

AAPHD ISSUE BRIEF

THE USE OF DENTAL RADIOGRAPHS FOR AGE ESTIMATION OF UNACCOMPANIED MIGRANT MINORS

Dental radiographs are being used to assess the ages of unaccompanied migrant minors

Each year, tens of thousands of unaccompanied migrant minors (also referred to as unaccompanied migrant children) arrive in the United States from Latin America.¹ Between October 2020 and April 2021, over 78,000 unaccompanied migrant minors arrived at the U.S. Southwestern border;² it is unclear how many came with valid identification or age documentation. According to a 2019 Congressional Research Service report prepared for United States Congress members and committees, unaccompanied migrant minors are defined as “children under age 18 who lack lawful immigration status in the United States, and who are either without a parent or legal guardian in the United States, or without a parent or legal guardian in the United States who is available to provide care and physical custody.”³ When unaccompanied minors arrive without official documentation of their age, such as a birth certificate or passport, an age determination report becomes necessary for proper custody placement. Individuals determined to be 18 years or older according to the report are placed in Immigrant and Custom Enforcement (ICE) operated facilities. Migrant children and minors determined to be under the age of 18 are placed with the Office of Refugee Resettlement (ORR), which houses minors separately from adults.⁴

The services and programs available for migrant children placed with ORR differ from those provided by ICE for adults because they include essential needs such as education and pediatric health care services.⁵ Thus, misclassification can have a major impact on health and safety. Misclassified minors may be detained in ICE operated facilities with adults while awaiting a hearing, and reports suggest that this places them at increased risk for physical harm, anxiety, depression, suicidal ideation, and post-traumatic stress disorder.⁵

In light of these consequences, it is necessary that valid, evidence-based, and reliable methods are employed to prevent age misclassification. According to the Office of Refugee Resettlement protocol, dental maturity assessments using radiographs may be used to determine age ranges, but only in conjunction with other evidence.³ However, there are documented cases in the U.S. where dental radiographs were utilized as the sole method for age assessment.⁵

Root development of third molars is not a valid and reliable method of age assessment

As part of the ORR age assessment of unaccompanied minors, radiographs are taken and sent to a contracted dentist whose age determination analysis is based on the use of a methodology which is known to be unreliable and imprecise.⁵ It is unclear which type of radiographs, or how many, are taken during this process. At the core of the problem is that dental age and chronologic age are often not aligned and there is significant variability in dental development not only by chronologic age, but also by race/ethnicity, sex, socioeconomic status, systemic disease, nutritional health, and other environmental factors.⁶ The method being used to determine chronologic age involves a subjective assessment of the root development of the mandibular third molar, the most developmentally variable tooth in the mouth.^{7,8} Studies have shown that age estimation methods based on third molar root development can only provide an age range estimate.⁹

Further complicating the ability to accurately determine age from a dental radiograph is that appropriate reference populations are not available. The 2020 American Dental Association (ADA) Technical Report No. 1077 “Human Age Assessment by Dental Analysis” advised that dental radiographs for age assessment be compared against reference population study data with similar genetic and environmental characteristics.¹⁰ If such studies are not available for a particular population, the ADA advised, “then the reference population study that most closely aligns with the individual being assessed should be utilized, and direction of possible error reported”; however, there is no known reference population that can fully reflect the diversity in development of these children who have varying genetic and environmental determinants. The ADA report further acknowledges that “the consequences of inappropriate measurement of age can have emotional and legal ramifications” and that whenever possible “multiple independent dental and non-dental methodologies should be performed by qualified practitioners.”¹⁰ They state that dental age assessment examiners should be tested and calibrated with a “predefined and documented method” for resolving differences. It is unclear, however, if process measures have been developed and are currently being used to assess the reliability of dental age determination procedures.

Ethical and informed consent considerations exist regarding the non-therapeutic use of dental radiographs for age determination in unaccompanied migrant minors

There are several ethical considerations associated with using dental radiographs for administrative purposes in living patients. Using dental radiographs solely to determine age does not provide diagnostic information to benefit patients. It is unclear if clinical findings noted on these radiographs, specifically dental disease and jaw pathology, are being communicated to the patient and if treatment is provided. Informed consent is an additional concern as irradiating minors without parental or patient consent/assent violates the rights of the parents/patient to make an informed decision about their care.^{5,11}

Care of unaccompanied migrant minors must be held to the highest ethical and evidence-based standards as guaranteed by state and federal law

This issue brief serves to inform AAPHD membership and the broader dental community of practices related to the use of dental radiographs for age assessment of unaccompanied migrant minors. There is no single reliable method to determine chronological age, and the use of radiographs to determine age can only provide an age range estimate. Based on ethical concerns and scientific uncertainty, prominent global medical organizations have denounced the practice of chronologic age determination by radiographic means including the European Academy of Pediatrics, British Royal College of Pediatrics and Child Health, British Royal College of Radiologists, French Academy of Medicine, French National Ethic Committee, and Dutch National Society of Physicians.¹²

Based on the methodological and ethical issues discussed in this brief, the AAPHD supports global efforts to prohibit the use of dental radiographs for age determination in unaccompanied migrant minors.

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