

Fall 2025

SLEEP & WELLNESS[®]

MAGAZINE



DR. JERRY HU

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NCAA NATIONAL CHAMPION

10 **SLEEP APNEA**
DESTROYER CHAMPION

11 **CARSON WENTZ**
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“

Training Sleep Apnea Dentistry has become rife with folks overstating their abilities and experience. Selling substandard equipment at inflated prices to an unsuspecting group of clinicians who simply want to treat their patients.

-David Gergen, CDT

”

During this Certification Course Dr. Adams will also be going over 5 new Epigenetic Ortho Appliances. David Gergen, Francisco Eraso, & Tim Adams have all been working together to launch this line of appliances.

These appliances are going to be able to correct: Cross-Bites, High/Low Occlusion, and Cranial Strains

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American Sleep
and Breathing Academy



**REGISTER
NOW**

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ASBA Mastery Program at Aviara: Pre-requisite for Mastery Program: ASBA Diplomate & OLC/AOA Certified (DDS)

SESSION I: MARCH 6-7, 2026

FRIDAY 6TH

- 7:30-8:30**
Check-in, Light Breakfast, Introduction of
Program and Speakers
- 8:3-9:30**
Wholebody Wellness Foundation: "Integrative Airway &
Lifestyle Health" *Katherine Ahn Wallace, DDS*
- 9:30-11:00**
Airway Foundation: "Overview of the Science Behind the
Open Loop Cricket" *Tim Adams, DDS*
- 11-11:15 BREAK**
- 11:15-12:30**
TMJ Foundation: "Overview of the TMJ Complex and
Treatment Options" *Tim Adams, DDS*
- 12:30-1:30 LUNCH**
(OPTIONAL: Essentrics Fascial Class with
Christine Machado)
- 1:30-2:00**
Review of Sleep Quality Screening Tests vs Home Sleep
Tests *Jerry Hu, DDS*
- 2:00-3:15**
Sleep Foundation: "Overview of the Herbst and Dental
Sleep Medicine" *Jerry Hu, DDS*
- 3:15-3:30 BREAK**
- 3:30-4:30**
Posture Foundation 1: "The relationship between Jaw,
Cranium & Posture" *Charles Blum, DC* (when and who to
refer or work with for best outcome)
- 4:30-5:30**
Posture Foundation 2: "The relationship between
Neurology, Fascia & Posture" *Alison Wu, dPT*
(+techniques to improve breathing, sleep and TMJ pain)
- 5:30-7:30 DINNER AT AVIARA (MEET AND GREET)**

SATURDAY 7TH

- 7:3-8:30**
Breakfast
- 8:30-9:30**
Record Essentials: Cone Beam Evaluation & the ASBA
Template *Francisco Eraso, DDS*
- 9:30-10:30**
Ortho Essentials: GForce Aligner Technology and Clinical
Application *Francisco Eraso, DDS*
- 10:30-10:45 BREAK**
- 10:45-12:45**
Laser Science and Incorporating Lasers in Clinical Airway
Dentistry from CO2 to YAG from TMJ to Sleep
Scott Parker, DDS
- 12:45-1:30 LUNCH**
- 1:30-2:30**
Record Essentials: "SOAP+C: Vitals, Intake, Exam, Dx, Tx
plan & Consents" *Christina Jasmer, PA (Aviara PA)*
- 2:30-3:45 LIVE PATIENT DEMO**
"ATO Exam, IOS, EOI, PI, CBCT, Somfit" (1 Pedo + 1 Adult)
Christina Jasmer, PA (Aviara PA), Dr. Ahn and Dr Adams
- 3:45-4:00 BREAK**
- 4:00 - 5:30 LIVE PATIENT DEMO**
"Capturing the Phonetic Bite for OAT" (DDS work on each
other) *Jerry Hu, DDS*

FRIDAY 8TH

7:30-8:00

Breakfast (Intro to program & speakers)

8:00-9:00

Pediatric Airway Foundation: "Orthopedic tx to support pediatric airway" *Katherine Ahn Wallace, DDS*

9:00-10:30

Cranial Strain Review and Why Treating Children and Adults with the Adams Orthopedic Appliance Line that Utilizes the OLC Principles backed by Science, Anatomy and Literature is so powerful.

10:30-10:45 BREAK

10:45-12:45

Cranial, TMJ & Dental Alignment case selection with Adams Orthopedic Appliances Line featuring world renowned master technician *Dave Gergen and Tim Adams, DDS*.

12:45-1:30 LUNCH

1:30-2:30 LIVE PATIENT DEMO

Delivery of OC appliance for Child Patient 1
Tim Adams, DDS (Katherine Ahn Wallace, DDS assist)

2:30-3:30 LIVE PATIENT DEMO

Delivery of OLC appliance for Adult Patient 2
Tim Addams, DDS

3:30-4:30 LIVE PATIENT DEMO

Cranio-postural Therapy, Child Patient 1
Charles Blum, DC & Alison Wu, dPT

4:30-5:30 LIVE PATIENT DEMO

Cranio-postural Therapy for Adult Patient 2
Charles Blum, DC & Alison Wu, dPT

5:30-7:30 DINNER MEET & GREET

SATURDAY 9TH

8:00-9:00

Breakfast

9:00-10:30

OLC Case Presentation if Attendee's Patients' Case Reviews
Tim Adams, DDS & Master Technician *Dave Gergen*

10:30-10:45 BREAK

11:00-1:00

OLC Case Presentation Attendee's Patients' Case Reviews
Tim Adams, DDS & Master Technician Dave Gergen

1:00-2:00 LUNCH

2:00-3:00

Tongue Tie evaluation and Airway/Snoring/TMJ Therapy w DEKA Quiet Night Attendee to be treated.
Scott Parker, DDS and Tim Adams, DDS

3:00-4:30 LIVE PATIENT DEMO

Snoring Therapy with Quiet Night *Scott Parker, DDS*

4:30-5:30

Q&A Panel *Tim Adams, Scott Parker, Dave Gergen, Katherine Ahn, Jerry Hu*

SUGGESTION (OPTIONAL)

SUNDAY MAY 10TH

Airway Ortho Phase II Case Finishing with
CBCT guided clear aligner therapy.

OLC Certification Course Part I and Part II
(In Arizona):

- Nov Part 1, Dec Part 2
- Jan Part 1, Feb Part 2

Open to all, prerequisite for Mastery Course Attendees.

ASBA Mastery Program Overview

Master the principles essential to become an expert in the Airway, TMJ and Orthopedic field. Understand the relationship between our teeth, cranial bones, TMJ, posture (cranial and cervical spine) and airway and the disruptions that lead to asymmetry, narrow jaw, crooked teeth, TMD, chronic disease, and accelerated aging.

DRAFT COURSE

OBJECTIVE DESCRIPTIONS (OPTIONS):

1. Learn how to look at the big picture as healthcare providers (DDS, MD, DO, PA, NP, RN, DC, PT, OT, OMT, RDH, RDA, MA, IBCLC): Where disease begins, how to reverse it, prevent it, and enhance the aesthetics (smile and face) and promote longevity at the same time. (*Katherine Ahn Wallace, DDS*)
2. Learn **how dentists can work with SOT chiropractors and physical therapists** optimally for greater homeostasis orthopedically and neurologically for optimal breathing, jaw development, TMJ alignment and stable bite. (*Charles Blum, DC and Alison Wu, dPT*)

3. Learn what **Craniofacial Dystrophy** (lack of facial growth and development) and Functional Appliance Therapy is. Discover the benefits and limitations of various oral appliances currently being used and how dentists can use the OLC and other Adam's Orthodontic Appliances to provide an environment where our body can self correct, obtain symmetry and homeostasis that supports improved breathing, balance, function and aesthetics. (*Tim Adams, DDS*)

4. Learn the importance of addressing common **cranial strain patterns** as they relate to posture, breathing, TMJ and occlusion before treating patients. Master TMJ Therapy from an airway and whole body health perspective (*Tim Adams, DDS*)

5. Learn how our body self-regulates (via pure reflex responses) using the **3 Biomechanical Complexes** of the body and how dysfunction in any one of the 3 complexes will lead to compensatory adaptation and inflammation requiring comprehensive intervention from dentists, chiropractors and physical therapists (and other specialists) (*Charles Blum, DC?*):

- Cranial - Cervical - Mandibular Complex
- Thoracic - Abdominal Complex
- Pelvic/Sacral - Lumbar - Femoral Complex

6. Understand the interrelationship between our ANS and Fascial system and the **diaphragmatic coupling**: - Simpson's Fascia

- Thoracic Diaphragm
- Pelvic Floor
- Soft Palate
- Tongue
- Tentorium Cerebelli and Falx Cerebri

Learn how to **integrate the whole body** in your dental Airway/TMJ/Ortho practice with myofunctional therapy, frenectomy, chiropractics, physical therapy, and lifestyle programs. Learn when to refer to occupational therapists, podiatrists, sleep MDs & other healthcare professionals. (*Alison Wu, dPT*)

7. Master Sleep Dentistry from a holistic perspective (*Jerry Hu, DDS*)
8. Master Laser Therapy for restricted frenum and snoring/airway (*Scott Parker, DDS*)

INTEGRATIVE COURSES

PLANNED FOR FUTURE AT AVIARA

- Airway Orthodontic Case Finishing with Invisalign & Braces (using AI and CBCT)
- Early Intervention Ortho: Navigating through options - MyoMunchees, Vivos Starter, Myobrace, Healthy Start, Occlusal Corrector, Maxillary Expanders.
- Successfully integrating Lifestyle Health Programs into your Airway Practice
- Oral-motor Sensory Integration Program: OT
- Orofacial Myofunctional & NeuroFascial Integration: OMT, NeuroFascial Tension Therapy & Essentrics Fascial Activation Workouts
- Functional Breathing Analysis & Therapy with Rhinometer, pharyngometer & Capnometer
- Airway & Lifestyle Retreats with Healthy Meals, Yoga, Essentrics Fascial Activation Workout, Healthy Cooking Classes.
- Successfully integrating Regenerative Aesthetic Services into your Airway Health Practice: Legal Contracts, SOP, Consents, Forms, Menu, Team, Medical Director & Marketing
- Aesthetic Laser, Injectable, Microneedling and EnerJET Hands-on Course for Regenerative focused Aesthetic Providers (MDs, PAs, NPs, RNs, Dentists in states where aesthetic procedures are allowed by the dental board)



SLEEP & WELLNESS CONFERENCE 2026

SCOTTSDALE, AZ

Friday April 24, 2026 - Saturday April 25, 2026



WHY ATTEND OUR CONFERENCE?

Scottsdale, AZ – Join leading dentists and physicians in advancing dental sleep medicine. Discover cutting-edge treatments, network with industry experts, and transform your practice with the latest in sleep wellness solutions.

- Estimated 700 Attendees Expected
- Equal Number of Dental and Medical Participants
- Largest Physician Attendance at Dental Sleep Meeting
- Expanded Educational Program with More Options
- Up to 24 CE Credits will be Available



WHEN

Friday, April 24th, 2026 –
Saturday, April 25th, 2026
8:00am -5:30pm PST

WHERE

Embassy Suites by Hilton
Scottsdale Resort
5001 N Scottsdale Rd
Scottsdale, AZ 85250



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The Key To Success in *Dental Sleep Medicine*

**Building Systems for
Reimbursement, Referrals, and Growth**



By Jon Nierman

Dentists incorporating Dental Sleep Medicine (DSM) have a unique opportunity to expand their services, boost revenue, and profoundly impact patients' lives. However, success requires more than clinical skills. The most successful DSM dentists prioritize efficient systems for medical reimbursement, narrative reporting, referrals, case acceptance, and team support.

At Nierman Practice Management, we've spent over three decades helping practices thrive in dental sleep medicine and medical billing. What we've learned is clear: success is not about silver-bullet programs. It's about strong, repeatable processes that your entire team can execute with confidence.



MEDICAL REIMBURSEMENT

In dentistry, it's not that medical billing is difficult, it's just different. And by establishing a system to account for those differences, you can create a smooth billing process with great results and fewer headaches.

So, what's the criteria for medical reimbursement in dental sleep medicine, and the key steps for success?

Medical Reimbursement Requirements:

- **Diagnosis Code:** ICD-10 code G47.33 (Obstructive Sleep Apnea) is the main qualifying diagnosis.
- **Source of Diagnosis:** Must come from a board-certified sleep physician interpreting a sleep study from the last 12 months (some insurers will accept longer time frames).
- **Supporting Documentation:** Many insurers require pre and post-sleep study consultation notes from the physician.
- **Prescription/Order:** A written order for the oral appliance, signed by a physician or PA (not necessarily the diagnosing physician).
- **Sleep Dentist Documentation:** Dentist's exam notes, delivery visit notes, and proof of delivery form signed by the patient.

There may be additional requirements based on the insurance company policy, which is why it's essential to always do a thorough verification of benefits (VOB) to:

- Confirm policy criteria, deductible status, and coverage limitations.
- Provide patients with clear financial expectations upfront to build trust and support case acceptance.

As Rose Nierman, CEO at Nierman Practice Management often says, "It's what you do upfront that counts." With the right systems in place for documentation and billing, claim approvals and reimbursement become predictable.

NARRATIVE REPORTS: THE GOLDEN TICKET

Insurers want proof of medical necessity, and physicians want clear communication. This means providing Narrative Reports in the SOAP format (Subjective, Objective, Assessment, and Plan). It's the standardized format used to communicate with insurance companies and physicians.

Narrative reports serve a dual purpose: they demonstrate compliance for insurance claims and build credibility with referring physicians. When your reports are professional, accurate, and timely, they strengthen your referral network and enhance your reputation.

REFERRAL BUILDING

Referrals are the engine driving the growth of a DSM practice. The most successful practices develop strong systems for connecting with both the sleep medicine community and broader physician networks.

- **The Sleep Community:** Collaborate with sleep physicians, RPSGTs, and sleep technologists who are often looking for oral appliance therapy solutions for CPAP-intolerant patients.
- **The Physician Community:** Build relationships with primary care doctors, ENTs, pulmonologists, cardiologists, and even other dentists. A simple step is to send every patient's SOAP report to their referring providers, along with progress updates.

Additional referral-building strategies include hosting lunch-and-learns, creating DSM packets with educational resources, and consistently following up with providers. With time, you'll establish yourself as the go-to dental sleep provider in your area.

CASE ACCEPTANCE AND COMMUNICATION

Patients aren't shopping for an oral appliance; they're seeking better sleep, more energy, stronger relationships, and a higher quality of life.

Your team should:

- Build trust and rapport from the first interaction.
- Ask questions to uncover patient pain points.
- Communicate outcomes in terms of value, such as waking up refreshed or preventing serious health risks such as dementia.

A shift in language from technical data to emotional benefits can dramatically increase acceptance. For example, when discussing their chief complaint: *"That must be frustrating. How would your day be different if you woke up feeling refreshed?"* This positions treatment as a life-changing solution rather than a transaction.

SUPPORTING YOUR TEAM

Even the best systems fall short without a confident, well-supported team. Dental sleep medicine is an extremely team-driven service, and success depends on everyone rowing in the same direction. Ask yourself: *Is every member of your team truly on board with sleep apnea treatment?* Too often, the doctor is excited about the opportunity while the team hesitates. Creating alignment is essential.

A helpful framework is Simon Sinek's **Golden Circle**: start with *why*, then move to *how*, and finally the *what*. Begin by helping your team understand why dental sleep medicine matters, for patients, for the practice, and for them personally. Once they believe in the mission, the *how* and *what* become much easier to implement.

Practical ways to build alignment include:

- **Bring your team to CE courses.** Don't go alone, expose them to the same education and inspiration. Pre-schedule a follow-up meeting the next week to discuss key takeaways and create an action plan.
- **Encourage reflection.** Ask your team what they gained from the course or training. This opens the door to personal investment and ownership.
- **Set metrics and goals.** Invite team members to set their own performance metrics around sleep cases. This builds accountability and motivation.
- **Define roles clearly.** Assign specific responsibilities for billing, communication, follow-up, and case presentation so everyone knows their part in the system.
- **Role-play and review.** Practice patient conversations, review documentation together, and provide constructive feedback on workflows.

The result is a team that communicates clearly, anticipates challenges, and confidently guides patients through their sleep treatment journey.

DENTALWRITER PLUS

At the center of these strategies is technology that makes execution smooth and repeatable. **DentalWriter** was originally created over 30 years ago to be the backbone of a thriving TMJ and DSM workflow. Today, **DentalWriter Plus** continues to be at the forefront of technology, transforming what once felt complex into a clear, step-by-step process. This is why our motto is *"Get Your Ducks in a Row."*

The latest iteration of DentalWriter is cloud-based, intuitive, and designed with user experience, efficiency, and automation at its core.

The proprietary **4-Step Process** guides your team every time:

1. **Online Patient Questionnaires** – Collect medical insurance details, subjective data, and sleep history with ease.
2. **Guided DSM Exams & Visit Forms** – Standardize documentation while keeping the clinical flow simple.
3. **Automatic SOAP & Narrative Reports** – Instantly generate professional reports that strengthen referrals and demonstrate medical necessity.
4. **Auto-Populated Medical Claims** – ICD-10 and CPT codes flow directly from your exam findings into claims.

What makes **DentalWriter Plus** even more powerful is its direct integration with **Nierman Medical Billing Services**.

With a single click, billing requests are sent to your dedicated billing concierge. All supporting documentation is already stored within **DentalWriter Plus**, giving your concierge everything needed for fast, accurate claim submission. Real-time updates flow back into your portal, so you always know the status of each case without chasing details.

The result is a streamlined workflow, with less administration, faster reimbursement, and stronger communication.

FINAL THOUGHTS

Strong clinical skills lay the foundation for success in dental sleep medicine. But it's the systems for reimbursement, referrals, and case acceptance that allow a practice to grow, scale, and thrive.

At Nierman Practice Management, our mission is to empower dentists with the tools, training, and support they need to succeed. By implementing these systems and leveraging technology like **DentalWriter Plus**, your practice can become the trusted authority in your community, serve more patients, and achieve dental sleep success.

Making **PEDIATRIC AIRWAY CARE** Feasible for Dental Practices

A dentist shares clinical red flags, adjunctive therapies, and partnership strategies that enable general dental practices to address pediatric OSA.

By Jon W. Caulfield, DDS



While the public is increasingly aware of obstructive sleep apnea (OSA) in children, many in the dental field still see airway-centric pediatric care as a niche. However, I think that treating pediatric OSA should be more seamlessly integrated into all dental practices that accept children as patients.

By addressing sleep-breathing dysfunctions early, dentists can prevent or improve many orthodontic issues and wider health problems before they become more difficult to treat. At Epic Dentistry in Littleton, Colo, we focus on airway, sleep, and TMJ for both children and adults.

CLINICAL RED FLAGS FOR OSA IN CHILDREN

At dental visits, every new and returning child should be screened for OSA risk factors.

Our team looks for:

- A lack of spacing or accelerated wear in primary or mixed dentition,
- Narrow upper jaws,
- Tethered oral tissues,
- Enlarged tonsils,
- Mouth breathing, and
- Incorrect tongue posture.

These observations, combined with conversations with parents about sleep patterns and behavioral health, allow us to initiate further evaluation.

Utilizing sleep screening devices for both adults and children, and, when necessary, providing referrals for testing, can diagnose the type and severity of OSA.

Adjunctive Therapies for Children with OSA

I have found that it is rarely “one thing” that corrects the dynamic, multifactorial problems we encounter in children with OSA. Additional therapies and resources are crucial to treating many types of cases.



ADJUNCTIVE THERAPIES FOR CHILDREN THAT I FIND EFFICACIOUS IN CERTAIN CASES INCLUDE:

- **Myofunctional training.** I maintain dental hygienists who are also trained as myofunctional therapists for in-person treatment at our office. For remote needs and specific clinical situations, I utilize MyoSync and other online platforms to ensure continuity of care.
- **Laser therapy.** I use a Deka CO2 laser for airway interventions, including tonsillar treatment and soft tissue releases that improve breathing pathways.
- **Habit correction.** This encompasses lip seal exercises and specialized tools to train proper lip closure, tongue positioning during swallowing and eating, and comprehensive thumb-sucking cessation strategies with supportive adjuncts.
- **Nasal hygiene and sleep habit optimization.** Nasal hygiene forms the foundation of proper nocturnal breathing patterns. I recommend non-steroidal sprays and rinses to maintain nasal patency throughout the night. We teach children effective nose-blowing protocols and nasal airway optimization techniques for daily use, with particular emphasis on pre-bedtime routines. Additionally, I address

dietary and environmental factors that may compromise nasal function or trigger tissue inflammation.

- **Breathing re-education for patients and families.** This intervention targets patients with carbon dioxide sensitivity—often resulting from chronic mouth breathing or underlying health conditions. The goal is to help their respiratory system adapt to normal CO2 levels without triggering compensatory over-breathing or increased respiratory rates. This promotes more consistent breathing patterns and improved airway dynamics. My approach is informed by Patrick McKeown’s methodology and Buteyko breathing certification training.

BUILDING MEDICAL-DENTAL PARTNERSHIPS

Successful pediatric OSA care depends on strong medical-dental relationships. I work regularly with ENTs to address tonsils, adenoids, and other nasal airway disrupters. I have also worked with specialized chiropractors, tongue-tie practitioners, craniosacral therapy providers, myofunctional therapists, pediatricians, and other doctors.

Building these connections must be proactive. I strongly suggest contacting local providers directly—by visiting their offices or via email. Explain your

processes, goals, and objectives for patients, and how the clinician can assist the patients in their care and progress.

The dentist can be a central provider to bring the many parts of the “village” together for comprehensive and successful care.

FEASIBILITY OF PEDIATRIC OSA CARE IN BUSY DENTAL PRACTICES

At Epic Dentistry, we started by dedicating a half-day to airway/sleep cases. If no patients were booked, we used that reserved time for training and developing systems to improve our processes.

The fundamental shift involves asking different questions, seeking broader clinical insights, and understanding how to address breathing- and sleep-related issues. This approach requires a more medically-oriented exam and evaluation than what many dentists are familiar with.

Unfortunately, financial and logistical integration of pediatric OSA care are often huge barriers.

I have found that partnering with an oral appliance marketer for education, support, and assistance with training and implementation allows more dentists to be successful in adding OSA treatment to their practices. At Epic Dentistry, we partner with Vivos, which focuses on the root causes of airway and breathing issues. Vivos’ customizable curriculum offers courses that focus on children specifically.

Medical billing remains a challenge, but Vivos provided training and education outside of office hours, as well as systems and implementation strategies, that shortened the learning curve.

IMPROVING HEALTH OF PEDIATRIC PATIENTS

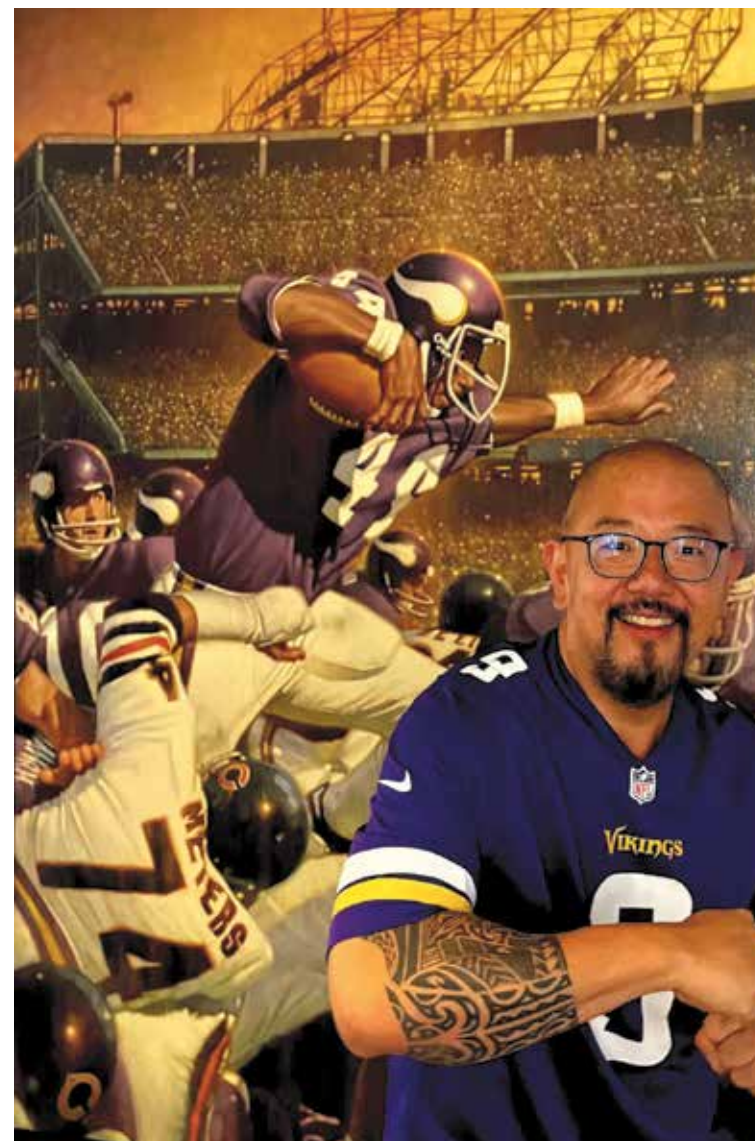
Integrating pediatric OSA management in the dental office is not only feasible but increasingly vital. With structured education, deliberate partnership building, and strategic scheduling, dental practices can address this significant unmet clinical need. Doing so improves lifelong health for the youngest patients and grows the practice’s expertise and reach.

MY AMERICAN DREAM HU KNOWS WHERE IT WILL LEAD



J.J. MCCARTHY

I begin with gratitude. My life, with all the ups and downs, the good, bad, and ugly wouldn't shape me to be the man I am today if it weren't filled with incredible challenges. It is with profound thankfulness that I've been given a life journey with those challenges and also have the people in my life to thank, to be nourished from, and to be educated and supported by, facing those arduous situations. When I was born, I had respiratory distress syndrome, and I was put on supplemental oxygen for a few days. My father told me that during those few days, he was observing my every move at the hospital. Eventually, I pulled the oxygen mask off my face purposefully. I didn't need it anymore. He vividly remembered that when the nurse tried to put it back on my face, I would resist and immediately grab it to move it away. See, after getting enough oxygen and the help I needed, I was ready to live. And, to live fully. Perhaps that is the motif of my life.



DR. HU BLOCKS FOR FOREMAN

When I was four years old, my parents gave up their excellent careers in Taiwan so that my brother and I could have the opportunity to pursue the American dream. Although highly educated (dad was a Supreme Court judge and mom was in radio broadcasting), English was their second language, so my parents decided, like many first-generation Asian Americans, to work in the restaurant business. We first set foot in the San Francisco Bay area, and after a year of apprenticeship, my parents opened up their first restaurant, "Peking Village" in Castro Valley, CA. Even though the restaurant was successful, my parents wanted a safer environment to raise us. There was a burglary attempt on the business and crime was bad in the area. So when the opportunity for my family to move to Alaska came about, my parents jumped at that chance and relocated to rural Soldotna, Alaska. They opened the "Golden International Restaurant" located on the Sterling Highway. And this was no small endeavor. The maximum seating capacity was 191, and it had a full bar-liquor license. My parents had to take out many loans from the bank, family and friends. My parents had an amazing work ethic. They did everything



DR. HU ROCKS PRINCE

they could to make that business run. We would work from 7 AM to 2 AM, and open again at 7 AM the following day. I often worked these hours alongside them throughout my formative years.

Winter business in rural Alaska is very, very slow. I remember going with my mom to the bank often, and seeing her cry in front of the banker, asking for extensions on overdue loan payments. At that early age, I vowed to do whatever I could to help my parents and I developed a “whatever it takes” attitude. After I got off the bus each school day, I would first do my homework and make myself some of my dad’s yummy eggrolls and crab cheese wontons. Then, I would do the dishes, shuck shrimp, help the prep cook, and then bus tables. When I got older, I was promoted to wait tables, and I gave every penny I earned to help the restaurant stay open. Now my dad was an excellent chef with a passion for his work. Every item on the menu, including all the sauces, were made from scratch. Every pancake, every dumpling, and noodle was made from kneading dough by hand. With that said, I became a chubby kid by third grade and often, I enjoyed

putting a smile on my dad when I complimented him on how awesome his food tasted. Because of the excellence in his work and recipes, I had developed a discerning palate, and whenever the restaurant had to push for certain lunch and dinner specials, the customers would often take my advice and order my recommendations. Through our persistence and hard work, I am proud to say that the restaurant had succeeded in rural Alaska for over 42 years until my wife and I finally sold it and the new owner is putting a million dollars into renovations. We are excited to see it when it reopens.

I thank God that the restaurant business and my parents’ financial hardships shaped and prepared me for college. My Parents came to America for me and my brother. Compound interest and recurring debt really had a profound impact on our family. In Asian culture, the concept of filial piety is very important. All of this created the perfect conditions for me to develop incredible drive and work ethic. I learned early on, since 7th grade, that I wanted to be a dentist. At a young age, I found I was good at science, math, art, and building things. Dentistry

is perfect for those attributes. In high school, I was very much involved in student government, Academic Decathlon, Swing Choir, and many volunteer organizations. With that drive and commitment, I earned abundant scholarships, many of which were 4 year renewables.

The scholarships allowed me to add student loans to borrow more money to help my parent’s restaurant. By the time I became a dentist at age 24, I was a million dollars in debt. But, I would even spend a million times that amount for what I gained.

My years at University of Michigan were some of the most significant of my life. I went to school with the “Fab 5”. They were Michigan’s basketball team that almost won the championship. Along with Heisman Trophy Winner, Desmond Howard. These were some of the nicest people I have ever met.

After starting to practice Dentistry I became a CE junkie and wanted to differentiate my skills and knowledge to become busy and successful. I took on even more debt as I mastered cosmetic, implant, full mouth reconstruction, TMJ/TMD treatment, and both CR and neuromuscular dentistry. I entered nation-wide smile makeover competitions and won several grand prizes, often which were judged by celebrity judges without knowing dentists’ names. I also dived fully into differentiating myself, achieving accreditations and board certifications in multiple academies. Championing strong dedication and work ethic, I paid off all my loans rather quickly. Working that hard and handling stress from day to day didn’t come without costs and risks, however. Since being a chubby kid, my obesity and weight issues became more alarming as my dental career

MEET THE HU'S



was advancing. Having no clue about sleep and airway, I had no idea the importance of attaining quality sleep on a nightly basis. Heck, when I was a little kid, I remember my whole family laughing about snoring and all the horrendous noise that came from sleep breathing disorders. All the gasping, choking, and acid reflux every member of my family experienced, we didn’t know any better what that all meant. None of my family’s primary care, cardiologists, ENT’s, etc. had ever spoken to us about sleep breathing and sleep apnea.



DR.HU AND WIFE SHARON

Then as fate would have it, dental sleep medicine came into my life and showed me my calling. It couldn’t have come at a better time. Remember, due to growing up in a restaurant business with a chef as a father, I was overweight and a big foodie. Carrying so much weight meant I needed medications for hypertension, acid reflux, and stress. Some of my long term employees who



have been with me over decades remember the time they took my blood pressure every morning before our first patient because they were worried about my health and longevity. At one point in my life, I was over 400 pounds. I knew that I had to do something and could not live the rest of my life in that spiral leading to early grave. I also had no idea that proper sleep is the answer. It is the answer and root cause of all of my health issues. I learned that Leptin and Ghrelin during N3 slow wave delta sleep is so important. I also learned the meningeal wash that occurs with proper sleep will break down beta and tau amyloid proteins for brain health and memory, which is equally essential. I then reached the conclusion that I had to address my own sleep breathing disorder. My health and weight became my biggest challenge in life, and when I addressed those matters, I dived fully in as usual. Some people only dip their toes in the water, but for me, I embrace, commit to, and dive in fully. When I successfully addressed my fragmented sleep and breathing issues, I gained so much energy, daytime alertness and the improved ability to focus and persevere.

I enrolled in Okinawan Karate, “Jinen Ryu” and earned my black belt after losing almost 200 pounds. Jinen Ryu karate is the form that follows the ways of nature the most, mimicking what flows naturally. I won medals in state martial art competitions for sparring and katas. After Karate, I worked with an Army Ranger personal trainer, and I was able to wean off of all my medications and able to do incredible workouts and CrossFit moves. That was when I



CAN YOU BELIEVE THIS WAS DR.HU?

shared the concept of the legs/ pillars that hold a table up. Each leg or pillar is part of the total stability (or health) of the table. Since I practice what I preach, I was able to share this concept with my patients who needed to lose weight, and they, too, were incredibly successful. The four legs to the well-supported table are: proper sleep, proper nutrition, proper exercise and proper mental health. If any of these legs are missing or lacking, the table becomes less supported and eventually, it will topple over. So, for me to share and witness my own journey successes on health improvement, I believe that it is a calling for me and my purpose in life to educate, share, and spread dental sleep medicine. For my parents, the knowledge came too late. Even though I know wholeheartedly I extended both of my parents’ lifespans for at least a couple of years each with my intervention in dental sleep medicine treatment, all those earlier years of neglect from their primary care physicians, cardiologists, endocrinologists, etc. (regarding the fact that they never addressed their sleep breathing problems) took its toll. It became my mission to be fully immersed in airway and sleep medicine.



At this stage of my life I thought I had realized what my life purpose was, and then, David Gergen from the American Sleep and Breathing Academy walked into my life. He was the game changer for me. He first opened my eyes to all the fallacies I was fed by a sleep apnea oral appliance company. He told me the truth about dorsal fin appliances, how they lock patients in and can damage the health of their TMJ. Most importantly, he highlighted the risks of aspiration with the dorsal fins breaking.

He also showed me the problems with appliances that lack the quality touch of skilled technicians and that rely solely on computer-based software. He explained that not all Herbst appliances are created equal, and showed me how he cuts border movements into the Herbst appliance and creates way more movement, so that he rolls the acrylic to be more like the natural anatomy of teeth. Had I met him earlier in my life, I would have saved



DAVID GERGEN
Director of ASBA

some more lives that had been lost and given more folks a much better life as well. I would had so many more successful outcomes. On a side bar, I wouldn’t have wasted so much of my family’s money on poor stock investments from believing the rhetoric of a certain company. I was misled by them. David also showed me the evidence-based literature, federal government studies (PDAC), and knowledge that he shared with me, dating back to Dr. Ricketts and Dr. Paul Serrano, regarding Herbst dental sleep appliances, which David has made for President Trump, George W. Bush, and many other people in Congress, but my personal favorite is for Mark Brnovich, who I have personally met.

David put me on the right track to teach correctly, because previously I had fallacies in my curriculum that I was unaware of. At the same time I had no clue you could lower the patient’s AHI to zero, now with the help of quality appliances I do that on the regular. He also shed light into many other companies who excessively profit from dentists using their sales tactics on equipment that’s truly not needed and the “too good to be true” educational programs that promise the sky and moon if enrolled in them. He also showed me all the different Rickett’s epigenetic appliances, both removable and fixed, and the funny thing is, so many doctors have tried to take credit for Dr. Robert Ricketts inventions. The one other thing I admire so much about David is that he speaks truth, and he has worked with all the legends in dental sleep medicine and orthodontics. David showed me that I have the greatest scores in lowering the apnea/hypopnea index (AHI) . I achieve this by using the best Herbst sleep apnea appliances manufactured from his lab. Gergen’s Ortho Lab in Phoenix has the most skilled technicians who understand how to cut in border movements and uses the highest quality materials to prevent breakage. David has also provided me with the epigenetic code provided by the federal government, for medical billing. I was the first Doctor to use this billing code and with the help of Jon Neirman and his medical billing company, I was able to get insurance to pay for \$7,500.00, and that was for the upper component only.

On epigenetic appliances, David has also helped me with my own kids and their airway growth and development. Even though I had a long history of doing epigenetic and airway expansion appliances and treatment before I met him, it wasn’t until I used appliances made by his own hands that

made a profound impact on my children’s quality of life and growth. From Bionators, to OC expanders, Sagittals, and open loop crickets, the experiences I have gained from knowing David are priceless and second to none. Put it this way, after trying everything for my youngest kid, Warren, (which includes the Amen clinics and Brain scans), it wasn’t until I got him on David’s Bionators, that things began to rapidly change. He went from poor grades at school with focus and attention span problems to a champion soccer player and an A & B student. This is why I will forever think that having met David in my life is a game-changer.

Another passion David has is football; he was an all-around great athlete. I learned from his friends who work at the lab that he was “As fast as lightning”. It was because of this love for football that he secured a partnership with the NFL that has been ongoing for 15 years. From this lasting collaboration, he has met one of his very best friends, Andre Collins. Andre Collins is the executive director of the NFLPA former players. David heads up the Sleep Dental Division of the program for Andre. He and Andre Collins have saved and improved the lives of so many NFL players with the program. David Gergen has done all the dental sleep appliances to treat the players for obstructive sleep apnea. I’ve been fortunate enough to have already been a part of that mission. Seeing Hall of Fame legends like Mike Haynes, Chuck Foreman and many other legendary athletes, I am so fortunate to have had those opportunities. As a matter of fact, David invited me to dinner in Minneapolis, at the best steakhouse in the world, Manny’s. Two of David’s favorite NFL running backs, Darrell Thompson and the legend, Chuck Foreman were eating dinner at our table. Also present was Fran Tarkenton’s favorite receiver, Stu Voigt. I felt like I was at an all-star table. The reason David had for that dinner sealed my respect for his heart and soul. Yes, it’s his humanity I’m talking about. Currently, there is a program called the Greater Good Fund for the NFL retired players. Not all NFL retired players are affluent and they cannot afford basic healthcare necessities. To my surprise, so many retired players on that program are way overdue for dental cleanings and checkups. Furthermore, many of them in the past have been given amalgam fillings that are banned in Europe. I am grateful to Darrell Thompson and his board

for removing the prior insurance company as they didn’t provide the best utilization of funds for the much-needed dental care of the players. There was a lot of waste from that former insurance company. The Fund now has a new insurance company, and I believe this is an improvement but still wholeheartedly think David Gergen would be a much better choice. Because of David’s successful history with the NFLPA, and his background in dentistry, I have faith that David will continue to work with impactful people like Darrell Thompson and Mike Haynes so that the Greater Good Fund will improve even more in the future. I firmly believe Darrell Thompson should allow David Gergen the opportunity to lead the dental side of the Greater Good Fund. No one understands the intersection of dentistry and the NFL like David does. Unlike insurance companies, which are driven purely by profit, David brings both expertise and integrity. His leadership could save the Fund substantial resources—money that should be directed where it belongs: to improving the health and quality of life of the players who gave everything to the game.

This leads me to the leaders and the best. My alma mater, the Michigan Wolverines, recently won the national championship with JJ McCarthy as the star quarterback. Since 1997, I have been waiting for such a repeat moment and win. Not only did the Wolverines win with JJ that year, they were also undefeated and had the most respectable mindset and focus. The mental preparation with Harbaugh’s philosophy and JJ’s talent and embracing mindfulness and calm, I simply admire all that transpired. When David Gergen invited me this year to the pre-season Viking’s game at US Bank Stadium, I saw JJ play live for the first time as a Viking. This led to emotional bliss, and I will be forever grateful. Having the connection to JJ, my alma mater, and my journey in dental sleep medicine brings it back full circle and I will continue to strive for excellence, aiming to be a leader and the best. And, because of the strong work ethic and commitment skills I learned from my parents since childhood, the universe continues to bring me even more and greater connections to like-minded people. David Gergen’s grandfather, Pete Gergen, played running back and defensive back for North Dakota State, as a matter of fact he’s in the college HOF. He holds the NCAA national record for the longest interception return for a touchdown, 99 yards. Another



DAVID GERGEN, DARYL THOMPSON, DR.HU, JOHN GERGEN, MR & MRS. CHUCK FOREMAN AND STU VOIGT



HAPPY HU & JOHN GERGEN

coincidence is the Vikings just traded for QB Carson Wentz who also went North Dakota State, which is where David’s father and entire family went. Since childhood, Carson worked hard and dreamed of someday playing for the Vikings. Since the American dream is all about hard work and commitment, dreams do come true for those who follow it. It’s not surprising to me that the universe has JJ as #9 and Carson as #11. Because #10 was Fran Tarkenton, notably the most record-setting Viking. When he retired, he held every meaningful Passing Record a QB would want: most touchdowns, most completions, most yards, most victories. He had them all! Every noteworthy record a Quarterback would ever want. As champion quarterbacks, it only makes sense that 10 connects 9 and 11 in the natural order of things. I must therefore say, with hard work and commitment, it won’t surprise me either if the Vikings win their first Super Bowl.

Since moving to Las Vegas, I have learned it is the ideal place for me to expand on being a leader and the best. The city is growing exponentially, and I want to grow with it. For all the well-known annual conventions, business meetings and entertainment venues, it is the perfect location, in my eyes, to educate, spread, and develop dental sleep medicine.



DR. HU & MARK BRNOVICH

Plus, Vegas already has the NFL Raiders and is adding professional baseball and basketball teams, growing the need for knowledgeable and experienced healthcare providers to offer the best care and treatment. Given my experience with making professional agility sports guards, TMJ/TMD appliances, airway sleep and epigenetic appliances for professional athletes, I am eager to help the school district and all the kiddos in Vegas perform at their fullest potential both in school and sports. Often, kids don't perform well due to poor sleeping and airway-breathing issues. And just as often, many are misdiagnosed with ADHD and ODD and given Ritalin or Adderall to treat a condition caused by poor sleep. I have helped so many kids grow and develop properly by fixing their sleep issues, and I am eager to help more and more as the Vegas population grows. Also, a unique aspect of Vegas growth is that many folks want to retire in the valley, so the geriatric population is also growing rapidly. So many of them have co-morbidities tied to sleep apnea or sleep breathing disorders. As an experienced Medicare-approved PDAC provider, I know I can help them tremendously using FDA-

cleared, customized sleep appliances with the tried-and-true Herbst appliances. Another aspect of Vegas' growth is the rise in number of shift workers, casino workers, commercial truck drivers, DOL and DOT workers, pilots, etc., and often these people have sleep breathing disorders and poor-quality sleep as well. I'm grateful for the chance to support others and grow alongside Las Vegas. From seeing NFL players to the kid next door who wants to do well in school or do their best in sports, I am ready to be the leader and best for this magnificent city.

Finally, the military presence is strong and growing in the Las Vegas area as well. Part of the American dream that my parents gave my brother and I is the gratitude and acknowledgement of those who fought for our freedom. There wouldn't even be an America if it weren't for veterans and our brave active-duty military. With so many heroes in Las Vegas needing to address their sleep apnea and TMJ, PTSD, orofacial pain, trigger points and migraines, I know that part of my calling is to help those men and women who served or are currently serving for our country. Their quality of life and their health

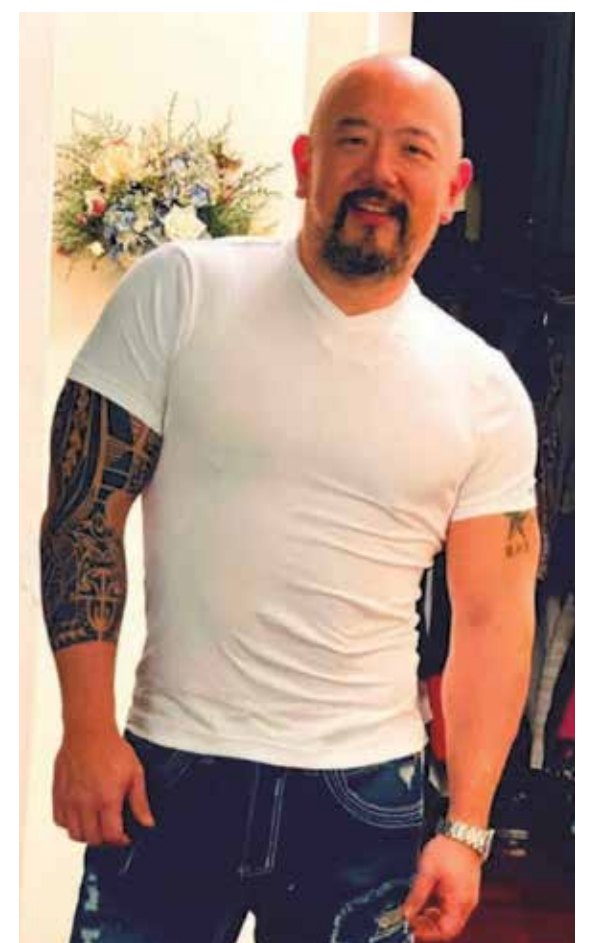
US VETERAN DISPLAYING HIS GERGENS HERBST BOX WITH DR. HU



mean the world to me. I can think of a double amputee, who's a Vietnam veteran, that came to see me because he had severe sleep breathing issues and gasping for air at night. His wife had made him sleep in a separate bedroom. He was CPAP intolerant and suffered from extreme daytime sleepiness. When he later came in to tell me about the success of the treatment I gave him, and how now, he is back sleeping in the same bedroom with his wife, that moment hit me as reinforcement of my life purpose and calling. Another example was when a Cold War Patriot veteran who came to me from the Department of Labor and I was able to give him hope and dramatically improve his breathing and quality of life - showing improvement in all aspects of his blood panel and overall systemic checkups with his pulmonologist and cardiologist. This gentleman worked at nuclear bomb test sites, and to me, he is another hero that was brought to my clinic by the universe to help out.

See, I feel that everything that happened in my life has set the stage for me to impact and improve the lives of the wonderful people in the Vegas valley. There is a reason for the growth and need for dental sleep medicine in Las Vegas, and there is a reason why I ended up there, building the final chapter of my glorious career in this vibrant and booming city.

Dr. Jerry Hu



THE LEGEND DR. HU

IDENTIFY: WHO IS AT RISK?



Undetected Cardiovascular Disease is the greatest health risk facing patients today. Heart disease remains the No. 1 killer of both men and women, claiming more lives than the next four causes of death combined – including all forms of cancer. For most people, the first sign of heart disease is a heart attack – and one in four first-time heart attacks are fatal. Identifying patients who are at-risk combined with early detection gives them a fighting chance to combat CVD.

How do you find patients who are at risk for CVD? At Vasolabs we have compiled billing codes for each of our respective products. Once you have identified which screening you will be deploying in your practice, your first step will be to query your patient data to determine who is at risk and invite them to participate in your Cardiovascular management plan. If you have a relatively small practice or cash-based practice you can elect to skip this step and educate the entire database on the importance of cardiovascular help.

Need support along the way? Our team has worked with dozens of EMRs and Billing systems to generate reports. Reach out and let us show you how we can support you along the way.

What is a Heart Attack?

A **heart attack** occurs when blood flow to part of the heart muscle is blocked, usually by a blood clot in a coronary artery, causing the muscle to die.

Key Symptoms:

- Chest pain or discomfort
- Pain in the arms, neck, jaw back, or stomach
- Shortness of breath, etc.



IDENTIFY: CIMT CANDIDATES

E11.65
Diabetes Mellitus, II with Hyperglycemia

E11.9
Diabetes Mellitus, II Controlled

E55.9
Vitamin D Deficiency

E78.0
Hypercholesterolemia

E78.1
Hypertriglyceridemia

E78.1
Pure Hypertriglyceridemia

E78.2
Hyperlipidemia, Mixed

E78.2
Mixed Hyperlipidemia

E78.5
Hyperlipidemia Unspecified

E88.81
Dysmetabolic Syndrome

E88.81
Insulin Resistance

E88.81
Metabolic Syndrome

I10
Benign Hypertension

I10
Hypertension, Unspecified

I65.23
Carotid Artery Occlusion, Bilateral

I65.29
Carotid Artery Occlusion

I67.2
Cerebral Atherosclerosis

I67.9
Ischemic Cerebrovascular Disease

I73.9
Peripheral Vascular Disease

R73.01
Elevated Fasting Glucose

R73.01
Impaired Fasting Glucose

R73.09
Abnormal Glucose

R73.09
Prediabetes

I10
Malignant Hypertension

I11.9
Benign Hypertension Heart Disease without Heart Failure

I11.9
Malignant Hypertension Heart Disease without Heart Failure

I11.9
Unspecified Hypertension Heart Disease without Heart Failure

I20.9
Angina Pectoris, NOS

I21.09
Myocardial Infarction, Acute, Anterior

I21.3
Myocardial Infarction, Acute, Unspecified (initial episode of care)

I25.10
ASHD Coronary Artery

I25.10
CAD (Coronary Artery Disease)/ASHD

I25.10
Cardiovascular Disease, Unspecified (ASCVD)

I25.2
Old Myocardial Infarction

I25.84
Coronary Atherosclerosis Due to Calcified Coronary Lesion

I25.9
Chronic Ischemic Heart Disease

I48.91
Atrial Fibrillation

I50.9
Congestive Heart Failure

I63.9
CVA

I63.9
Stroke

R73.9
Hyperglycemia

Z13.220
Screening for Lipid Disorders

Z79.899
Long Term Use of High-Risk Medication

Z82.49
Family History of Ischemic Heart Disease

GETTING STARTED



Our simple 5 step program will support you in designing and launching your cardiovascular disease management program. This proven framework provides you with the confidence to deploy a Cardiovascular Disease Management Plan and the flexibility to infuse your personal touch and care.

STEP 1: IDENTIFY

Together we can combat Heart Disease. The first step is to **identify who you can support** in your practice. Vasolabs supports you to identify CVD risk factors among your entire patient population using your EMR and/or billing data.

With over **1,500 ICD-10 codes within 14 different categories**, we support you to ensure that even the most ambiguous indicator doesn't "slip through". Practices are able to gain insight to their patient CVD population with detail to begin the education process.

STEP 2: EDUCATE

Not all CVD patients understand their risk or the importance of testing, which is why we have created educational assets to support the compliance and adoption of testing. Whether it is for the first scan or a follow-up. **We are here to support you and your practice!**

STEP 3: SCHEDULE

What's really cool is that you can use this list of patients you identified to encourage your patients to **schedule their CIMT scan or we can automate the scheduling process** for you. Our process was created so that we could be as "stand alone" as desired with minimal impact on the physician staff.

STEP 4: SCAN

High-quality scanning is really where the rubber meets the road. We are a core laboratory. All we do is great ultrasound. Not only are we good at it and we love doing it. Our highly trained and professional technicians come to you. **Performing scans at your practice**, allow the experience to be seamlessly delivered and our team acts as an extension of your staff. Not only will your patients love us, you will too! Whether you decide to scan once a month or once a year, our team and tools can easily help you to keep track of your patients progress scan after scan.

STEP 5: MONITOR & TRACK

We are constantly upgrading our technology and reporting infrastructure so that you can get your **patient scan results in 2-3 days**. We even supply you with the original images for your patent scans. Nobody else can have a core lab measure (essential for reproducibility) and give you that kind of access. Our innovative technology supports you in the tracking progress of your Cardiovascular treatment plan.

DEKA

Dental Lasers

Redefining Dentistry Through Innovation, Versatility, and Education

THE STORY OF EL.EN. AND DEKA

Innovation is woven into the DNA of **El.En. S.p.A.**, a global leader in laser technology. Founded in Florence, Italy, El.En. has spent decades at the forefront of medical and industrial laser advancements. Out of this tradition of excellence emerged **DEKA**, the company's flagship medical and dental laser brand, recognized worldwide for its groundbreaking solutions that blend science, precision, and patient care.

In the dental field, DEKA has become synonymous with trust and transformation. With a commitment to providing dentists with tools that expand their clinical capabilities, DEKA Dental Lasers have redefined what's possible in modern practices. Whether it's treating soft tissue with unmatched precision, offering minimally invasive alternatives to traditional surgery, stimulating biologic regeneration, or enabling practices to expand into sleep dentistry and facial aesthetics, DEKA stands as a partner in both patient health and practice growth.

The story of DEKA is not just about lasers—it's about empowering dental professionals to deliver outcomes that patients can see, feel, and value.



Smart US-20D CO₂ Laser

SmartPerio Nd:YAG Laser

SmartXide Ultraspeed2 CO₂ Laser

THE DEKA DENTAL LASER PORTFOLIO

At the heart of DEKA's impact is its comprehensive **dental laser portfolio**, designed to meet the diverse needs of general dentists, specialists, and multi-disciplinary practices:

- **SmartXide II CO₂ Laser** – Known as the gold standard in dental and surgical laser applications, the SmartXide II offers unparalleled precision for soft-tissue surgery, frenectomies, peri-implantitis, and advanced procedures. With fractional capabilities, it also unlocks new horizons in facial aesthetics and sleep dentistry, allowing dentists to bridge dentistry with wellness and regenerative medicine.
- **US20D CO₂ Laser** – A versatile, compact option for soft-tissue surgery, the US20D brings the reliability of CO₂ technology into a more streamlined package, ideal for everyday clinical use and smaller practices seeking surgical efficiency.
- **SmartPerio Nd:YAG with HILT Technology** – Featuring High-Intensity Laser Therapy (HILT), this system revolutionizes periodontal therapy and implant maintenance by promoting natural tissue regeneration and pain management. Dentists can address periodontal disease, peri-implantitis, and **TMD pain** with minimally invasive precision, while also offering patients **biostimulation and accelerated healing**.
- **QuietNite** – DEKA's dedicated CO₂ laser solution for sleep dentistry, QuietNite is transforming how dentists approach snoring therapy. By tightening and remodeling soft tissues of the oropharynx, it offers a quick, painless, and non-invasive procedure that patients—and their partners—truly appreciate.
- **Facial Aesthetics** – With applications ranging from fractional resurfacing and wrinkle reduction to lip plumping and periocular rejuvenation, DEKA lasers deliver natural, noticeable results that patients love. By integrating these treatments into a dental practice, clinicians can meet the growing demand for non-surgical aesthetic procedures

while creating a high-value revenue stream that differentiates their practice in a competitive market.

Together, these systems form a portfolio that is not only clinically robust but also business-forward, giving practices new opportunities for differentiation and revenue growth.

INTEGRATION, EXPANSION, AND EDUCATION

Blending into Sleep Dentistry & Expanding Services

Sleep dentistry is one of the fastest-growing areas in healthcare. With devices like QuietNite and SmartXide II, DEKA provides dental professionals the ability to deliver **safe, effective, and non-invasive snoring and sleep treatments**—services that improve patients' health, quality of life, and relationships.

But the impact doesn't stop there. With DEKA lasers, practices can expand into adjacent services such as:

- **Facial Aesthetics** – Offering treatments like perioral wrinkle reduction, lip plumping, and skin rejuvenation.
- **Tissue Regeneration & Pain Therapy** – Providing patients with advanced, minimally invasive care for conditions such as TMD or periodontal disease.
- **Everyday Surgical Excellence** – Ensuring faster healing, less discomfort, and predictable results for common procedures like frenectomies, biopsies, and implant recovery.

By weaving laser technology into their workflows, dentists transform their practices from traditional care centers into comprehensive wellness hubs.

Commitment to Education – DEKA Elite Education

Technology alone does not drive success—**education completes the journey.** That's why DEKA is deeply committed to training through its **DEKA Elite Education Program and partnership with ASBA.**

Through live courses, virtual learning, and hands-on certifications, DEKA Elite Education equips dentists and their teams with the skills, confidence, and ongoing support needed to fully integrate laser dentistry into practice. From foundational courses in CO₂ and Nd:YAG lasers to advanced training in *facial aesthetics and sleep dentistry*, the program ensures every clinician is empowered to grow with DEKA.

This commitment to education is more than a service—it's a philosophy. DEKA believes that when dentists master new tools, they not only enhance patient outcomes but also unlock the full potential of their practice

DOCTOR HIGHLIGHT:

“

I have been using the DEKA CO2 laser for about 2 years. It is nothing short of spectacular in its performance and DEKA’s customer support is second to none. In a concierge practice focused on TMD, Sleep and Craniofacial Asymmetry, it is an invaluable part of my daily armamentarium. Its ease of use for the clinician allows for a confidence level that supersedes any other laser I have been involved with to date. It is all about the patient experience and delivering the highest level of care for the patients in a very predictable manner. From snoring to tongue ties, the DEKA laser is a winner!!! Fast, painless and predictable is what I want for my patients and for me as a clinician. It is the top of the line for the elite clinician!

-Dr. Tim Adams

”

CLOSING THOUGHT

From its roots in Florence under the innovation of El.En. S.p.A. to its global impact today, **DEKA Dental Lasers represent the perfect blend of science, artistry, and clinical excellence.** With a world-class portfolio, seamless integration into both dental and sleep medicine, and a dedication to lifelong education, DEKA is not just advancing technology—it’s shaping the future of dentistry.



Maxillary
Epi Occlusal Corrector



Mandibular
Epi Occlusal Corrector



Modified Spring Aligner

Introducing Our New Line of Epigenetic Appliances

Made Exclusively With Memory Screws



Open Loop Cricket



Epi Fan-Expander



Cricket

GERGEN'S
ORTHODONTIC LAB

Call today and let us show you how Gergen's
is the team you can count on!

866-437-4361 GergensOrtho.com

You Snooze, You Lose

Do you find that you're frequently fatigued, and now you're also fitting your "fat jeans"? Not getting enough sleep, or adequate quality of sleep, can impact your waistline. How does that work?

How BIG is the Problem?



#1 New Year's Resolution

Losing Weight



People sleep **1.5 hours less** per night than they did 100 years ago.



Hungry Hormones

Hormones can get out-of-whack when you are tired, making you more hungry. When that happens, you need food for energy.

This affects your food metabolism in a negative way.

Sleepiness can easily lead to physical inactivity, meaning the food you eat is more likely to make you gain weight.

Despite healthy diet and regular exercise, chronic sleep deprivation stops weight loss.

Leptin and Ghrelin are the hormones that regulate food.

Ghrelin is the hormone that lets you know when you're hungry. Increased levels of Ghrelin makes you feel hungry, and you eat more.

Leptin tells you when to stop eating. It also transmits your energy levels. Low Leptin means low energy.

How Much Sleep is Enough?

People who slept **4 hours a night** compared to **8**



People who slept **5 hours a night** compared to **8**



Increased likelihood of obesity compared to individuals who sleep 7-9 hours



Who's Likely to Gain Weight?

The Freshman 15



Sleepy new students often add on pounds.

It's a Girl!



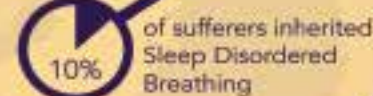
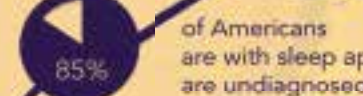
New parents lose sleep because their baby's irregular schedule. This can lead to weight gain.

Not a 9 to 5



Metabolism suffers when your sleep schedule changes.

Sleep Apnea?



People with Sleep Apnea are:

4X more susceptible to suffer from a stroke

3X more susceptible to have a heart attack

6X more susceptible to have a serious heart attack

Other Weight-Related Issues Affecting Sleep



Blood sugar rises when the body doesn't properly metabolize carbohydrates. This can lead to diabetes over time. Frequent urination coincides with diabetes which can lead to sleeplessness as well.



Physical issues such as as soreness and mental issues like depression may lead to insomnia.

The Cricket Oral Appliance: Interdisciplinary Concepts and Holistic Orthopedic

This is a summary of The Cricket Oral Appliance: A History, Introduction to the Interdisciplinary Concepts and an Open Loop Cricket (OLC)



**By: Timothy C. Adams
DDS, D.ASBA, D.ACSDD**



The document provides an extensive overview of the **Cricket oral appliance**, a device rooted in Dr. Robert M. Ricketts’ bioprogressive orthodontic philosophy, which focuses on holistic craniofacial treatment rather than just tooth movement. It synthesizes evidence from various disciplines—including **epigenetics, quantum biology, biotensegrity**, and **neurological signaling**—to explain the appliance’s mechanism of action, arguing that its light forces influence gene expression, fascial dynamics, and bone remodeling on a fundamental level. A significant portion of the text emphasizes the appliance’s role in improving **airway health, cranial bone posture**, and correcting **facial asymmetry** by treating the entire stomatognathic system. The author also introduces the **Open Loop Cricket (OLC)**, a modern adaptation designed to enhance motion, unwind cranial strains, and optimize whole-body function, including posture and neurology.

THE CRICKET ORAL APPLIANCE: A MODERN SYNTHESIS OF INTERDISCIPLINARY CRANIOFACIAL ORTHOPEDICS

The Ricketts oral appliance, widely known as the Cricket Appliance, represents a foundational approach in craniofacial treatment, stemming from Dr. Robert M. Ricketts’ bioprogressive orthodontic philosophy. Unlike conventional methods that focus solely on moving teeth through heavy forces, the Cricket embodies a holistic, body-friendly strategy designed to guide jaw growth and tooth position in harmony with natural biological principles. This approach emphasizes light, continuous, or light cyclic intermittent forces, permitting the dental arches and surrounding tissues to adapt naturally, thereby treating the root cause of malocclusion and craniofacial disharmony rather than merely addressing symptoms. The original appliance, along with its modern variant, the Open Loop Cricket (OLC), serves as a catalyst for orthopedic change, integrating concepts from across medicine and biological science to promote balanced craniofacial symmetry, airway health, and improved neurologic function.

Ricketts and his contemporaries recognized the stomatognathic (oral-facial) complex as a deeply integrated system contributing not only to chewing and swallowing but also to breathing and neurosocial behaviors. This perspective established the clinical syntax that posture dictates airway and neurology. The appliance framework is supported by synthesizing advanced scientific domains—including epigenetics, quantum biology, biotensegrity, fascial dynamics, cranial bone posture, airway physiology, neurological signaling, and facial asymmetry—to demonstrate its profound influence on gene expression, craniofacial growth, and systemic function in a logical and irrefutable manner.

INTERDISCIPLINARY CONCEPTS DRIVING APPLIANCE FUNCTION

The Cricket appliance’s mechanism of action is explained through eight integrated scientific lenses:

1. Epigenetics and Gene-Environmental Interactions: Epigenetics governs heritable changes in gene expression without altering the DNA sequence. Craniofacial patterns

result from complex interactions among genetic, epigenetic, and environmental factors, such as breathing patterns, muscle function, and oral habits. Ricketts intuitively understood the importance of altering the environment to alter growth patterns. The appliance modifies the oral environment—for example, changing jaw posture or tongue space—which, through mechanotransduction, triggers biological responses at the cellular level. This is known as epigenetic orthodontics, where the appliance stimulates latent growth potential, potentially activating genes previously dormant since puberty to induce new bone formation and increase arch width, even in non-growing adults.

2. Quantum Biology and Biophysical Signals: At the molecular scale, biological processes are influenced by quantum mechanics. Orthodontics engages quantum biophysics, notably through the piezoelectric property of bone and collagen. Bone, a crystalline matrix, generates electrical currents when mechanically stressed (the piezoelectric effect). When the appliance applies force, it produces an electrical cue detected by osteocytes, activating bone remodeling cells. The Ricketts appliance harnesses these subtle biophysical cues—light cyclic intermittent forces—to initiate an orchestrated cascade from electrons to cells to tissues. Furthermore, mechanotransduction (converting mechanical stimuli into biological signals) involves processes governed by quantized energy states, meaning the appliance’s influence permeates down to the atomic scale, reinforcing that biology cannot escape the fundamental laws of physics.

3. Biotensegrity and Fascial Dynamics: Biotensegrity views the body as a continuous tensile network (fascia, muscles) supporting discontinuous compression elements (bones). In this model, the craniofacial structures are interconnected with the entire spine and body posture. Light, controlled forces from the Cricket are optimally distributed throughout this tensional network. For example, developing the maxilla is accommodated by changes in the connected fascial network, leading to adjustments in cervical posture or temporal bone repositioning to maintain equilibrium.

Fascial dynamics emphasize the role of the continuous connective tissue web that transmits mechanical forces and provides proprioceptive feedback. A change in jaw position inevitably applies new tension to the fascia. Advancing the mandible stretches and adapts suprahyoid fascia, while maxillary development stretches periosteum. The neuromuscular system “learns” the new, correct position as fascial and muscular tensions balance out. This adaptation is critical for long-term stability and explains why correcting a malocclusion might alleviate distant postural problems, as the deep front line myofascial chain connects the jaw all the way to the pelvis.

4. Cranial Bone Posture and Sutural Adaptation: The skull consists of 29 bones joined by sutures, allowing subtle micro-mobility dictated by anatomy and pressure from the cerebrospinal fluid (CSF). Traditionally, sutures were thought to fuse early, but many retain remodeling capacity into

adulthood. The Cricket influences circummaxillary sutures, enabling the maxilla to uncouple and adopt a broader, more forward posture. Orthopedic expansion not only separates the midpalatal suture but also affects adjacent cranial sutures. Addressing cranial bone posture through expansion and advancement directly influences airway dimensions, as the palate forms the floor of the nasal cavity. Altering maxillary posture can enlarge nasal cavity volume and encourage nasal breathing, breaking the cycle of mouth breathing and forward-head posture.

5. Airway Influences: Craniofacial structure significantly impacts the upper airway. Constricted dental arches or retrognathic jaws narrow the airway, contributing to conditions like obstructive sleep apnea (OSA). The Cricket affects the airway by developing the palate (enlarging the nasal floor) and advancing the mandible (increasing pharyngeal airway space). The Ricketts Phonetic Bite technique precisely locates the mandible’s optimal forward position to maximize airway patency, guiding the construction of mandibular advancement devices that effectively reduce snoring and OSA symptoms. In growing patients, maxillary development promotes nasal breathing and proper craniofacial growth, supporting the importance of early airway intervention.

6. Neurological Signaling and Mechanotransduction: The appliance engages the nervous system at multiple levels. Mechanoreceptors in the periodontal ligament (PDL) and temporomandibular joint (TMJ) sense the forces and transmit signals to the trigeminal nucleus in the brainstem. Mechanotransduction converts mechanical strain into chemical signals within cells. For instance, the Piezo1 ion channel in PDL cells opens in response to stretching, allowing calcium influx and triggering bone formation on the tension side. The appliance retrains neuromuscular patterns; electromyographic studies show improved muscle tone symmetry after functional appliance therapy. By delivering light forces, the Cricket minimizes nociceptive (pain) input, which might otherwise slow movement, promoting a more physiologically efficient remodeling process.

7. Facial Asymmetry Correction: Facial asymmetry can stem from dental midline discrepancies, jaw size differences, or muscular imbalances. Ricketts emphasized early treatment of unilateral crossbites to prevent functional mandibular shifts that lead to asymmetric growth. The Cricket philosophy uses light

intermittent cyclic forces and individualized adjustments to remove obstacles, allowing the body to achieve balance. By influencing cranial bone positions and relieving fascial strain, the appliances can harmonize facial symmetry and occlusion, yielding improvements visible on radiographs and in overall head posture.

The Open Loop Cricket (OLC)

The original Cricket appliance was sophisticated but technically demanding, limiting its widespread adoption. The Open Loop Cricket (OLC) is a modern modification designed specifically to integrate these holistic principles. The OLC concept recognizes that the human skeletal system acts as a closed kinematic chain, which is locked by the 2,000–3,000 swallows that occur daily. These swallowing contacts can counteract attempts to adjust cranial bones.

The OLC is specifically engineered to merge light wire activation with cranial strain pattern unwinding. Its design creates an acrylic gap that permits cranial bones to unwind to more natural positions upon mouth closing. Benefits of the OLC include unwinding facial asymmetry, aligning the craniocervical junction, and enhancing growth by optimizing whole-body function 24/7. It also realigns the TMJ complex and enhances neurology by freeing cranial nerve pathways, supporting airway tone through glossopharyngeal and vagus nerve activation.

Unlike traditional two-dimensional expanders, the OLC promotes three-dimensional palatal development influenced by natural tongue function and passive qualities. The central objective is to restore the physiological function of the craniofacial cervical complex, removing obstacles and augmenting the body’s inherent motion and healing capacity.

CONCLUSION

The Cricket appliance framework remains a versatile and valuable tool, embodying the evolution of dentistry into a truly integrative medical discipline. By respecting fundamental biological principles—guiding growth, utilizing light forces, and acknowledging the body’s interconnected systems—the Ricketts approach ensures that orthopedic corrections are stable, health-promoting, and grounded in evidence-aligned innovation. The ultimate goal is to restore motion and function, enabling the body to engage its self-healing capabilities through optimized craniofacial health, posture, airway, and neural integration.



Dr. Paul Eckstein and Son Dalton Join Forces to Support Retired NFL Players in Florida



Dr. Paul Eckstein, Rashad Ahmad and Dr. Dalton Eckstein

This past April, the Orlando–Tampa region hosted a remarkable health screening event that brought together medicine, dentistry, and professional football in an extraordinary way. Over 50 retired NFL players gathered for a special NFL Players Association (NFLPA) and Professional Athletes Foundation (PAF) health screening, where they received vital care and evaluations from top medical professionals.

Among the leaders at this event were Dr. Paul Eckstein, a highly respected dentist in Seminole, Florida, and his son Dr. Dalton Eckstein, DMD, who together played a key role in helping retired athletes access much-needed treatment and education.

This family effort was made possible through Dr. Paul Eckstein's long-standing commitment as a loyal member of the American Sleep & Breathing Academy (ASBA). His dedication to the organization and its mission positioned him to take part in this groundbreaking partnership between the ASBA, LHF, NFLPA, and PAF.

The April screening was led in partnership with Andre Collins, Executive Director of the Professional Athletes Foundation, whose leadership has long been central to improving the health and wellness of retired NFL players. Also supporting the event were David Gergen, Executive Director of the ASBA, and son, John Gergen, who contributes to the ASBA but primarily directs Pro Player Health & Wellness alongside David. Their combined leadership has been critical in bridging dental sleep medicine with professional athlete outreach.

Dr. Paul and Dr. Dalton have been expanding their knowledge in advanced dental sleep medicine. They have attended numerous study clubs and training programs, learning to treat patients with the innovative Cricket open-loop appliance, a therapy now being implemented to help former NFL players



D. Dalton Eckstein, Dr. Archie Roberts and Dr. Paul Eckstein

improve sleep and overall health. In addition, they are working with Dr. Francisco Eraso of Indianapolis, a highly respected Master Diplomate of ASBA, to provide players with access to the G-Force clear aligner system, ensuring athletes can receive comprehensive oral and airway care. Dr. Eraso is a respected radiologist and orthodontist and one of the founders of Beam Readers. He is currently teaching a high-level curriculum at ASBA with Dr. Tim Adams.

As father-and-son teams, David and John Gergen, Paul and Dalton Eckstein provided an excellent event for the former NFL players. They provided screenings, consultations, and follow-up care to the former athletes at the Orlando event. Together, they

represented ASBA’s mission to expand awareness and treatment of sleep-related breathing disorders nationwide.

For Dr. Paul Eckstein, this event was a recognition of his years of loyalty to ASBA and his passion for helping patients live longer, healthier lives. For Dalton, a rising leader in dentistry, it marked the beginning of his own journey serving both his local community and specialized groups like retired professional athletes.

The impact was clear: more than 50 former NFL players left the April Orlando screening better equipped to protect their health and their future. Thanks to the collaboration of the NFLPA, PAF, ASBA, Pro Player Health & Wellness, Andre Collins, and dedicated doctors like Paul and Dalton Eckstein, this event served as a shining example of how professional partnerships can deliver real change.

Due to the tremendous impact this event had, the news spread throughout the NFL Player community, resulting in former All-Pro receiver Ahmad Rashad reaching out to the Eckstein’s for treatment. Ahmad told David that he is going to spread awareness of

this fantastic program. He expressed how happy he was that he went to the Eckstein’s and that he appreciated the high-quality service that they provided. They educated him on sleep apnea as well as treating him.



John Gergen and David Gergen



DR. FRANCISCO ERASO

THE FUTURE OF CLEAR ALIGNERS

G force aligners with Dr Eraso and the American sleep & Breathing academy study club

This is not just a course—it’s the future of orthodontics.

Led by world-renowned authority Dr. Francisco Eraso, this powerhouse program delivers the latest breakthroughs in clear aligner therapy. You’ll see how CBCT imaging, artificial intelligence, and virtual articulators are transforming diagnostics and treatment planning—tools you need if you want to stay ahead of the competition.

Participants will gain exclusive strategies for leveraging the newest aligner materials and manufacturing technologies that are reshaping modern orthodontics.

A central focus will be on hybrid treatments, with a commanding look at the role of epigenetic appliances in optimizing craniofacial development and driving long-term stability. These appliances have been created by international authority David Gergen and Gergen’s Orthodontic Lab, setting a new standard in orthodontic innovation.

Dr. Eraso will also demonstrate the precision and efficiency of G Force Aligners, showcasing how to achieve elite smile finishing and detailing. These advanced systems don’t just improve workflows—they deliver superior clinical outcomes, reduce relapse, and maximize patient satisfaction.

👉 Until now, these breakthrough appliances have only been available to former NFL players. Now, for the first time, you can bring this same level of performance to your patients.



Andre Collins, Dr. Jeff Buxton, David Gergen and Scott Parker



ASBA Expands Global Leadership

with New International Directors of Sleep and Wellness

THE AMERICAN SLEEP AND BREATHING ACADEMY (ASBA) is proud to announce the appointment of its International Directors of Sleep and Wellness, a diverse group of visionary leaders who represent the Academy's growing global influence in sleep medicine and integrative wellness care.

MEET THE INTERNATIONAL DIRECTORS



Dr. Gopal
India

A globally respected leader in dental sleep medicine, Dr. Gopal has advanced research and education in airway health, helping shape innovative treatment pathways for patients worldwide.



Dr. Kelvin Chye
Singapore

A pioneer in Southeast Asia, Dr. Chye is recognized for advancing sleep wellness and holistic health strategies, expanding access to innovative care across the region.



Dr. Patricio Reyes
Philippines

An accomplished physician specializing in sleep and brain health, Dr. Reyes brings decades of clinical expertise and is dedicated to improving neurological wellness through better sleep.



Dr. Virend Somners
United States

A leading authority in sleep medicine, Dr. Somners has spent much of his career at the Mayo Clinic, where he has advanced groundbreaking research on sleep disorders, cardiovascular health, and patient outcomes. His work bridges advanced science with practical applications that improve lives worldwide.



Dr. Nemi Sirilan
Philippines (Co-Director)

Known for her visionary approach to integrative patient care, Dr. Sirilan focuses on bridging dental, medical, and wellness disciplines to achieve lasting health outcomes.

A Global Presence at the October Conference

These five distinguished leaders reflect ASBA's mission to unite the best minds from around the world, strengthening collaborations and driving innovation in airway health, sleep medicine, and patient-centered wellness.

Attendees will have the chance to connect with them at the **Advanced Open Loop Certification Course in Phoenix, Arizona, October 10–11.**

This hands-on event will be led by acclaimed experts Dr. Tim Adams, Dr. Francisco Eraso, David Gergen, and Scott Parker, with special guest Dr. Jerry Hu, renowned for consistently lowering patients' AHI scores to zero.



Dr. Tim Adams



Dr. Francisco Eraso



David Gergen



Scott Parker



Dr. Jerry Hu

SHAPING THE FUTURE OF SLEEP AND WELLNESS

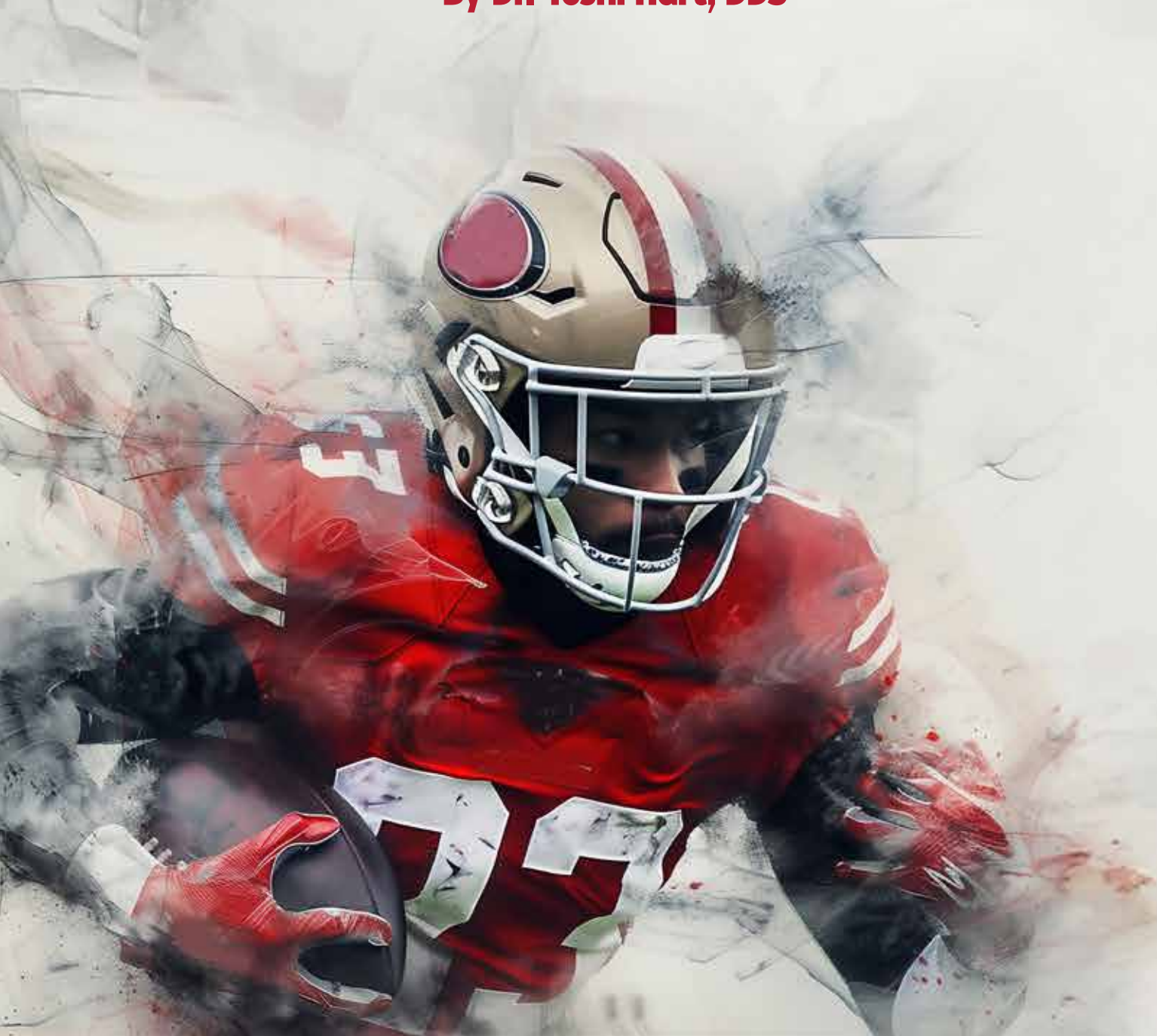
With Dr. Gopal, Dr. Reyes, Dr. Sirilan, Dr. Chye, and Dr. Somners contributing their international perspectives, this certification course promises to be a landmark event—fostering not only advanced clinical education but also a global dialogue on the future of sleep and wellness.

As the ASBA continues its rise as a world leader in sleep and breathing medicine, the appointment of these directors marks a bold new era of international partnership, innovation, and global impact.



A Dream Come True: Serving Retired NFL Players Through Sleep Health

By Dr. Toshi Hart, DDS



If you had told me years ago that one day I would be working directly with retired NFL players, I never would have believed you. In my wildest dreams, I couldn't have imagined that my dental career would lead me to this incredible opportunity to play a role in helping some of the greatest athletes in football history improve their sleep, their health, and ultimately, their quality of life.

I am truly honored to be part of the upcoming Sleep Screening Event in collaboration with the Living Heart Foundation, the NFL Players Association (NFLPA), and PPHA. This initiative represents so much more than a professional milestone for me it is a moment of deep gratitude and personal fulfillment.

As a dentist, I've always believed that oral health is inseparable from overall health, and nowhere is that more true than when we talk about sleep. Sleep-disordered breathing and sleep apnea are conditions that can impact every system of the body. To be able to use my expertise to help identify, screen, and support retired players who have given so much of themselves to the sport is both humbling and exhilarating.

Throughout my career, I've sought out new challenges and new ways to expand the reach of dentistry beyond the dental chair. Dentistry is not only about smiles it's about health, wellness, and longevity. Now, entering this new chapter of my journey, I am reminded that when passion meets purpose, doors open in ways you never expected.

Working alongside such esteemed organizations as the Living Heart Foundation, the NFLPA, and PPHA and individuals such as David Gergen and Dr. Archie Roberts reinforces the importance of collaboration in healthcare. Together, we are creating a platform where these incredible athletes can receive the care and attention they deserve, long after their playing days are over.

To say I'm excited would be an understatement. This moment feels like the perfect blend of everything I've worked for: my dedication to dentistry, my passion for whole-body health, and my commitment to making a difference.

As I look ahead to this event, I am filled with gratitude for my mentors, my patients, my colleagues, and now for the chance to serve retired NFL players in such a meaningful way. This is more than just a professional honor—it's a dream realized.



About Dr. Toshi Hart, DDS

Dr. Toshi Hart, a San Francisco native, has dedicated over 30 years to advancing dentistry and whole-body health. A graduate of Cal Poly San Luis Obispo (Biochemistry) and the University of the Pacific, Arthur A. Dugoni School of Dentistry, she completed her General Practice Residency at the VA Palo Alto with rotations at Stanford Children's Hospital.

She began her career in public health, founding the Alliance Dental Clinic in Healdsburg, CA, before leading a pediatric practice in Modesto for over two decades. In 2021, she published a study introducing a novel intraoral device that reduced childhood tooth decay risk by 76%.

Today, Dr. Hart practices in Walnut Creek, CA, where she specializes in Dental Sleep Medicine, Oral Appliance Therapy for Obstructive Sleep Apnea, TMD, Craniofacial Epigenetics, and Laser Snore Treatment.



Congratulations to *Dr. Katherine Ahn Wallace* Record-Breaking Achievement & Exciting ASBA News

We are thrilled to share some incredible news from the ASBA community.

Please join us in congratulating Dr. Katherine Ahn Wallace for setting a new record on the Diplomate Written Exam with a staggering score of 92% — the highest ever achieved! This remarkable accomplishment is a true testament to her dedication, expertise, and passion for advancing the field.

In light of this achievement, we are excited to announce that Dr. Ahn's clinic in California will serve as the host site for the upcoming ASBA Mastery Program. This program will provide an unparalleled opportunity for advanced training and hands-on experience with leaders in the field.

The exact dates and times will be announced soon, as we are currently finalizing the details.

Stay tuned for updates and make sure to visit the ASBA website for the latest information.

Once again, congratulations to Dr. Ahn Wallace on this historic achievement — and to all of you who continue to raise the bar in dental sleep medicine.



Dr. Gundry's Recipe of the Week

SPINACH ARTICHOKE LASAGNA

If you thought lasagna was off the table on a healthy diet, think again. I've created a version that's every bit as rich and satisfying as the classic... but without the pasta, heavy tomato sauce, or gutbusting dairy.

Instead, this better-for-you lasagna features delicate layers of thinly sliced sweet potatoes standing in for noodles, paired with tender spinach, artichokes, and mushrooms simmered in creamy coconut milk. A luscious ricotta (or yogurt) mixture ties it all together, and a touch of Italian Parmesan creates that irresistible golden crust in the oven.

The result? Comfort food you can actually feel GOOD about eating. It's hearty. It's flavorful. And it's totally compliant with my protocol.

INGREDIENTS

- Olive oil spray
- ¼ cup extra-virgin olive oil
- 2 cups artichoke hearts (frozen and thawed preferred, canned or jarred okay if packed in brine), finely chopped
- 4 cups baby spinach, rinsed
- 1 cup cremini
- 1 cup cremini mushrooms, finely chopped
- 1 teaspoon iodized sea salt
- ½ teaspoon black pepper
- ½ teaspoon fresh thyme
- Zest of 1 lemon
- 1 tablespoon fresh rosemary, minced
- 1 can unsweetened coconut cream
- 2 cups sheep's or goat's milk ricotta, or 3 cups coconut yogurt
- 2 omega-3 or pastured eggs, or VeganEggs
- 1 cup Classic Basil Pesto
- 1 teaspoon garlic powder
- 1 teaspoon paprika
- ¼ cup Italian Parmesan cheese (optional), plus additional to sprinkle on top
- 1 large sweet potato, thinly sliced (as lasagna noodles; using a mandoline helps)

HOW TO:

1. Preheat oven to 375°F. Spray a 9 × 13-inch baking dish with olive oil and set aside.
2. In a large sauté pan, heat olive oil over medium-high heat.
3. Add artichokes, spinach, and mushrooms; cook, stirring frequently, until tender.
4. Add salt, pepper, thyme, lemon zest, and rosemary; cook an additional 3 minutes.
5. Add coconut cream, reduce the heat to low, and simmer for 10 minutes while preparing the cheese mixture.
6. In a large bowl, combine ricotta or yogurt, eggs, pesto, garlic powder, paprika, and cheese; set aside.
7. Spoon ½ cup of artichoke mixture into the baking dish, then add a layer of sweet potato slices.
8. Top with 1 cup ricotta mixture and another ½ cup artichoke mixture. Repeat layers until the dish is full.
9. Sprinkle the top with Italian Parmesan cheese and cover with foil.
10. Bake for 35–40 minutes, then remove foil and bake an additional 15 minutes until cheese is golden brown.
11. Remove from oven and let rest 10 minutes before serving.



From AHI 39 to 2

No CPAP, No Surgery,
and Eventually No MAD



By: Brett A. Dameron, DDS, DASBA

For years, patients and providers have been searching for alternatives to treat Obstructive Sleep Apnea (OSA). Options include CPAP, mandibular advancement devices (MADs), surgery, epigenetic approaches, mouth tape, nasal dilators, positional therapy (tennis balls, anyone?), and even discussions of mandibular autorotation. Some approaches work better than others, but most are considered management rather than cure.

My personal story began in 2015 at a Sleep Group Solutions seminar in Scottsdale. I didn't attend with the idea of treating myself, but rather to better serve my patients, family, and friends. As part of the seminar, I took a home sleep test (HST) to experience what my patients go through. The results surprised me: a supine AHI of 75 and an overall AHI of 39—severe OSA.

On Monday of that same week, impressions were taken for a Herbst appliance using a George gauge and phonetic bite. I wore that appliance, along with the AM positioner, consistently for years, keeping my AHI between 4 and 7 (confirmed every two years with follow-up testing).

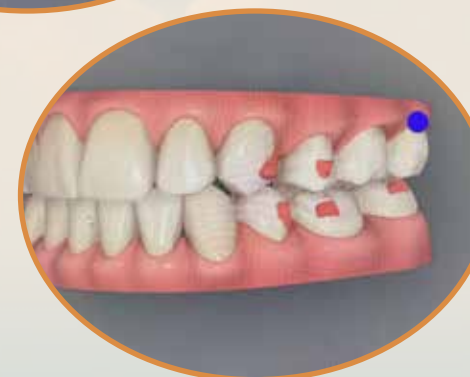
By the third year, however, my bite had shifted forward into an end-to-end position. Surprisingly, this change eliminated the TMJ pain and clicking

I had experienced for more than 30 years. Whether this was true mandibular autorotation or tissue/fluid changes behind the TMJ, I can't say for sure—but a panoramic radiograph showed no abnormalities, and my symptoms were gone.

Wanting to bring my bite back to Class I, I began Invisalign therapy, starting from the new end-to-end position. Before beginning trays, I repeated a sleep test at Neurodiagnostic Sleep Centers, which showed an AHI of 4, with oxygen levels mostly above 96%. For a short period, I also tried APAP, but ultimately stopped after confirming stable results at the ASBA convention using WatchPAT testing: AHI of 4 without mouth tape, and AHI of 2 with mouth tape.

After 20 Invisalign trays, my occlusion returned to Class I. Today, I remain pain-free, with normal function, and a sustained AHI as low as 2—all without CPAP, surgery, or long-term use of a MAD.

Takeaway: Why did the apnea nearly disappear? The answer isn't clear—possibly autorotation of the mandible, tissue or fluid changes behind the TMJs, or a combination of factors. What is clear is that my airway improved, my bite is healthy, and my TMJ pain is gone. While this is just one case, it highlights that significant improvement can sometimes come from unexpected pathways.



Sleep and Cardiovascular Disease in NFL Retirees

Cardiovascular Disease Risk Factors in Former National Football League Players: Impact of Obstructive Sleep Apnea

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ABSTRACT

Purpose: Obstructive sleep apnea (OSA) and cardiovascular disease (CVD) are common among former National Football League (NFL) athletes. The Living Heart Foundation Heart-Obesity-Prevention-Education Group aimed to provide an in-depth health assessment for CVD risk factors among former NFL players to examine the role of OSA on blood pressure (BP) and echocardiographic measurements. We hypothesized that OSA and maladaptive echocardiographic measurements would be highly prevalent in former NFL athletes, and that OSA presence would detrimentally impact echocardiographic parameters.

Patients and methods: One hundred fifty-three former NFL athletes were enrolled in the present study. Participants completed a cardiovascular health assessment consisting of clinical BP readings and transthoracic echocardiography (TTE), which included measurements of ejection fraction, left atrial size, left ventricle diastolic diameter, intraventricular septal thickness, and ascending aortic diameter. All participants were offered an at-home overnight sleep test to estimate sleep apnea presence and severity.

Results: Eighty percent of our sample exhibited at least mild OSA. Further, 34% displayed elevated intraventricular septal thickness and subclinical aortic dilation was present in 47% of retired NFL athletes. In a subanalysis of former players with at-home sleep test results and TTE measures (n = 43), NFL retirees with OSA demonstrated greater ascending aortic diameter compared to former NFL athletes without OSA (p = 0.048).

Conclusion: There is a remarkably high prevalence of OSA, in addition to maladaptive cardiac remodeling, among retired NFL athletes. Cardiac abnormalities may be partially explained by untreated OSA in this population.

INTRODUCTION

National Football League (NFL) athletes, much like other professional sports, are near-peak physical fitness for a significant portion of their adult lifespan. Yet, the physical demands of American football are high, leaving many with injuries and/or exercise impairment in their post-career lifestyle.¹ Indeed, Brett et al.² recently demonstrated that 50% of their former NFL athlete cohort did not meet physical activity guidelines/recommendations. Post career lifestyle changes such as lack of exercise and poor nutrition may reverse any cardioprotection conferred during their NFL careers.³ This is imperative to understand as cardiovascular disease (CVD) remains the leading cause of death among former NFL athletes,⁴ and mechanisms mediating this relationship are important to identify, so as to enable targeted intervention.

One possible factor underlying CVD in former NFL athletes is obstructive sleep apnea (OSA), which gained significant mainstream attention following the sudden death of former Green Bay Packer and Philadelphia Eagle, Reggie White.⁵ Contemporary investigations are lacking, but in 2003, OSA prevalence in current NFL athletes was estimated to range between 14 – 34%,⁶ and prior evidence from the Living Heart Foundation (LHF) estimated OSA prevalence in former NFL athletes may balloon to over 50%.⁷ OSA is linked to several CVDs such as hypertension,⁸ heart failure,⁹ and sudden cardiac death.¹⁰ CVD is often associated with pathologic/maladaptive remodeling of cardiac tissue,¹¹ often evident on TTE imaging. Despite this apparent high CVD risk phenotype in retired NFL players, present literature is conflicting with evidence to suggest little increase in cardiovascular risk in former NFL athletes.^{12,13}

The purpose of the present study was two-fold. First, we sought to characterize OSA prevalence and CVD risk in former NFL players. Second, we aimed to determine the potential contribution of undiagnosed OSA to

increased blood pressure (BP) and abnormal TTE measures. We hypothesized that a majority of our sample would present with undiagnosed OSA, and this would be related to increased CVD risk, as evidenced by elevated BP and TTE-derived measures of structural/functional cardiac abnormalities.

MATERIAL AND METHODS

PARTICIPANTS

Former NFL athletes were recruited using a multicity approach between 2017 and 2022 by the LHF to complete health screening which consisted of seated BP, at-home overnight sleep testing, and TTE with assistance from the NFL Players Association. All participants provided informed consent to participate in the health screening and permitted their data to be used for research purposes. One hundred fifty-three former NFL athletes enrolled in the present study. Forty-three participants completed both sleep and cardiovascular tests. Another 67 participants elected to only complete the home sleep apnea testing and 43 only completed the BP and TTE testing. Total TTE sample was n = 86, while total sleep apnea testing totaled n = 110 (n = 10 were excluded due to insufficient recording time)

EXPERIMENTAL DESIGN

Each former NFL athlete reported to city-specific testing facilities sponsored by the LHF. All participants arrived for testing following an 8-hour fast. Height and weight were obtained and a cardiovascular health assessment was offered. This included seated BP which was taken in triplicate. Subsequently, participants were prepared for a TTE for overall assessment of heart health. All participants were also offered a home sleep testing device to screen for OSA following thorough device orientation.

MEASUREMENTS

HOME SLEEP APNEA TESTING

All study participants completed a self-applied home sleep test to screen for OSA presence

and severity. A variety of devices were utilized including ARES (n = 72) (Advanced Brain Monitoring, Inc., Carlsbad, CA), Nightowl (n = 22) (Ectosense NV, Leuven, Belgium), Apnealink (n = 3) (ResMed, San Diego, CA), and WatchPAT (n = 13) (Itamar Medical, Caesarea, Israel). All home-based testing has been validated against in-laboratory polysomnography for accurate detection of sleep disordered breathing.¹⁴⁻¹⁷ Fronto-parietal sleep electroencephalography was obtained to quantify sleep/wake and non-REM/REM sleep (ARES only). A nasal cannula was used to quantify airflow patterns associated with apneic events (ARES and Apnealink). Blood oxygen saturation was recorded via pulse oximetry to track desaturations (all other models) to estimate nocturnal apnea-hypopnea index (AHI) and OSA presence.

BLOOD PRESSURE AND TRANSTHORACIC ECHOCARDIOGRAPHY

Seated BPs were obtained on each participant via manual blood pressure cuff and stethoscope. The BP cuff was placed on the non-dominant arm and three readings were recorded. A TTE (Siemens, Munich, Germany) was conducted by a certified ultrasound technician or physician. Each participant was instructed to lie in the left lateral decubitus position. The left arm was placed above the head if needed. Cardiac function was assessed by determining ejection fraction, left atrial size index, left ventricular size and thickness, and ascending aortic diameter. Each TTE was read and interpreted by a board-certified cardiologist.

DATA ANALYSIS

All overnight sleep apnea testing was reviewed by a board-certified sleep physician according to American Academy of Sleep Medicine guidelines. A overnight sleep study was considered valid if recording time was ≥ 4 hours. Obstructive hypopneas were scored via the 4% desaturation criteria in alignment with

federal and private insurance OSA definition.¹⁸ Obstructive sleep apnea was defined as AHI $\geq$ five events/hour. The prevalence of pathologic or at-risk TTE parameters was classified as ejection fraction (EF) $< 50\%$, left atrial volume index (LAVI) $> 34 \text{ mL/m}^2$, left ventricle diastolic diameter (LVDD) $> 6 \text{ cm}$, intraventricular septal thickness (IVST) $> 1.1 \text{ cm}$, and ascending aortic diameter (AAD) $> 3.5 \text{ cm}$.¹⁹ Hypertension was classified as average systolic BP greater than or equal to 130 mmHg or average diastolic BP greater than or equal to 80 mmHg.²⁰ An analysis was conducted to investigate the impact of OSA on TTE parameters who had complete overnight sleep testing and TTE data ($n = 43$).

STATISTICAL ANALYSIS

All data were analyzed statistically using commercial software (SPSS 28.0; IBM SPSS, Armonk, NY). Assumption of normality tests were conducted on main outcome variables via z-score normalization of variable skewness. We utilized two tailed independent samples t-tests to compare participant demographics, BP, AHI, and TTE parameters between participants with and without OSA. Data are presented as mean $\pm$ standard deviation and significance level was set at $\alpha \leq 0.05$.

RESULTS

Figure 1 depicts TTE parameters between former NFL athletes with and without OSA. EF (Panel A, $p = 0.726$), LAVI (Panel B, $p = 0.979$), LVDD (Panel C, $p = 0.197$), and IVST (Panel D, $p = 0.259$) were similar between OSA and non-OSA comparisons. However, AAD was significantly larger in former NFL athletes with OSA compared to former athletes without OSA (Panel E, 3.5 ± 0.4 vs. $3.3 \pm 0.2 \text{ cm}$, $p = 0.048$).

Among the $n = 110$ sample enrolled in the overnight sleep study, participants were 54 ± 12 years with a BMI of $33 \pm 6 \text{ kg/m}^2$. Table 1 highlights this was a majority African American (53%) and White (42%) sample. OSA was

present in 80% of former NFL athletes tested with majority presenting with either mild (42%) or moderate (23%) OSA.

All 86 former NFL players who completed the TTE procedure were 54 ± 13 years with a BMI of $33 \pm 7 \text{ kg/m}^2$. As shown in Table 2, this sample was also majority African American (57%) and White (42%). Clinical BPs demonstrated HTN was present in 76% of our sample. Further, clinical or at-risk TTE outcomes were present in our sample of retired NFL athletes including 34% with abnormal intraventricular septal thickness and 47% with subclinical dilated ascending aorta.

In an analysis examining the OSA impact on TTE outcomes, BMI was similar between OSA and non-OSA subjects (Table 3), with the OSA cohort tending to be older compared to former athletes without OSA ($p = 0.066$). Former linemen were 41% of the non-OSA cohort, while 27% of the OSA group were former NFL linemen. Systolic arterial pressure (SAP) was similar between groups, while diastolic arterial pressure (DAP, $p = 0.007$) and mean arterial pressure ($p = 0.037$) were higher those with OSA.

DISCUSSION

Several studies have concluded that former NFL athletes exhibit increased CVD risk; however, these lines of inquiry appear limited to body composition and/or BMI as contributing factors. The present study utilizes clinical methodologies such as at-home sleep assessment, BP, and TTE to objectively quantify OSA presence and overt CVD risk. Our results indicate three important findings. First, we replicate our prior findings⁷ in a new, more recent, cohort of retired NFL athletes suggesting a high prevalence of undiagnosed OSA, driven largely by mild to moderate disease severity. Second, TTE outcomes suggest increased CVD risk (or subclinical risk) from sizable proportion of our sample exhibiting larger IVST and AAD. Last, in a subset of our sample, OSA appears associated with increased AAD and heightened

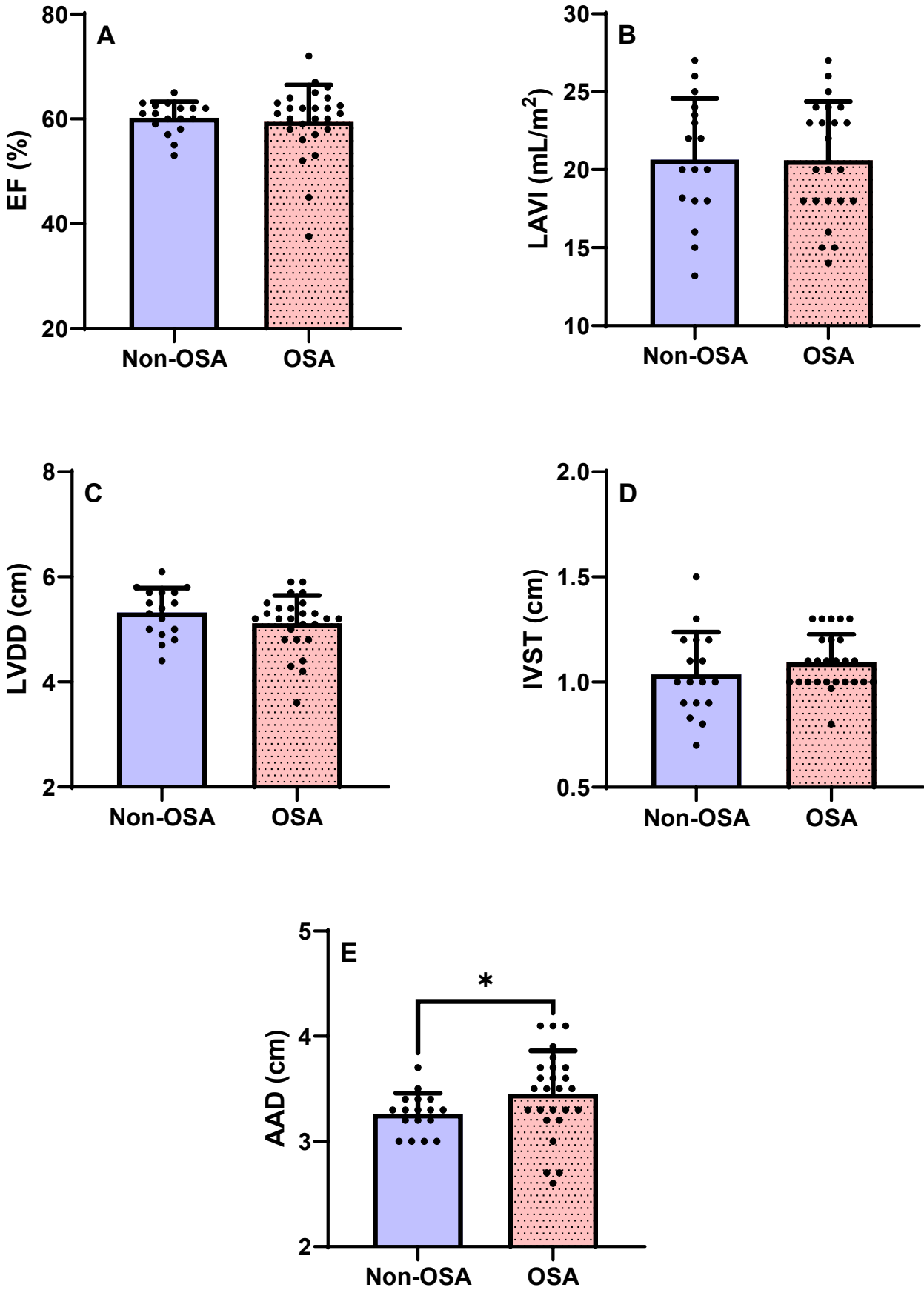


Figure 1

TABLE 1. At-Home Sleep Testing Participant Demographics	
	Value (n = 100)
Age (yrs)	54 ± 12
BMI (kg/m ²)	32 ± 5
Race, # (%)	
African American	53 (53)
White	42 (42)
Other/Unknown	5 (5)
Position, # (%)	
Lineman	30 (30)
Non-lineman	70 (70)
AHI (events/hr)	15 ± 13
REM-AHI (events/hr)	18 ± 17
OSA Prevalence, # (%)	80 (80)
OSA Severity, # (%)	
Mild	42 (42)
Moderate	23 (23)
Severe	15 (15)

Results are means ± SD or count (frequency); BMI, Body mass index; AHI, Apnea-hypopnea index (n = 100); REM-AHI, Rapid eye movement [sleep] apnea-hypopnea index (n = 66); OSA, Obstructive sleep apnea.

TABLE 2. Echocardiography Participant Demographics	
	Value (n = 86)
Age (yrs)	54 ± 13
BMI (kg/m ²)	33 ± 7
Race, # (%)	
African American	49 (57)
White	36 (42)
Other/Unknown	1 (1)
Position, # (%)	
Lineman	33 (38)
Non-lineman	53 (62)
HTN Prevalence, # (%)	15 ± 13
EF < 50%, # (%)	18 ± 17
LAVI > 34mL/m ² , # (%)	2 (2)
LVDD > 6cm, # (%)	3 (4)
IVST > 1.1cm, # (%)	29 (34)
AAD > 3.5cm, # (%)	40 (47)

Results are means ± SD or count (frequency); BMI, Body mass index; HTN, Hyper-tension; EF, Ejection fraction; LAVI, Left atrium volume index; LVDD, Left ventricle diastolic diameter; IVST, Intraventricular septal thickness; AAD, Ascending aortic diameter.

TABLE 3. Participant Demographics: OSA TTE Analysis			
	Non-OSA (n = 17)	OSA (n = 26)	P-Value
Age (yrs)	46 ± 10	51 ± 9	0.066
BMI (kg/m2)	32 ± 5	33 ± 5	0.492
AHI (events/hr)	3 ± 1	17 ± 11	<0.001
REM-AHI (events/hr)	5 ± 3	25 ± 20	<0.001
SAP (mmHg)	131 ± 12	135 ± 16	0.443
DAP (mmHg)	78 ± 8	86 ± 9	0.007
MAP (mmHg)	96 ± 8	102 ± 10	0.037
HR (beats/min)	64 ± 9	69 ± 11	0.185

Results are means ± SD; BMI, Body mass index; AHI, Apnea-Hypopnea index; REM, Rapid eye movement; SAP, Systolic arterial pressure; DAP, Diastolic arterial pressure; MAP, mean arterial pressure; HR, Heart rate.

BP, which likely confer increased CVD risk in former NFL athletes. In summary, these data suggest high OSA prevalence in former NFL players, which may augment CVD risk in this population.

OSA prevalence continues to climb in the United States,⁹ and it appears that former NFL athletes are not immune to this concerning trend.⁷ As mentioned, our data suggest OSA prevalence increases following retirement, likely driven by body composition changes and aging, demonstrated by an average obese BMI in our study cohort. Many players face barriers to remaining physically active, reducing likelihood of maintaining an exercise/physical activity regimen after retirement. An NFL career is taxing on the human body with 79% of players reporting at least one knee or hip injury during their career,²¹ significantly increasing risk for orthopedic related surgery and limiting mobility during post-career years. Independent of injury status, NFL players exhibit a > 15 times increased risk of total knee replacement.^{21,22} Further, many athletes struggle with joint pain and arthritis at double the prevalence of the US general population.²³ Collectively, increased body mass and reduced physical activity are likely contributing to high OSA prevalence in NFL retirees, and left untreated may influence CVD risk and outcomes.

A surprising finding among our former NFL athlete sample is a sizable percentage with abnormal TTE measures, including 34% with increased ISVT and 47% with subclinical aortic dilation. Elevated IVST is associated with left ventricular hypertrophy (LVH). LVH, which is likely eccentric hypertrophy in our population, is interrelated with increased risk for cardiac complications such as coronary artery disease, congestive heart failure, and cerebrovascular accidents²⁴ and all-cause mortality.²⁵ Left ventricular hypertrophy is also common among athletes, as a normal physiological response to increased hemodynamic demand.²⁶ Indeed, the presence of higher IVST accompanied

by normal EF and LVDD are suggestive of physiological cardiac hypertrophy via extreme cardiovascular demand, both on the field and with rigorous training.²⁶ It remains warranted to examine the etiology of increased IVST in current and former NFL athletes and should be investigated with further studies given high prevalence of CVD post-career. Additionally, aortic dilation is occasionally present in endurance athletes.²⁷ Nearly half of our sample exhibited subclinical aortic dilation (≥ 3.5 cm). This potential trend is associated with increased aortic dissection risk,²⁸ which may present with sudden cardiac death.²⁹ Future, longitudinal assessments are warranted to determine whether such cardiovascular alterations are present in current athletes, how they change throughout athletes’ careers, and to what extent this may translate to increased CVD risk in retired players.

Our subanalysis examining the impact of OSA on TTE parameters revealed increased aortic dilation in former NFL athletes with OSA. Indeed, a recent study in Chinese adults determined a relationship between OSA severity and AAD.³⁰ This may be for several reasons. First, rapid and marked intrathoracic pressure changes during respiratory events, such as obstructive hypopneas, may increase AAD. This was shown experimentally by Stöwhas et al.³¹ who simulated obstructive hypopneic events in wake adults and saw acute increases in AAD during breathing strain. Second, upon cessation of breathing, venous return is reduced, and sympathetic activation is increased from chemo-reflex activation.^{32,33} With apnea termination, an exaggerated pressor response and blood volume shift from venous to arterial circulation may also place added stress on the ascending aorta, and the entire aorta in general, which may increase aortic dissection risk.^{31,34,35} Taken together, untreated OSA may place former NFL athletes at increased aortic dilation risk and resultant aortic dissection risk.³⁶

LIMITATIONS

Random sampling for this study was not utilized and thus we may be overestimating OSA prevalence and TTE derived CVD in our population. However, this may be mitigated as we our data are corroborated by our initial findings⁷ and those of other groups⁵ in former NFL athletes. Additionally, while we are underpowered in this study, attention to potential racial differences in OSA and/or CVD risk should be investigated in NFL athletes, given the known cardiovascular disparities between African Americans and White adults in the US general population.³⁷ Last, we did not address medical history or current medication list in our sample.

CONCLUSION

In summary, OSA appears to be common among former NFL athletes, likely increasing their CVD risk. In our sample of NFL retirees, 80% of former athletes exhibited mild, moderate, or severe sleep apnea. Additionally, abnormal TTE parameters including elevated IVST and AAD were present in 34 – 47% of our sample. A subanalysis revealed that OSA presence was related to increased AAD. These findings offer new insight into the relationship between OSA and CVD in former NFL athletes.

Disclosures

VKS has consulted for Lilly, Zoll, Jazz Pharma, iRhythm, Axsome, and ApniMed and is on the Sleep Number Scientific Advisory Board. All other authors have no relevant conflicts to disclose.

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Data Availability Statement

The data underlying this article were provided by the Living Heart Foundation for ongoing collaboration with the Mayo Clinic – Rochester. Data will be shared on request to the corresponding author with permission of the Living Heart Foundation.

Author Contributions

Conceptualization	AJR and VKS
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Formal Analysis	IMG
Funding Acquisition	AJR and VKS
Investigation	MAF, SAP, JRP, DG, RMF, and AJR
Methodology	MAF, SAP, JRP, DG, RMF, and AJR
Project Administration	MAF, SAP, JRP, DG, RMF, and AJR
Resources	MAF, SAP, JRP, DG, RMF, and AJR
Supervision	AJR and VKS
Visualization	IMG
Writing – Original Draft	IMG, MAF, JMB, NC, and VKS
Writing – Review and Editing	IMG, MAF, SAP, JRP, DG, RMF, JMB, NC, JB, BWE, AJR, and VKS

REFERENCES

1. Domb BG, Carter C, Finch NA, Hammarstedt JE, Dunne KF, Stake CE. Whole-Person Impairment in Younger Retired NFL Players: The Orthopaedic Toll of a Professional Football Career. *Orthop J Sports Med.* May 2014;2(5):2325967114534824. doi:10.1177/2325967114534824

2. Brett BL, Aggarwal NT, Chandran A, et al. Incorporation of concussion history as part of the Lifestyle for BRAin Health (LIBRA) modifiable factors risk score and associations with cognition in older former National Football League players. *Alzheimers Dement.* Jul 2023;19(7):3087-3097. doi:10.1002/alz.12929

3. Churchill TW, Krishnan S, Weisskopf M, et al. Weight Gain and Health Affliction Among Former National Football League Players. *Am J Med.* Dec 2018;131(12):1491-1498. doi:10.1016/j.amjmed.2018.07.042

4. Sisk M, Medawar N, McClure M, et al. Cardiovascular disease in retired NFL players: a systematic review. *Phys Sportsmed.* Oct 2024;52(5):444-451. doi:10.1080/00913847.2024.2315929

5. Rogers AJ, Xia K, Soe K, et al. Obstructive sleep apnea among players in the National Football League: a scoping review. *Journal of sleep disorders & therapy.* 2017;6(5):278.

6. George CF, Kab V, Levy AM. Increased prevalence of sleep-disordered breathing among professional football players. *New England journal of medicine.* 2003;348(4):367-368.

7. Albuquerque FN, Sert Kuniyoshi FH, Calvin AD, et al. Sleep-disordered breathing, hypertension, and obesity in retired National Football League players. *Journal of the American College of Cardiology.* 2010;56(17):1432-1433.

8. Konecny T, Kara T, Somers VK. Obstructive sleep apnea and hypertension: an update. *Hypertension.* 2014;63(2):203-209.

9. Yeghiazarians Y, Jneid H, Tietjens JR, et al. Obstructive sleep apnea and cardiovascular disease: a scientific statement from the American Heart Association. *Circulation.* 2021;144(3):e56-e67.

10. Zhang H, Liu H, Jiao Y, et al. Association between sleep apnea-specific hypoxic burden and severity of coronary artery disease. *Sleep and Breathing.* 2024;28(3):1293-1301.

11. González A, Ravassa S, López B, et al. Myocardial remodeling in hypertension: toward a new view of hypertensive heart disease. *Hypertension.* 2018;72(3):549-558.

12. Hurst RT, Burke RF, Wissner E, et al. Incidence of subclinical atherosclerosis as a marker of cardiovascular risk in retired professional football players. *The American journal of cardiology.* 2010;105(8):1107-1111.

13. Chang AY, FitzGerald SJ, Cannaday J, et al. Cardiovascular risk factors and coronary atherosclerosis in retired National Football League players. *The American journal of cardiology.* 2009;104(6):805-811.

14. Ayappa I, Norman RG, Seelall V, Rapoport DM. Validation of a self-applied unattended monitor for sleep disordered breathing. *Journal of Clinical Sleep Medicine.* 2008;4(1):26-37.

15. Massie F, Mendes de Almeida D, Dreesen P, Thijs I, Vranken J, Klerkx S. An evaluation of the NightOwl home sleep apnea testing system. *Journal of Clinical Sleep Medicine.* 2018;14(10):1791-1796.

16. Erman MK, Stewart D, Einhorn D, Gordon N, Casal E. Validation of the ApneaLink™ for the screening of sleep apnea: a novel and simple single-channel recording device. *Journal of Clinical Sleep Medicine.* 2007;3(4):387-392.

17. Pillar G, Berall M, Berry R, et al. Detecting central sleep apnea in adult patients using WatchPAT—a multicenter validation study. *Sleep and Breathing.* 2020;24:387-398.

18. Wickwire EM, Zhang X, Munson SH, et al. The OSA patient journey: Pathways for diagnosis and treatment among commercially insured individuals in the United States. *Journal of Clinical Sleep Medicine.* 2024;20(4):505-514.

19. Eriksen-Volnes T, Grue JF, Hellum Olaisen S, et al. Normalized Echocardiographic Values From Guideline-Directed Dedicated Views for Cardiac Dimensions and Left Ventricular Function. *JACC Cardiovasc Imaging.* Dec 2023;16(12):1501-1515. doi:10.1016/j.jcmg.2022.12.020

20. Whelton PK, Carey RM, Aronow WS, et al. 2017 ACC/AHA/AAPA/ABC/ACPM/AGS/APhA/ASH/ASPC/NMA/PCNA guideline for the prevention, detection, evaluation, and management of high blood pressure in adults: a report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines. *Journal of the American College of Cardiology.* 2018;71(19):e127-e248.

21. Davies MA, Kerr ZY, DeFreese J, et al. Prevalence of and risk factors for total hip and knee replacement in retired national football league athletes. *The American journal of sports medicine*. 2019;47(12):2863-2870.
22. Tenforde AS, Cortez B, Baker J, et al. Prevalence of total hip and knee arthroplasty in former National Football League players: comparison with the general US population and other populations of professional athletes. *BMJ Open Sport & Exercise Medicine*. 2020;6(1):e000833.
23. Golightly YM, Marshall SW, Callahan LF, Guskiewicz K. Early-onset arthritis in retired National Football League players. *Journal of physical activity and health*. 2009;6(5):638-643.
24. Kannel WB, Dannenberg AL, Levy D. Population implications of electrocardiographic left ventricular hypertrophy. *Am J Cardiol*. Dec 14 1987;60(17):851-931. doi:10.1016/0002-9149(87)90466-8
25. Papademetriou V, Stavropoulos K, Kokkinos P, et al. Left Ventricular Hypertrophy and Mortality Risk in Male Veteran Patients at High Cardiovascular Risk. *American Journal of Cardiology*. Mar 15 2020;125(6):887-893. doi:10.1016/j.amjcard.2019.12.029
26. D'Ascenzi F, Fiorentini C, Anselmi F, Mondillo S. Left ventricular hypertrophy in athletes: How to differentiate between hypertensive heart disease and athlete's heart. *European journal of preventive cardiology*. 2021;28(10):1125-1133.
27. Churchill TW, Groezinger E, Kim JH, et al. Association of ascending aortic dilatation and long-term endurance exercise among older masters-level athletes. *JAMA cardiology*. 2020;5(5):522-531.
28. Kim JB, Spotnitz M, Lindsay ME, MacGillivray TE, Isselbacher EM, Sundt TM. Risk of aortic dissection in the moderately dilated ascending aorta. *Journal of the American College of Cardiology*. 2016;68(11):1209-1219.
29. Harris KM, Nienaber CA, Peterson MD, et al. Early mortality in type A acute aortic dissection: insights from the international registry of acute aortic dissection. *JAMA cardiology*. 2022;7(10):1009-1015.
30. Qiu L, Li P, Ding Z, et al. Ascending aorta dilatation indicates obstructive sleep apnea in Chinese patients with cardiovascular disease. *Sleep and Breathing*.

2025;29(1):94.

31. Stöwhas A-C, Namdar M, Biaggi P, et al. The effect of simulated obstructive apnea and hypopnea on aortic diameter and BP. *Chest*. 2011;140(3):675-680.
32. Narkiewicz K, Pesek CA, Kato M, Phillips BG, Davison DE, Somers VK. Baroreflex control of sympathetic nerve activity and heart rate in obstructive sleep apnea. *Hypertension*. 1998;32(6):1039-1043.
33. Narkiewicz K, Van De Borne PJ, Pesek CA, Dyken ME, Montano N, Somers VK. Selective potentiation of peripheral chemoreflex sensitivity in obstructive sleep apnea. *Circulation*. 1999;99(9):1183-1189.
34. Gaisl T, Baumgartner P, Rejmer P, et al. Prevalence of obstructive sleep apnea in patients with thoracic aortic aneurysm: a prospective, parallel cohort study. *Respiration*. 2020;99(1):19-27.
35. Mason RH, Ruegg G, Perkins J, et al. Obstructive sleep apnea in patients with abdominal aortic aneurysms: highly prevalent and associated with aneurysm expansion. *American journal of respiratory and critical care medicine*. 2011;183(5):668-674.
36. Wang L, Chen J, Li G, et al. The prevalence of sleep apnea in type B aortic dissection: implications for false lumen thrombosis. *Sleep*. 2017;40(3):zsw071.
37. Carnethon MR, Pu J, Howard G, et al. Cardiovascular health in African Americans: a scientific statement from the American Heart Association. *Circulation*. 2017;136(21):e393-e423.

Figure Legends

Figure 1. Transthoracic echocardiography parameters between retired National Football League athletes with and without obstructive sleep apnea (OSA). Ejection fraction (Panel A, EF), left atrium volume index (Panel B, LAVI), left ventricular diastolic diameter (Panel C, LVDD), and intraseptal thickness (Panel D, IVST) were similar between comparisons ($p > 0.05$ for all). Ascending aortic diameter (Panel E, AAD) was larger in NFL retirees with OSA. * $p < 0.05$ between OSA and non-OSA groups.

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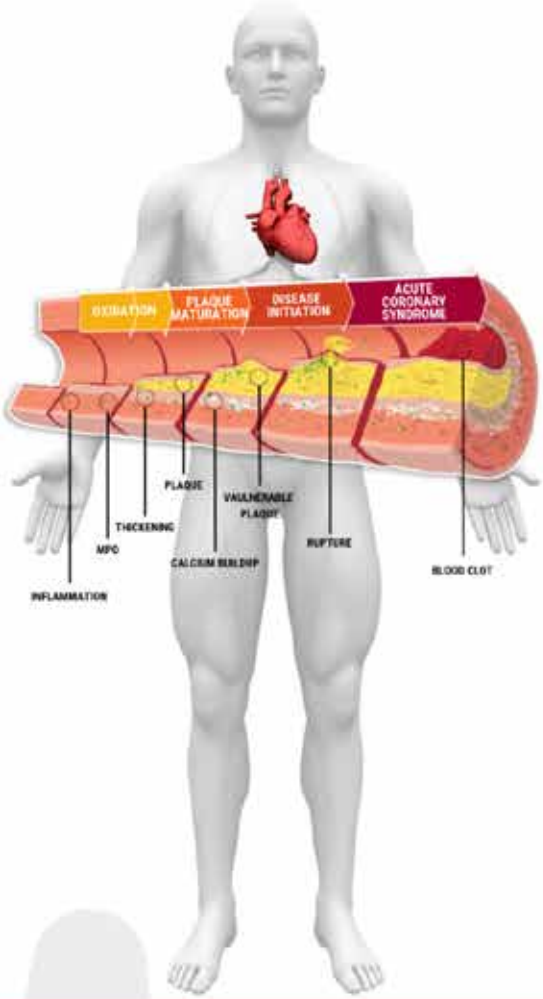
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