The Hierarchy of Evidence

The Hierarchy of evidence is based on summaries from the National Health and Medical Research Council (2009), the Oxford Centre for Evidence-based Medicine Levels of Evidence (2011) and Melynyk and Fineout-Overholt (2011).

| I   | Evidence obtained from a systematic review of all relevant randomised control trials. |
| II  | Evidence obtained from at least one well designed randomised control trial.           |
| III | Evidence obtained from well-designed controlled trials without randomisation.        |
| IV  | Evidence obtained from well designed cohort studies, case control studies, interrupted time series with a control group, historically controlled studies, interrupted time series without a control group or with case-series |
| V   | Evidence obtained from systematic reviews of descriptive and qualitative studies      |
| VI  | Evidence obtained from single descriptive and qualitative studies                   |
| VII | Expert opinion from clinicians, authorities and/or reports of expert committees or based on physiology |


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<tr>
<th>Reference (include title, author, journal title, year of publication, volume and issue, pages)</th>
<th>Evidence level (I-VII)</th>
<th>Key findings, outcomes or recommendations</th>
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| Australian Commission on Safety and Quality in Healthcare (2011). *National Safety and Quality Health Service Standards*. Sydney: ACSQHC. | VII | - Recommend 8 elements that are essential features of systems of care for recognising & responding to clinical deterioration  
- Four elements relate to clinical processes: measurement & documentation of observations, escalation of care, rapid response systems and clinical communication |
- Heart Rate and Respiratory Rate percentiles established  
- VICTOR charts: Purple zone either 1st or 99th percentile according to the upper or lower limit of parameter. Orange zone 5th & 95th percentiles. |
- VICTOR charts: High BP – (orange zone only ) 99th centile +5mmHg |
- Critical monitor alarms were reduced 43% |
- SBP is significantly affected by height  
- VICTOR charts: Low BP (Purple zone only) based on 5th percentile for Systolic BP and 50th height percentile |
- Significant improvement in documentation of vital signs, communication from nurses to doctors following clinical instability and time to medical review |
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- ViCTOR charts: High systolic BP limits (Orange zone) were based on the 99<sup>th</sup> percentile of height + 5mmHg for respective ages groups (equivalent to cut-off for stage 2 hypertension) |
| Royal College of Nursing (2007). Standards for assessing, measuring and monitoring vital signs in infants, children and young people. RCN: London . | VII | - Describes 5 standards and criteria to help guide local procedures in relation to vital sign monitoring which included:  
- Education and training, teaching children, young people and parents and carers, assessing & measuring vital signs, medical devices & equipment, record keeping |
- Identifies indications for continuous cardio-respiratory monitoring and continuous pulse oximetry |
- Significant reductions in cardiac arrest and unexpected death for the subgroup of patients that had fulfilled the MET call criteria  
- ViCTOR charts: Some Orange and Purple response criteria based on MET criteria (eg Staff or family member worried, SpO<sub>2</sub>, Apnoea or cyanosis) |
| Townley, C., Theisen, E., Stanzel, B., Chang, C., Goddard, J. & Kinney, S. An investigation into the use of MET criteria in setting cardiac monitors and the effect on the rate of false alarms. Master of Nursing Science Presentation Day (27<sup>th</sup> May, 2011), The University of Melbourne. | VI | - Investigating the role of MET criteria for alarm setting in cardiac monitors and rate of false alarms in a paediatric cardiac ward at RCH (n=201 monitors hours observed)  
- 2.83 alarms per monitor per observed hour and 82% of the alarms were false  
- Significant reductions in false alarms for Heart Rate (p=0.01) and SpO<sub>2</sub> (p=0.004) for alarm settings that at MET criteria. |