

Families' Experiences with Tooth Autotransplantation

2023 Research Aid Awards (RAA)

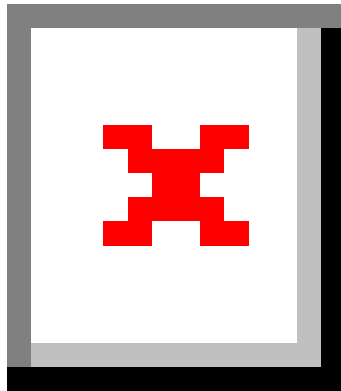
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FollowUp Form

Award Information



In an attempt to make things a little easier for the reviewer who will read this report, please consider these two questions before this is sent for review:

- *Is this an example of your very best work, in that it provides sufficient explanation and justification, and is something otherwise worthy of publication? (We do publish the Final Report on our website, so this does need to be complete and polished.)*
- *Does this Final Report provide the level of detail, etc. that you would expect, if you were the reviewer?*

Title of Project:*

Families' Experiences with Tooth Autotransplantation

Award Type

Research Aid Award (RAA)

Period of AAOF Support

July 1, 2023 through June 30, 2024

Institution

University of North Carolina at Chapel Hill

Names of principal advisor(s) / mentor(s), co-investigator(s) and consultant(s)

Dr. Beatrice Williams, Dr. Kimon Divaris, Dr. John Christensen

Amount of Funding

\$5,932.00

Abstract

(add specific directions for each type here)

Approximately 178 million Americans are missing at least one tooth. Studies have shown that there are negative health, psychological, social, and financial implications associated with missing anterior teeth. Tooth autotransplantation (AT) is a viable treatment modality for early definitive treatment as children navigate critical years of physical and psychosocial development. In addition to allowing for early intervention, AT provides the unique advantages of the transplanted tooth growing like a natural tooth and being a more cost-effective tooth replacement option. While AT is a treatment modality with proven high success rates, limited research exists on the patient and familial perspectives of this involved interdisciplinary experience. To address this gap in knowledge, we will examine families' experiences, rationale for and barriers to AT (Aim 1) and to evaluate perceptions of the esthetic and functional outcomes of AT (Aim 2) through guided interviewing and qualitative analysis. The proposed study will augment the limited evidence base on AT and provide guidance on how to improve the AT process and address barriers to care.

As of October 2022, we have enrolled 18 participants and completed 15 interviews with plans to conduct data collection until August 2023 as AT procedures are being completed on a rolling basis. The preliminary data thus far show that AT is a beneficial procedure that has positive psychosocial, esthetic, and functional impacts on the lives of those who chose AT for replacement of maxillary incisors in children.

Respond to the following questions:

Detailed results and inferences:*

If the work has been published, please attach a pdf of manuscript below by clicking "Upload a file".

OR

Use the text box below to describe in detail the results of your study. The intent is to share the knowledge you

have generated with the AAOF and orthodontic community specifically and other who may benefit from your study. Table, Figures, Statistical Analysis, and interpretation of results should also be attached by clicking "Upload a file".

AAOF Report Supplemental.pdf

Results: Twenty families selecting AT as a solution for a missing maxillary incisor were recruited and interviewed (Figure 1). Overall, all families interviewed had a positive experience with the AT procedure (Figure 2). Motivating factors for undergoing the AT procedure included wanting an earlier intervention for the missing incisor, wishing to mitigate negative psychosocial effects, and the anticipated positive outcomes that would last into adulthood (Figure 3). Barriers to uptake of the AT procedure included the lack of dental practitioner awareness of AT as a potential solution and a large number of appointments and travel. Families were also initially concerned over potential complications that could arise from their child undergoing this procedure. The cost of the procedure was both a barrier and a facilitator for treatment.

Conclusions: Study results demonstrate that overall AT is favorably considered by families of growing children for the replacement of maxillary incisors and highlight factors that may act as motivators or barriers to its uptake.

Were the original, specific aims of the proposal realized?*

The original, specific aims of the proposal were realized. Families undergoing AT for replacement of their child's missing front tooth encounter a dynamic array of experiences and perspectives. All 20 families reported that provider expertise served as a facilitator in pursuing AT as a solution for their child. Most families sought AT to alleviate both negative psychosocial and functional impacts resulting from a missing front tooth. In fact, a missing front tooth was described as very important by many families throughout the first three phases (of the AT experience) and early, definitive intervention served as a significant facilitator. The anticipated future importance of replacing missing front teeth, independent of the family's current sense of urgency, proved to be a facilitator for AT amongst most families. Regarding perceptions of the esthetic and functional outcomes of AT, caregivers reported satisfaction with the final outcomes in addition to relatively few and mild difficulties with the post-op phase of AT.

Were the results published?*

No

Have the results of this proposal been presented?*

Yes

To what extent have you used, or how do you intend to use, AAOF funding to further your career?*

My passion for complex problem-solving has served as a bridge for my love of orthodontics and my drive to find solutions for disparities in access to care. This project allows me to investigate an innovative, cost-effective option to tackle the issue of a missing front tooth while intentionally evaluating barriers to care. The findings from this project will not only help improve acceptance of this treatment but also aid in both patient and provider education. As a lifelong learner, I look forward to the expertise gained from specializing in orthodontics and I am grateful for the opportunity to further develop my craft. AT provides an invaluable

addition to our clinical armamentarium, and I aspire to enrich the profession's evidence-based approach to patient care.

Accounting: Were there any leftover funds?

\$0.00

Not Published

Are there plans to publish? If not, why not?*

Yes; original journal submission was completed in April and updated draft is currently under review by the Journal.

Presented

Please list titles, author or co-authors of these presentation/s, year and locations:*

- 1) Masters Thesis Defense (2024, UNC Adams School of Dentistry)
 - a. Title: "In Their Own Words": Families' Experiences with Tooth Autotransplantation for Replacement of Maxillary Incisors in Children
 - b. Author: B. Williams
- 2) 2024 UNC Dental Research Day (Chapel Hill, poster)
 - a. "In Their Own Words": Families' Experiences with Tooth Autotransplantation
 - b. Authors: B. Williams, M. Jean-Baptiste, K. Divaris, A. Moretti, I. De Kok, and J.R. Christensen
- 3) 2024 AAO Annual Session (New Orleans, poster)
 - a. Title: Families' Experiences with Tooth Autotransplantation
 - b. Author: B. Williams, M. Jean-Baptiste, K. Divaris, A. Moretti, I. De Kok, and J.R. Christensen

Was AAOF support acknowledged?

If so, please describe:

Yes, AAOF support was acknowledged for each presentation; AAOF is disclosed in pending publication.

Internal Review

Reviewer comments

None

Comment: *George, I cannot review this due to a conflict of interest since I helped advise preparing this proposal and was at the same institution.*

Reviewer Status*

Approved

File Attachment Summary

Applicant File Uploads

- AAOF Report Supplemental.pdf

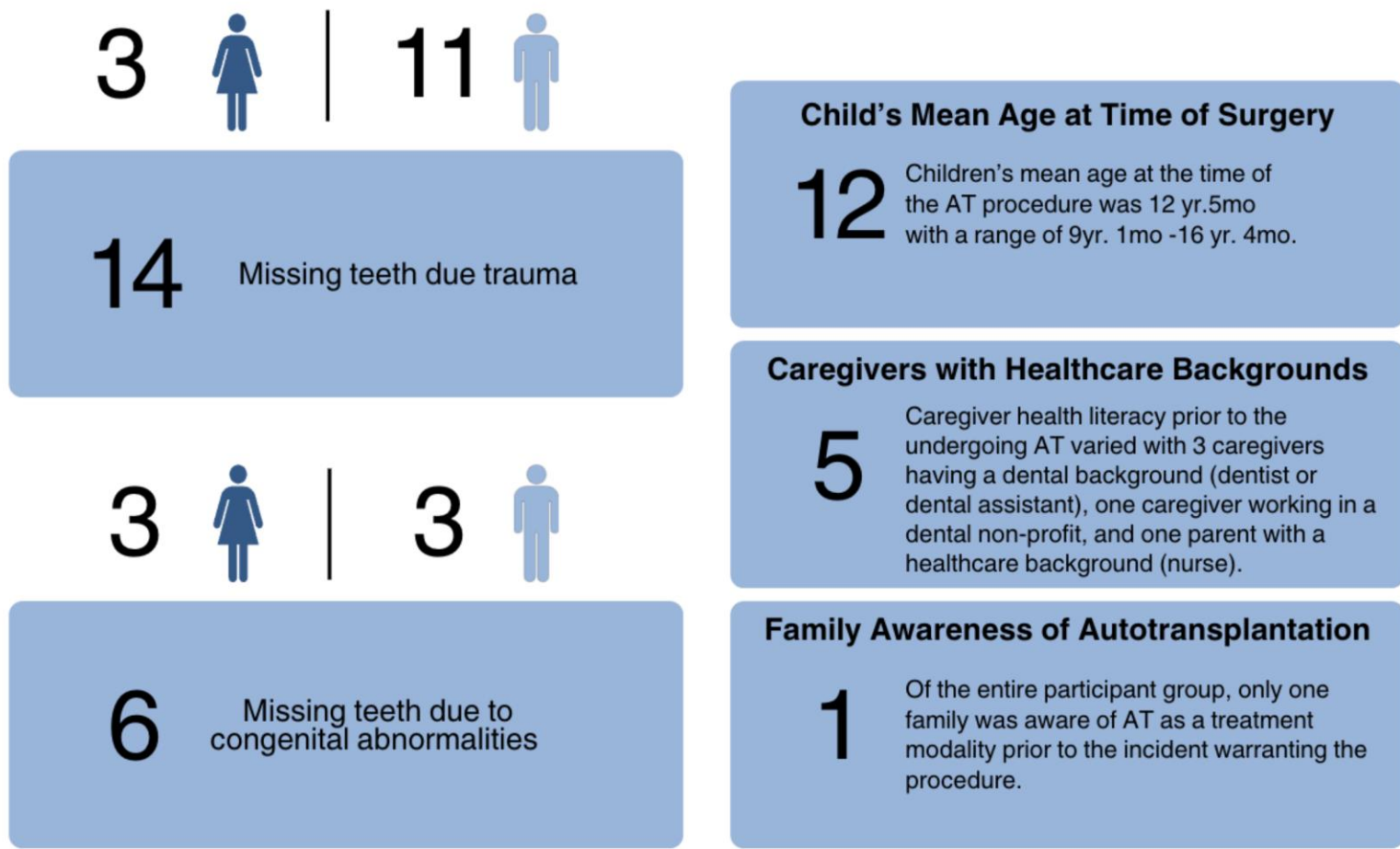


Figure 1. Participating families' demographic information

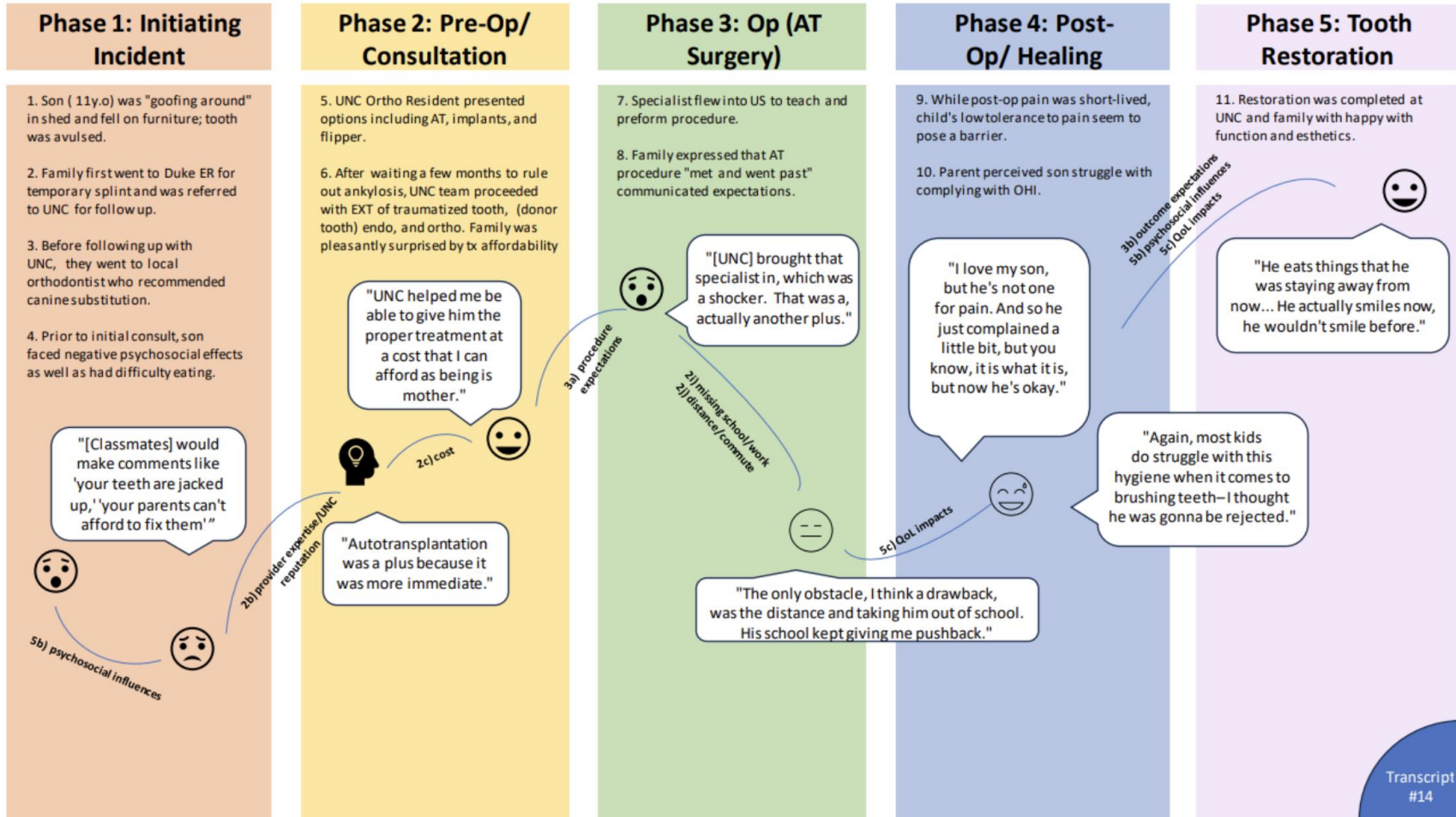


Figure 2. Sample Family Journey Map

	Phase 1: Initiating Incident	Phase 2: Pre-Op/ Consultation	Phase 3: Op (AT Surgery)	Phase 4: Post-Op/ Healing	Phase 5: Tooth Restoration
Facilitators	<ul style="list-style-type: none"> • Current importance • Future importance • Provider expertise/ UNC reputation • Treatment timing • Decision makers 	<ul style="list-style-type: none"> • Current importance • Future Importance • Provider Expertise/ UNC reputation • Cost • Treatment timing • Definitiveness • Natural tooth structure • Distance/ commute • Procedural expectations • Outcome expectations • Communications/ coordination • Provider awareness • Decision makers • Psychosocial influences • QOL impacts • Other: Trust in provider 	<ul style="list-style-type: none"> • Provider expertise/ UNC reputation • Future Importance • Cost • Procedural expectations • Communications/ coordination • Psychosocial influences 	<ul style="list-style-type: none"> • Provider expertise/ UNC reputation • Procedural expectations • Outcome expectations • Communications/ coordination • Decision makers • Psychosocial influences • QOL Impacts • COVID Impacts 	<ul style="list-style-type: none"> • Provider expertise/ UNC reputation • Natural tooth structure • Outcome expectations • Psychosocial influences • QOL impacts
Barriers		<ul style="list-style-type: none"> • Cost • Fear of complication • Invasiveness • Distance/ commute • Procedural expectations • Communication/ coordination • Provider awareness • Family awareness • Psychosocial influences • COVID impacts 	<ul style="list-style-type: none"> • Tx timing • Cost • Fear of complication • Invasiveness • Psychosocial influences • COVID impacts 	<ul style="list-style-type: none"> • Fear of complication • Missing school/ work • procedural expectations • Psychosocial influences • QOL impacts 	<ul style="list-style-type: none"> • Fear of complication • Distance/ commute • Procedural expectations • Psychosocial influences
	<p>Note: factors listed were reported by a threshold of > two (2) families</p>				

Figure 3. Facilitators and Barriers to AT