Greetings:

Another year has gone by, and I hope it has been a good one for each of you. As reported in last year’s newsletter, Dean Assael awarded our division a new position. It was a difficult decision given that we had 3 excellent candidates. We are pleased to announce that Dr. Estephan Moana-Filho, DDS, MS, PhD, accepted this position and started in early August. Since his areas of expertise include functional MRI and pain, this will allow our division an opportunity to expand the research focus. We believe he will be the next well-funded researcher in our division. Please join me in welcoming him here.

Drs. Nixdorf, John and I continue to have great success with maintaining and enhancing the division’s research portfolio. Dr. Nixdorf is extensively involved with the NIH/NIDCR National Dental Practice-Based Research Network as a regional director. In addition, he and I have had our research proposals accepted for funding by the network, obtaining 2 of their 7 currently accepted study proposals. Dr. Nixdorf will continue to study persistent pain after endodontic treatment, and my study will assess the outcomes of current treatments for TMJD pain provided by general and TMD “expert” dentists. I will need TMD “experts” from across the country for this project and hope to have past residents from our program take part in this project. Recruitment for both of our projects will likely be in 2016 after planning is complete.

Dr. John is in the middle of his multi-site Oral Health Related Quality of Life (OHRQoL) study. This research is designed to develop precise OHRQoL measures to define the effects of various oral interventions to aid dentists and patients in their assessment of treatment alternatives. In addition, he is completing a study to see if specific clinical findings are associated with biobehavioral variables so that the clinical examination can also provide indicators of biobehavioral status. Finally, my multi-site research team, including Dr. John Look, just completed following 400 subjects over 9 years, and we now have baseline and follow-up TMJ MRIs and CTs as well as comprehensive clinical and biobehavioral assessments. We are studying the relationship between progression of TMJ intra-articular disorders and their relationship to jaw pain, function and disability. Andrea Medina, administrative specialist, has been instrumental in providing us research support over the past year, and we are grateful for all she does for the Division. We are pleased with our diverse research portfolio and thankful to NIH/NIDCR for their continued support.

Dr. Nixdorf as the Orofacial Pain Program director, with assistance from Dr. Mulet, continues excellent management of the graduate and clinical training program. Of course, all missions of our division, including patient care, research and teaching, greatly benefit from our diverse faculty and our Team including the dentists, Drs. John, Nixdorf, Herman, Anderson, Fricton, Kaimal, Mulet and myself; the physical therapists, Karen Decker and Patti Weber; and the health psychologist, Dr. Leesa Morrow.

(continued on page 2)
(continued from page 1) In addition, our efficient staff team, Kathy, Mary and Cindy, enables our clinic to function smoothly each and every day. We are truly fortunate to have such a diverse wealth of expertise and experience in our faculty and staff. Together the team contributes to the excellent care provided to the patients as well as to the training of our residents.

At this time I wish to thank all the dentists and the greater health community for referring so many patients to us. This allows our residents to have a rich and varied patient population to evaluate and treat. With this broad exposure to jaw and facial pain, headache, neck pain and poor sleep, the resident dentists gain expertise in the diagnosis and management of TMD, Orofacial Pain, and Dental Sleep Medicine.

This April at the 38th Scientific Meeting of the American Academy of Orofacial Pain (AAOP), I was sitting at the annual dinner with our Minnesota colleagues and Alumni, and I was greatly moved and impressed by this compassionate and intellectually stimulating group of health professionals. I am so proud to be associated with every one of them … and by the individuals who have been through our program, or assist with its mission, but could not attend. I may be the director of the TMD and Orofacial Pain Division, but I am like the conductor of an amazing orchestra, and if one person was not present – there would be no harmony. Fortunately, with the involvement of all ….. the “music” is just amazing!

I wish each of you happiness - and a productive and enriching year for your family and the patients to whom we serve.

Sincerely,

Eric Schiffman, DDS, MS

Physical Therapy Corner

THE FUNCTIONAL ASSESSMENT TOOL  By Karen Decker, PT

This case summary represents the interpretation of the PT evaluation. Physical therapy evaluation includes a synthesis of medical history, current pain complaints, and objective data to determine the source of pain. Also collected at the initial encounter is the Jaw Functional Limitation Scale (JFLS), designed by Richard Ohrbach, DDS, PhD. It is a patient’s self-report of the functional impact of jaw symptoms. The assessment tool allows the therapist to view the impact of pain or jaw limitation on daily jaw activities including chewing, talking, singing, etc. Generally, the tool is used as a comparison from initial to final physical therapy encounter to measure therapeutic outcome.

An older man was referred for physical therapy for myofascial pain, TMJ arthralgia and right TMJ disc displacement with reduction. The onset of left jaw pain began 3 months earlier when he chewed on tough pizza crust. He felt a sudden, sharp jaw pain across his left preauricular area. 2 months after the painful onset, he did have a crown replaced on the left, and he totally avoided left chewing. The present left jaw pain was intermittent, daily and described as a dull ache, almost throbbing, at an intensity of 7 out of 10. The pain lasted minutes but occurred 3-4 times per day. The pain was worse in the morning. The JFLS score was 0; jaw function during routine, daily activity had no impact on his pain. The pain did not occur with exertion. His oral habits included clenching with driving and tongue thrusting. He had an occasional right TMJ popping.

His posture was erect and well aligned. His jaw range of motion was pain free and within normal limits except for left pain with left lateral excursion and a difference of left excursion at 9 mm compared to right lateral excursion at 12 mm. All joint play tests, static & strength testing, and clench tests were negative except for minor left pain with maximal clench testing. Palpation testing was negative except for minor discomfort of the left deep masseter (“maybe” duplicating the jaw pain) and left temporalis tendon. The left sided pain complaints actually correlated with some left TMD signs, but testing did not reproduce his “pain”.

The patient was given joint protection strategies and referred to his physician to rule out cardiac referral. He was resistant to seeing his physician because he had an extensive work up months earlier for another health issue. (continued on page 7)
Maureen Lang, D.D.S., M.S. completed the University of Minnesota’s TMD Program in 2002 and received her master’s degree the following year. She initially became interested in the field of orofacial pain several years earlier while a resident at the Bethesda Naval Dental School. That experience made her realize how much more that there was to study in this field and gave her the inspiration to pursue advanced education.

As a member of the Air Force, Dr. Lang had the exceptional opportunity to continue her education at the University of Minnesota. She was drawn to that program especially because of the reputation of the University and the program’s faculty. The clinic mentors, Drs. James Fricton, Eric Schiffman, Gary Anderson, John Schulte, and Cory Herman, all brought different strengths and areas of expertise with them. An innovative collaboration with the oral medicine department allowed for interaction with Dr. Nelson Rhodus as well. The learning experience was interactive and very patient-focused, and the balance of didactic teaching and clinical experience provided the foundation for successful practice. The breadth of the program was especially outstanding, as Dr. Lang was able to interact with other pain treatment professionals, including psychologists, physical therapists, neurologists, rheumatologists, and anesthesiologists. This gave a much larger perspective on the possibilities for treatment of people with pain. It was Dr. James Fricton who convinced her that she needed to become a member of the American Academy of Orofacial Pain (AAOP) to network with a larger group of pain professionals and to use the Academy as a way to keep current on pain research over time.

After leaving the University of Minnesota, Dr. Lang was heavily involved with teaching in Advanced Education in General Dentistry residencies in the Air Force, as well as treating patients with orofacial pain, headaches, and sleep disorders. She drew upon her Minnesota training to provide residents with valuable learning experiences in lectures, seminars, and clinics.

After nearly 28 years of military service, she retired from the Air Force in San Antonio, Texas. She is in private practice, treating patients with pain and sleep disorders. She has continued to be active in the AAOP as well, and was recently elected President of the AAOP. She hopes to have a positive influence on the field of orofacial pain and is very appreciative of the education she received at the University of Minnesota and for the professional opportunities that education made possible.

Current faculty, residents, colleagues and alumni gathered for the MN Dinner at the 2014 AAOP annual meeting, held at Red Rock Resort in Las Vegas, NV

Back row, from left, clockwise: Dr. James Fricton, Dr. Cory Herman, Dr. Donald Nixdorf, Dr. Curt Bergey, Dr. James Luderitz, Dr. Mariona Mulet, Dr. Ksenija Ren-Sitar, Dr. Sarah Shueb, Dr. Joao Ferreira, Dr. Brad Rindal, Dr. Antonio Romero Garcia, Dr. Akanksha Gupta (far right, standing), Dr. Flavia Kapos, and Dr. Hina Mittal. Down in front, from center of photo, clockwise: Dr. Eric Schiffman (Director), Dr. Aurelio Alonso, Dr. Barbara Fonseca, and Dr. Subha Giri.
By Dr. Eric Schiffman, DDS, MS

The new dual axis Diagnostic Criteria for Temporomandibular Disorders (DC/TMD)\(^1\) was recently published in the first issue of the newly named J Oral Facial Pain and Headache (previously the Journal of Orofacial Pain). It was a long and complex process to complete this manuscript, with its 34 authors, but in the end it was a stimulating and rewarding process. And I am quite proud of the finished product. Ultimately, as NIH/NIDCR informed me years ago when I received funding to accomplish this goal, both clinicians and researchers must use the same classification scheme – and that is what we did. The new DC/TMD Axis I has validated diagnostic criteria for the most common TMDs as well as new Axis II psychosocial and behavioral assessment instruments. Together they allow for comprehensive assessment of the TMD patient using the biopsychosocial model. In addition, diagnostic criteria for the more uncommon TMD, Expanding the Taxonomy of the Diagnostic Criteria for Temporomandibular Disorders, was recently published.\(^2\) The proposed diagnostic criteria for the less common TMDs will require more research to assess their criterion validity, and they will likely be modified – just like the original RDC/TMD. However, it is critical that we start this process. Finally, from a research perspective, the DC/TMD will allow for accurate and comprehensive phenotyping of TMD research subjects so that sometime, I hope in the near future, it can be replaced with the ultimate goal: to have a DC/TMD based on mechanism and etiology.

References:

By Dr. Donald Nixdorf, DDS, MS

Over the last couple years I have been working with the National Dental PBRN, otherwise known as the network, as the Deputy Director of the Midwest Region. This network is an infrastructure funded by NIDCR to conduct clinical research on topics that have immediate relevance to the dental professional. If you are not a member of this organization, I encourage you to sign up by following the link <http://www.nationaldentalpbrn.org>. The network has several ongoing studies. For those interested in the care of orofacial pain patients, Dr. Eric Schiffman is leading the development of a future TMD study. If you think you will want to participate in this important research, please sign up and inform your Regional Coordinator of your interest. The network has given preliminary approval to me to lead a follow up endodontic study, one designed to determine the predictive factors for three outcomes: 1) severe post-operative pain, 2) persistent pain, and 3) root canal treatment failure. This study will be enrolling 210 dentists who will recruit 4,500 of their patients to be followed for 4 years. If you, or a colleague, are interested in participating in such research, please sign up and let the Regional Coordinator know of your interest.

By Dr. Mike John, DDS, PhD, MPH

Are certain occlusal characteristics risk factors for TMD? - A study published by research fellow, Dr. Daniel Reissmann from Hamburg, Germany

After almost 2 years, Dr. Daniel Reissmann finished his research fellowship in our Division. Daniel is an Associate Professor in the Department of Prosthetic Dentistry, Center for Dental and Oral Medicine, University Medical Center Hamburg-Eppendorf. He worked with Dr. Mike John on the Dimensions of Oral Health-Related Quality of Life project. Together with other international authors they published two articles about oral health-related quality of life. In their articles “Exploratory Factor Analysis of the Oral Health Impact Profile” and “Confirmatory Factor Analysis of the Oral Health Impact Profile”, they studied the most widely utilized oral health-related quality of life questionnaire, the OHIP. After careful analysis the authors were able to recommend specific OHIP scores appropriate for research and clinical practice.\(^1\)\(^2\).

(continued on page 5)
In addition, Dr. Eric Schiffman and Dr. Reissmann analyzed data from the RDC/TMD Validation Project about risk factors for TMD. As a research fellow, Dr. Reissmann also had the opportunity for collegial discussions and input from the Division’s faculty to initiate the publication of research data that was collected in Germany. One project is particularly interesting for TMD practitioners because it targets one of the most interesting aspects of the etiology of TMD, the contribution of occlusal factors. In particular, Daniel was interested in the influence of missing posterior teeth on the occurrence of TMD. In his article, “The Randomized Shortened Dental Arch Study: Temporomandibular Disorder Pain”, he used data from a recently performed multicenter, randomized controlled trial in Germany. The aim of the trial was to investigate whether patients with shortened dental arches (SDA) have more TMD pain compared to patients who have a removable dental prosthesis (RDP) designed to compensate for their missing molar teeth. In 14 prosthetic departments of dental schools in Germany (Dresden, Aachen, Freiburg, Bonn, Greifswald, Berlin, Mainz, Leipzig, Gießen, Kiel, Jena, Munich, Würzburg, Witten-Herdecke), a sample of 215 patients with bilateral molar loss in at least one jaw was consecutively recruited. Of the initial sample, 152 patients agreed to participate (mean age: 59.7 years; 53.9 % female). The two interventions, SDA or RPD, were allocated at random to these patients. Group size for SDA subjects was n = 71 and for RDP subjects it was n = 81. The presence of TMD pain was assessed using patients’ self-reports. Pain intensity was measured as the mean of current pain, worst pain, and average pain in the last 6 months, with 10-point ordinal rating scales. A clinical examination was also performed and palpation pain and pain with jaw movement were assessed. Patients had several before treatment and follow-up appointments at 4.8 weeks and at 6, 12, 24, 36, 48, and 60 months. The comparison of the two different treatment strategies on TMD risk and pain intensity was assessed by applying logistic and linear random-intercept models.

The results showed that tooth replacement, i.e., the treatment with an RDP, did not significantly change the risk for self-reported (odds ratio [OR]: 1.1; confidence interval [CI]: 0.4 to 3.4) or clinically verified (OR: 0.7; CI: 0.1 to 4.3) TMD pain compared to no tooth replacement, i.e., the presence of the SDA. Mean characteristic pain intensity was virtually identical in both groups (Coeff: 0.01; CI: -0.30 to 0.32).

The conclusion of the study was that retaining or preservation of an SDA is not a major risk factor for TMD pain over the course of 5 years when compared to molar replacement with RPDs. For the clinician, this is a very important study. It observed TMD signs and symptoms over a sufficiently long time. From a methodological point of view, this study was a high-quality randomized trial supporting ‘missing molars’ do not have to be replaced in order to prevent TMD pain. It also adds to our knowledge about occlusion as a risk factor for TMD. While missing molars are not the only occlusal factor of interest, it is certainly an important one and a significant influence on TMJ and masticatory muscles. This multicentre, randomized trial provides evidence that occlusal factors such as missing molars are less important than previously thought.

References:

A 27 year old female presents to the clinic with 2 years of left-sided maxillary tooth and facial pain. Initially her symptoms were episodic, occurring sporadically without an identifiable pattern. Within the last 8-12 months her symptoms became more continuous. At the time of her evaluation, her tooth pain was described as a continuous dull and achy pain that exacerbated as a more intense throbbing pain several times per week. Her throbbing pain had a self-rated intensity of an 8 on a 0-10 visual analogue scale and would last between 1-10 hours. Importantly, her pain would not wake her from sleep, and she denied thermal stimuli as a trigger to her pain.

She was previously seen by her dentist for evaluation of her pain. It was suggested that she had a pulpitis that was treated with root canal therapy. Treatment resulted in 2 days of improvement in her symptoms with a subsequent return of pain to a pre-endodontic level. With the return of her tooth pain, tooth #14 was extracted. Unfortunately, her pain returned 1 week later. With continued tooth pain she was referred for an Orofacial Pain Evaluation.

Following a complete history and orofacial and dental examination, it was determined that her complaint of tooth pain was non-odontogenic. In fact, her tooth pain was diagnosed as a case of migraine presenting as tooth pain (i.e. migrainous odontalgia, “lower-half headache”) with overlying masticatory myofascial pain (muscle-based pain). The muscle pain was a result of teeth clenching, grinding and unilateral chewing. When eating, she avoided the painful side of her mouth. Since her pain had become chronic, a multidisciplinary treatment approach was recommended.

Initially, she was educated about her condition and advised on the use of home self-management strategies including the use of a pain diary to identify patterns and triggers to her symptoms. She was started on a migraine abortive medication, Sumatriptan 25mg (Imitrex®) at the onset of her more severe “tooth pain”. With an initial improvement of 40% in her daily pain and better management of the exacerbations of more intense throbbing pain, the patient began to recognize the non-odontogenic nature of her symptoms. She was subsequently treated with an intraoral stabilization appliance to address her teeth clenching and grinding, physical therapy included postural correction and rehabilitative home exercises, and health psychology addressed relaxation, stress management and reduction of muscle tension. These treatments led to resolution of her tooth pain with the exception of occasional (3x/year) pain episodes that she is able to easily manage with Sumatriptan 25mg (Imitrex®) The patient is pleased with her pain management.

Discussion
Thinking that a “toothache” may actually be a headache does not occur to many patients. However, it should be considered by health professionals in the differential diagnosis of tooth pain. When the odontogenic hypothesis is not clearly supported by clinical or radiographic findings, the astute clinician must consider the potential non-odontogenic sources. The relevance, as we see in the above case, is that treatments directed to the tooth would not resolve the patient’s symptoms since they do not address the true origin of the pain.

Migraines are a common pain problem that occur in approximately 13% of the population and occur more frequently in women, between the ages of 25 and 55 years old. Even though migraine has a high degree of associated disability, it is estimated that only approximately 48% of migraine sufferers have been formally diagnosed by a health care provider. Migraine is thought to be of neurovascular origin, with events in the central nervous system spreading throughout the distribution innervated by the trigeminal nerve. Therefore, even if originating in the intracranial structures, migraine pain can be referred and felt in different locations other than the head, such as the face, sinuses and teeth.

The International Classification of Headache Disorders outlines the migraine without aura diagnostic criteria as the following:
A. At least five attacks fulfilling criteria B–D
B. Headache attacks lasting 4-72 hours (untreated or unsuccessfully treated)
C. Headache has at least two of the following four characteristics:
   1. Unilateral location
   2. Pulsating quality
   3. Moderate or severe pain intensity
   4. Aggravation by or causing avoidance of routine physical activity (e.g. walking or climbing stairs)
D. During headache at least one of the following:
   1. Nausea and/or vomiting
   2. Photophobia and phonophobia

(continued on page 7)
Migraines can present with or without an aura. Migraines are a constellation of neurological symptoms that are usually unilateral. They may have fully reversible visual, sensory or other central nervous system symptoms that typically develop gradually and are followed by a headache of migrainous characteristics within 60 minutes. Examples of aura may include alterations in speech and/or language as well as motor systems, lasting from 5 to 60 minutes each. These symptoms resemble other possible life threatening conditions that may produce migraine-like symptoms, such as stroke or a central space-occupying lesion. “Red flags” include headache pain of sudden onset, a headache described as the ‘first or worst’ headache pain especially after the age of 35, systemic complaints, non-responsiveness, and progressively worsening symptoms despite appropriate treatments. These “red flags” may indicate the headaches are secondary to another problem and should trigger an immediate referral for further diagnostic work-up.

The most common causes for tooth pain are odontogenic. In the majority of tooth pain cases the well-known dentists’ diagnostic tools such as thermal and electrical vitality tests, percussion and dental radiographs will be able to confirm local findings to explain the cause of the symptoms. However, when the results of such exams are negative or inconclusive, the clinician should be attentive to other associated symptoms with the pain. Due to many shared characteristics (usually unilateral, throbbing, severe) a pulpitis and a migraine in teeth can appear similar at a glance, but coexisting nausea, vomiting, light and noise sensitivity, or an aggravation of pain by physical movement are typical migrainous features. These features can point to a headache diagnosis of migraine especially if the timing pattern is concurrent with the complaint of tooth pain.

It is important to recognize that there are other potential causes of tooth pain. It has been suggested that pain referral from myofascial trigger points is a common non-odontogenic cause. Other headache disorders can also refer to teeth, such as cluster headache and other trigeminal autonomic cephalgias. Thus with multiple possible etiologies, the treatments for each condition will be dramatically different. The above case is an example of the importance of having a clear diagnosis prior to treatment, especially when the procedure is irreversible in nature. Patients with non-odontogenic tooth pain can obtain proper treatment and avoid unnecessary care if the health care providers are comfortable doing a comprehensive assessment or offer a referral to the adequate service. The bottom line is that the success of the treatment relies on an accurate diagnosis, and an extraction may mean one less tooth with a continued “toothache”.

References
From the Program Director, Dr. Donald Nixdorf, DDS, MS

Dentists carefully selected for the University of Minnesota Orofacial Pain Program arrive with varying degrees of experience and talent. After 2 years of training, the same professionals emerge more confident and worthy of the title, “colleague.” The didactic training ranges from biostatistics and anatomy to advanced topics such as rheumatology, chronic pain management, neuroscience, and pharmacology. Our residents are trained in the open style interview with consideration of the whole patient, including careful review of the medical history and description of pain complaints. Since a good proportion of our referrals are physician generated, residents spend hours with our medical colleagues observing and participating in evaluations. In the clinic, the neophyte dentist learns to interview and to carefully examine each patient and synthesize the findings. When reviewing and examining each patient, faculty encourage discussions of differential diagnoses, contributing factors, and the treatment plan. The discussion includes evidence-based information gleaned from review of current literature, journal club, lectures and radiological findings.

By the end of their training, the residents have the ability to accurately interview, thoroughly examine, and thoughtfully critique the evidence and develop a comprehensive treatment plan frequently involving the whole team. Patients are a part of that team, and the resident dentist is trained to include their belief systems as well. At the same time, these young graduate students are collecting research data to eventually analyze and defend their Master’s thesis. In a blink of an eye they emerge as capable dentists with a comprehensive understanding of TMD, Orofacial Pain, and Dental Sleep Medicine. It is always a pleasure to see the development of these graduates and to recognize their pride in the completed journey. If you know of someone that is interested in a career in TMD, Orofacial Pain, and Dental Sleep Medicine suggest that they look at the University of Minnesota program.

2014 Fellowship Program

Dr. Mariam Siddiqui

accepted a 1-year fellowship in the Division and started in June 2014. She received her Bachelor of Dental Surgery from Baqai Medical and Dental University, in Karachi, Pakistan, in 2002. After graduation, Dr. Siddiqui joined JPMC, the largest postgraduate training institute in Pakistan, as a resident of Operative and Maxillofacial surgery. She also worked as an instructor of Prosthetics, teaching final-year dental students at Jinnah Medical and Dental College, Pakistan. She has a clinical interest in orofacial pain and more specifically, trigeminal neuralgia. It is Dr. Siddiqui’s goal to pursue a future career as a dental educator and academician.

Graduation Photo Highlights
Pictured from left: Drs. Sarah Shueb, Akanksha Gupta, Alberto Herrero Babiloni, Preetanjali Thakur, Hina Mittal and Flavia Kapos.

**Dr. Akanksha Gupta**
is a second year resident in the Orofacial Pain Program. To mark the beginning of her second year, Dr. Gupta accepted the position of Chief Resident starting June 2, 2014. Aside from her academic and clinical responsibilities, she is currently working with Dr. John to determine the minimal important difference for OHIP-5 questionnaire. This research project will provide an excellent opportunity to establish benchmarks for what would be considered as “clinically significant” in general dentistry when a patient-based approach is applied. A great way to end her first year, Dr. Gupta presented a poster with a case report during the AAOP conference in early May. She has thoroughly enjoyed the challenges and experience gained in her first year including the time with patients in the clinic, the leadership of the faculty in team discussions, and especially the Journal Club, where she learned to more critically review the literature.

**Dr. Flavia P. Kapos**
successfully completed her first year of residency in the Orofacial Pain Program. During this past summer, Dr. Kapos completed rotations with medical colleagues in the Rheumatology Clinic, the ENT Clinic, the PM&R clinic and the Pain Management Clinic. She found the first year of clinical training exciting and enjoys actively participating with the multidisciplinary care team and gaining a deeper understanding of the importance of addressing the patient’s needs as a whole person. She is working closely with her research advisor, Dr. Eric Schiffman, focusing on health-related quality of life impairment as a predictor for persistent TMD pain. Despite the severity and length of this past winter, Dr. Kapos is proud to say that she is a ‘year-round Minnesota’ mountain biker. She is also a member of the UMN Club Tennis Team and competed recently at the Spring National Championship in Surprise, AZ.

**Dr. Alberto Herrero Babiloni**
was joined the Orofacial Pain Program in June 2014. He obtained his dental degree in 2011 from the University of Valencia, Spain. As a result of his interest in TMD and Orofacial Pain, Dr. Herrero completed a graduate program in TMD at the University of Barcelona, Spain. Since that time, he has been doing research in TMD with the surgeons at the University of Valencia and working in private practice. He is eager to learn as much as possible in the Orofacial Pain Program here in Minnesota, and is looking forward to enjoying the experience surrounded by great faculty, staff and colleagues.

**Dr. Preetanjali Thakur**
completed our 1-year fellowship in May 2014, and was then selected to continue as a resident in the Orofacial Pain Program starting June 2, 2014. Dr. Thakur is working with Drs. Schiffman, Morrow and Reissman in a validation research project designed to investigate the role of stress, anxiety and oral behavior as predictors for persistent TMD pain. Reflecting on her past year as a fellow, she has appreciated the didactic training above all. Her overall exposure with the TMD Miniresidency and professional meetings like the National Dental PBRN and American Headache Society has been excellent to gain experience and confidence for transition into the residency. Thus, Dr. Thakur is highly motivated to begin this next step in her journey and get involved in direct patient care.
Congratulations to Dr. Pathamas Chantaracherd
Dr. Chantaracherd, a 2013 Orofacial Pain Program graduate, successfully defended her Master’s thesis this past October 2013 and earned her Master of Science degree from the University of Minnesota, School of Dentistry. Under the guidance of her advisor Dr. Eric Schiffman, Dr. Chantaracherd’s thesis, Temporomandibular Joint Disorders’ Impact on Pain, Function and Disability, has been submitted for publication. Dr. Chantaracherd has been enjoying the Minneapolis Chain of Lakes by bike in her free time this spring.

Congratulations to Dr. Barbara Fonseca Alonso
Dr. Fonseca graduated from the Orofacial Pain Program when she completed her clinical residency in September of 2013. More recently, she successfully defended her Master’s thesis in April 2014 and will receive her Master of Science degree from the University of Minnesota, School of Dentistry. For her thesis, with the guidance of her advisor Dr. Donald Nixdorf, Dr. Fonseca compared the sensitivity and specificity of two questionnaires: one for patients with odontogenic pain by Pau et al, 2005, and another for patients with TMD pain by Gonzalez et al, 2010. Dr. Fonseca is currently working in private practice in Madrid, Spain. She attended the AAOP meeting in Vegas in May, and then attended the IADR in Cape Town, South Africa in June, where she presented her thesis findings.

Congratulations to Dr. Sarah Shueb
She graduated with a Master of Science Degree May 2014 and successfully defended her thesis: Comparing the Oral Health-Related Quality of Life in Four Orofacial Pain Conditions. The data she collected and analyzed supported the hypothesis that orofacial pains can have a substantial impact on a person, negatively affecting the quality of life of patients compared to those with no pain. This is especially true if the pain is chronic in nature. With Dr. Donald Nixdorf as her advisor, Dr. Shueb was honored at the AAOP annual convention in May 2014 when she received third place with her poster presentation based on her findings. Dr. Shueb will complete her clinical training later this year.

Congratulations to Dr. Hina Mittal
Dr. Mittal completed her clinical residency and graduated in May 2014 from the Orofacial Pain Program. For her Master’s thesis, she is currently examining the Oral Health Related Quality of Life (OHRQoL) of the TMD patients based on the Oral Health Impact Profile (OHIP) questionnaire with the guidance of her academic advisor, Dr. John. Along with her Master’s thesis, she is also involved in other research projects, one which involves a systematic review of studies on OHRQoL that have used various ‘quality of life’ measures. When reflecting on her academic achievement, Dr. Mittal said, “The time spent in the clinic was a very rewarding experience. I have wonderful memories, and I am very proud to call myself a part of this outstanding TMD and Orofacial Pain Team.”
Donations to the TMD and Orofacial Pain Foundations are greatly appreciated and assist us in accomplishing our mission of clinical care, education and research. Past donations have allowed us to provide funds for residents to attend continuing education courses, including those provided by the American Academy of Orofacial Pain (AAOP) and the Minnesota Dental Association (MDA). It has also allowed us to add books to our resident library and to do some refurbishing in our resident room. Finally we have used it to fund Lunch and Learn sessions with the undergrad dental students to expose them to the opportunities in the area of TMD, orofacial pain, and dental sleep medicine. We are grateful for any assistance you can provide us. The School of Dentistry will provide you with a letter documenting your tax-deductible donation.

University of Minnesota
School of Dentistry
Driven to Discover™

Thank you for making a gift to the University of Minnesota School of Dentistry. The University of Minnesota Foundation will acknowledge and direct your tax-deductible gift to the purpose you designate.

Gift Designation
- James R. Fricton TMD and Orofacial Pain Fund
- Fund #6093

In memory or honor of:

Donor Information
- Date
- Name(s) as you would like it (them) to appear on receipt:
- Address
- City
- State, Zip

Giving Method
- Check (payable to the University of Minnesota Foundation)
  Enclosed is a check for $__________

- Credit Card
  Charge my gift of $__________
  - Visa
  - AmEx
  - MasterCard
  - Discover

  Account number
  Expiration date
  Signature

Please mail this form and enclosures to:
Development Office
University of Minnesota School of Dentistry
15-136 Moos Tower
515 Delaware St SE
Minneapolis, MN 55455

You can also make an immediate gift at giving.umn.edu.


The University of Minnesota TMD, Orofacial Pain, and Dental Sleep Medicine Clinic is available to serve you and your patients. We provide the standard of care to patients with jaw, neck, ear and tooth pain. Additional symptoms include headaches, TMJ locking or loss of jaw mobility. We also address patient's concerns related to difficulty eating and occlusal changes. Finally, we provide Dental Sleep Medicine evaluation and treatment for patients with sleep apnea using customized orthotics. Our comprehensive program includes an interdisciplinary team of dentists, physical therapists and a health psychologist to assist patients in reducing pain, improving function, promoting healthy behaviors, and improving their overall quality of life. During the initial consultation your patients will be carefully evaluated and a comprehensive treatment plan will be designed. You will receive a copy of the evaluation, diagnosis and treatment plan.

All care is provided under medical insurance. We have contracts with most major medical insurance companies to minimize the out-of-pocket expenses for your patients. Our staff has almost 100 years of combined experience working in the field of TMD and orofacial pain and can answer any questions you may have about a referral. We are including a copy of the referral here for your convenience. You may also access this form online at: www.tmdclinic.umn.edu

The success of our clinic is a direct result of the continuous support and referrals from practicing professionals in the community. These referrals are essential to our clinical training, research endeavors and our professional goals. In turn, we want to assure you that we take our role in the care of your patients very seriously. Thank you!

Dentists:

**TMD & Orofacial Pain**

Gary Anderson, DDS, MS
Cory Herman, DDS, MS
Mike John, DDS, PhD
Shanti Kaimal, DDS, MS
Donald Nixdorf, DDS, MS
Eric Schiffman, DDS, MS

**Dental Sleep Medicine**

Gary Anderson, DDS, MS
Cory Herman, DDS, MS
Mike John, DDS, PhD
Shanti Kaimal, DDS, MS

**Health Psychologist**

Leesa Morrow, PhD, JD, LP

**Physical Therapists**

Karen Decker, PT
Patricia Weber, PT

Clinic Mailing address:

6-320 Moos HS Tower
515 Delaware Street SE
Minneapolis, MN 55455

Telephone: 612-626-0140
Fax: 612-626-0138
Email: kieck001@umn.edu
Website: www.tmdclinic.umn.edu

**University of Minnesota TMD, Orofacial Pain, and Dental Sleep Medicine Clinic**

Patient Name:

Patient Telephone:

Referring Doctor (first and last name):

Doctor’s Office Mailing Address:

Doctor’s Office Telephone:

Doctor’s Office Email:

Primary Concerns:

Please forward any relevant patient records to us, including x-rays. Thank you!