

Examining Surgery Wait Times and Treatment Effects in Adult Patients with Disabilities

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Background

- The AAPD defines special health care needs (SHCN) as "any physical, developmental, mental, sensory, behavioral, cognitive, or emotional impairment or limiting condition that requires medical management, health care intervention, and/or use of specialized services or programs."¹
- Patients with SHCN demonstrate higher levels of tooth decay, calculus, malocclusion, bruxism, and an increased risk of gingivitis and periodontitis.^{1,2,3}
- Dental treatment under general anesthesia is a necessity for many of these patients. However, low financial reimbursement, lack of trained providers, and limited operating room (OR) time can make finding care difficult.^{1,4}
- The COVID-19 pandemic heavily impacted access to dental care for SHCN patients, due to factors such as loss of insurance coverage and increased wait times for those needing treatment in the OR.⁵

Objective

- The General Practice Residency (GPR) program at UNMC provides dental care in the OR to adult patients with SHCN, specifically those with intellectual and/or developmental disabilities.
- Since the COVID-19 pandemic, wait times for patients to receive care in the OR have increased due to diminished OR time and a long wait list of patients who need care.
- Research was conducted to determine whether longer wait times and intervals between care have impacted treatment plans for patients seen in the operating room.

Methods

- Data was gathered from patient records ages 19 and older that were seen under general anesthesia for dental work by the UNMC GPR residency program from June 30th, 2016 to June 30th, 2019 and June 16th, 2020 to June 16th, 2023.
- Values collected included age, gender, ASA, number of teeth extracted, periodontal treatment code, and whether restorative work was completed.
- In total, 602 patient records were included. To ensure independence in the data for analysis, only the first visit per patient in the dataset was included (n=393).
- Values were analyzed by a statistician for significance.

Results

Table 1. Results from Student's t-test

	Before 7/1/2019 (N=141)	After 7/1/2020 (N=252)	P-value
Age			
Mean (SD)	40.8 (14.58)	41.3 (14.96)	
t-value	0.19		
Gender, n (%)			0.30
Female	73 (51.7%)	59 (23.4%)	
Male	68 (48.3%)	193 (76.6%)	
Self-perceived, n (%)			0.36
Difficult (Physical & Emotional)	19 (13.5%)	33 (13.1%)	
Medical	146 (103.5%)	215 (84.9%)	
Physical	17 (12.1%)	130 (51.6%)	
Social	4 (2.8%)	1 (0.4%)	
ASA, n (%)			0.29
I	114 (81.6%)	181 (71.8%)	
II	40 (28.4%)	69 (27.2%)	
Missing	7	2	
Periodontal, n (%)			<0.001
11110-11110	1 (0.7%)	4 (1.6%)	
41110-41110	59 (41.9%)	141 (55.9%)	
41111	94 (66.7%)	19 (7.5%)	
Missing	5	3	
REST, n (%)			0.001
No	17 (12.1%)	63 (24.9%)	
Yes	64 (45.4%)	189 (74.9%)	
Missing	0	1	
ERT, n (%)			<0.001
No	95 (67.4%)	94 (37.3%)	
Yes	42 (29.8%)	158 (62.6%)	
One or More	1	1	
Number of teeth extracted*			0.01
Median (IQR)	2.0 (1.0, 4.0)	3.0 (1.0, 6.0)	
t-value	6.2		
Months between OR visits**			<0.001
Median (IQR)	26.0 (11.1, 31.0)	45.0 (26.1, 48.0)	
t-value	3.08		

*Independent samples t-test. **Mann-Whitney U test. ***Fisher's Exact p-value. ****McNemar risk ratio test. Only includes patients who had at least one tooth extracted. ** Only includes patients who had a previous OR visit.

Table showing results collected by Student's t-test. Kaeli Samson



Figure 1. UNMC operating room setup to treat a dental patient under general anesthesia. Courtesy of Dr. Van Osdel

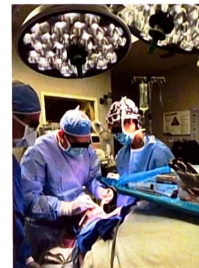


Figure 2. UNMC GPR resident and faculty administering dental treatment to a patient under general anesthesia. Courtesy of Dr. Van Osdel

Patients spent longer periods of time on the waitlist during the pandemic period (45.9 months) in comparison to the pre-pandemic period (26.0 months).

Patients on average were more likely to have teeth extracted during the pandemic period (59.5%) compared to the pre-pandemic period (38.5%).

Among patients who had at least one tooth extracted, patients in the pandemic period had a higher median number of teeth extracted (3.0) compared to those in the pre-pandemic period (2.0).

Patients were more likely to have restorative work done in the pandemic period (64.5%) compared to the pre-pandemic period (52.2%).

Patients were more likely to have scaling and root-planing completed during the pandemic period (64.4%) compared to the pre-pandemic period (36.4%).

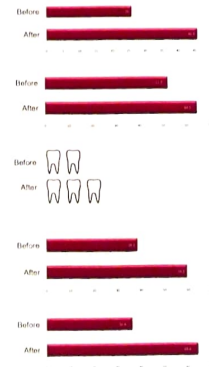


Figure 3. Bar graphs demonstrating results from Table 1

Conclusion

- Increased wait times for dental treatment in the OR have resulted in patients requiring more extensive care, including restorative, oral surgery, and periodontal treatment.

Discussion

- The increased wait period for patients to receive dental care in the OR is impacting the treatment provided.
 - Longer wait times may lead to an exacerbation of dental problems that could be prevented or treated less aggressively with earlier intervention.
 - Dental providers may elect to follow more extensive, radical treatment options with the knowledge that these patients may not receive care again for years.⁶
- There are few preventative solutions in place to help diminish the burden of dental disease placed on patients requiring dental care in the OR.
 - Financial programs generally do not provide reimbursement for "behavioral or psychological interventions, social supports, or community-based prevention strategies."⁷
- Low reimbursement rates lead to a financial disincentive to treat patients in the OR, and result in a lack of access to operating room time. Dental providers must advocate for increased OR time and adequate financial reimbursement.
- Dental educators must address the increased risk of dental disease in patients with SHCN, and work to implement changes to equip dentists with the knowledge and skills to care for this population.

References

- American Academy of Pediatric Dentistry. Definition of special health care needs. The Reference Manual of Pediatric Dentistry. Chicago, Ill. American Academy of Pediatric Dentistry. 2023; 15: (1).
- Lopez Velasco, A. et al. (2021). "General anesthesia for oral and dental care in paediatric patients with special needs: A systematic review." J Clin Exp Dent 13(3): e303-e312. (2)
- Schneidt, D. et al. (2019). "Dental treatment under general anesthesia in adults with special needs in the Department of Dental Prosthetics and Restorative Dentistry of Innsbruck, Austria: a retrospective study of 12 years." Clinical Oral Investigations 23(11): 4157-4162. (2)
- Morgan, J. P. et al. (2012). "The oral health status of 4,732 adults with intellectual and developmental disabilities." J Am Dent Assoc 143(8): 838-846. (3)
- Eltner, R. et al. (2022). "The Impact of COVID-19 on the Oral Health of Patients with Special Needs." Dent Clin North Am 66(2): 181-194. (4)
- Geddis-Rogan, A. R. et al. (2022). "The use of general anesthesia in special care dentistry: A clinical guideline from the British Society for Disability and Oral Health." Special Care in Dentistry 42(5/1): 3-12. (2)
- Glassman, P. et al. (2009). "Special Care Dentistry Association consensus statement on sedation, anesthesia, and alternative techniques for people with special needs." Special Care in Dentistry 29(1): 2-8. (2,2)