

Parental Acceptance of New Radiology Guidelines

ANAIS OLIVARES, DDS, ISABELLE MOLLICONE, BA, OOHYUNG JANG, BS
CATHERINE PHAM DDS, MPH, ALEXANDER ALCARAZ, DMD
HERMAN OSTROW SCHOOL OF DENTISTRY OF USC | ADVANCED PEDIATRIC DENTISTRY

Herman Ostrow School
of Dentistry of USC

BACKGROUND

Dental radiographs play a vital role in monitoring growth, detecting carious lesions, and identifying potential pathologies.¹ Traditionally, lead aprons and thyroid collars have been used to shield sensitive tissues from radiation. However, recent guidelines from the American Academy of Oral and Maxillofacial Radiology (AAOMR) suggest that the radiation protection provided by shielding for the gonads and thyroid is minimal and no longer deemed necessary.⁴ The AAOMR has stated that lead aprons and thyroid collars increase scattered radiation creating greater exposure when taking radiographs. According to the American Academy of Oral and Maxillofacial Radiology (AAOMR), the primary purpose of using lead shielding is to ease patient concerns, not to protect from radiation exposure. Patient and parent acceptance of this recommendation may play a role in future implementation of this guideline.

PURPOSE

The purpose of this study is to determine the parental acceptance of the changing radiology guidelines set forth by the American Academy of Oral Maxillofacial Radiology to stop using thyroid collars and lead aprons when taking dental radiographs.

METHODS

The International Review Board at the University of Southern California approved this cross-sectional survey. Inclusion criteria included parents of patients who are ASA I or II, aged 0-14 years old, and were being seen at the Herman Ostrow School of Dentistry of USC Pediatric Dental Clinic for a recall exam. Parents of patients who met inclusion criteria were asked to participate in a 19-question survey. The survey explains that there is a change in radiology guidelines to stop using lead aprons and thyroid collars while taking radiographs. The survey included a photo of a lead apron (Figure 1) and photo of a thyroid collar (Figure 2). Demographic information, level of education, age, and experience in healthcare were collected to determine their influence on parental acceptance of the proposed changes to radiology guidelines. Descriptive statistics were used to analyze the data.



Figure 1. Lead Apron



Figure 2. Thyroid Collar

RESULTS

A total of 64 surveys were completed. Demographic data was collected (Table 1). Many parents have a dental home where radiographs are taken with a lead apron. However, most parents do not have a thyroid shield when getting radiographs taken. Most responders were not aware of the changes proposed to stop using lead aprons and thyroid shields when taking radiographs (Table 2). Most parents strongly disagreed/disagreed that radiographs can be taken of their children without lead aprons and without a thyroid shield. (Figure 3 & Figure 4).

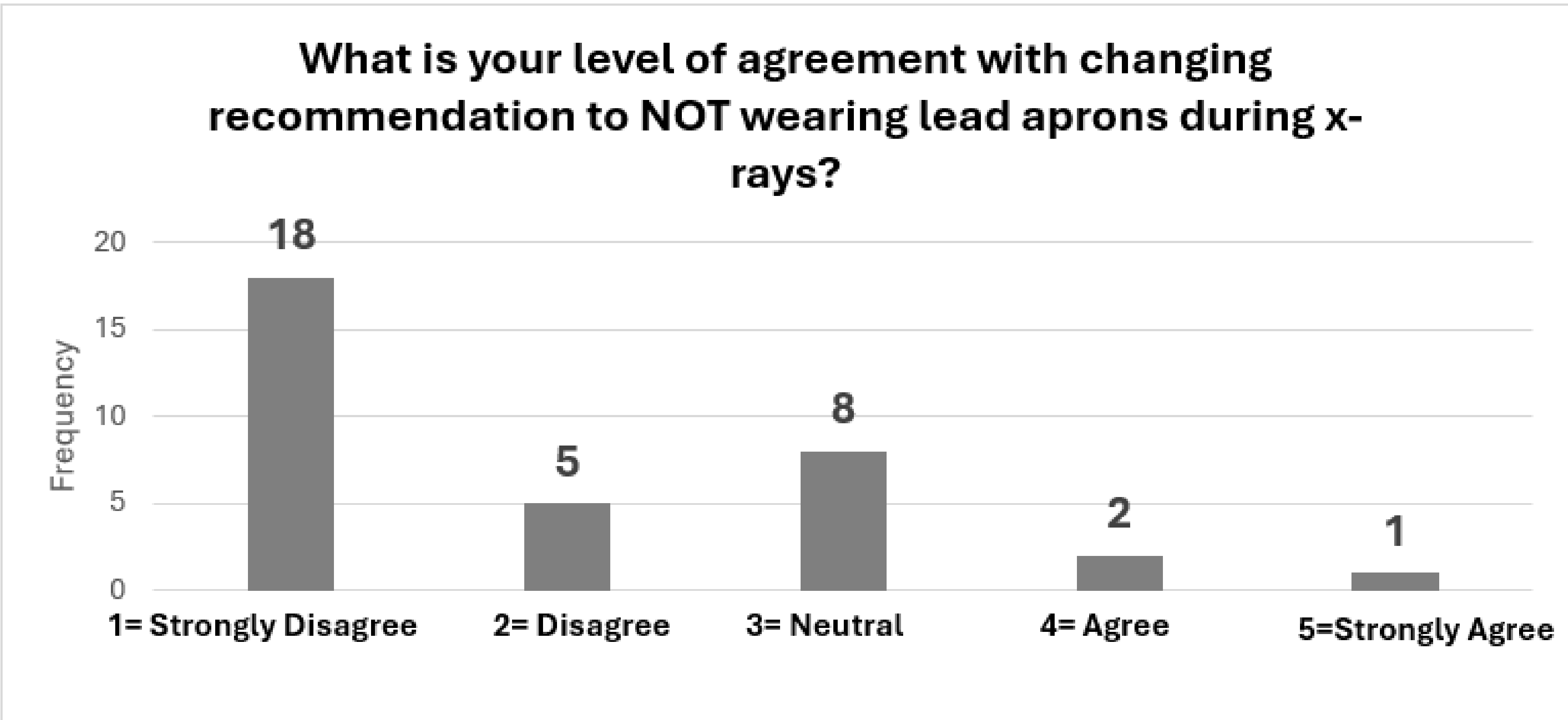


Figure 3. Level of agreement to stop use of lead aprons (N=34)

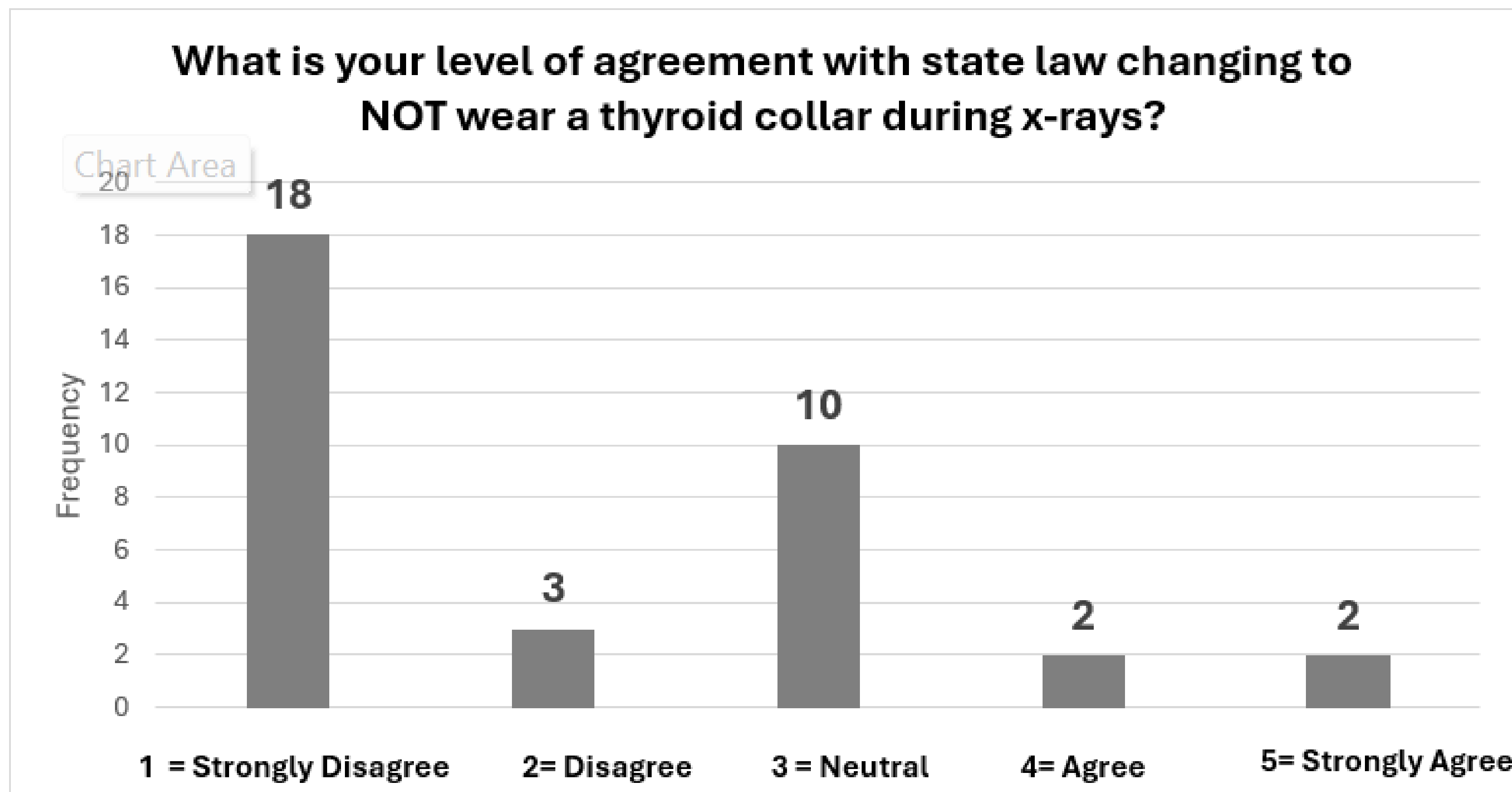


Figure 4. Level of agreement to stop use of thyroid shields (N=34)

Parent/Guardian Gender	N	%	Highest Degree	N	%
Female	53	82.8	No High School Diploma	8	12.5
Male	11	17.2	High School Diploma	27	42.2
Parent/Guardian Age (Years)	N	%	GED or alternative credential	7	10.9
18-25	3	4.7	Associate's Degree	7	10.9
26-45	45	70.3	Bachelor's Degree	5	7.8
46-64	13	20.3	Master's Degree	4	6.3
65 +	1	1.6	Professional degree, Doctorate	1	1.6
Do not wish to disclose	2	3.1	Do not wish to disclose	5	7.8
Hispanic or Latino?	N	%			
Yes	51	79.7			
No	10	4.7			
Do not wish to disclose	3	15.6			

Table 1. Demographic Information

Factors Influencing Parental Acceptance of New Radiology Guidelines	Yes (%)	No (%)	Do not wish to disclose (%)
Do you wear a lead apron when taking X-rays?	92.2	6.3	1.5
Do you wear a thyroid collar when taking X-rays?	45.3	53.1	1.6
Are you aware of the new recommendations by the AAOMR to remove lead aprons and thyroid collars while taking x-rays?	14.1	79.7	6.2

Table 2. Factors that influenced parents' decision-making process

CONCLUSIONS

Overall, parents do not agree with the American Academy of Oral Maxillofacial Radiology (AAOMR) guidelines to eliminate the use of thyroid shields and lead aprons. If state laws are changed to implement this recommendation, there will most likely need to be an effort by dental professionals to assure the public that dental x-rays can be taken safely without lead apron protection.

REFERENCES:

- American Academy of Pediatric Dentistry. Prescribing dental radiographs for infants, children, adolescents, and individuals with special health care needs. The Reference Manual of Pediatric Dentistry. Chicago, Ill.: American Academy of Pediatric Dentistry; 2023:308-11.
- American Dental Association. X-rays/Radiographs. Radiation Exposure in Dentistry. Retrieved December 14,2023, from X-Rays/Radiographs | American Dental Association (ada.org).
- Benavides E, Bhula A, Gohel A, Lurie AG, Malliya SM, Ramesh A, Tyndall DA. Patient shielding during dentomaxillofacial radiography: Recommendations from the American Academy of Oral and Maxillofacial Radiology. J Am Dent Assoc. 2023 Sep;154(9):826-835 e2. Epub 2023 Aug 1.
- California Dental Association. (2023). California Law Required Use of Lead or Lead-Equivalent Aprons During Dental X-rays. Retrieved January 17, 2023, from California law require use of lead or lead-equivalent aprons during dental X-rays - CDA.