ORT again.

**Nutrition**

After rehydration:
- give full-strength milk straight away
- reintroduce the child’s usual solid food
- avoid giving fruit juices and carbonated drinks until the diarrhoea has stopped

If an infant is less than 6 months of age a Health Visitor referral should always be made and if there is no improvement (signs of deterioration will have been given as red flags) or they are not completely well then reassessment should take place either by their GP or local accident and emergency depending on parental concerns.

Advice on **red flags** and information must be given to parents if the practitioner deems that the child is suitable to be discharged home along with the normal
expected course of events so that there is a safety net in place on when to seek further advice

Parents are also advised that if there has recently been abroad or
  • The diarrhoea has not improved by day 7 or
  • You are uncertain about the diagnosis of gastroenteritis
To attend GP’s and provide sample for possible microbiology
## Assessing dehydration in children under 5 years

<table>
<thead>
<tr>
<th>Increasing severity of dehydration</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>No clinically detectable dehydration</strong></td>
</tr>
<tr>
<td>Appears well</td>
</tr>
<tr>
<td>Alert and responsive</td>
</tr>
<tr>
<td>Normal urine output</td>
</tr>
<tr>
<td>Skin colour unchanged</td>
</tr>
<tr>
<td>Warm extremities</td>
</tr>
</tbody>
</table>

### Symptoms (remote and face-to-face assessments)

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Appearance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alert and responsive</td>
<td>Alert and responsive (for example, irritable, lethargic)</td>
</tr>
<tr>
<td>Skin colour unchanged</td>
<td>Skin colour unchanged</td>
</tr>
<tr>
<td>Warm extremities</td>
<td>Warm extremities</td>
</tr>
<tr>
<td>Eyes not sunken</td>
<td>Eyes not sunken (except after a drink)</td>
</tr>
</tbody>
</table>

### Signs (face-to-face assessments)

<table>
<thead>
<tr>
<th>Signs</th>
<th>Appearance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal heart rate</td>
<td>Tachycardia</td>
</tr>
<tr>
<td>Normal breathing pattern</td>
<td>Tachypnoea</td>
</tr>
<tr>
<td>Normal peripheral pulses</td>
<td>Normal peripheral pulses</td>
</tr>
<tr>
<td>Normal capillary refill time</td>
<td>Normal capillary refill time</td>
</tr>
<tr>
<td>Normal skin turgor</td>
<td>Reduced skin turgor</td>
</tr>
<tr>
<td>Normal blood pressure</td>
<td>Normal blood pressure</td>
</tr>
</tbody>
</table>

### Interpret symptoms and signs

Taking into account risk factors for dehydration (More numerous and more pronounced symptoms and signs of clinical dehydration indicate greater severity. For clinical shock, one or more of the symptoms and/or signs listed would be present.

- Dashes (–) indicate that these clinical features do not specifically indicate shock.
- Symptoms and signs with red flags may help to identify children at increased risk of progression to shock. If in doubt, manage as if there are symptoms and/or signs with red flags.

### Suspect hypernatraemic dehydration if there are any of the following:

- Jittery movements
- Increased muscle tone
- Hyperreflexia
- Convulsions
- Drowsiness or coma
Impetigo


Impetigo is a common contagious pyogenic infection of the superficial layers of the skin occurring when there is direct bacterial invasion of healthy. Two clinical forms are recognised, a common non-bullous form and an uncommon bullous form.

**Non-bullous impetigo** is a thin-walled vesicle that rapidly ruptures, leaving superficial erosion covered with yellowish-brown or honey-coloured crusts. Non-bullous impetigo is usually due to infection with *Streptococcus aureus*, but 10% of cases in the UK are due to infection with *Streptococcus pyogenes*.

**Bullous impetigo** is characterized by the formation of larger blisters (bullae) on intact skin that rupture less readily and can persist for several days, and is invariably due to *Streptococcus aureus*.

**Flow chart for treatment of Impetigo**

<table>
<thead>
<tr>
<th>Diagnosis Impetigo – Bullous or Non-Bullous</th>
</tr>
</thead>
<tbody>
<tr>
<td>• More than 2 areas affected</td>
</tr>
<tr>
<td>• Area larger than patient's palm</td>
</tr>
<tr>
<td>• Hypersensitivity to the cream</td>
</tr>
<tr>
<td>• Pregnant or breastfeeding</td>
</tr>
<tr>
<td>• Signs of systemic infection e.g. temperature</td>
</tr>
<tr>
<td>• Unlikely compliance with cream</td>
</tr>
<tr>
<td>• Close proximity to eyes / lips</td>
</tr>
<tr>
<td>YES to any of these questions</td>
</tr>
<tr>
<td>Manage as per antimicrobial guidelines</td>
</tr>
<tr>
<td>NO to all of these questions</td>
</tr>
<tr>
<td>Manage as per antimicrobial guidelines</td>
</tr>
</tbody>
</table>

In all cases:-
- Advise gentle cleaning during the day with soap and water to remove crusts, especially prior to application of cream.
- Advise strict hygiene e.g. separate towels etc.
- If lesions are not resolving within 48 hours or seem to be spreading, to return for review.
- Advice leaflet advice should be given re: impetigo [http://patient.info/health/impetigo-leaflet](http://patient.info/health/impetigo-leaflet)
- People should ensure that lesions have crusted over, or that they have received at least 48 hours of antibiotic treatment, before re-attending school / nursery.

[http://www.panmerseyapc.nhs.uk/formulary/documents/05-00-00_infections.pdf](http://www.panmerseyapc.nhs.uk/formulary/documents/05-00-00_infections.pdf)
Guidelines for Otitis Media

**Acute Otitis Media (AOM)**

Otitis Media (OM) is a common problem in early childhood. Otitis media is the generic term for middle ear inflammation that can be acute of chronic, with or without symptoms.

**Causes**
- Viral
- Bacteria

Diagnose acute otitis media if there is:-

- Acute onset of symptoms including:
  - In older children and adults — earache.
  - In younger children — pulling, tugging, or rubbing of the ear, or non-specific symptoms such as fever, irritability, crying, poor feeding, and restlessness at night, cough, or rhinorrhoea.

**On examination:**
- A distinctly red, yellow, or cloudy tympanic membrane.
- Moderate to severe bulging of the tympanic membrane, with loss of normal landmarks.
- An air-fluid level behind the tympanic membrane.
- Perforation of the tympanic membrane and/or discharge in the external auditory canal.

**Differential diagnosis of middle ear inflammation or effusion.** That may be considered
- Other upper respiratory tract infections — mild redness of the tympanic membrane may be seen.
- Otitis media with effusion (glue ear) — fluid in the middle ear without symptoms or signs of acute inflammation of the tympanic membrane.
- Chronic suppurative otitis media — persistent inflammation and perforation of the tympanic membrane with draining exudate for more than 2 weeks.
- Bullous myringitis (rare) — haemorrhagic bullae (blisters) on the tympanic membrane caused by *Mycoplasma pneumoniae* (90% spontaneous resolution rate).

**In children younger than 6 months of age (and particularly younger than 3 months of age),** diagnosis can be difficult because:
- There may be coexisting systemic illness, such as bronchiolitis or bacteraemia.
- Symptoms are likely to be non-specific.
- The tympanic membrane may not visible; it often lies in an oblique position and the ear canal is small and tends to collapse.
First line treatment is paracetamol or ibuprofen and observes, consider switching to the other agent if no improvement and the child remains distressed. For most people, advise either a no antibiotic prescribing strategy, or a delayed antibiotic prescribing strategy:

- **No antibiotic prescribing strategy** — offer reassurance that antibiotics are not usually needed because they are likely to make little difference to symptoms, may have adverse effects (for example diarrhoea, vomiting, and rash), and can contribute to antibiotic resistance.

- **Delayed antibiotic prescribing strategy** — provide a delayed antibiotic prescription. Advise that antibiotics should be started if symptoms are not improving within 4 days of the onset of symptoms or if there is a significant worsening of symptoms at any time.

- Depending on severity consider immediate prescription for children under two years of age with bilateral AOM Or, with perforation and/or discharge in the canal.

- If antibiotics are prescribed use amoxicillin 40mg/kg in 3 divided doses for 5 days (max 3g in 3 divided doses in 24 hours).

- If allergic to penicillin use clarithromycin for 5 days.

**Admission for assessment** should be considered for children under 3 months of age with temperature of above 38°C, or a temperature of above 39°C if 3-6 months of age. Children with complications of acute otitis media, or who are systemically unwell.

**Complications**

- Perforation of the tympanic membrane results in purulent otorrhoea and usually relief of the pain.
- Febrile convulsions can be associated with AOM.
- Mastoiditis, labyrinthitis or intracranial infection can occur but is very uncommon.
- Other potential complications include facial nerve palsy and lateral sinus thrombosis.

**Referral**

Children with frequent episodes (more than 4 in six months) of AOM, or complications should be referred to ENT when applicable or back to their GP when the acute phase has resolved for appropriate referral.

### Diagnostic features of AOM and OME

<table>
<thead>
<tr>
<th></th>
<th>Earache</th>
<th>Middle ear effusion</th>
<th>Opaque tympanic membrane</th>
<th>Bulging tympanic membrane</th>
<th>Hearing loss</th>
</tr>
</thead>
<tbody>
<tr>
<td>AOM</td>
<td>Present</td>
<td>Present</td>
<td>Present</td>
<td>May be present</td>
<td>Present</td>
</tr>
<tr>
<td>OME</td>
<td>Usually absent</td>
<td>Present</td>
<td>May be absent</td>
<td>Usually absent</td>
<td>Usually present</td>
</tr>
</tbody>
</table>

### Otitis Media with Effusion (OME)
OME is an non acute inflammation of the middle ear with the accumulation of fluid is often asymptomatic and earache is relatively uncommon. It is sometimes known as “Glue Ear”

Effusions that persist can lead to hearing loss and impaired development of speech.

### Diagnosis
At least 2 tympanic membrane abnormalities

- Abnormal colour
- Retracted or concave TM
- Fluid level behind the TM
- Hearing loss – not often identified in infants and young children

### Treatment
- Children with OME should not be treated with antibiotics
- Decongestants, antihistamines or mucolytics should not be used
- The use of topical or systemic therapy is not recommended

### Referral
These patients do not normally present within the WIC and would normally be referred to own GP/School Nurse or Health Visitor for follow up

### Chronic Suppurative Otitis Media (CSOM)
This is defined as otorrhoea via a perforated tympanic membrane for approximately 3 – 6 weeks that has not responded to aural, topical or systemic antibiotics.

On taking comprehensive ENT there may be a background of acute otitis media (AOM) (ear pain, fever, and irritability), a history of ear trauma, or a previous glue ear and grommet insertion

http://patient.info/doctor/chronic-suppurative-otitis-media

### Assessment
A painless ear examination (unlike AOM or acute otitis externa), with evidence of tympanic membrane perforation (if possible).

- Check for post auricular swelling (tenderness), facial paralysis, or vertigo and signs or symptoms of intracranial infection (requiring admission).
- Ask about hearing loss and, if appropriate, the effect of CSOM on daily activities (for example school or work) and language development.
Differential diagnosis for persistent ear discharge:
- Otitis externa (suggested by an inflamed, eczematous canal without a perforation).
- A foreign body (particularly in children).
- Impacted ear wax.
- A cholesteatoma.
- Neoplasm (ear canal swelling that bleeds on contact).

Management
Admit
Patients with signs of infection beyond the ear, for example post auricular swelling or tenderness, headache, facial paralysis, or vertigo.

Refer
- suspected chronic suppurative otitis media to an ENT specialist for diagnosis, treatment, and follow up:
- Do not swab the ear (the usefulness of this is uncertain) or initiate treatment.
- Explain that a specialist will clean the ear, give antibiotics, and advise keeping the ear dry (for example swimming precautions).
- Explain that any hearing loss will usually return when the perforation heals, but a hearing test may be done in secondary care.

Guidelines for Otitis Externa
Otitis Externa (OE) is inflammation and infection of the external auditory canal. In general the infections are caused by bacteria. Occasionally, they may be due to fungal or yeast infections.
http://patient.info/doctor/otitis-externa-and-painful-discharging-ears

Causes
- Swimming. OE is 5 times more common in swimmers than non-swimmers, due to the water getting in the ear. It is sometimes known as ‘swimmers ear’
- Weather – more likely to develop in hot humid and ‘sweaty’ weather
- Skin problems – eczema or psoriasis
- Ear Syringing – may irritate the ear canal and cause inflammation
- Middle ear infections ototearhea from the infection can irritate the ear canal and cause infection

Diagnosis
- Discharge / debris in external auditory canal
- May be unable to visualise tympanic membrane due to swollen external auditory canal
- Itching ear
- Dulled hearing
- Pain on moving pinna
- Cervical lymphadenopathy
### Treatment

[http://www.panmerseyapc.nhs.uk/formulary/documents/05-00-00_infections.pdf](http://www.panmerseyapc.nhs.uk/formulary/documents/05-00-00_infections.pdf)

<table>
<thead>
<tr>
<th>Condition</th>
<th>If wet</th>
<th>As per antimicrobial guidelines</th>
</tr>
</thead>
<tbody>
<tr>
<td>No perforation</td>
<td>If wet</td>
<td>As per antimicrobial guidelines</td>
</tr>
<tr>
<td>No perforation</td>
<td>If dry</td>
<td>As per antimicrobial guidelines</td>
</tr>
<tr>
<td>Perforated ear drum</td>
<td></td>
<td>As per antimicrobial guidelines</td>
</tr>
</tbody>
</table>

### Referral

Consider swab for M C&S if still symptomatic and refer to ENT
Management of Tonsillitis

Do not examine the throat of anyone with suspected epiglottitis.
http://patient.info/doctor/epiglottitis-pro

Acute sore throats are common reasons for patients to consult with General Practitioners. They occur most frequently in children between 5-10 years and young adults age 15-25, 50% are between ages 5 and 15 years. They are caused by bacteria or viruses’ unfortunately bacterial cause can often not be differentiated from viral cause.) Recovery is around 3-4 days, but there can be complications. The most common bacterial cause and perhaps the most serious in terms of sequelae are group A beta haemolytic streptococci. This bacterium has been associated with such complications as peri-tonsillar abscess and rheumatic fever. Complications of sore throat may be serious and include rheumatic fever, otitis media and quinsy, possibly leading to dehydration due to inability to tolerate fluids.

Causes
- Group A Beta-Haemolytic Streptococci (GABHS)
- Adenovirus
- Influenza A and B
- Parainfluenza virus
- Enterovirus
- Mycoplasma pneumonia
- C Pneumonia

Diagnosis

There is no evidence that bacterial sore throats are more severe than viral ones or that the duration of the illness is significantly different in either case. Clinical assessment and the use of the pathway should be followed to define if symptoms are viral or bacterial in origin.

Even if the cause was found to be bacterial, there is a debate about the efficiency and necessity for treatment with antibiotics. Inappropriate use will promote resistance and should be reserved for patients with most need. Prescribing antibiotics for patients with self-limiting conditions reinforces the belief that antibiotics are beneficial and may encourage future consultations. Prescription of an antibiotic increases re-attendance rates for further episodes of sore throats and should not be used for symptomatic relief for sore throats.

Balanced against this are the benefits, which include a significantly reduced incidence of complications otitis media, sinusitis and quinsy compared to placebo, though overall benefits were modest, with the duration of symptoms shortened by only 16 hours overall. Furthermore, it has been found that antibiotics are not at all beneficial on symptoms. Sore throat should not be treated with antibiotics specifically to prevent the development of rheumatic fever or acute glomerulonephritis recent studies have not shown any benefit from antibiotic use. Antibiotics have not been shown to reduce the risk of post-streptococcal glomerulonephritis.
The National Institute for Health and Clinical Excellence (NICE) recommends antibiotics for the following situations:

- Features of marked systemic infection secondary to the acute sore throat
- Unilateral peritonsillitis
- A history of rheumatic fever
- An increased risk from acute infection (such as child with diabetes mellitus or immunodeficiency)

**Centor Criteria**

The Centor criteria provides a prediction for the presence or absence of GABHS in an acute sore throat

- The Centor clinical prediction score should be used to assist the decision on whether to prescribe an antibiotic, but cannot be relied upon for a precise diagnosis
- The Centor criteria has not been validated for use in children under 3 years

<table>
<thead>
<tr>
<th>The Centor Criteria</th>
<th>● The presence of 3 out of the 4 of the Centor Criteria has a positive predictive value of 40-60% for GABHS</th>
</tr>
</thead>
<tbody>
<tr>
<td>● Tonsillar exudate</td>
<td>● The absence of 3 out of the 4 of the Centor Criteria has a negative value of 80%</td>
</tr>
<tr>
<td>● Tender anterior cervical lymphadenopathy</td>
<td></td>
</tr>
<tr>
<td>● Absence of a cough</td>
<td></td>
</tr>
<tr>
<td>● Current pyrexia &gt; 38°C</td>
<td></td>
</tr>
</tbody>
</table>

**Treatment**

If an antibiotics is indicated

- Phenoxympethylpenicillin QDS for 10 days
- Clarithromycin (if the person is allergic to penicillin) bd for 5 days See Children’s BNF or PGD for doses
Tonsillitis Care Pathway
http://cks.nice.org.uk/sore-throat-acute

- Pain on swallowing diet and fluids
- Fever
- Headache
- Cough
- Coryzal
- Red oropharynx
- Enlarged lymph nodes

Management
Advise self-limiting condition
- Increase fluids
- Analgesia
- Paracetamol regularly
- Ibuprofen PRN if required
- Return if unable to:
  - Tolerate fluids
  - Increased pain
  - Increased temperature
  - Symptomatic after one week

Treat as viral

- Pain swallowing Saliva and fluids
- Fever over 38.5°C
- Headache
- Tonsillar exudates
- Cervical lymphadenopathy
- Enlarged inflamed tonsils
- Absence of Coryzal symptoms
- Symptoms >72 hours

IF UNILATERAL PERI TONSILLAR SWELLING DROOLING, OR SUSPECTED QUINSY
REFER TO ENT IMMEDIATELY

Any history of
- Rheumatic fever
- Diabetes
- Immunocompromised

Treat with Antibiotics

Management
- Increase fluids
- Analgesia:
  - Paracetamol regularly
  - Ibuprofen PRN if required
- Commence course oral antibiotics Penicillin V for 10 days or Clarithromycin if penicillin allergic for 5 days
  Follow up required if still symptomatic after completing AB’s return for review or see GP (consider glandular fever if still symptomatic)

If the child has a fine punctate rash with a sandpapery feel, particularly prominent in skin creases and a strawberry tongue – consider Scarlet fever. The antibiotics treatment is the same as for tonsillitis but Public Health England needs to be informed of the diagnosis as it is a notifiable disease.
Fax number: 0151 708 8417
Urinary Tract Infection Guidelines

A urinary tract infection (UTI) is one of the most significant bacterial infections in childhood.  
https://www.nice.org.uk/guidance/cg54  
https://www.nice.org.uk/guidance/cg54/chapter/1-guidance

Consider a UTI in children with the following symptoms:

<table>
<thead>
<tr>
<th>Age group</th>
<th>Symptoms and signs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Most common</td>
</tr>
<tr>
<td>Infants younger than 3 months</td>
<td>Fever, Vomiting, Lethargy, Irritability</td>
</tr>
<tr>
<td>Infants and children, 3 months or older Preverbal</td>
<td>Fever, Abdominal pain, Loin tenderness, Vomiting, Poor feeding</td>
</tr>
<tr>
<td>Verbal</td>
<td>Frequency, Dysuria</td>
</tr>
</tbody>
</table>

Acute Management of a UTI
The illness level in infants and children should be assessed in accordance with recommendations in Feverish illness in children (NICE clinical guideline 47).  
Urine testing

Though urgent microscopy and culture (M&C) is the gold standard many of the children that present at the Walk in Centres with symptoms do not always require hospital admission so though a specimen will be sent to the laboratory the results would not be available antibiotic treatment should be started only if the child has symptoms of a UTI and/or the dipsticks confirms.

<table>
<thead>
<tr>
<th>Urine Dipstick</th>
<th>Diagnosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrite and leucocytes positive</td>
<td>UTI – start antibiotic treatment</td>
</tr>
<tr>
<td>Nitrite positive &amp; leucocytes negative</td>
<td>Probable UTI – start antibiotic treatment</td>
</tr>
<tr>
<td>Nitrite negative and leucocytes positive</td>
<td>May or may not be a UTI – start antibiotic treatment only if symptoms of a UTI</td>
</tr>
<tr>
<td>Nitrite and leucocytes negative</td>
<td>UTI excluded – no antibiotic treatment</td>
</tr>
</tbody>
</table>

Management

<table>
<thead>
<tr>
<th>If there is a high risk of serious illness</th>
<th>Arrange urgent referral to paediatric specialist/hospital assess and manage as for feverish child and ABCD</th>
</tr>
</thead>
<tbody>
<tr>
<td>If the infant or young child is less than 6 months old</td>
<td>Arrange urgent referral to paediatric specialist</td>
</tr>
</tbody>
</table>
| If the infant is 6 months or older with acute pyelonephritis / upper urinary tract infection | Consider referral to a paediatric specialist if unwell  
  ● Treat with 7-10 days oral antibiotics                                                   |
| If the infant or child is 6 months or older with cystitis / lower urinary tract infection | Treat as per antimicrobial guidelines.  
http://www.panmerseyapc.nhs.uk/formulary/documents/05-00-00_infections.pdf  
Advise parents that if the child is still unwell after 48 hours they should be reassessed |
**Location of UTI**

<table>
<thead>
<tr>
<th>Symptoms and signs</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacteriuria and a fever of 38°C or higher</td>
<td>Acute pyelonephritis / upper urinary tract infection</td>
</tr>
<tr>
<td>Bacteriuria, loin pain/tenderness and fever of less than 38°C</td>
<td>Acute pyelonephritis / upper urinary tract infection</td>
</tr>
<tr>
<td>Bacteriuria but no systemic features</td>
<td>Cystitis / lower urinary tract infection</td>
</tr>
</tbody>
</table>

**Indications for culture**

The NICE guidelines have a list of indications that would lead a practitioner to send the urine sample to be cultured. As not all practitioners have access to patient’s full medical records, local policy requires all urine samples obtained from children to be sent for culture.

**Follow Up**

- Infants and children who are asymptomatic following an episode of UTI should **NOT** routinely have their urine re-tested for infection
- No routine prophylactic antibiotics
- Encourage to drink and adequate amount
- Address dysfunctional elimination syndromes and constipation

**Referral to secondary care**

Children with an atypical UTI or recurrent UTI should be referred

<table>
<thead>
<tr>
<th>Atypical UTI</th>
<th>Recurrent UTI</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Poor urine flow</td>
<td>• Two or more episodes of UTI with acute pyelonephritis / upper urinary tract infection</td>
</tr>
<tr>
<td>• Failure to respond to treatment with suitable antibiotics within 48 hours</td>
<td>• One episode of UTI with acute pyelonephritis / upper urinary tract infection plus one or more episodes of UTI with cystitis / lower urinary tract infection</td>
</tr>
<tr>
<td>• Infection with non-E coli organisms</td>
<td>• Three or more episodes of UTI with cystitis/lower urinary tract infection</td>
</tr>
</tbody>
</table>
**Limping Child over 1**

http://cks.nice.org.uk/acute-childhood-limp

**Clear diagnosis**

**Unclear diagnosis**

**Exit pathway**

**Manage according To local guidelines**

- Systemically well AND
  - No fever
  - No history of fever
  - Partial or full weight bearing

- Aged less than 8 years

- Provide Limping child advice sheet and discuss contents with parents
- Prescribe regular analgesia
- Discharge and bring back in 48-72 hours for review
- Advise to go to A&E immediately if the child;
  - Becomes unwell
  - Develops a fever
  - Becomes non weight bearing

- Aged over 8 years

- Refer to Alder Hey for X-ray

- Site unclear (ensure hips examined)

- Localised to hip

- Systemically unwell OR
  - History of a fever OR
  - Currently febrile OR
  - Non weight bearing OR
  - Any red flag

- Refer to Alder Hey for a more expert opinion

- **Full history and examination, after adequate analgesia. Examination must include back and abdomen in all patient and genitalia in boys**
Red Flags for a Limping Child

In all cases there are specific markers which raise the suspicion of severe disease and these should be specifically look for in the history and examination.

Non-accidental injury
  - Follow local guidelines

General
  - Systemic upset, non-weight bearing, limping for more than 4 weeks.

Malignancy
  - Night pain, night sweats, pallor, bruising, lymphadenopathy, hepatosplenomegaly, back pain

Haematology
  - Sickle cell disease

Rheumatology
  - Leg length discrepancy, multiple joint involvement

Sepsis
  - Immuno-compromised
  - Severe pain, anxiety, and agitation after a traumatic injury — may indicate an evolving compartment syndrome
Review of Limping Child

Review by an experienced clinician in 48-72 hours

Well AND Improving symptoms AND Improving Signs

Discharge Reinforce Limping child advice sheet

Unwell OR No improvement OR Worsening symptoms OR Worsening signs

Refer to Alder Hey A&E
<table>
<thead>
<tr>
<th>Type of Rash</th>
<th>Characteristics</th>
<th>Other features</th>
<th>Incubation period</th>
<th>Infection period</th>
<th>Risks in Pregnancy</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Measles</strong></td>
<td>Macularpapular</td>
<td>Begins on face</td>
<td>7-18 days</td>
<td>4/7 prior to rash and 4/7 after</td>
<td>Pneumonia in Mothers 0-40 weeks, low birth weight, severe measles in Peri natal period. Advise MMR x 2doses for Mother</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Koplick spots, coryza, cough and conjunctivitis, ill child</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Rubella</strong></td>
<td>Macular</td>
<td>Tiny pink, starts face and trunk works downwards</td>
<td>14-21 days</td>
<td>7 days before and 10 days after rash</td>
<td>&lt; 11/40, 90% 11-16/40 20% can get congenital rubella syndrome 16-20/40 small risk of deafness</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Well child, lymphadenopathy sometimes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Rosella</strong></td>
<td>Macular</td>
<td>Faint pink rash on trunk</td>
<td>5-15 days</td>
<td>In febrile phase but not once rash has appeared</td>
<td>Common childhood illness so most women exposed prior to pregnancy Rarely Possible miscarriage in 1st trimester and foetal deformities late</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rash occurs after fever</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Scarlet fever</strong></td>
<td>Macularpapular</td>
<td>Fine punctate rash with sandpapery feel, followed by peeling</td>
<td>Strawberry tongue, perioral pallor, tonsillitis</td>
<td>12hrs -7 days</td>
<td>12hrs post exposure to 12hrs post fever</td>
</tr>
<tr>
<td><strong>Fifths disease</strong></td>
<td>Macularpapular</td>
<td>‘slapped check appearance ‘lace like rash on arms and face</td>
<td>Well child can last weeks</td>
<td>13-18 days</td>
<td>10 before to onset of rash</td>
</tr>
<tr>
<td><strong>Chicken pox</strong></td>
<td>Vesicular</td>
<td>Occurs in crops on face and trunk Papules, vesicles and crusts are present</td>
<td>Shallow ulcers of the mucous membrane</td>
<td>10-21 /7</td>
<td>48 hours before rash and until all lesions are crusted</td>
</tr>
<tr>
<td><strong>Urticaria</strong></td>
<td>Wheals</td>
<td>Well circumscribed Itchy wheals of different sizes</td>
<td>Rarely accompanied by wheezing or anaphylactic shock</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Eczema Treatment

Treating eczema is like climbing a ladder, only go up when your eczema flares and come down as soon as you can.

**Moisturisers / Emollients**

At least twice a day, every day, especially after a bath. Apply before bath if skin very dry. Always ask for a 500g pot. All but Doublebase + 50/50 can also be used as a soap substitute.

**Bath Additives**

- Dermol 600
- Diprobas
- Doublebase
- Cetraben
- Hydromol
- Oiltatum / Oiltatum plus

**Steroids**

How much? Sparingly to the exact area until the skin glistens. Usually twice a day and try to leave half an hour before you put moisturiser on top.

**Infection**

If the eczema is infected, switch to a red steroid which contains anti-infection ingredients. Consider the use of one of the “red” bath additives. Once improved return to the usual preparations.
Using Steroids Safely

**When and where?**
- Avoid face & flexures. Seldom used in childhood. Restrict to one week only unless on doctors orders.
- Avoid face and flexures. Safe for body. Avoid long term use unless on doctors orders.
- Safe on body and in flexures. Aim for intermittent use.
- Safe in all areas including the face.

**How much?**
- On the exact area until skin glistens.

**Which?**
- Move up if skin worsens. Step down as skin improves. Black - Plain Steroid Red - For use with infection (when weepy or crusted)

**Remember**
- Always combine with emollients. Apply emollient over topical steroid.

**Very Potent**
- Dermovate

**Potent**
- Betnovate
- Betnovate C
- Fucibet
- Elocon
- Synalar

**Moderate**
- Betnovate RD
- Eumovate
- Haelan
- Synalar 1 in 4 Trimovate

**Mild**
- Canestan HC
- Daktacort HC
- Fucidin H
- Hydrocortisone
- Nystaform-HC
- Synalar 1 in 10 Terracortril

Designed by Dr. S Gallard
Abbreviations/ Definitions

Below are general definitions/abbreviations used within the guidelines, any abbreviations relating to specific anatomical sites are listed in the relevant guideline.

For the purpose of these guidelines a child is defined as between 0 - 16th birthday.

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A/C</strong></td>
<td>Acromio-clavicle</td>
</tr>
<tr>
<td><strong>A/E</strong></td>
<td>Accident and Emergency Department</td>
</tr>
<tr>
<td><strong>ABC</strong></td>
<td>Airway, Breathing and Circulation is prioritised at first assessment so that any life threatening situations are addressed</td>
</tr>
<tr>
<td><strong>AHCH</strong></td>
<td>Alder Hey Children’s Hospital</td>
</tr>
<tr>
<td><strong>ATT</strong></td>
<td>Anti-tetanus toxoid</td>
</tr>
<tr>
<td><strong>Ausultation</strong></td>
<td>To listen to the internal sounds of the body, usually using a stethoscope</td>
</tr>
<tr>
<td><strong>AVPU</strong></td>
<td>A system by which a health care professional can measure and record a patient's level of consciousness. It is a simplification of the Glasgow Coma Scale, which assesses a patient response in three measures - Eyes, Voice and Motor skills. Alert, Voice, Pain, Unresponsive</td>
</tr>
<tr>
<td><strong>B/P</strong></td>
<td>Blood pressure</td>
</tr>
<tr>
<td><strong>BAS</strong></td>
<td>Broad arm sling</td>
</tr>
<tr>
<td><strong>Capillary refill</strong></td>
<td>Is the rate at which blood refills empty capillaries. It can be measured by pressing a fingernail until it turns white, and taking note of the time needed for colour to return once the nail is released. Normal refill time is less than 2 seconds</td>
</tr>
<tr>
<td><strong>Cauda Equina Syndrome (CES)</strong></td>
<td>Is a serious neurologic condition in which there is acute loss of function of the neurologic elements (nerve roots) of the spinal canal below the termination (conus) of the spinal cord.</td>
</tr>
<tr>
<td><strong>Children's Hospital Eastern Ontario Pain Scale (CHEOPS)</strong></td>
<td>Recommended for children 1 - 7 years old) - A score greater than 4 indicates pain</td>
</tr>
<tr>
<td><strong>C&amp;S</strong></td>
<td>Culture and Sensitivity</td>
</tr>
<tr>
<td><strong>DIP</strong></td>
<td>Distal Interphalangeal</td>
</tr>
<tr>
<td><strong>Dominant Hand</strong></td>
<td>This is the hand that the patient normally uses, i.e. right or left hand</td>
</tr>
<tr>
<td><strong>ENT</strong></td>
<td>Ear nose and throat</td>
</tr>
<tr>
<td><strong>FB</strong></td>
<td>Foreign body</td>
</tr>
<tr>
<td><strong>GA</strong></td>
<td>General Anaesthetic</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Definition</td>
</tr>
<tr>
<td>------------------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Glasgow Coma Scale (GCS)</td>
<td>A reliable and universally comparable way of recording the conscious state of a person. It is sometimes also known as the Glasgow Coma Score. It is</td>
</tr>
<tr>
<td>GP</td>
<td>General Practitioner</td>
</tr>
<tr>
<td>Guidelines for the Management of Feverish Children</td>
<td>This is guidance provided by NICE for children between the ages of 0-5yrs</td>
</tr>
<tr>
<td>HPC</td>
<td>History of presenting complaint</td>
</tr>
<tr>
<td>Ionising Radiation (Medical Exposure) Regulations 2000</td>
<td>Regulation for the management of radiation services both locally and nationally. All Nurse Practitioners must undertake yearly updates prior to referring patients to x-ray</td>
</tr>
<tr>
<td>L.A.</td>
<td>Local Anaesthetic</td>
</tr>
<tr>
<td>Lymphadenitis</td>
<td>An infection of the lymph nodes (also called lymph glands). It is a common complication of certain bacterial infections</td>
</tr>
<tr>
<td>Manchester Triage Pain Ladder or the Wong/Baker Pain Face Scales</td>
<td>These are visual scales used to assess the patient’s perception of their level of pain. The nurse will select the most appropriate chart for individual patients</td>
</tr>
<tr>
<td>Manchester Triage system</td>
<td>A system that supports the Prioritisation of a Patient’s urgency level on the basis of discriminators embedded in problem-specific flow charts. The triage nurse selects the most suitable flow chart for each presenting problem and uses general and specific discriminators to identify the patient’s acuity.</td>
</tr>
<tr>
<td>MIU</td>
<td>Minor Injury Unit</td>
</tr>
<tr>
<td>NICE</td>
<td>National Institute for Health and Clinical Excellence</td>
</tr>
<tr>
<td>NMC</td>
<td>Nursing and Midwifery Council</td>
</tr>
<tr>
<td>NSAID’s</td>
<td>None steroidal anti-inflammatory drugs. Also a mnemonic for clinical criteria to screen blunt trauma patients</td>
</tr>
<tr>
<td>Nurse Prescriber</td>
<td>Nurses who have completed a nurse / independent prescriber course and have been registered as a prescriber with the NMC.</td>
</tr>
<tr>
<td>NWB</td>
<td>Non weight bearing</td>
</tr>
<tr>
<td>O2</td>
<td>Oxygen</td>
</tr>
<tr>
<td>P</td>
<td>Pulse rate</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Definition</td>
</tr>
<tr>
<td>--------------</td>
<td>------------</td>
</tr>
<tr>
<td>PC</td>
<td>Presenting complaint</td>
</tr>
<tr>
<td>PCT</td>
<td>Primary Care Trust</td>
</tr>
<tr>
<td>PCTC</td>
<td>Primary Care Treatment Centre</td>
</tr>
<tr>
<td>PGD</td>
<td>Patient Group Directives</td>
</tr>
<tr>
<td>PLS</td>
<td>Paediatric Life Support</td>
</tr>
<tr>
<td>QA book:</td>
<td>This is a book that is kept with the blood glucose monitor and when it is calibrated information entered ensures the quality of that individual monitor</td>
</tr>
<tr>
<td>RLBUH</td>
<td>Royal Liverpool &amp; Broadgreen University Hospital</td>
</tr>
<tr>
<td>RLCH</td>
<td>Royal Liverpool Children’s Hospital</td>
</tr>
<tr>
<td>R/V</td>
<td>Review</td>
</tr>
<tr>
<td>RICE</td>
<td>Rest, Ice, Compression and Elevation</td>
</tr>
<tr>
<td>RR</td>
<td>Respiratory Rate</td>
</tr>
<tr>
<td>RSV</td>
<td>Respiratory Syncytial Virus</td>
</tr>
<tr>
<td>Sa02</td>
<td>Oxygen saturation level should also state whether this is in air or whether the patient is on oxygen</td>
</tr>
<tr>
<td>Sciatica</td>
<td>Pain and sensations of tingling that are felt in the buttock that may radiate through the back of the thigh to below the knee (and in some cases to the foot) in the distribution of the sciatic nerve</td>
</tr>
<tr>
<td>Stud Collar Abscess</td>
<td>Type of web space infection that gives appearance of a stud in a collar and involves both palmar and dorsal sides of the web spaces</td>
</tr>
<tr>
<td>Subungual hematoma</td>
<td>A collection of blood beneath a finger or toenail</td>
</tr>
<tr>
<td>Temp</td>
<td>Temperature record should also state whether axillary / tympanic axillary temperature should be done on children 0-4 weeks.</td>
</tr>
<tr>
<td>Triage</td>
<td>The process of prioritising patients based on the severity of their condition. The term comes from the French verb <em>Trier</em>, meaning to separate, sort, sift or select</td>
</tr>
<tr>
<td>URTI</td>
<td>Upper Respiratory Tract Infection</td>
</tr>
<tr>
<td>UTI</td>
<td>Urinary Tract Infection</td>
</tr>
<tr>
<td>WIC</td>
<td>Walk-in Centre</td>
</tr>
<tr>
<td>5th</td>
<td>Fifth</td>
</tr>
<tr>
<td>&lt;</td>
<td>Less than</td>
</tr>
<tr>
<td>&gt;</td>
<td>Greater than</td>
</tr>
<tr>
<td>-ve</td>
<td>Negative</td>
</tr>
<tr>
<td>+ve</td>
<td>Positive</td>
</tr>
<tr>
<td>.../24</td>
<td>Number of hours e.g. 7/24 = 7 hours</td>
</tr>
<tr>
<td>.../7</td>
<td>Number of days e.g. 2/7 = 2 days</td>
</tr>
<tr>
<td>.../52</td>
<td>Number of weeks e.g. 6/52 = 6 weeks</td>
</tr>
<tr>
<td>.../12</td>
<td>Number of months e.g. 5/12 = 5 months</td>
</tr>
<tr>
<td>.../40</td>
<td>Number of weeks pregnant e.g. 15/40 15 weeks pregnant</td>
</tr>
</tbody>
</table>
## References

There are also references within each section with links. All web links accessed between December 2015-January 2016

<table>
<thead>
<tr>
<th>Section</th>
<th>References</th>
</tr>
</thead>
</table>
                        • http://patient.info/doctor/history-and-physical-examination  
| Head Injuries         | • https://www.nice.org.uk/guidance/cg176                                                            |
| Neck Injury           | • RLUH integrated Care Pathway for the treatment and management of neck injuries (not date checked 2009 at Minor Injuries Unit Joint Meeting May)  
                        • http://secure.rcem.ac.uk/code/document.asp?ID=5718  
                        • http://cks.nice.org.uk/neck-pain-whiplash-injury  
                        • http://www.racgp.org.au/afp/2012/april/cervical-spine/  
                        • http://patient.info/health/nonspecific-neck-pain  
                        • http://patient.info/doctor/neck-pain-cervicalgia-and-torticollis |
| Injury to nose        | • http://patient.info/doctor/nasal-injury-and-nasal-foreign-bodies                                   |
| Facial Fractures      | • http://patient.info/doctor/maxillofacial-injuries  
                        • https://www.nice.org.uk/guidance/cg176  
                        • http://www.sign.ac.uk/pdf/sign110.pdf |
| Humerus Injury        | • http://patient.info/doctor/fractured-humerus  
| Elbow Fractures       | • http://patient.info/doctor/elbow-injuries-and-fractures  
                        • http://emedicine.medscape.com/article/824654-overview |
| Forearm Fractures     | • http://emedicine.medscape.com/article/1239187-treatment  
                        • http://patient.info/doctor/radial-head-subluxation |
| Swallowed Foreign Bodies Child | • http://patient.info/doctor/swallowed-foreign-bodies  
                         • Royal Liverpool Children’s Hospital – Protocol Procedure and Training Package April 2004 |
| Insect bites and sting| • http://www.nhs.uk/Livewell/bites-and-stings/Pages/insects-bugs-that-bite-sting.aspx  
                        • http://patient.info/health/insect-bites-and-stings-leaflet |
<table>
<thead>
<tr>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Knee Injury</strong></td>
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<tr>
<td><strong>Mental Health</strong></td>
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<td><strong>Ankle Injuries</strong></td>
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<td><strong>Ingrown Toenails</strong></td>
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<td><strong>Fever in Child</strong></td>
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<tr>
<td>References</td>
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<tr>
<td>Impetigo</td>
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<td></td>
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<tr>
<td>Otitis Externa</td>
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</table>
| References | The College of Emergency Medicine London  
|---|---|
www.nice.org.uk |
| Lower Back Pain | http://cks.nice.org.uk/back-pain-low-without-radiculopathy  
## NICE Guidelines

It is recommended that these links are used in conjunctions with the latest NICE pathways found within the document or on line within the NICE web site.

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Minor Burns and Scalds

Skin Closure Methods

Classification of skin tears

Acute Wound cleansing / debriding

Aseptic technique

Bruising or Black Eye (Ecchymosis)

Hyphaema

Subungual haematomas

Septal hematomas

Auricular hematoma

Acute Wound cleansing / debriding ...

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