

# Treatment Option for Missing Maxillary Anterior after Trauma: A Case Report

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## Abstract

This case report presents the dental management of a 45-year-old female with Cerebral Palsy and Intellectual Disability, focusing on the restoration of her lost maxillary central incisors. Following an initial examination at the Special Care Clinic at ECU School of Dental Medicine, several treatment options were considered, including a molar band retained partial denture, a fixed partial denture and implants. Due to the patients' medical history and associated risk factors, the molar band retained partial denture was chosen. The preliminary treatment was performed under general anesthesia, and the final appliance was successfully delivered in an outpatient setting. This approach restored the patient's oral function and aesthetics while minimizing trauma risk. This case highlights the importance of personalized dental care for patients with special needs, ensuring both safety and optimal oral health outcomes.

## Introduction

A 45-year-old female with cerebral palsy and intellectual disabilities presented to the Special Care Clinic at ECU School of Dental Medicine with her caregiver, with the chief complaint of "I want to replace my daughter's front teeth." The patient was missing teeth #8 and #9 as a result of a fall. Due to the patient's medical history and associated risk factors, several factors had to be considered when developing treatment options. Each option took into account the patient's medical history, ability to withstand treatment, ability to clean the prosthesis, and her high fall risk. All treatment options were thoroughly discussed with the patient and her caregiver, resulting in the decision to proceed with a molar band-retained partial denture. This approach was chosen for its minimal invasiveness, low risk of oral trauma in the event of a fall, and its ability to restore function and aesthetics while being durable.

## Treatment Options

### 1. Molar Band Retained Partial Denture

- A hybrid device, fabricated using orthodontic bands soldered to a resin-based partial denture. In the operating room, teeth #4 and #13 would be fitted with orthodontic bands, followed by a pickup impression. The prosthesis would then be fabricated in the lab and delivered chairside. The device would be cemented onto the premolars, making it a fixed prosthesis. This approach was chosen for its minimal invasiveness, low risk of oral trauma in the event of a fall, and its ability to restore function and aesthetics while being durable.

### 2. Fixed Partial Denture

- A six-unit FPD from teeth #6 to #11. In the operating room, sound teeth, #6, #7, #10 and #11 would be prepped and a final impression would be fabricated. The patient would not leave with a temporary due to the potential risk of aspiration. Delivery may be possible in an outpatient setting; however, if any issues arise, she would return to the operating room for treatment. Difficulties with oral hygiene, increase the risk of caries and prosthesis failure. Additionally, given her high fall risk, the potential for oral trauma is significantly increased in the event of a fall.

### 3. Implant and Implant Crowns

- Two-stage implant placement at sites #8 and #9 with zirconia implant crowns. All treatment would have to be done in the operating room. Requiring the patient to undergo general anesthesia several times. Difficulties with oral hygiene, increase the risk of peri-implantitis and implant failure. Additionally, given her high fall risk, the potential for oral trauma significantly increases in the event of a fall.

## Clinical Photographs



## Appliance Fabrication

Operating Room	<ul style="list-style-type: none"> <li>Orthodontic bands fitted to teeth #4 and #13</li> <li>Pickup impression</li> <li>Opposing impression</li> <li>Bite registration</li> </ul>	
Lab	<ul style="list-style-type: none"> <li>Generate working model from pickup impression</li> <li>Articulate casts using bite registration</li> <li>Bend stainless steel wrought wire and solder to orthodontic bands</li> <li>Set denture teeth in wax</li> <li>Process appliance with acrylic base</li> </ul>	
Out-patient Clinic	<ul style="list-style-type: none"> <li>Try-in appliance</li> <li>Utilizing PIP and occlusal paper, adjust as necessary</li> <li>Cement utilizing Ultra Band-Lok</li> </ul>	

## Clinical Photographs



## Clinical Relevance

This case highlights the critical importance of developing personalized dental care strategies that are tailored to the unique needs of patients with special needs. It emphasizes the necessity of considering each patient's medical, physical, and cognitive challenges when creating an appropriate and effective treatment plan. This case underscores the broader need for a multidisciplinary approach in managing patients with conditions like Cerebral Palsy and Intellectual Disabilities. By prioritizing the patient's overall well-being while addressing their specific dental needs, a customized treatment plan was carefully developed. This thoughtful and well-coordinated approach successfully improved function and aesthetics while minimizing risks, ultimately leading to a desirable outcome for the patient.