

00233 **Evaluating Effectiveness of Child Assessment Checklist to Predict Child's Need for General Anaesthesia During MRI Scan**

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Aims: Most children above age seven are able to successfully complete magnetic resonance imaging (MRI) scan without the use of external aids. General anaesthesia (GA) or sedation is commonly used in children younger than eight. We created a checklist covering tasks children are expected to perform during MRI and aim to assess if this can predict child's requirement for GA during MRI scan.

Methodology: Children who underwent MRI scan in KK Women's and Children's Hospital from September 2016 to June 2017 were assessed with the child assessment checklist by a research coordinator prior to their scan and GA requirement was captured. Checklist consisted of five items rated on binary scale assessing child's behaviour. Scores from the five items were summed up to obtain total checklist score. Binary logistic regression was used on the overall sample and subset of children under eight to identify predictors of GA requirement separately.

Result: The mean age of the overall sample (798 children) and subset (124 children) were 11.7 ± 3.7 years and 5.5 ± 1.3 years respectively. In both groups, children who required GA were significantly younger than those who did not ($p < 0.001$); no gender differences were observed between the groups. Overall, children who required GA scored 2.1 ± 1.1 while those who did not, scored 4.9 ± 0.4 ($p < 0.001$). In the subset, children who required GA scored 2.0 ± 1.1 while those who did not, scored 4.6 ± 0.6 ($p < 0.001$). The diagnostic accuracy of the checklist was found to be good in overall sample and subset, $AUC = 0.97$ for both, with a suggested cut-off score of 4 (sensitivity=0.98, specificity=0.92; sensitivity=0.93, specificity=0.94 respectively).

Conclusion: The child assessment checklist is useful in predicting whether children require GA for MRI scan, particularly for children under the age of eight.