**DEVELOPMENT OF A WEST AUSTRALIAN ESCALATION SYSTEM FOR RECOGNITION AND RESPONSE TO PAEDIATRIC CLINICAL DETERIORATION INCLUSIVE OF FAMILY PARTICIPATION**

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**AIMS & OBJECTIVES:** In Western Australia variations exist in the paediatric population, healthcare services and early warning systems (EWS) used. The ESCALATION project aimed to develop a uniform evidence-based paediatric EWS inclusive of family participation.

**METHODS:** A prospective mixed methods implementation study was conducted in 2019. The central EWS component, the track and trigger age-specific charts included family or clinician concern. The intention of the family concern variable was to indicate worsening in a child’s condition from the perspective of the family. Family resources as posters and brochures were used to promote family involvement. The System was trialled in six purposively selected metropolitan and country sites to evaluate feasibility and acceptability by chart utilisation audits, staff surveys/focus groups and interviews with parents whose children were inpatients.

**RESULTS:** Clinician or family concern featured in 36/249 (14.5%) charts audited, with 93/186 (50%) staff surveyed agreeing that the family concern variable assisted in obtaining parents’ views about a child’s condition. Staff focus group participants were positive about the variable although Emergency Department staff reported they assumed family concern to always be present. Eleven mothers and two fathers were interviewed; all were positive about the inclusion of the family concern variable. Information displayed on posters supported parents to articulate concerns, although some held reservations about anticipated negative staff responses.

**CONCLUSIONS:** Incorporating family concern into the WA paediatric EWS is feasible and acceptable to stakeholders and users. Feedback from this study led to further refinement of the tool in preparation for state-wide implementation.

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**A MULTICENTRE PROSPECTIVE OBSERVATIONAL AUDIT OF CLINICAL PRACTICE AND COMPLICATIONS AFTER INDUCTION AND TRACHEAL INTUBATION DURING PAEDIATRIC RETRIEVAL.**

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**AIMS & OBJECTIVES:** Ketamine is commonly used for induction before tracheal intubation in haemodynamically unstable patients. Our primary objective was to compare our standard induction method (Ketamine and Rocuronium) with the other anaesthetic agents regarding: The rate of Induction-Associated Complications (IAC). Tracheal Intubation-Associated Complications (TIAC).

**METHODS:** A prospective observational study of all eligible paediatric patients from 23 hospitals in the West Midlands’ region (UK) who were intubated and retrieved by the (KIDS Intensive Care and Decision Support) Service between May 2019 and November 2019.

**RESULTS:** Data for 102 out of 144 eligible patients (71%) were available. At least one comorbidity was present in 60%, and hypoxia/hypoxaemia was the main reason for intubation in 36% of the patients. Prior to induction, 48 patients (47%) were pre-defined as haemodynamically unstable. Of the 67/102 (66%) patients who used Ketamine for induction, a higher rate of IACs in the haemodynamically stable group was observed (17/38, (45%) VS 4/16 (25%), OR: 2.4, 95%CI: 0.7-8.9, P:0.18) compared to a lower occurrence of IACs in the haemodynamically unstable patients (21/29 (72%) VS 15/19 (79%), OR: 1.4, 95%CI: 0.36-5.6). The most significant IACs were hypotension and desaturation <90% (22.5% each). No significant association between TIACs, and the number of the intubation’s attempts were found (1&2 attempts 44/91 (48%) VS ≥3 attempts 6/11 (54%), P:0.7).

**CONCLUSIONS:** IACs and TIACs are common in the acutely ill paediatric patients who require tracheal intubation during retrieval despite precautionary measures. Ketamine may still be a drug of choice in those haemodynamically unstable, however, a large-scale national review may be required.
### Airway Grades and Intubation Attempts During Transport

<table>
<thead>
<tr>
<th>Hemodynamic Status</th>
<th>Standard Regional Protocol (Ketamine &amp; succinylcholine)</th>
<th>IACs</th>
<th>Other Induction Protocols</th>
<th>IACs</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stable</td>
<td>38</td>
<td>17 (45%)</td>
<td>16</td>
<td>4 (25%)</td>
<td>54 (33%)</td>
</tr>
<tr>
<td>Unstable</td>
<td>29</td>
<td>21 (72%)</td>
<td>19</td>
<td>15 (79%)</td>
<td>48 (47%)</td>
</tr>
<tr>
<td>Total</td>
<td>67</td>
<td>38 (56%)</td>
<td>35</td>
<td>19 (54%)</td>
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</tbody>
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