Observation & Monitoring in Adult Emergency Department (AED) and Clinical Decision Unit (CDU)

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• Department(s)	Adult Emergency Department (AED) and Clinical Decision Unit (CDU)
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• Used by which staff?	All clinicians in AED and nurses in CDU
• Excluded	
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1. Purpose of guideline

The purpose of this guideline is to facilitate the safe and effective care of a patient, through appropriate vital sign recordings, in the Adult Emergency Department (AED) and Clinical Decision Unit (CDU) within Auckland District Health Board (Auckland DHB).

2. Guideline management principles and goals

Recording of a patient's vital signs in the AED and CDU requires critical thinking and excellent clinical practice. The types of vital signs taken in the AED and CDU are determined by the patient's presentation. Both the patients' early warning score (EWS) and critical thinking should drive the increase and frequency of vital signs. If any doubt or concerns arise around a patient's vital signs, action to be taken as per EWS mandatory escalation pathway. Medico-legal documentation must be completed on every occasion, initially on the Admission to Discharge planner (CR9074) part A assessment then transcribed over to the Adult vital signs chart (CR5826) and EWS totalled. The totalled EWS score is to be updated following each set of vital signs on the CHiPS whiteboard under the EWS column. This guideline does not supersede the monitoring requirements during the following situations (see Associated documents).

- Blood product administration
- Administration of opioids
- Patient controlled intravenous analgesia (PCIA) administration.

3. Definitions

Term	Definition
BP	Blood pressure
BSL	Blood sugar level - expected in some presentations
CCN	Clinical Charge Nurse
CHiPS	An integrated content management system (CMS)
CRM	Cardiac rhythm monitoring
EtCO2	End tidal carbon dioxide
EWS	Early warning score
HR	Heart rate
MEWS	Maternity early warning score
Pain score	A numerical scale 0 = no pain through to 10 being the worst pain
RR	Respiratory rate
SMO	Senior Medical Officer
SpO2	Oxygen saturation
Vital sign recordings	For the purpose of this guideline include the recordings of Neurological observations, measuring Glasgow Coma Scale (GCS), including pupils and limb movement and strength

3.1 Abnormal physiology

This table describes the recommended process for managing a patient with abnormal physiology.

Staff members involved	Action
Nursing	• Repeat observations as per EWS or MEWS escalation policy and in accordance with the vital sign guidelines found in the following sections of this document. • Inform doctor and CCN as soon as possible. • In CDU nurse should inform admitting Registrar and CCN as soon as possible and consider calling code red or blue. • Consider moving to a monitored bed space or if in AED to resuscitation consider calling a 777 medical or surgical emergency.

Medical	• Review the patient as per EWS or MEWS escalation policy and below vital sign guidelines according to presentation.
	• Start basic resuscitation if not already in place.
	• Consider moving to resuscitation (if in AED) or cardiac rhythm monitoring areas.
	• Attend to the potential underlying cause.
	• Discuss with SMO (24-hours) if diagnosis unclear.
	• If no improvement or deterioration with initial treatment, no clear plan for further management within one hour of initial review:
	  ○ If the patient is in AED ask for AED senior doctor review or consider calling 777 medical or surgical emergency;
	  ○ If the patient is in in CDU consider calling a 777 code red or blue.
	• Record definitive plan and relevant referrals (time and date and who)

4. Resuscitation process

A resuscitation patient must have baseline recordings: temperature (T), blood pressure (BP), heart rate (HR), respiratory rate (RR), oxygen saturation (SpO2), End-tidal carbon dioxide (ETCo2) (if in use), pain score, blood sugar level (BSL), Glasgow Coma Scale (GCS) neurological observations and be placed on cardiac monitoring. Recordings must be repeated initially every 5-15 minutes in the first 30-60minutes to identify a trend, then every 15-30 minutes only if the clinical condition dictates.

5. A patient that is cardiac monitored (excluding a resuscitation patient)

A cardiac monitored patient must have baseline recordings: T, BP, HR, RR, SpO2, pain score, neurological observations and placed on cardiac monitoring. Recordings are to be repeated initially every 15 minutes in the first 30 minutes to identify a trend then half hourly as the patient's condition dictates.

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6. An acute patient

An acute patient must have baseline recordings: T, HR, BP, RR, SpO2, pain score, including a full set of neurological observations. An expectation would be at least every one to two hourly initially until a differential diagnosis is established or as EWS escalation action points dictate.

6.1 A patient with a head injury

A head injured patient must have baseline recordings as follows:

- Temperature, HR, BP, RR, SpO2, pain score and a full set of neurological observations including pupil size and reactivity.
- Those who have had a loss of consciousness (LOC) or who are showing clinical signs of a head injury (irritability, disorientation, lower GCS), must have vital signs as above, including neurological observations, repeated every 30 minutes for four hours, then every one to two hourly thereafter, or as condition dictates.
- Abbreviated Westmead's Post-traumatic Amnesia Scale (WPTAS) scoring must be commenced if GCS 13-15/15 or <24hrs from injury. If ethanol alcohol (ETOH) is a component, the WPTAS scoring must be commenced only if the patient's level of social interaction allows.
- Those who are fully alert and orientated without having had a loss of consciousness, must have recordings repeated every one hour, including neurological observations after the baseline recordings, after which an expectation of at least two hourly would be maintained depending on clinical findings and discussion with senior nurse or doctor.

6.2 A patient with abdominal pain

A patient with abdominal pain must have baseline recordings: T, HR, BP, RR, SpO2, pain score including an initial set of neurological observations and BSL. Vital signs must be repeated at least two hourly in the acute phase until diagnosis or as EWS escalation action points dictate. It is essential to record vital signs at time of discharge.

6.3 A patient with a respiratory condition

A patient with a respiratory condition must have baseline recordings: T, HR, BP, RR, SpO2, pain score and an initial set of neurological observations. An asthmatic must have a baseline peak expiratory flow rate (PEFR) on admission and during treatment as per Asthma pathway – AED (see Associated documents). Vital sign recordings should be repeated half-hourly to one hourly or as EWS dictates, with a minimum of two hourly until admission or discharge.

6.4 A patient with no definitive diagnosis

A patient with no definitive diagnosis must have baseline recordings T, HR, BP, RR, SpO2, neurological observations, BSL and pain score. Repeat observations are expected at least two hourly or as EWS dictates until definitive diagnosis. Continuation of and frequency must be determined by patient improvement or deterioration.

6.5 A toxicology patient

A toxicology patient must have baseline recordings: T, HR, BP, RR, SpO2, pain score, a full set of neurological observations including BSL and electrocardiogram (ECG). Recordings must be one to two hourly until unknown pharmacological factors are identified and are managed.

Refer QT Prolongation Monitoring and Management – Adult Emergency Department for further information regarding an overdose or supratherapeutic ingestion of a medication that has the potential to prolong the QT interval (see Associated documents).

7. A patient in the waiting room or ambulatory care

A patient triaged to the waiting room or ambulatory care can be emerging unwell and it is imperative that a waiting room and ambulatory patient has at the least one full set of initial baseline recordings: BP, HR, RR, T, SpO2, pain score and GCS. Except for obvious minor injuries and complaints, a patient can become unwell while in the waiting room, and therefore it is important to be aware that waiting room and ambulatory care patients require their vital signs re-recorded at varying intervals but no longer than two to four hourly or within one hour of discharge.

8. Transferring a patient

Prior to transfer to a ward, theatre, other DHB or area, a minimum of one set of observations must be recorded on the Adult vital signs chart (CR5826) and appropriate action taken before the patient leaves AED/CDU. If the EWS score is six or greater, the patient must have a medical review or discussion and appropriate action taken as per EWS action points and a plan in place for the receiving area.

Note: It is important and expected that EVERY patient has their vital signs recorded at the time of or within one hour of discharge. Only those with minor injuries are exempt.

9. Supporting evidence

- Hosking, J., Considine, J., & Sands, N. (2014). Recognising clinical deterioration in emergency department patients. Australasian emergency nursing journal, 17(2), 59-67.
- Australasian College for Emergency Medicine (ACEM) (2000). Guidelines on the implementation of the Australasian Triage Scale in Emergency Departments. Retrieved January 16, 2020: https://acem.org.au/getmedia/51dc74f7-9ff0-42ce-872a-0437f3db640a/G24_04_Guidelines_on_Implementation_of_ATS_Jul-16.aspx

10. Associated documents

- Asthma Pathway – AED Nurse Initiated
- Blood Product Administration in Adults & Children
- Blood Products and Blood Components Administration
- Observation & Monitoring of an Adult
- Opioid Index Guideline - Adult
- Pain – Opioids – Intravenous in Adults
- Patient Controlled Intravenous Analgesia (PCIA) – Adult
- QT Prolongation Monitoring and Management – Adult Emergency Department

Clinical Forms

- CR5468: Pressure Injury Needs Assessment and Care Plan
- CR5825: Maternity Vital Signs Chart (MEWS)
- CR9074: Admission to Discharge planner part A
- CR9077: Admission to Discharge Planner Part B
- CR5826: Adult vital signs chart

11. Disclaimer

No guideline can cover all variations required for specific circumstances. It is the responsibility of the health care practitioners using this Auckland DHB guideline to adapt it for safe use within their own institution, recognise the need for specialist help, and call for it without delay, when an individual patient falls outside of the boundaries of this guideline.

12. Corrections and amendments

The next scheduled review of this document is as per the document classification table (page 1). However, if the reader notices any errors or believes that the document should be reviewed ***before*** the scheduled date, they should contact the owner or Document Control without delay.