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CLINICAL EFFECTIVENESS COMMITTEE

Clinical Standards for Emergency Departments

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Introduction

These clinical standards for Emergency Departments (EDs) have been produced by the Clinical Effectiveness Committee of the College of Emergency Medicine. The standards are developed by consensus from emergency physicians with relevant expertise and with input from other relevant stakeholders. The standards are reviewed annually.

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Chair, Standards & Audit subcommittee, CEM

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Excellence in Emergency Care

Advanced Life Support*

**Currently under review*

Standards

1. A senior doctor with appropriate experience should be available within 10 minutes of arrival to manage cardiac arrest cases along ALS / APLS / EPLS principals
2. Multidisciplinary audit should be performed at least every 4 months
3. A specific documentation sheet for the management of cardiac arrest patients should be used in all departments.

Standards

A) Life threatening asthma

1. Evidence in the notes that Oxygen was being given on arrival
2. Evidence in the notes that senior EM / ICU / PICU help was summoned if any life threatening features were present
3. Salbutamol 5mg or terbutaline 5 – 10mg + ipratropium 0.5mg by nebuliser or salbutamol 250 microgram (5 mcg/kg) intravenously given within 5 minutes of arrival in adults. Salbutamol 2.5mg or terbutaline 5mg + ipratropium 0.25mg given by spacer or nebuliser within 5 minutes of arrival in children
4. In 98% of cases documented evidence of pulse rate, respiratory rate and oxygen saturation measured on arrival
5. In 90% of cases pulse rate, respiratory rate and oxygen saturation repeated within 15 minutes arrival
6. CXR performed
7. IV hydrocortisone 100mg or oral prednisone 40-50mg given within 30 minutes of arrival in adults. IV hydrocortisone 100mg (50 mg if 2 – 5 years) or oral prednisone 30 - 40mg (20mg if 2 – 5 years) given within 30 minutes of arrival in children
8. In patient transferred to ITU / PICU they should be accompanied by suitable resuscitation and airway equipment and a doctor who is able to intubate the patient if necessary.

B) Moderate / Severe asthma

1. Evidence in the notes that Oxygen was being given on arrival
2. Salbutamol 5mg or terbutaline 5 - 10mg given by nebuliser within 10 minutes of arrival in adults. Salbutamol 2.5mg or terbutaline 5mg by nebuliser or Beta₂ agonist 2 – 10 puffs via spacer device given within 10 minutes of arrival in children
3. 98% documented evidence of peak flow, pulse rate, respiratory rate and oxygen saturation measured on arrival
4. 75% of cases peak flow, pulse rate, respiratory rate and oxygen saturation repeated within 1 hour of arrival
5. 90% of cases IV hydrocortisone 100mg or oral prednisone 30-50mg (20mg if 2 – 5 years) given within 30 minutes of arrival
6. 90% of discharged adult patients should have oral prednisolone 30 – 50mg for 5 days
7. 90% of discharged paediatric patients should have oral prednisolone 20mg (2 – 5 years) or 30 – 40 mg (over 5 years) for 3 days
8. 90% of cases GP or clinic follow up arranged according to local policy for discharged patients.

Dislocated Shoulder

Standards

1. Patients in severe pain (pain score 7 to 10) should receive appropriate analgesia, according to local guidelines,
 - 50% within 20 mins of arrival or triage whichever is the earliest
 - 75% within 30 mins of arrival or triage whichever is the earliest
 - 98% within 60 mins of arrival or triage whichever is the earliest
2. Patients with moderate pain (pain score 4 to 6) should be offered or receive analgesia, according to local guidelines,
 - 75% within 30 mins of arrival or triage whichever is the earliest
 - 90% within 60 mins of arrival or triage whichever is the earliest
3. 90% of patients with severe pain should have documented evidence of re-evaluation and action within 60 minutes of receiving the first dose of analgesic
4. 75% of patients with moderate pain should have documented evidence of re-evaluation and action within 60 minutes of receiving the first dose of analgesic
5. If analgesia is not prescribed and the patient has moderate or severe pain the reason should be documented in the notes
6. 75% of patients should have an X-ray within 60 minutes of arrival or triage whichever is the earliest
7. In 75% of cases 1st attempt at reduction should be within 2 hours and 90% within 3 hours of arrival.

Feverish Children

Introduction

- These standards are derived from the NICE guideline "Feverish illness in children: Assessment and initial management in children younger than 5 years"¹, which provides a tool to risk assess feverish children for serious bacterial illness
- The Traffic Light System² is recommended for use in EDs
- An adequate 'safety net' is defined as
 - a) providing the parent or carer with verbal and/or written advice on warning symptoms and how further care can be accessed or
 - b) the parent or carer is given follow up at a specific time and place or
 - c) ensuring direct access for the patient if further assessment is required.

Standards

1. Children presenting to Emergency Departments (EDs) with medical conditions should have respiratory rate, oxygen saturation, pulse, blood pressure/capillary refill, GCS/AVPU and temperature measured and recorded as part of the routine assessment
2. Discharged children in whom no diagnosis is found and with amber features, as defined in the NICE guideline, should be provided with an appropriate 'safety net'
3. 90% of children with amber features and without an apparent source of infection should not be prescribed antibiotics
4. Children with fever and without an apparent source of infection but with one or more red features should have FBC, CRP, blood culture and urinalysis performed
5. EDs should have written advice to give to the carer/s of discharged children
6. EDs should have access to the NICE guideline Traffic Light System.

References

1. *Feverish illness in children - Assessment and initial management in children younger than 5 years*, National Collaborating Centre for Women's and Children's Health (Commissioned by the National Institute for Health and Clinical Excellence), NICE CG47, May 2007
2. Page 16, NICE CG47: *Feverish Illness in Children*

Fractured Neck of Femur

Standards

1. Patients in severe pain (pain score 7 to 10) should receive appropriate analgesia, according to local guidelines,
 - 50% within 20 mins of arrival or triage whichever is the earliest
 - 75% within 30 mins of arrival or triage whichever is the earliest
 - 98% within 60 mins of arrival or triage whichever is the earliest
 2. Patients with moderate pain (pain score 4 to 6) should be offered or receive analgesia, according to local guidelines,
 - 75% within 30 mins of arrival or triage whichever is the earliest
 - 90% within 60 mins of arrival or triage whichever is the earliest
 3. 90% of patients with severe pain should have documented evidence of re-evaluation and action within 60 minutes of receiving the first dose of analgesic
 4. 75% of patients with moderate pain should have documented evidence of re-evaluation and action within 60 minutes of receiving the first dose of analgesic
 5. If analgesia is not prescribed and the patient has moderate or severe pain the reason should be documented in the notes
 6. 75% of patients should have an X-ray within 60 minutes of arrival or triage whichever is the earliest
- 98% of patients should be admitted within 4 hours of arrival.

Head Injury in Adults

Standards

1. 100% patients presenting with head injury should be assessed for features of high risk brain and/or cervical spine injury by an ED clinician within 15 minutes of triage or arrival, whichever is the earlier
2. 90% of discharged patients should receive written head injury advice
3. 90% patients re-attending within 48 hours with symptoms relating to the initial head injury should be seen by or discussed with a senior clinician experienced in head injury management
4. 90% of CT imaging should be performed within 1 hour of the request having been received by the radiology department or within 1 hour of the mutually agreed time for the scan to be performed
5. 90% of CT imaging should be reported by an appropriately qualified person within 1 hour of the scan having been completed
6. 100% of cases where a request for urgent CT head is received if GCS is less than 13 a CT of the cervical spine should be done at the same time
7. 100% of EDs should have clear, agreed and written protocols in place for referral and transfer to a neurosurgical centre
8. The observations required on patients admitted for head injury observation should be GCS, pupil size and reactivity, limb movements, respiratory rate, heart rate, and blood pressure
9. 90% of head injuries with GCS < 15 should have the above observations recorded every 30 minutes until GCS is 15
10. For 90% of admitted patients the minimum frequency of observations should be:
 - half-hourly for 2 hours,
 - then 1 hourly for 4 hours,
 - then 2 hourly thereafter.

Major Trauma

Standards

1. A senior doctor with appropriate experience should be available within 10 minutes of arrival to manage major trauma cases along ATLS / APLS principals
2. Multidisciplinary audit should be performed at least every 4 months
3. All hospitals receiving major trauma patients should have a specific documentation sheet for the management of the seriously injured patient.

Myocardial Infarction

Standards

- | | |
|------------------------|------------------------------|
| 1. Call to Needle time | 60 minutes |
| 2. Door to ECG | 10 minutes (90%) |
| 3. Door to Needle | 30 minutes (75%) |
| 4. Call to Needle | 60 minutes (75%) |
| 5. Aspirin given | 90% (if not contraindicated) |

Pain

Standards

1. Patients in severe pain (pain score 7 to 10) should receive appropriate analgesia, according to local guidelines,
 - 50% within 20 mins of arrival or triage whichever is the earliest
 - 75% within 30 mins of arrival or triage whichever is the earliest
 - 98% within 60 mins of arrival or triage whichever is the earliest
2. Patients with moderate pain (pain score 4 to 6) should be offered or receive analgesia, according to local guidelines,
 - 75% within 30 mins of arrival or triage whichever is the earliest
 - 90% within 60 mins of arrival or triage whichever is the earliest
3. 90% of patients with severe pain should have documented evidence of re-evaluation and action within 60 minutes of receiving the first dose of analgesic
4. 75% of patients with moderate pain should have documented evidence of re-evaluation and action within 60 minutes of receiving the first dose of analgesic
5. If analgesia is not prescribed and the patient has moderate or severe pain the reason should be documented in the notes.

Paracetamol Overdose

Standards

1. Patients should not have plasma levels measured earlier than 4 hours after the estimated ingestion time
2. Staggered overdoses. Treatment started within one hour of arrival
3. Patients arriving < 8 hours after ingestion. Treatment given appropriately as judged by presentation time and the treatment guidelines from National Poisons Information Service 2003
4. Patients arriving 8 to 24 hours after ingestion. Treatment started before blood results available if there is a clear history of > 12 g ingestion (or 150 mg/kg whichever is the smaller)
5. Patients presenting > 24 hours. INR, urea and electrolytes, bicarbonate & LFTs performed.

Pneumothorax in Adults

Definitions

- **Primary pneumothorax** occurs in patients who have no clinically apparent lung disorder
- **Secondary pneumothorax** occurs in patients with an underlying pulmonary disease, most commonly chronic obstructive pulmonary disease (COPD)
- **Small pneumothorax:** presence of a visible rim of <2 cm between the lung margin and the chest wall
- **Large pneumothorax** presence of a visible rim of >2 cm between the lung margin and the chest wall.

General Standards

1. 90% of patients should be followed up according to local policy (but within two weeks)
2. 90% of patients should be given written advice on discharge
3. 100% Patients should be referred to a respiratory physician if they fail to respond to treatment within 48 hours as an inpatient.

Standards

A) Primary Spontaneous pneumothorax - minimal symptoms

Small pneumothorax

1. Simple chest aspiration should not be performed.

Large pneumothorax

1. 100% of patients should be treated with simple aspiration
2. 100% of patients should have a repeat CXR before discharge.

B) Primary Spontaneous pneumothorax - symptomatic

1. 100% of patients should be treated with simple chest aspiration
2. 100% of patients should have an intercostal drain if aspiration fails
3. 90% of patients should have an intercostal drain of < 14 Gauge.

C) Secondary pneumothorax - minimal symptoms

1. 100% of patients should be hospitalized
2. 100% of patients treated successfully with simple aspiration should be admitted to hospital and observed for at least 24 hours
3. 90% of patients with secondary pneumothorax > or = 2cm depth should have an intercostal drain.

D) Secondary pneumothorax - symptomatic

1. 100% of patients should be hospitalized
2. 100% should have an intercostal drain before leaving the ED.

Standards

1. The Emergency Department (ED) should have a clear and transparent system of monitoring, recording and following up 'missed' X-rays and actions taken
2. Appropriate action should be taken by the ED within 24 hours of receiving the report
3. Films should be reported by the imaging department within 48 hours.

Recording of Adult Vital Signs in the Majors and Resuscitation Areas of the Emergency Department

These standards have been developed in conjunction with the following organisations:



Standards

1. Patients triaged to the majors or resuscitation areas of the ED should have respiratory rate, oxygen saturation, pulse, blood pressure, GCS or AVPU score and temperature measured and recorded in the notes within 20 minutes of arrival or triage, whichever is the earliest
2. Patients with abnormal vital signs, according to local guidelines or as defined below, should have their vital signs repeated and recorded in the notes within 60 minutes of the first set of observations

The following criteria may be used to define abnormal vital signs in adults which should be acted on:

- a) Respiratory rate < 10 **or** > 20 per min
 - b) Oxygen saturation < 92%
 - c) Pulse < 60 **or** > 100
 - d) Systolic blood pressure < 100 **or** > 180
 - e) GCS < 15 or less than Alert on AVPU
 - f) Temperature < 35 **or** > 38
 - g) MEWS score ≥ 2 = "abnormal parameters"
3. Abnormal vital signs should be communicated to the nurse in charge of that clinical area and documented in the notes
 4. There should be documented evidence that appropriate action was taken.

Standards

1. Patients should have their pain score recorded
2. Patients in severe pain (pain score 7 to 10) should be offered or receive appropriate analgesia, according to local guidelines:
 - 50% within 20 min of arrival or triage whichever is the earliest
 - 75% within 30 min of arrival or triage whichever is the earliest
 - 98% within 60 min of arrival or triage whichever is the earliest
3. Patients with moderate pain (pain score 4 to 6) should be offered or receive analgesia, according to local guidelines,
 - 75% within 30 min of arrival or triage whichever is the earliest
 - 90% within 60 min of arrival or triage whichever is the earliest
4. 90% of patients with severe pain should have documented evidence of re-evaluation and action within 60 minutes of receiving the first dose of analgesic
5. 75% of patients with moderate pain should have documented evidence of re-evaluation and action within 60 minutes of receiving the first dose of analgesic
6. If analgesia is not prescribed and the patient has moderate or severe pain the reason should be documented in the notes
7. Patients should have a dipstick urinalysis performed and the result recorded in the notes
8. Patients should be considered for a locally agreed radiological investigation¹, with the action plan documented in the notes
9. Patients should have FBC & renal function performed and the result recorded in the notes before discharge
10. Patients over 60 should have AAA excluded by appropriate investigation
11. Outpatient review, GP follow up or speciality referral should be made in accordance with local policy.

¹ This should be the radiological investigation normally performed as per local guidelines. The College considers CTKUB to be best practice for radiological investigations of renal colic

Retention of Urine

Standards

1. Analgesia should be administered according to CEM pain standards
2. 90% of patients catheterised within 1 hour of arrival
3. 98% of patients catheterised within 2 hours of arrival
4. Aseptic technique employed
5. Antibiotic prescribed according to local guideline before leaving the department.
6. Size 16 or less Fr used for primary retention
7. Residual volume recorded in the notes
8. Renal function measured and recorded in the notes
9. Outpatient review or speciality referral made in accordance with local policy.

Safeguarding Children

Definitions

- Long bone fracture = humerus, radius, ulna, femur, tibia & fibula (long bone fracture does not include elbow, wrist, knee or ankle)
- 'Red' patients should be referred directly for senior Paediatric opinion
'Yellow' patients should have a senior EM opinion and then be referred to the ED Liaison Health Visitor the next working day
- Senior opinion is ST 4 and above
- 'Frequent attender' = a child who has attended more than 3 times in the past year with different conditions.

Standards

1. 100% of EDs should have access to a senior Paediatric and senior EM opinion 24 hours a day for child welfare issues
2. 100% of EDs should have an IT system, which identifies previous attendances in the last 12 months, which is visible on ED notes
3. 95% of children who have attended more than 3 times in the past year, with different conditions, should be notified to the local safeguarding children board (or other suitable body as identified by local guidelines) within 5 days of attendance
4. 95% of patients <16 years of age presenting to Emergency Departments should be notified to both the General Practitioner and the local safeguarding children board (or other suitable body as identified by local guidelines) within 5 days of attendance
5. 90% of skull or long bone fractures in children < 1 year old should be discussed with senior Paediatric or senior EM doctor during their ED attendance
6. Evidence in 90% of notes of trauma cases in children < 5 years old that NAI was considered
7. 90% of ED medical and nursing staff who regularly care for children should have Level 2 CP training.

Severe Sepsis and Septic Shock in Adults

Standards

1. In 95% of cases documented evidence in the notes of temperature, pulse rate, respiratory rate, blood pressure, mental status (AVPU or GCS) and capillary blood glucose on arrival
2. In 95% of cases documented evidence in the notes that senior EM / ICU help was summoned
3. In 95% of cases documented evidence in the notes that high flow O₂ via non-re-breathe mask was initiated (unless there is a documented reason to the contrary) prior to leaving the Emergency Department (ED)
4. In 95% cases documented evidence that serum lactate measurement obtained prior to leaving the ED
5. In 95% of cases documented evidence that blood cultures were obtained prior to leaving the ED.
6. Fluids - documented evidence that first intravenous crystalloid fluid bolus (up to 20mls/kg) was given:
 - In 75% of cases within 1 hour of arrival
 - In 90% of cases within 2 hours of arrival
 - In 100% cases prior to leaving the ED
7. Antibiotics - documented evidence that antibiotics were administered
 - In 50% of cases within 1 hour of arrival
 - In 90% of cases within 2 hours of arrival
 - In 100% cases prior to leaving the ED
8. In 90% of cases documented evidence that urine output measurements were instituted prior to leaving the ED.