

CLINICAL PROCEDURE

PAEDIATRIC OBSERVATIONS

Purpose:

To facilitate timely recognition of paediatric patients when their conditions is progressively or suddenly deteriorating. To provide direction on clinical observations in childrens.

Target audience:

All staff

Definitions:

VICTOR – Victorian Children’s Tool for Observation and Response

Procedure:

The VICTOR observation charts are to be utilized for all paediatric patients (under 18 years) presenting to the Urgent Care Centre or admitted to the acute ward. Staff must follow the instructions on the chart regarding completion of the chart and complete a full set of observations on al paediatric patients on presentation to urgent care.

The Victorian Children’s Tool for Observation and Response (ViCTOR) charts are a set of 5 age-specific ‘track and trigger’ paediatric observation charts for use in Victorian hospitals, and are designed to assist in recognising and responding to clinical deterioration in children.

An age appropriate ViCTOR chart must be used for all inpatients at CDH. The charts are available for the following 5 age groups: less than 3 months, 3 to 12 months, 1 to 4 years, 5 to 11 years and 12 to 18 years.

These ‘track and trigger’ charts mandate a response by the clinician once the patient’s observations reach a designated ‘zone’. Concerning changes in any one observation, or vital sign, are indicated by two coloured zones (Orange and Purple). If a child’s observation transgresses the Orange or Purple zone an escalation of care response is triggered. The type and urgency of the escalation response depends on the degree of clinical abnormality.

Observation Charts

Ensure the correct ‘age-appropriate’ observation chart is used. In addition, ensure that observations are entered onto the correct chart by identifying the patient and their chart. The patient label is placed on the front of the chart and the patients’ surname, given name, and UR number must be written on the inside page (observations page).

The child’s actual age and weight are to be recorded at the top of the chart.

Coloured zones

There are 3 distinct coloured 'zones' within the ViCTOR charts.

The White zone is considered the 'acceptable zone'. That is, most patients trending in this area are considered to have acceptable age-related vital signs (Normal Ranges for Physiological Variables.) Nevertheless, it is important to be vigilant – for example, a heart rate that is steadily rising in this White zone should trigger attention before crossing into the Orange zone.

The Orange zone is the first zone to signal that the patient may be deteriorating. It triggers the clinician to escalate care to the AHM (at a minimum) to decide if a medical review or other emergency response is required.

The Purple zone is the second and more concerning trigger and signals that the patient may be deteriorating or is seriously ill. If the patient is in the Purple zone, an emergency call must be initiated.

Appropriate escalation of care must occur as per the Deteriorating Patient: Escalation of Care flow chart and the Medical Emergency Response Procedure.

Remember, regardless of what zone the patient is in, if a staff member or parent is very worried about the child's clinical state, initiate an emergency response.

See Appendix 1 for details on VICTOR charts.

Observations

A full set of vital signs includes heart rate, respiratory rate, respiratory distress, conscious state, oxygen saturations, blood pressure, pain score, temperature.

Blood pressure must be recorded at least once per admission

A minimum of hourly observations is required for children in Urgent Care.

A minimum of four hourly observations is required for paediatric inpatients, including overnight.

Refer to Paediatric Escalation for details of escalation response at CDH. The escalation response differs from the escalation documented on the VICTOR charts.

Audits on paediatric observation charts and escalation will occur quarterly as per the audit schedule and be reported to improving care and clinical governance committees.

Author/ contributors:

Name	Position	Service / Program

Endorsed by:

Cobram District Health's Improving Performance Committee

Key Legislation , Acts & Standards:

References / Supporting Documents:

Responsible for Review:

Risk

RISK	REVIEW PERIOD

Appendix 1. Completing the VICTOR observation chart

O2 Saturation and oxygen delivery

Haemoglobin-oxygen saturations (SpO2) should be written numerically in the allocated box.

Oxygen delivery refers to the flow (L/min) or percentage (%) of oxygen that the patient is receiving. If no oxygen is given, write 'RA' (room air).

The device used to deliver oxygen should be noted as follows:

Nasal prongs (NP)

Hudson Mask (HM)

Humidified Nasal Prongs (HNP)

High Flow Nasal Prongs (HFNP)

Non-rebreather mask (NRM)

Tracheostomy (T)

For children on continuous pulse oximetry monitoring, the saturation probe site should normally be re-sited every 4 hours for infants <1year (2 hourly may be necessary for some infants) and 4-6 hourly for >1year. This should be indicated on the chart.

Respiratory rate and pulse rate

Respiratory rate and pulse rate (and all remaining observations, except BP) must be indicated on the chart by plotting a dot and joining consecutive observations with a line. In order to enhance the identification of trends in vital signs, numbers must be avoided except for when the parameter trends off the chart. In this instance, a larger box is available for recording the exact number.

Respiratory Distress

Respiratory distress should be recorded as Nil, Mild, Moderate or Severe and be determined by assessing the following features.

Assessment of Respiratory Distress*			
	MILD	MODERATE	SEVERE
Airway	<ul style="list-style-type: none"> Stridor on exertion/crying 	<ul style="list-style-type: none"> Some stridor at rest 	<ul style="list-style-type: none"> Stridor at rest
Behaviour & Feeding	<ul style="list-style-type: none"> Normal Talks in sentences 	<ul style="list-style-type: none"> Some/intermittent irritability Difficulty talking/crying Difficulty feeding or eating 	<ul style="list-style-type: none"> Increased irritability and/or lethargy Looks exhausted Unable to talk or cry Unable to feed or eat
Respiratory Rate	<ul style="list-style-type: none"> Mildly increased 	<ul style="list-style-type: none"> Respiratory rate in orange zone 	<ul style="list-style-type: none"> Respiratory rate in purple zone Increased or markedly reduced respiratory rate as the child tires
Accessory Muscle Use	<ul style="list-style-type: none"> Mild intercostal and suprasternal recession 	<ul style="list-style-type: none"> Moderate intercostal and suprasternal recession Nasal Flaring 	<ul style="list-style-type: none"> Marked intercostal, suprasternal and sternal recession
Oxygen	<ul style="list-style-type: none"> No oxygen requirement 	<ul style="list-style-type: none"> Mild hypoxemia corrected by oxygen Increasing oxygen requirement 	<ul style="list-style-type: none"> Hypoxemia may not be corrected by oxygen
Other		<ul style="list-style-type: none"> May have brief <u>apnoeas</u> 	<ul style="list-style-type: none"> Gasping, grunting Extreme pallor, cyanosis Increasingly frequent or prolonged <u>apnoeas</u>

*Note, not all features are relevant to all conditions.

Blood Pressure

Blood pressure (BP) must be recorded as systolic (v) over diastolic (^) with the mean documented as an 'x'. Only systolic BP triggers an escalation of care response. A measurement in the Orange zone reflects hypertension (upper zone) and in the Purple zone, hypotension (lower zone).

BP should be assessed at least once on admission, and thereafter at a frequency appropriate for the child's clinical state. If a child's pulse/heart rate falls in the Orange or Purple zone, BP must be measured and documented.

Temperature

For infants less than 3 months, the temperature section contains an Orange zone to escalate care for the infant with a low ($\leq 36^{\circ}\text{C}$) or high temperature ($\geq 38.5^{\circ}\text{C}$).

For neonates, the temperature should be $> 36.5^{\circ}\text{C}$

For other age groups, the 'reportable limits' section (if applicable) should be used to note when alterations in temperature should be reported to medical staff (e.g. febrile neutropenic patient, temperature rise $>1^{\circ}\text{C}$ and at least 38°C during blood product transfusion).

Level of Consciousness

Level of Consciousness assessment should be made by using the AVPU scale:

A = child is Alert (opens eyes spontaneously when approached).

V = child responds to Voice.

P = child responds to a Painful stimulus.

U = the child is Unresponsive to any stimulus.

The AVPU score may be difficult to determine for infants. Some infants may respond to the voice of a parent, but not a clinician.

Children should be woken before scoring AVPU. Conversely, in an otherwise clinically stable patient, it may not be appropriate to wake a sleeping child to assess the level of consciousness, with every set of observations (e.g. an infant with bronchiolitis who is on hourly observations for ongoing evaluation of respiratory distress and has just settled to sleep).

A more comprehensive neurological assessment must be performed for any patient who has, or has the potential, to have an altered neurological state. Neurological observations should be made, including an assessment of the Glasgow Coma Score, limb movements and pupils. These observations should be recorded on a separate Neurological Observation Chart.

Level of Sedation

Level of Sedation assessment should be made **ONLY** for patients receiving sedation (e.g. chloral hydrate, midazolam, nitrous oxide, and opiates at higher doses) and the Level of Sedation score is to be used instead of the AVPU score.

The University of Michigan Sedation Score (UMSS) is used to score the Level of Sedation.

0 Awake and alert

1 Minimally sedated: may appear tired/sleepy, responds to verbal conversation +/- sound

2 Moderately sedated: somnolent/sleeping, easily roused with tactile stimulation or verbal command

3 Deep sedation: deep sleep, rousable only with deep or physical stimulation

4 Unrousable

Pain scores

Pain scores should be calculated by using a Pain Assessment tool appropriate for the age, developmental level and clinical state of the child. Suggested ages are as follows:

FLACC scale for infants and toddlers and non-verbal children

Wong-Baker Faces Scale for children 5 -17 years (may be used for some children from 3 years)

Numeric rating scale for children >8 years.

Additional Observations

Further observations may be required and should be written in the Additional Observations section at the bottom of the chart.

These may include:

Blood sugar level

Capillary refill time

Non-invasive ventilation parameters

Ventilation parameters

Isolette/radiant heater temperature (<1 year only)

Nausea/Vomiting

Neurovascular observations should be performed on the Neurovascular observation chart

Events /Comments box and section

At the bottom of the vital sign page there is a larger box to document a letter which refers to a clinical event. Refer to the front page of the chart where the event, or comment, is allocated a corresponding letter and then document this letter in the Events/Comments box.

Events/Comments should be made on the observation chart if they help interpret the observations and vital sign trends (e.g decreased heart rate observed with administration of procedural sedation, or mother concerned about increased drowsiness of her child, or commencement or completion of blood product transfusion).

If the child's observations transgress into the Orange or Purple zone, then further details must be provided in the Events/Comments section on the front page of the chart, including details of the Escalation of Care plan and response.

Other nursing assessment details, plan of care or real time progress notes should be made on other patient record documents in accordance with the Nursing Documentation procedure.