

# Obtaining Observations in Children

The first set of observations obtained on an infant or child presenting to emergency should be a full set, including temperature and blood pressure. This will provide a baseline to reference during the episode of emergency care. Carry out your observations from least invasive to most invasive. For example, if you try to obtain a blood pressure first and the child becomes upset, the heart rate and respiratory rate may not provide a true reflection of the child's baseline. There are circumstances where children will require time for rapport building prior to obtaining a full and accurate set of vital signs. It is important to ensure that there are no red flags in the Rapid Assessment prior to deciding to attempt vital signs later during the episode of care.

Your findings will be documented using the Children's Early Warning Tool (CEWT). This tool assists in the early recognition of clinical deterioration and provides instructions on the frequency of observations and level of escalation required. It is important to note that it is possible for children who are unwell to still generate a CEWT of 0. See the Queensland Health Paediatric Early Warning and Response System Tools page for the CEWT tool appropriate for use in your workplace.



## ALERT

If a child is crying or distressed on multiple attempts of obtaining vital signs, consider whether their distress may be a component of their presentation and may indicate a more serious issue. An example of this might be irritability and inconsolability is a red flag for meningitis.

## Respiratory Rate and Work of Breathing

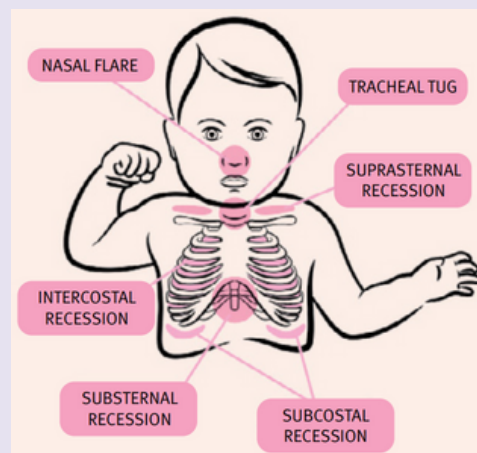
Least Invasive

The respiratory rate should be counted for a full 60 seconds and is preferably conducted when the child is sleeping or quietly awake. Observe for work of breathing (mild, moderate or severe) and for accessory muscle use.

- Remove appropriate clothing to visually assess work of breathing.
- Refer to the Respiratory Assessment Skill Sheet for further detail on assessing work of breathing.

### Age related considerations:

- < 12 months: When counting an infant's respiratory rate, gently rest your hand over their chest and abdomen.
- > 12 months: Sit the child in the caregivers lap or have them sit close by to their child in bed for comfort. Ask the caregiver to unbutton or lift their child's shirt to expose the chest enabling you to count from the end of the bed. Some younger children may require a toy or some bubbles to keep them distracted while you count.



Most Invasive



Least Invasive

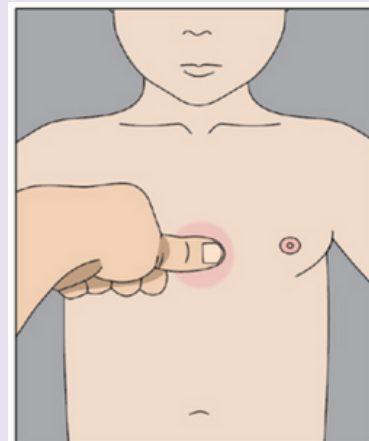
## Central Capillary Refill Time (CCRT)

Using a thumb or two fingers, apply gentle pressure to the skin over the sternum. Hold for 5 seconds, release and count in seconds how long it takes for the blanching to resolve and the skin to return to its original colour.



### ALERT

The central capillary refill time should be less than 2 seconds. If the time taken is greater, this may indicate circulatory compromise. These patients need urgent review by a senior clinician.



## Temperature

### Age related considerations:

- < 6 months: Axillary
- > 6 months: Tympanic
- The temperature probe must fit the ear canal comfortably to ensure accuracy. If in doubt use the axillary site.
- Oral temperatures are not routinely recommended.
- Forehead thermometers are not regarded as a reliable measure of temperature.



### ALERT

Neonates (28 days of age or less corrected age) with a temperature of  $\geq 38^{\circ}\text{C}$  require urgent review by a senior medical officer to enable timely investigations and treatment to occur.

## Heart Rate and Pulse

The heart rate should be counted for a full 60 seconds and preferably when the infant or child is not distressed.

### Age related considerations in preferred site for pulse checks:

- < 12 months: Auscultate apical pulse rate using a stethoscope.
- < 2 years: Palpate the brachial pulse.
- > 2 years: Palpate brachial or radial pulse.

Most Invasive



## Oxygen Saturations (SpO<sub>2</sub>)

Some children become upset by the SpO<sub>2</sub> probe. Showing them the probe is not scary by placing it on their doll/teddy or caregiver can help engage the child. You may refer to the probe with child-friendly terms such as 'a fairy light' or 'a Christmas light'. You may choose to place the probe on their big toe and cover it with a sock or shoe. Once the probe is covered by a familiar item of clothing many children will settle.

SpO<sub>2</sub> probes are usually sized according to weight. Ensure the probe you are using corresponds to the weight range that appropriate for the child. SpO<sub>2</sub> probe sites should be changed hourly in infants and second hourly in young children to reduce the risk of pressure injuries and burns.

### SpO<sub>2</sub> Probe Placement considerations:

- Under 12 months: Probe placement works best on the hand, foot or big toe.
- 1-3 years: Probe placement works best on the big toe and thumb.
- Over 3 years: Probe placement works best on the thumb and fingers. You may also use the ear lobe.

#### Hand:

- Place emitter on the palm at the base of the little finger with the detector directly opposite on the outer aspect of the hand. You may need to reinforce the probe with foam tape.

#### Fingers, thumbs and big toes:

- Place emitter on the nail and the detector directly opposite on the pad to the finger.

#### Foot:

- Place emitter on the foot at the base of the little toe with the detector directly opposite on the outer aspect of the foot and secured with a self-adhering foam tape.

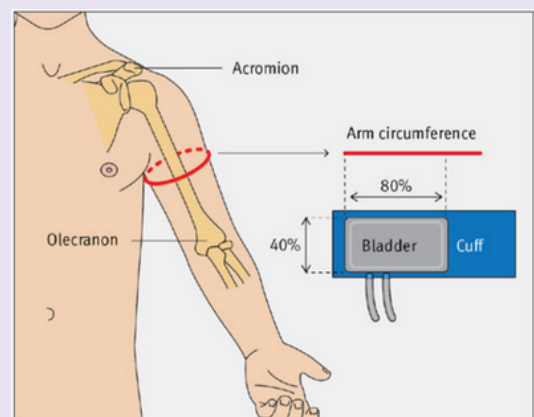


## Blood Pressure (BP)

The blood pressure should preferably be obtained when the infant or child is not distressed. The limb should remain still during measurement. The limb should be bare and the infant or child should be seated or supine with the limb at or below heart level.

### Cuff Sizing Guide:

- The cuff should be approximately 40% of the child's arm/leg circumference.
- The cuff bladder length should be 80-100% of the circumference of the arm/leg.



### Cuff Placement Guide:

- < 12 months: upper arms or calf
- 1-5 years: upper arms or calf (if arms are unavailable)
- > 5 years: upper arms



## Blood Pressure (BP) (continued)

Least Invasive



Most Invasive

### Reducing Distress When Obtaining BP

Some infants and young children become upset by the blood pressure cuff especially when it tightens.

- Infants – Ask caregivers to talk and reassure their baby. Use toys and distractions. Attempt while feeding, asleep or calm.
- Toddlers – Provide a simple explanation and make it a game. For example, “This is going to give your arm a little squeeze and it will tell us how big your muscles are”.
- Older children – Provide an explanation and involve the child and their caregiver where possible. You can ask them to help place the cuff on their arm or push the start button.

## References:

Children's Health Queensland. (2023). Clinical Observations – Considerations in Children. Queensland Health Intranet. Retrieved April 3, 2024 from

[https://qheps.health.qld.gov.au/\\_data/assets/pdf\\_file/0016/724003/ns\\_00253.pdf](https://qheps.health.qld.gov.au/_data/assets/pdf_file/0016/724003/ns_00253.pdf)

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## Skill Sheet Disclaimer

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- Providing care within the context of locally available resources, expertise, and scope of practice.
- Supporting consumer rights and informed decision making in partnership with healthcare practitioners including the right to decline intervention or ongoing management.

- Advising consumers of their choices in an environment that is culturally appropriate and which enables comfortable and confidential discussion. This includes the use of interpreter services where necessary.

- Ensuring informed consent is obtained prior to delivering care.
- Meeting all legislative requirements and professional standards.
- Applying standard precautions, and additional precautions as necessary, when delivering care.
- Documenting all care in accordance with mandatory and local requirements.

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