IN THIS ISSUE OF...
THE TOOTH FAIRY TIMES!
UCLA SCAAPD’S E-NEWSLETTER

For future and current pediatric dentists, and all tooth fairies alike, The Tooth Fairy Times was engendered to bring in pieces from students, residents, faculty and professionals to build a holistic understanding of pediatric dentistry, both for education and entertainment.

You’ll find in this edition, we have a variety of topics to start the new year right. From a public health to psychological perspective, you will get a new insight into what pediatric dentists must know in order to give the best care to their pediatric patients.

We hope you reach the final page feeling more educated, possibly inspired, and hopefully had a smile or two along the way!
FALL QUARTER EVENTS

Lunch and Learns:
- Pediatric Oral Medicine & Pathology by Dr. Laurel Henderson
- Treating Pediatric Patients and Behavior Management by Dr. Adi Genish
- Cleft Lips and Palate: Role of the Pediatric Dentist by Dr. Setareh Chafouri

Make sure to take a look at the new Cabinet Spotlights at Instagram and more educative Dental Peds Content! @ucla_scaapd

OHI at Glazier Elementary
Kids learned how to take care of their teeth through 3 OHI. These OHI events were at Glazier Elementary through zoom. Make sure to keep an eye on our future volunteering events!

Big/Little Pairings
Teams of a pediatric dentist mentor, D1’s, D2’s, D3’s, and D4’s were created. Mentorship and friendship are underway!

Research Interest Meeting with Dr. Law hosted by Research Committee
In December 2020, Dr. Law hosted a introduction meeting to present the topics that will be researched this year. Teams were created and the projects will start this January. We are looking forward to seeing the results of these future investigations!
THE PROGNOSIS PREDICTOR:
SOCIAL DETERMINANTS OF HEALTH IN PEDIATRIC DENTISTRY
ALYSSA NOWLEN '22

The concept of social determinants of health (SDOH) is relatively new, established in 2005 by the World Health Organization (WHO). A group of global health experts were gathered to collect evidence on what was driving health in some nations and tarnishing it in others, so as to find ways to achieve better and more fairly distributed health worldwide, along the way recognizing the need to address social influences on ill health in countries (1). The commissioned group of global health experts was later dismantled following their report delivery in 2008, seeing as though their work was done. The commission sought to find the “causes of the causes” when it came to community health, narrowing in on areas including early child development, employment conditions, globalization, women and gender equity, urban settings, social exclusion, health systems, and priority public health conditions. They also had regional networks that further researched aging, indigenous peoples, food and nutrition, violence and conflict, and environment. The commission deduced the following overarching recommendations: to improve community health

1. Improve daily living conditions
2. Tackle the inequitable distribution of power, money and resources
3. Measure and understand the problem and assess the impact of action (1)

Following these suggestions, the report urged report for change through policy implementation, action through civil society organizations (i.e. schools, advocacy groups, service organizations), and acceptance of input provided by the knowledge networks of health and community experts. The countries involved, and even regions within these countries, vastly differ in their presentations and problems in the health sector, but the connection between social environment and health did not. Access to and quality of health care, as well as lifestyle choices of patients, indisputably influence health—but it is the social factors that determine this access to and quality of health care and lifestyle in the first place (1). The commission included in their final report that “inequities are killing people on a grand scale,” and it is the upholding of this. 15 years later in the United States, which has caught the eye of a larger audience and made SDOH more familiar of buzzwords among health professionals. In the land of supposed equal opportunity and prospect for all aspirations to be reached with hard work and grit, this American dream couldn’t be more of a fallacy as it pertains to health. The harsh reality is that most individuals have the fate of their health predetermined based on the social influences that ruling their lives.

Now, a person’s health is dynamic, so it can improve just as well as it can rapidly fail. A person’s SDOH are defined by the WHO as “the conditions in which they are born, grow, live, work and age, and the wider set of forces and systems shaping the conditions of daily life”(1). These conditions, as described, are some of the strongest driving factors of health outcomes: mortality, morbidity, life expectancy, health status and functional limitations, see Table 1 (2). Social factors shape day to day decisions and influence habits, based on a process of prioritizing and assigning value to what is important within the context of a person’s life. A busy parent may have their child under 8 years brush themselves, as they quickly get lunches ready for school. A parent of a child with special needs may choose to skip nights of brushing to avoid a distressing episode for their child. In both these cases, the negligence of care was a voluntary choice, though deemed permissible by some opinions. In other instances, a person’s health risk and access to avenues of health improvement are dictated by unalterable circumstances and conditions.

Health professionals must realize they are only in control of 20 percent of a patient’s health factors—the clinical care. Another 30 percent is due to their health behaviors. 40 percent is by social and economic factors, and 10 percent from physical environment (3). Non-health sectors also affect community health like (public) transportation, neighborhood safety, and availability of food, and these become vital in the evaluation of one’s past, present and future health history. Tackling SDOH is not a one-person job, as it requires the joint efforts of the individual, government, and health care providers, and sometimes even a shift in cultural values toward practices that support healthy living. While it is possible to overcome certain determinants, the more that present as working against a patient, the more difficult it will be to alter their life course in a direction toward health.
In 2017, the American Academy of Pediatric Dentistry (AAPD) adopted a policy that acknowledged the significant impact these social determinants of health had on pediatric oral health, namely their access to care, presentation of dental disease, behaviors and habits, and the existence of oral health inequalities. Thus, in order to improve the health outcomes of patients, these social conditions ruling their life’s prognoses must be addressed (4). Socioeconomic position influences SDOH, and findings have shown gradients in oral health correlating to a family’s socioeconomic position (5). Currently, the CDC reports about 1 in 5 children aged 5 to 11 years have at least one untreated decayed tooth and 1 in 7 adolescents aged 12 to 19 years have at least one untreated decayed tooth (6). Worth noting is that 25 percent of children from low-income families have active caries, over double that of children from higher-income households. Common treatments like dental sealants and fluoride varnish can significantly improve a child’s caries experience, preventing 80 percent and 33 percent of cavities, respectively. However, in order to receive these treatments, a child would need to have a dental home, and possess the appropriate transportation, finances, and accessibility needed for care.

In 2019, a group in Brazil published a longitudinal study that looked at the impact of a family’s socioeconomic trajectory on their children’s oral health status. It followed 482 individuals from diverse economic backgrounds and measured their oral health and income mobility in the years 2000, 2006 and 2012. It found the greatest risk of tooth decay in those who remained poor and that downward income mobility minimized access to immediate dental services (7). Another study in Brazil looked at the effect of dental caries experience on oral health-related quality of life (OHRQoL) among adolescents 11-14 years. It found that high severity of dental caries experience, untreated dental caries and missing teeth posed a significant negative impact on OHRQoL for adolescents, while those with filled teeth and without dental caries exhibited no difference in OHRQoL (8).

Not surprisingly, problems patients experience with their teeth do not remain local. Dental caries is the most common chronic disease children experience, and that is having its effects on children’s ability to eat, sleep, grow and even learn. In fact, US children miss 51 million school hours annually due to dental-related problems (9). Children with toothaches were also 4 times more likely to have a low grade point average. Consider this in conjunction with 11 percent of students with poor access to dental care missing school, while only 4 percent of students with access miss school (10). The consequences of children’s oral health status are doing more than just shaping their smile, they are shaping their futures.

The AAPD calls on all relevant “stakeholders” such as dentists, educators, researchers and other health professionals, to practice in such a way that is sensitive to SDOH and seeks to mitigate the sequelae that arise from unaddressed oral health conditions. Many who enter the dental profession do so in order to help others—a common narrative of aspiring health professionals—and combatting ignorance on this topic is an exceptional place to start. It is, however, essential to keep in mind that we cannot easily change one’s SDOH, rather, we must acknowledge them in order to provide comprehensive, personalized health care. In your own practice, you may consider accepting more insurance plans or reevaluating at your fees to ensure they are appropriate for the demographics in the area. You can also offer pamphlets on health issues affecting both your patients and their parents such as cold/flu and prevention, STIs, hypertension and diabetes, as well as resources for patients that may benefit from social services. Offering sensitivity to patients’ backgrounds—what they eat, history with medical providers, their ability to schedule and attend appointments—will also go a long way. Remember that you are an educator of health, so discussing chronic disease prevention, nutrition and other approaches to a healthy lifestyle are within your scope of influence. In seeking to address patients’ SDOH, we keep ourselves from being salmon swimming upstream. It allows us to more accurately and holistically understand their health and recognize why the work done in your office can only stretch so far. While we can be better health professionals with this knowledge, we can also be better members of the health community by continuing to advocate for fair health insurance practices, legislation that benefits people across socioeconomic statuses, and the right to access quality care, so that we can grow closer to reaching health equity at a national and global level.
CLEFT LIP AND PALATE: THE PSYCHOLOGICAL EFFECT ON CHILDREN
MICHAEL KOHAN-GHADOSH 22'

Cleft lip and palate (CLP) occurs when facial structures do not close completely in an unborn child and thus the child’s lips and mouth do not form properly. It is a very common birth defect and has a high incidence of occurring— one in every seven hundred live births (1). Clefts are classified as complete or incomplete, as well as unilateral or bilateral. Half of all orofacial clefts involve both the palate and lip, while clefts confined to the palate are less common. This defect is not one that is frivolous and has several psychological implications on a child’s life.

To begin, children with cleft lip and palate are faced with feeling different from others. They have a negative perception of self because of outside influences. Outsiders see them as being different and do not readily accept them socially. In general, our society makes a big deal about outer physical appearance and attractiveness. Thus, people who stand outside of what is perceived as being ‘normal’ tend to face difficulties as they move forward in life. As a result, children face a lot of bullying, teasing, and being avoided. This can often result in a child holding a negative self image (2)(3). In a study done by Kapp in 1979, it was noted that cleft children tended to show a concern regarding physical appearance when it came to self-concept tests (4). Children, especially girls, reported significantly more anxiety, less success in school, and more unhappiness and dissatisfaction as compared to their peers. Overall, they are hurt emotionally and heavily impacted by the stigma of their physical disabilities due to the importance of physical appearance in our society.

Other than being physically different, children with cleft lip and palate may also have speech issues. Survey shows that there are not many children who have concerns regarding their speech. The predominant group of those who tend to have personal issues with their speech were ones that had issues with their physical appearance as well (5). Nevertheless, those with communication difficulties become targets for teasing and as a result brings their self worth down, thus also impacting their psychological health (6)(7).

Moreover, CLP children have been found to have fewer friends due to their birth defects and typically feel more alienated (8)(9). It has been found that these children isolate themselves because of two main reasons; the first being they want to protect themselves from the social rejection that comes with having a cleft defect and the second being they are shy and less socially competent (10). Children with the defect may not feel that they are like others and this commonly causes social anxiety.

In conclusion, children with CLP face a multitude of psychological hurdles as they are growing up. Although not at higher risk for developing psychiatric disorders, they are more likely to face social issues and have a lower self-worth. The role of the dental team remains integral over time; monitoring teeth for proper eruption, making appropriate and timely referrals to orthodontic providers, and ensuring that the child is able to function, feel and look as well as possible as they transition into young adulthood.
**Does premature primary tooth loss in children increase the risk of malocclusion?**

Where do you start to find an answer to that? General questions that ask who, what, when, where, and why, such as the classification of caries are often answered using textbooks. However, unless you are a multilingual speed-reader that has hours if not days to skim through thousands of pediatric journals from the past years, the answer for a complex clinical question like this one is difficult to find.

Evidence-Based Dentistry (EBD) brings research and patient-centered care into the clinical practice alongside the dentist’s expertise to organize and answer these questions systematically and accurately.

The American Dental Association (ADA) defines EBD as, “an approach to oral healthcare that requires the **judicious integration of systematic assessments of clinically relevant scientific evidence**, relating to the patient’s oral and medical condition and history, with the **dentist’s clinical expertise** and the **patient’s treatment needs and preferences**.”

**Did you know? EBD was first mentioned in a professional dental journal article in 1995.**

The first step to answering most complex questions (that are not directly answerable) is identifying each part of the question. So, once you have determined a clinical question, the next step is to formulate it into what in the evidence-based process is called a PICO question. The PICO format helps to breakdown the clinical question into researchable parts.

- **P** = Patient, Population, Problem
- **I** = Intervention, Prognostic Factor, Exposure (What main intervention are you considering? Are you treating, diagnosing, or observing?)
- **C** = Comparison (What is the main alternatives, such as gold standard, to the intervention? Could also be none or placebo)
- **O** = Outcome (What are you trying to achieve, measure, improve or affect? Outcomes may be disease-oriented or patient-oriented.)

**Now let’s break down the clinical question we asked earlier: Does premature primary tooth loss in children increase the risk of malocclusion?**

- **Patient/population/problem** = children
- **Intervention** = premature primary tooth loss (observation)
- **Comparison** = no premature primary tooth loss
- **Outcome** = increase the risk of malocclusion

Now with your question in PICO format, you can use the terms that you have identified in your literature search. A well-formulated question will ease the search for evidence and will assist you in determining whether the evidence is relevant to your question.

**Where can I learn more about pediatric EBD?**

American Academy of Pediatric Dentistry (AAPD) has a resourceful EBD page that serves as the virtual home of EBD at the American Academy of Dentistry. It is a great place for you to further understand EBD. If you find a topic that you feel is in need of an EBD guideline, you can even participate in the process by submitting your ideas! Visit this page for more information: [https://www.aapd.org/research/evidence-based-dentistry/](https://www.aapd.org/research/evidence-based-dentistry/)
As childhood dental caries remain as the most prevalent chronic disease of children ages 6 to 19 years (1), the establishment of a dental home between the ages of 6 to 12 months is key to improving the overall dental health of children. Establishment of a dental home at a young age promotes an ongoing relationship between a dentist and patient to help children and families establish a lifetime of good oral hygiene and health.

The most effective dental homes foster a positive association between a dental environment to the anticipated experience. Through behavior guidance, a dental team can incorporate methods to foster a positive environment and alleviate patient anxiety. These methods may fall into the categories of positive reinforcement, negative reinforcement, punishment, and omission, and can range from tell-show-do, non-verbal communication, distraction, sedation, and many more. Distraction, a method that falls into the negative reinforcement category, or the removal of a negative stimuli, is a topic of recent exploration due to the increased advances of technology.

Traditional distraction techniques include allowing patients to take short breaks during procedures or conversing with a patient. As technology has advanced in the past years, recent studies have looked into technology-based distraction techniques and its effect on lessening anxiety and uncooperative behavior in pediatric patients in the dental setting. These technology-based distraction techniques include the implementation of 3D glasses, 2D video eyewear, monitors, TVs attached to ceilings, and audio distraction.

Kaur et al. studied the effects of audiovisual distraction of children ages 4 to 8 years through a monitor showing cartoons or short video clips before, during, and after local anesthesia administration and a restorative procedure and found that there was a significant reduction in anxiety levels. Moreover, a significant decrease in heart rate and self-reported anxiety levels were found when children ages 4 to 5 were shown cartoons on a TV monitor (3).

The use of video eyewear on the behavior of children was also studied, and it was found that wearing video eyewear significantly lowered uncooperative behavior (4). Furthermore, Koticha et al. studied the effects of virtual reality and anxiety in pediatric patients, through both the Venham’s picture test to measure self-reported anxiety and heart rate. It was found that the cohort that viewed virtual reality did not have a significant difference in self-reported anxiety levels but did have a significantly lowered pulse rate (5). This may indicate that though video-based distraction did not alter the patients’ self-perception of anxiety, there is a beneficial physiologic effect that video distraction may induce. Within the realm of video eyewear, 3D glasses were found to be more effective in lowering anxiety levels than 2D glasses in pediatric patients due to the effective isolation of dental related sounds and views (6).

The use of audio distraction was also studied by Singh et al. and it was found that there was a significant difference in self-reported anxiety levels, yet there was not a significant decrease of heart rate between the cohorts that received audio distraction and the control cohort. Moreover, within audio distraction, it was found that nursery rhymes and stories were more difficult to implement to reduce anxiety levels due to the level of attention needed as opposed to music (6). Thus, audio distraction of nursery rhymes and stories may work best with procedures early on in an appointment.

In conclusion, technology-based distraction, including audio and visual based, may be beneficial in decreasing anxiety and improving behavior of pediatric patients in a dental setting and can be a tool added on to behavior guidance and constructing an effective dental home. As more advances are made, studies such as these highlight the importance of keeping up with modern advances and practicing with the desire to learn and explore different avenues to improve current treatments and methods.

Image 1: Example of the Venham's picture test to measure self reported anxiety.
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Cleft Lip and Palate and the Psychological effect on Children


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The Use of Technology Based Interventions to Manage Distress in Pediatric Dental Patients