# Assessment of CNH Pediatric Dentistry Department's Moderate Sedation Regimen

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## Background

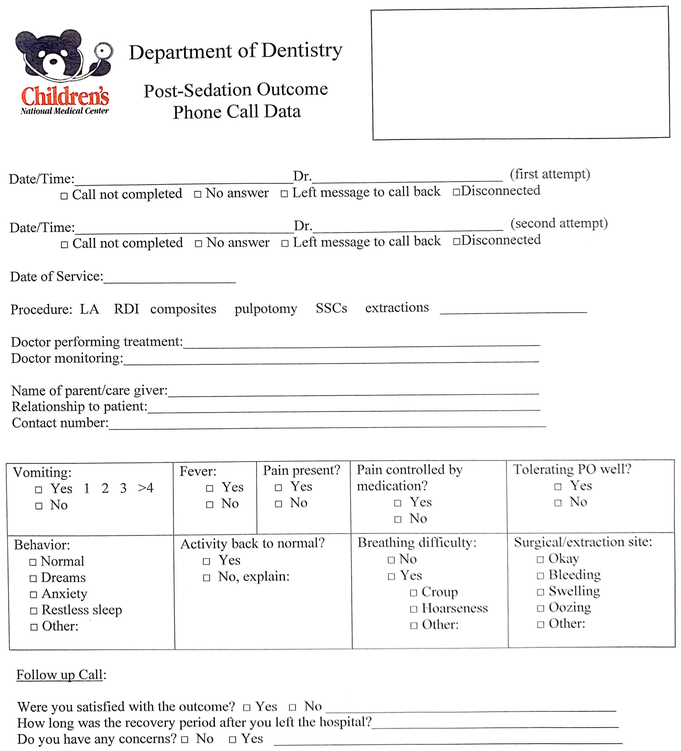
- Moderate sedation is a commonly used modality that pediatric dentists utilize to take care of anxious children.[1]
- Pediatric dental moderate sedation, like any pharmacological treatment, can often be associated with adverse effects.[2]
- Post-operative phone calls help strengthen doctor-patient relationships by giving providers the opportunity to ask about and manage possible adverse reactions, as well as providing a convenient way for families to express their concerns.
- The purpose of this quality improvement study was to assess Children's National Hospital (CNH) pediatric dentistry department's moderate sedation post-operative assessment mechanism by examining the department's completed "Post-Sedation Outcome Phone Call Data" forms from the last three years.

## Methods

- This is a project designed to be a quality improvement project at Children's National Hospital and does not constitute human subjects research. Therefore, it was not under the oversight of the Institutional Review Board.
- A chart review was conducted for moderate sedation visits completed at CNH between June 12, 2020 and May 11, 2023.
- Data was collected from the dental EHR (Dentrix Office Manager) by searching for code "D9248 - Conscious Sedation" that had been charged out during the study time frame.
- Each eligible chart and "Post-Sedation Outcome Phone Call Data" form was reviewed to gather the following data: patient's age, medications used, treatment completed, reported adverse reactions, use of post-op pain medications, post-operative behavior, and parental concerns and satisfaction.
- This data was compiled in a password-protected Excel spreadsheet.
- Descriptive statistics were completed.

## Results

- Two-hundred sixty-seven moderate sedation were completed at CNH over a three-year period
- The primary medication regimen used for sedations was meperidine/hydroxyzine (n=225/267, 84%).
- Seventy-eight percent (208/267) "Post-Sedation Outcome Phone Call Data" forms were completed.
- Approximately 9% (n=19/208) of parents reported adverse reactions for their child including vomiting, fever, pain, anxiety, breathing difficulty, and issues at surgical sites like bleeding, swelling, and oozing.
- Less than 2% (4/208) of parents reported dissatisfaction with the sedation experience for their child.



Department of Dentistry

Post-Sedation Outcome Phone Call Data

Date/Time:_____Dr._____ (first attempt)
□ Call not completed □ No answer □ Left message to call back □Disconnected

Date/Time:_____Dr._____ (second attempt)
□ Call not completed □ No answer □ Left message to call back □Disconnected

Date of Service:_____

Procedure: LA RDI composites pulpotomy SSCs extractions _____

Doctor performing treatment:_____
Doctor monitoring:_____

Name of parent/care giver:_____
Relationship to patient:_____
Contact number:_____

| | | | | |
|---|---|---|---|---|
| Vomiting:<br>□ Yes 1 2 3 >4<br>□ No | Fever:<br>□ Yes<br>□ No | Pain present?<br>□ Yes<br>□ No | Pain controlled by medication?<br>□ Yes<br>□ No | Tolerating PO well?<br>□ Yes<br>□ No |
| Behavior:<br>□ Normal<br>□ Dreams<br>□ Anxiety<br>□ Restless sleep<br>□ Other: | Activity back to normal?<br>□ Yes<br>□ No, explain: | | Breathing difficulty:<br>□ No<br>□ Yes<br>□ Croup<br>□ Hoarseness<br>□ Other: | Surgical/extraction site:<br>□ Okay<br>□ Bleeding<br>□ Swelling<br>□ Oozing<br>□ Other: |

Follow up Call:

Were you satisfied with the outcome? □ Yes □ No _____
How long was the recovery period after you left the hospital?_____
Do you have any concerns? □ No □ Yes _____

## Discussion

- Similar to previous studies[3], parents were overwhelmingly satisfied with less than 2% reporting dissatisfaction with the sedation experience for their child.
- Although there were minimal reported adverse reactions, the very presence of these events highlights the importance of a post-operative phone call and evaluation of sedation outcomes for potential quality-of-care improvement.
- Less than a quarter of patients' parents did not answer the post-operative phone call. This suggests potential usefulness of alternative modes of communication such as text or email post-operative surveys.[4]
- One limitation of this study is the lack of diversity in the drug regimen used at CNH, as meperidine/hydroxyzine combination accounted for majority of cases. Since this chart review was conducted, CNH dental department has broadened its drug regimen and now includes use of benzodiazepines (midazolam and valium) as well as morphine.
- Another limitation is the short post-operative time frame for the follow-up phone call. This may lead to under-reporting of post-operative adverse events, which can also affect parental satisfaction. A second check-in with families, 24 hours post-sedation, may provide additional data.
- One potential change to the "Post-Sedation Outcome Phone Call Data" form would be to ask additional questions about patient's mode of transportation home, as well as activity on the way home to ensure post-operative safety for each patient.

## Conclusion

- Parents were satisfied with sedation outcomes and minimal adverse reactions were reported. Overall, this study shows that the CNH moderate sedation regimen yields safe, high-quality sedations.
- This study suggests a potential benefit of a second post-operative communication via phone, text, or email. Providers utilizing moderate sedation should consider implementing a second post-operative assessment mechanism.
- Continued review of sedation regimens is important to ensure quality-of-care improvement.

## References

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