

# Audit of paediatric peri-operative anxiety during the Covid-19 pandemic

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## Background

- Prevalence of peri-operative anxiety in children has been reported up to 60%<sup>(1)</sup>. Risk factors implicated include parental anxiety and parental separation.
- Pre-operative anxiety is linked to alterations in the bodies' stress response, impacting the immune system and wound healing. It has also been linked to post-operative maladaptive behaviours in children<sup>(2)</sup>.
- During the Covid-19 recovery phase, parents were not permitted to be present when their child was anaesthetised due to risks of coronavirus. At our hospital, the child and parent would be separated at the theatre complex entrance.
- We explored the impact of this separation on the child's anxiety levels to guide our practice.

## Method

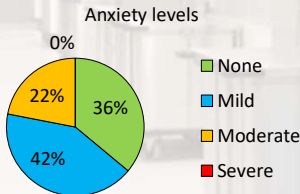
- A questionnaire was created based on paediatric visual and verbal anxiety scores.
- 50 questionnaires were distributed prospectively between August and December 2020.
- Data was collected pre-operatively on the ward, pre-induction in the theatre complex and post-operatively in recovery.
- Both elective and emergency cases were included.

## Results

A total of 44 questionnaires were returned: 21 female 23 male Age range 1 - 16 years Mean age 9 years

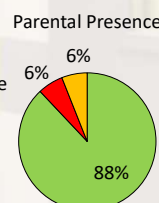
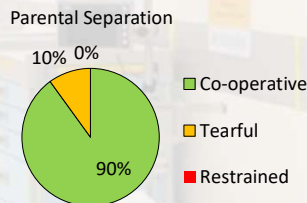
### Pre-operative

- Pre-operatively on the ward - 44 questionnaires were returned.
- Anxiety was reported in 64% of children.
- 36% reported no anxiety pre-operatively.



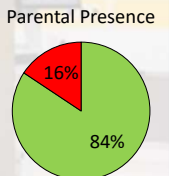
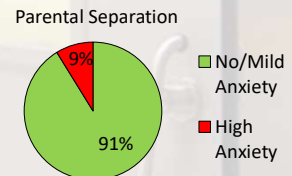
### Induction

- Induction data was captured for a total of 26 children.
- 10 children experienced separation during the recovery phase of Covid-19.
- Practice subsequently reverted to allow parental presence. Results were similar between both groups.



### Post-operative

- Post-operatively, data was reported for 34 children.
- 12 were separated from their parent in recovery.
- 22 had a parent present in recovery.
- 9% and 16% respectively reported high levels of anxiety.



## Discussion

- Paediatric peri-operative anxiety prevalence has been reported as high as 60% pre-Covid-19.
- Our results demonstrate lower anxiety than anticipated especially given concerns of deteriorating paediatric mental health throughout the pandemic<sup>(1)(3)</sup>.
- Previous studies have shown the presence of a calm parent at the induction of anaesthesia may be beneficial to an anxious child, but the reverse may be detrimental<sup>(4)</sup>.
- Our findings suggest peri-operative separation of children and their parents during the first recovery phase of the pandemic **did not** negatively impact paediatric anxiety levels.
- Our audit was limited by the small numbers of children anaesthetised in our institution during this time as well as the difficulties in data collection due to a healthcare system under pressure.

### Paediatric Visual Anxiety Score<sup>(5)</sup>

Anxiety Level	None	Mild	Mild-Moderate
Faces			
Anxiety Level	Moderate	Moderate-High	Highest
Faces			

## Conclusion

- We will re-audit with larger numbers to confirm our preliminary conclusions and investigate further the correlation between parental and paediatric anxiety.
- We will try to identify any resilience resources utilised by children who reported mild or no anxiety.

### References

1. Kain Z, Mayes L, Caldwell-Andrews A, Karas D, McClain B. Preoperative Anxiety, Postoperative Pain, and Behavioral Recovery in Young Children Undergoing Surgery. PEDIATRICS. 2006;118(2):651-658.
2. McCann ME, Kain ZN. The management of preoperative anxiety in children: an update. Anesth Analg. 2001 Jul;93(1):98-105. doi: 10.1097/0000539-200107000-00022. PMID: 11429348.
3. Bignardi G, Dalmajjer E, Anwyl-Irvine A, Smith T, Siugzdaitė R, Uh S et al. Longitudinal increases in childhood depression symptoms during the COVID-19 lockdown. Archives of Disease in Childhood. 2020;archdischild-2020-320372.
4. Tan L, Meakin G. Anaesthesia for the uncooperative child. Continuing Education in Anaesthesia Critical Care & Pain [Internet]. 2010;10(2):48-52. Available from: <https://academic.oup.com/bjaed/article/10/2/48/310102>
5. [https://www.researchgate.net/publication/313743291\\_A\\_novel\\_visual\\_facial\\_anxiety\\_scale\\_for\\_assessing\\_preoperative\\_anxiety](https://www.researchgate.net/publication/313743291_A_novel_visual_facial_anxiety_scale_for_assessing_preoperative_anxiety)