

# Behavior Management Intervention for Children with Autism Spectrum Disorders



Elizabeth Friedman, DMD · Maria Velasco, DMD, MEd, MS  
Jaime Guberman · Tiffany Park · Hilary Wong



## Study Aims & Hypothesis

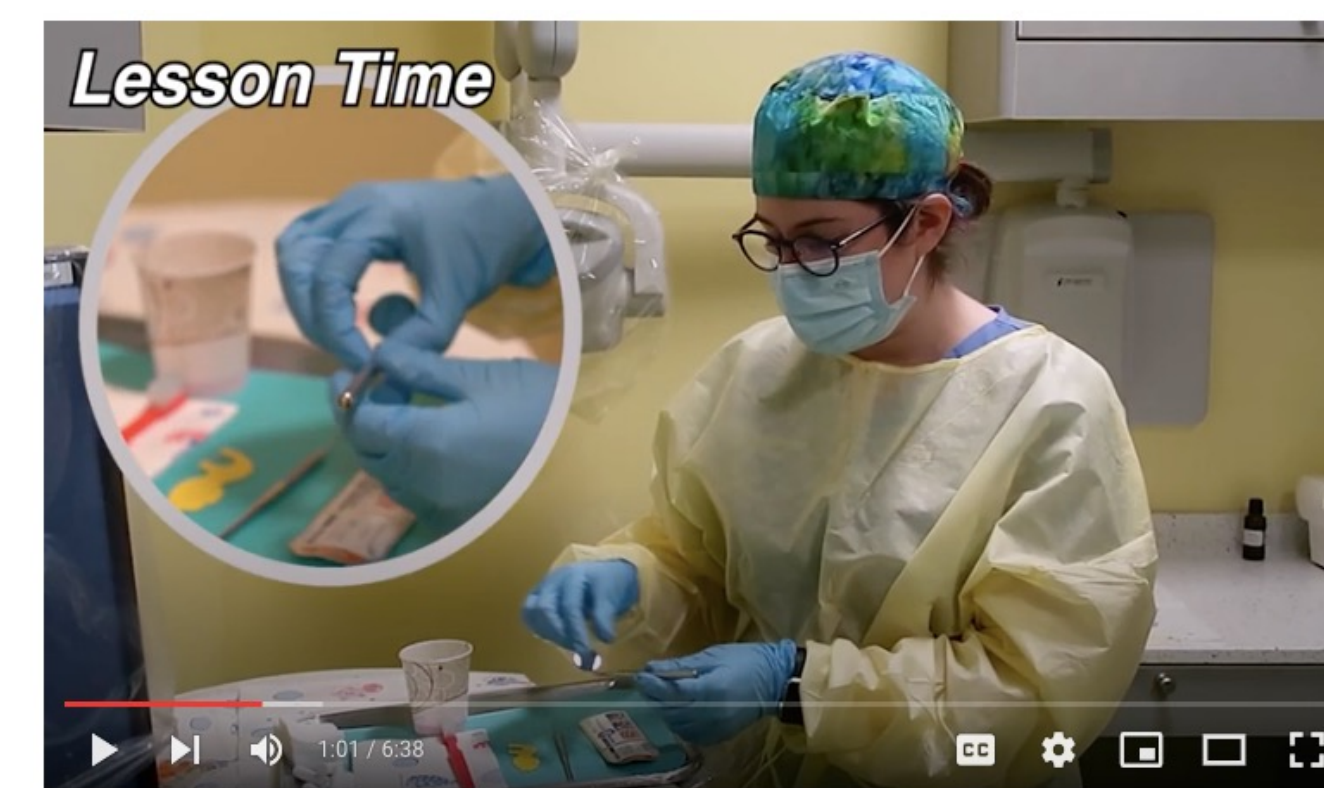
- To investigate the effect of a pre-visit dental video on the ability of patients with Autism Spectrum Disorders (ASD) to obtain radiographs during routine visits in the dental clinic.
- Hypothesis:** a pre-visit instructional video increases the ability of a patient with ASD to successfully take radiographs during a routine visit.

## Introduction

- ASD is a neurological and developmental group of disorders that is characterized by difficulty with social communication, restricted interests, and repetitive behaviors.<sup>1</sup>
- Prevalence of ASD in the US is 1 in 36 children.<sup>1</sup>
- Levels of severity of ASD
  - Level 1** = "requiring support," decreased interest in and difficulty initiating social interactions<sup>2</sup>
  - Level 2** = "requiring substantial support," marked deficits in verbal and nonverbal communication<sup>2</sup>
  - Level 3** = "requiring very substantial support," severe deficits in verbal and nonverbal communication<sup>2</sup>
- ASD and dental treatment considerations: multiple stimuli for children with ASD in a dental office, barriers to access to care, reliance on general anesthesia and sedation to complete dental treatment or even to examine children with ASD
- Current approaches to improving dental experiences: desensitization, social stories, iPad, sunglasses, mirror, headphones
- Children with level 3 ASD have a 31% likelihood of taking radiographs.<sup>3</sup>
- In a pilot study of 20 autistic patients, Lowe and Lindemann reported a 50% success rate of completion of an initial oral examination including bitewing radiographs yet information regarding their treatment protocol and level of autism was not disclosed.<sup>4</sup>

## Methods

- Subjects recruited were patients of record diagnosed with ASD who had been to University of Pennsylvania School of Dental Medicine Pediatric Clinic for recall appointments.
- A video of a dentist providing recall care was created.
- Parents were contacted via phone, sent video link prior to visit.
- Encouraged parent to have patient view video prior to visit.
- First visit: examination, prophylaxis, fluoride.
- Second visit (~4 weeks later): bitewing radiographs attempted.



## Results, continued

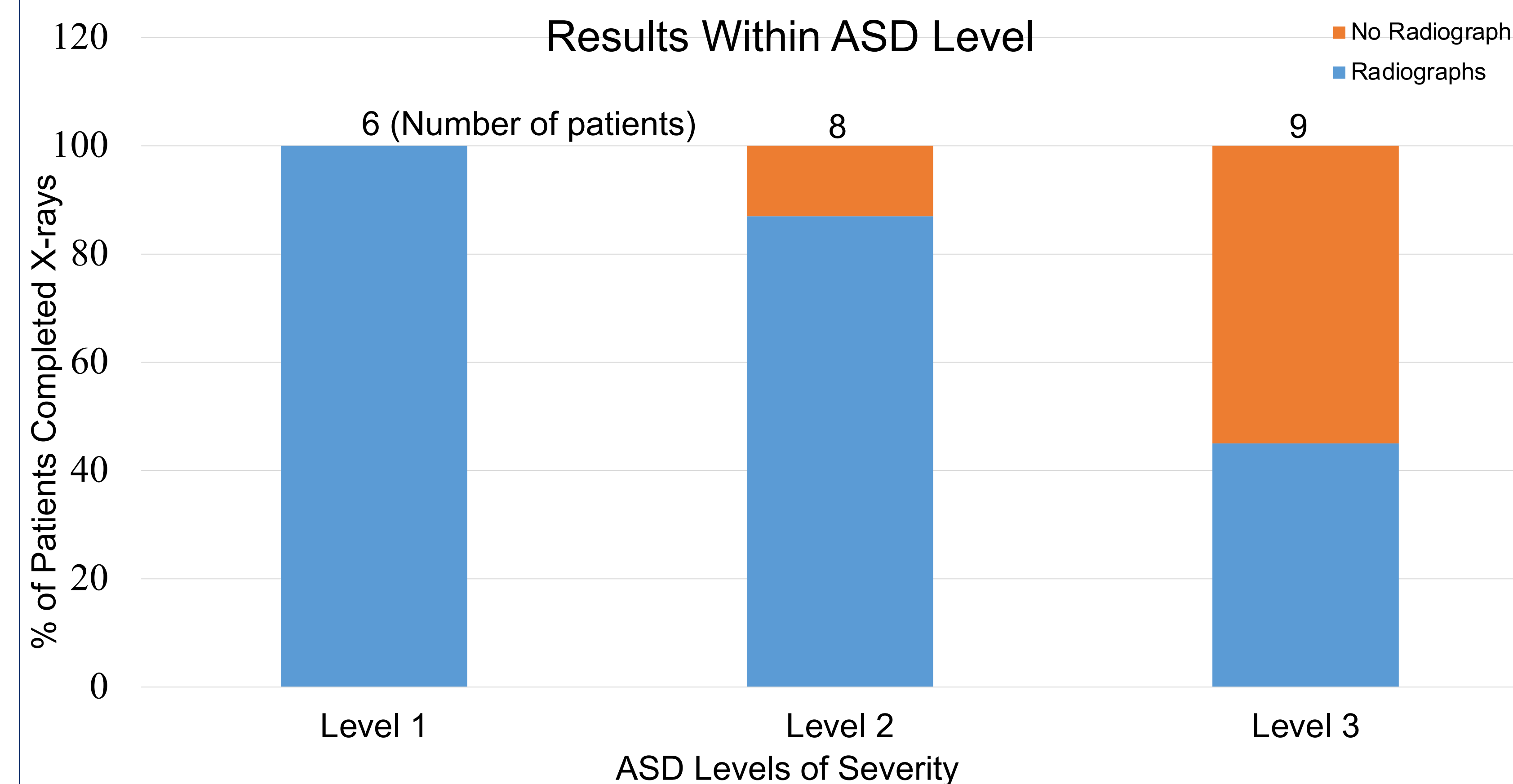
- 23 patients watched the pre-visit video (at least 1 time)
- 16 of 23 patients obtained radiographs = 70%
- Results of subdivided ASD levels
  - 100% of patients with level 1 ASD were able to obtain radiographs
  - 87% of patients with level 2 ASD were able to obtain radiographs
  - 45% of patients with level 3 ASD were able to obtain radiographs

*A pre-visit instructional video may help patients with ASD to successfully take radiographs during routine dental visits.*

## Discussion

- Preliminary results show the potential value of pre-visit video intervention, particularly those with ASD level 1 and level 2 in obtaining x-rays.
- Interventions such as a pre-visit video may minimize the need for sedation and/or general anesthesia if no caries are observed, especially for those classified as high caries risk and who need to be monitored more frequently
- Limitations
  - Need for patients to serve as their own control - is the video more effective than no video?
  - Consistency with number of video viewings
  - Consistency with intervals between first and second visit
  - Account for some patients having history with radiographs

## Results



## References

- Center for Disease Control and Prevention, Autism and Developmental Disabilities Monitoring (ADDM) Network
- Autismspeaks.org, Autism Diagnosis Criteria: DSM-5
- Impact of Autism and Medical Homes on Children's Oral Health, Induja Maheswaran, DMD, MPH
- Lowe O, Lindemann R. Assessment of the autistic patient's dental needs and ability to undergo dental examination. ASDC J Dent Child. 1985 Jan-Feb;52(1):29-35. PMID: 3156901.