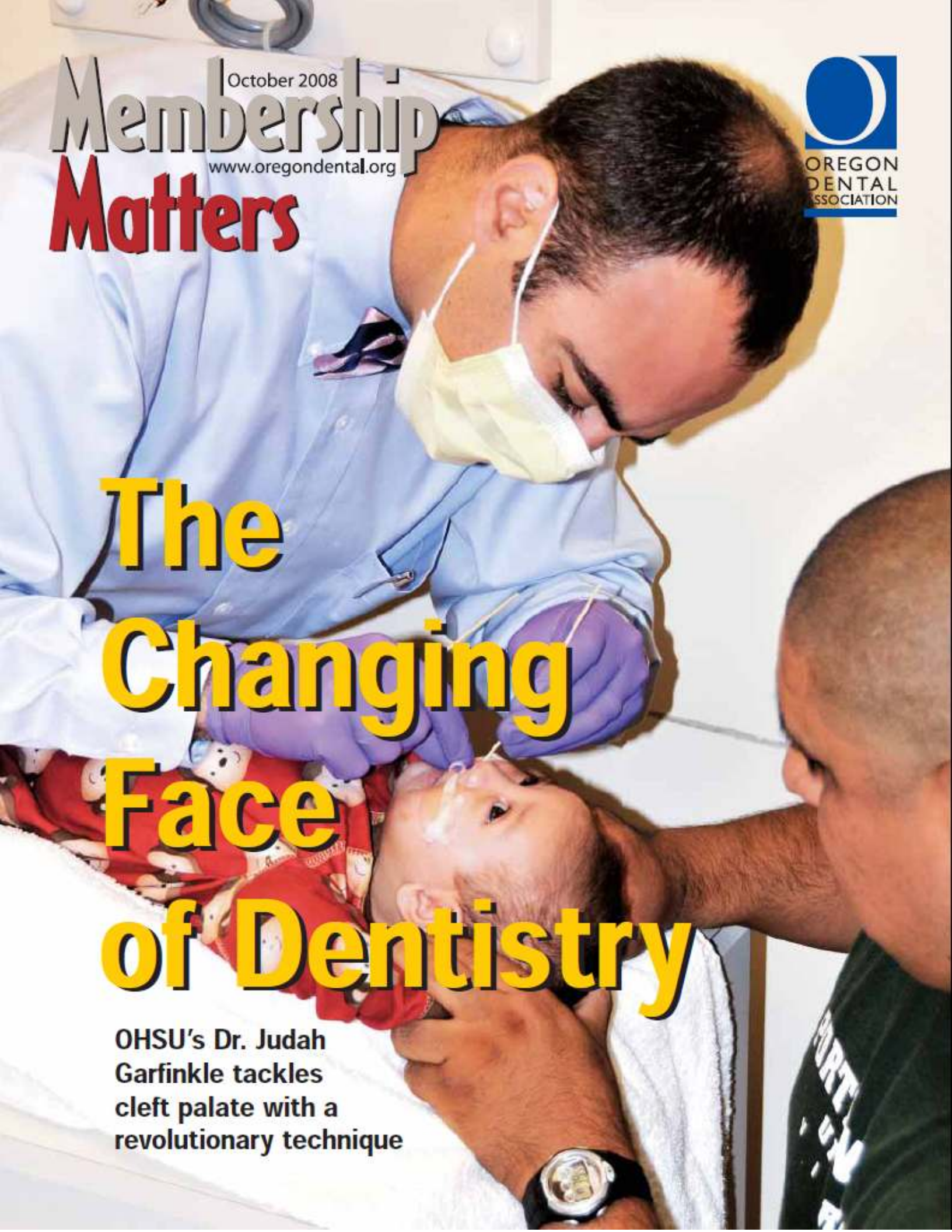


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The Changing Face of Dentistry

OHSU's Dr. Judah Garfinkle tackles cleft palate with a revolutionary technique





Saving face

An interview with OHSU's
Judah S. Garfinkle, DMD, MS

Fred A. Bremner, DMD

Thanks to a revolutionary technique known as nasoalveolar molding, children born with cleft lip and cleft palate are being given a second chance at a normal appearance

Fred A. Bremner, DMD is immediate past editor of *Membership Matters* and currently serves as an ODA trustee from Clackamas County. He can be reached at bremnerf@adamember.net.

CLEFT LIP AND CLEFT PALATE are some of the most disfiguring birth defects seen in newborns, occurring roughly once in every 600-800 births. Fortunately, a treatment modality known as nasoalveolar molding (NAM) has been developed that allows for presurgical reshaping of the gums, lip, and nostrils before cleft lip and palate surgery, lessening the severity of the cleft. Surgery is performed after the molding is complete, approximately three to six months after birth. NAM is used mainly for children with large clefts and has revolutionized cleft repair. In the past, fixing a large cleft required multiple surgeries between birth and age 18, putting the child at risk for psychological and social adjustment problems.

Membership Matters interviewed **Judah S. Garfinkle, DMD, MS**, director of craniofacial orthodontics at Oregon Health & Science University, to

learn more about this procedure. In addition to teaching at the OHSU School of Dentistry, Garfinkle maintains a private orthodontic practice in Portland with his father, **Richard L. Garfinkle, DDS, MSD**.

Give us a little background about yourself and how you became interested in dentistry and craniofacial orthodontics.

Although I am a third-generation dentist, my grandfather (an oral surgeon) and father (an orthodontist) never said a word about the profession. I feel like I arrived at it through my own journey. I was drawn to the health sciences in college. I then identified three attributes I wanted in my career: working with children, developing long term relationships with my patients, and working with my hands. Dentistry, specifically orthodontics, felt like a natural fit.



PHOTO: A. GELMAN

REPAIRING THE DAMAGE: Judah S. Garfinkle, DMD, MS makes adjustments to the nasaloalveolar molding appliance. NAM provides support for the prolapsed alar cartilage of the unilateral cleft nose and provides columella elongation through tissue expansion in the bilateral cleft nose. Optimizing the primary surgical repair leads to more normalized social interaction at an earlier age and reduces the number of surgical revisions on the nose.

I was able to serve on an Operation Smile mission to Bolivia during my fourth year of dental school at the Harvard School of Dental Medicine. I really began to take a clinical and research interest in craniofacial orthodontics and surgical treatment planning during my orthodontic residency at the University of Kentucky. I then moved to Manhattan where I completed the Craniofacial Orthodontic Fellowship at New York University Medical Center, Institute of Reconstructive Plastic Surgery (IRPS).

The fellowship was like an academic dream. The energy at IRPS was very special and contagious. Bright minds, high energy, cutting-edge medicine, and a high patient volume all made for an outstanding experience. I finally met the mentor I had always been seeking in Barry H. Grayson, DDS, the inventor of NAM. We worked as feverishly on art projects and bonsai as we did on each

individual clinical case. I developed a passion for work and life that I hope stays with me throughout my career.

What is NAM?

NAM is a presurgical infant orthopedic technique. Although various strategies have been developed over the last several hundred years to mitigate the cleft deformity prior to the initial lip repair, no other techniques addressed the nasal deformity, which can be the most difficult for the surgeon to repair and the most disfiguring for the individual. NAM specifically provides support for the prolapsed alar cartilage of the unilateral cleft nose and provides columella elongation through tissue expansion in the bilateral cleft nose. Optimizing the primary surgical repair leads to more normalized social interaction at an earlier age and reduces the number of surgical revisions on the nose. ☺



PHOTO: A. GELMAN

NAM APPLIANCE: The intraoral portion of the NAM appliance is fashioned out of acrylic on a maxillary cast and is retained in the mouth with a series of tapes placed on the cheeks. The plate is adjusted every 7-14 days, at which time material is added or removed to encourage the alveolar ridges to approximate.

continued from page 29

At what age do you start NAM and how does the treatment work?

Ideally, NAM would commence within the first month after birth. The maxillary impression is taken with a heavy body PVS material and an infant-sized impression tray. The nasal impression is taken with a light body PVS material. The infant tolerates these procedures quite well as the entire process takes only about 10 minutes.

I then fabricate the intraoral portion of the NAM appliance out of acrylic on the maxillary cast. It is retained in the mouth with a series of tapes placed on the cheeks.

The plate is adjusted every seven to 14 days at which time I strategically add and remove material to encourage the alveolar ridges to approximate. When the alveolar cleft gap is reduced to 5mm, I add the nasal stent which is built out of 0.036" stainless steel wire with a kidney shaped acrylic bulb on the end. The nasal stent is adjusted at each follow-up visit. NAM treatment takes three to four months for infants with unilateral clefts and four to five months for infants with bilateral clefts. Primary surgery can proceed afterward.

How difficult is the procedure to perform and how well do patients tolerate it?

NAM is tolerated remarkably well by infants, although parents are often a bit slower to warm up to it. But after the first few days of adjusting to the appliance, treatment usually proceeds quite smoothly. Many parents report that the infants' feeding is much improved with the plate as well.

After primary surgeries, what other treatments are necessary?

Although each case may require unique management, generally the next step following lip closure is palate surgery at approximately 12 months, which usually

includes placement of ear tubes. Speech becomes the next big focus as the child begins to speak. Speech therapy and palate/pharyngeal surgery may be indicated. If there is a severe malocclusion, orthodontics in the primary or early mixed dentition may be necessary. Prior to the eruption of any permanent teeth around the cleft, a secondary alveolar bone graft should be placed. Often orthodontic preparation and stabilization is indicated. Orthodontics in the permanent dentition is usually necessary to align the teeth.

Between 25 percent and 50 percent of complete unilateral and bilateral cleft cases require orthognathic surgery to achieve a balanced profile and correct the malocclusion. Final prosthodontic treatment is usually the "icing on the cake" after nearly two decades of treatment.

Describe your role in the division of plastic and reconstructive surgery at OHSU.

The craniofacial team is made up of a remarkable group of specialists from many different fields, each vital to the overall success of the team. The commitment from each member contributing their specialized role while respecting the contributions of the other health care providers is a great thing to be a part of. This intimate working relationship enables our team



FEEDING TIME: NAM is tolerated remarkably well by infants, although parents are often a bit slower to warm up to it. But after the first few days of adjusting to the appliance, treatment usually proceeds quite smoothly. Many parents report that the infants' feeding is much improved with the plate as well.

to achieve the amazing outcomes in the most challenging cases.

My specific role is as the director of craniofacial orthodontics. I have a joint appointment in plastic surgery and orthodontics at OHSU. Our team evaluates patients on the same day, then convenes after the clinic day is finished to discuss individual case management. Research and experience have shown that optimal care for patients with special needs is delivered in a team setting in which each member is not only an expert in his or her own field, but an educated beginner in each of the other specialties as well.

How often is this technique being utilized around the country?

The NYU Craniofacial Fellowship has been training one fellow per year since 1998, providing sufficient experience for the fellow to perform NAM. Additionally, NYU conducts a weekend course once or twice a year to introduce people to the NAM technique. My best guess is

that NAM is used regularly in only a handful of centers in this country and around the world.

How does working with severe birth defects at OHSU impact your orthodontic practice?

I have found that observing and treating patients with disturbances of growth and development gives me a unique perspective in treating patients in which growth proceeds more normally, and vice versa. I also envision my practice as place where people can learn about facial differences and the community can come together in an open and supportive environment without being judged on appearance alone. I am grateful for having the opportunity to work in an interdisciplinary team at OHSU and with my father in our practice in Portland.

How soon after a child is born with a cleft should the parent contact your office and how do they reach you for a consultation?

NAM is so effective due to the cartilage plasticity of the infant. It has been hypothesized that the elevated levels of maternal estrogens in the newborn lead to an elevated level of hyaluronic acid, which inhibits cross-linking of the cartilage extracellular matrix. For this reason, early treatment is the key.

Ideally, NAM should be initiated within four weeks of birth. Diagnosis of the cleft from an ultrasound allows the parents more time to investigate the treatment options and to meet with the team prior to the birth of their child.

To set up a team visit or initiate a referral, call 503-494-8095 (800-452-3563). I can also be reached at my orthodontic practice at 503-246-9802 or Judah@GarfinkleOrtho.com.

[Note: Visit www.widesmiles.org for a collection of more than 600 cleft-related articles.]



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