A Glimpse at Today’s Residency

by Jason Meinhardt, DDS, Alex Schwab, DDS, and Brad Wurm, DDS

Jason Meinhardt, DDS, grew up in Yakima, Washington, before moving to Wausau, Wisconsin, for high school. It was during his time at Marquette Dental School that Meinhardt decided to follow in his father’s footsteps and pursue the orthodontic specialty. He is currently a second-year orthodontic resident at Marquette and is eager to become a private practicing orthodontist. In addition to treating patients he enjoys live music, working out, sports and traveling.

Alex Schwab, DDS, graduated from Marquette School of Dentistry in 2013 and after practicing for just more than a year applied for a residency in orthodontics. After seeing patients in different stages of treatment and discussing what orthodontics could do for them while making referrals, Schwab began to develop a strong interest in the profession and it only grew after talking with multiple orthodontists. He is beginning his second year of residency at Marquette and hopes to stay in the Milwaukee area upon graduation, with his wife, Kelley, and son, Emmett.

Brad Wurm, DDS, is beginning his second year of residency at Marquette University School of Dentistry. Growing up in Appleton, Wisconsin, he is an avid Green Bay Packers fan and highly recommends green and yellow A-ties to all of his patients. As the final graduation date approaches quickly, Wurm looks forward to being done with “homework” and seeing where the profession will take him in the next step of his life.

EDUCATION

The road from resident to orthodontist

by Jason Meinhardt

26.2: The first thing that comes to mind is the number of miles in a marathon. It also happens to be approximately how many months are spent in the Marquette graduate orthodontic residency before a person is awarded an orthodontic certificate and Master of Science degree. While the long road through dental school and graduate residency can feel like a marathon at times, it’s the future career as orthodontists that we look forward to.

The typical day at Marquette begins with a one-hour core course lecture, such as, “Histopathology of Tooth Movement,” “Mineralized Tissues Biology” or “Biomaterials.” Because of recent graduate feedback, courses on topics such as practice management and practice law have been incorporated; accountants, attorneys and private-practice specialists come in to guest-lecture and answer questions about the business of running a practice. This
is invaluable information, because most of us hope to become private-practice owners someday.

During most lunch hours, part-time faculty members lecture on specific orthodontic topics. These lectures are clinically focused and often include patient case discussions. Other faculty members hold literature reviews, in which residents are assigned to read and present to the group. This is typically done through a slideshow presentation, followed by an in-depth discussion.

Marquette accepts five residents per year, who come from a wide array of states. Current residents hail from Florida, Illinois, Iowa, Massachusetts, Michigan, Pennsylvania, South Carolina and Wisconsin. Recently, Marquette extended the graduate orthodontic program from 24 to 26.5 months, primarily to allow residents time to finish more cases as they strive toward American Board of Orthodontics (ABO) certification.

Marquette’s full-time faculty encourages residents to become board-certified, and most are able to successfully bank three or more ABO-quality finished cases. To help prepare us to challenge our cases, we take an in-house blue-book exam. This consists of presenting cases to a panel of faculty and a guest orthodontist to simulate the process of the ABO exam.

Another integral part of our educational experience is helping teach the second-year undergraduate orthodontic course. The primary course objective is for students to be able to distinguish between simple and complex malocclusions, and to refer as appropriate.

While most dental students will graduate without ever placing brackets on a real patient, seeing treated cases and performing lab activities helps scratch the surface of our specialty. Graduate residents each give two case-based lectures describing patients they’re currently treating or have finished. We also help with preclinical lab exercises: lateral cephalometric tracings, space analysis, basic wire bending, finger springs and “C” clasps, premolar extrusion and molar uprighting. It’s through these exercises that students begin to realize and respect the complexity of our specialty—there’s much more to orthodontics than just slapping brackets in the middle of the teeth, as some may have previously assumed.

Finally, interdisciplinary collaboration is recognized as essential to our program. Having numerous other dental residencies in the same building, we’re able to meet every month for a brief presentation. Each specialty presents an interesting case—currently being treated in its clinic—that pertains to multiple specialties. This leads to a thought-provoking discussion among the various disciplines—it’s very easy to get orthodontic “tunnel vision,” and the insight provided by other specialists is very helpful for complex, multidiscipline cases.

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Training in—and for—today’s modern world
by Alex Schwab

Technology in orthodontics and residency programs has changed considerably over the years. Adopting modern techniques has the potential to lead to the most effective and efficient treatment plan for patients. A residency program that exposes its residents to as many of these advancements as possible will set residents up for future success, because they’ll feel more comfortable having multiple methods for treatment at their disposal. Marquette University has embraced this thought by continuing to update the clinic along with the tools residents use for treatment.

Our program regularly looks at ways to improve not only the curriculum, but also the facilities where we practice. Most recently, a new projector and layout were installed in the conference room where we hold lectures and case presentations—next year we’ll be receiving new treatment chairs in the clinic.

Outside of the orthodontic clinic, the dental school continues to make its own improvements. In 2013, a major 40,000-square-foot expansion was completed that included an additional dental clinic, lecture rooms, faculty practice, research lab and expanded simulation lab. Also, this year the pediatric clinic was expanded and a graduate periodontal residency program was added that will start its inaugural class this year. Being at a university that is always looking at ways to better itself allows us to take pride in what we do.

As orthodontic residents at Marquette, we’ve grown accustomed to using several things on a daily basis. The orthodontic clinic is completely digital—the first and currently only department in the school to make the switch—including X-rays, models and paperless charts.

After records, models are poured up and digitally scanned into the computer in articulation. Once the models are digitized, virtual setups and Bolton analyses can be performed. Digital cephalometric X-rays are traced and used for skeletal evaluation and for virtual treatment-outcome evaluations. When treatment dictates, we have access to an in-house CBCT unit, where a full-time oral and maxillofacial radiologist provides a written report with relevant images and 3D rendering. Additionally, we are in the process of adding an iTero scanner and 3D printer to offer more technological advancements to the residents. These treatment modalities have become commonly used in treatment of our patients and allow us to offer some of the most modern treatment available.

The treatment we’re able to provide is heavily based on our faculty, who are very supportive of residents providing modern adjunctive-treatment techniques such as clear aligners, AcceleDent, Propel and mini screws. As first-year residents, we presented a lecture on mini screws in our anatomy course, followed by a cadaver lab to practice placement, and finally, clinical placement of mini screws on one another. This progression reduces any apprehension with patient mini-screw placement. The more experience we’re able to get with the various technological advancements in orthodontics, the more effective and confident we can be moving forward.

Continued on p. 28
FACULTY
Many teachers, many opinions, many options
by Brad Wurm

We often hear that it’s the faculty that makes the school, and Marquette Ortho is no exception to that. Perhaps the strongest part of the program is the large number of faculty, both full- and part-time. While the foremost source of faculty is Marquette graduates, alumni from other schools include Iowa, Michigan, The Ohio State, North Carolina, UCLA, Northwestern, Loyola and Louisville.

However, other than maybe during NCAA March Madness, you’d never know who went to which school, because even with so many Marquette alums, each brings such a unique approach to treating his or her patients. With four full-time faculty members, 15 part-time clinical faculty members and many more part-time lecturers, there’s a vast knowledge base and number of techniques available to residents.

Part-time faculty members are practicing orthodontists who are willing to leave their practice and donate their time to teaching one day every other week—or every week, for some. Dr. Russ Kittleston has been with the program since its inception, and 55 years later residents still depend on him every Friday morning at 8 a.m. for lecture, followed by clinical instruction. This high level of dedication and passion in all of our faculty members can also be seen through the enthusiasm they show in clinic. They each leave a unique impression on us, and I have to imagine that years into practice, I’ll still be reflecting back to my residency, thinking, “How would Dr. So-and-So do this procedure?”

Roth, MBT and Damon—oh, my! It seems like every day a company releases the latest and greatest bracket or appliance. When faculty members bring their own expertise in whatever systems they use, it offers residents exposure to many of these appliances, all in one place. There’s no better time to experiment and find what works best in your hands. While certainly overwhelming initially, it allows graduates to find what they like—and, come graduation, helps reduce the stress of picking among the seemingly endless options.

While picking your poison (aka “bracket prescription”) seems an important decision, treatment planning is the real name of the game. Every faculty member gets his or her own label: the extraction guy, the nonextraction guy, the headgear guy, Mr. Expander, Ms. MARA. As residents, we see early on that there’s more than one route to the finish. And then, just when you think you’re starting to get a grip on things, the faculty members (who, it seems, have a secret signal known only to faculty) simultaneously switch it up and confuse us all over again. After arguing among ourselves for what seems like hours on a treatment plan, our instructors often decide on a plan none of us had even considered.

While it may be simpler to always work with the same instructor and learn each of their tendencies, it would leave us with just a fraction of the armamentarium necessary for treating the endless variety of patients that we will come across. It’s similar to the situation mentioned earlier with appliances. Residency is a unique time because we’re exposed to such a variety of information, which allows us to piece together our own
“practice mentality,” rather than just reading an “orthodontic cookbook” and being limited to a single option.

Four times a year, Dr. Scott Jamieson, former ABO president and current examiner, comes down from Northern Michigan to spend a week working on wire bending with residents. The objective for “first-years” is to start building up those calluses while learning arch-forming and commonly used bends. During second year, we see which types of tooth movements can be expected from different wire bends by experimenting with wax typodonts.

These “boot camps,” as they’ve become known, become far more than just an instruction in the lost art of wire bending—and no, I’m not talking about the cherished calluses that come with it. The first of these sessions was only a matter of weeks into our program, when our most extensive conversations started with, “When’s class tomorrow?” “Which wire comes after .014 NiTi?” and “Where the heck is porion!” Nothing says “team bonding” like five highly sarcastic men sitting in the same room for a week, criticizing each other’s wires while listening to Hootie & the Blowfish Pandora radio. These weeks are truly where the lifelong friendships are made.

**Final thoughts**

Malcolm Gladwell has become famous because of a common paraphrasing from his book, Outliers, that says it takes 10,000 hours to become an expert. Now, being good orthodontists, our first response is, “Can I see the randomized control trial proving this?” The second question is, “Does 26.5 months—which comes out to be a hair over 4,000 hours and approximately 80–100 patients—bring us anywhere near this point?”

The truth is, we don’t leave our programs as experts in the field—in fact, we’re far from it. But this isn’t a reproach of our—or any—residency. Even a year in, it’s clear this is a complex and humbling profession. So how long until we truly reach that high level of proficiency? That’s one to ask our mentors … but, rather, maybe the question should be, “Do we ever reach that point?” There’s no way for a residency to mold us into faultless practitioners—instead, the purpose is to give us the base knowledge and skills to pursue that goal.

While picking your poison (aka “bracket prescription”) seems an important decision, treatment planning is the real name of the game.

The way to do this is to keep our opinions to a minimum, our minds open, and to learn from all that’s available during this short time in residency. It’s the program’s job to offer as many options as possible and let us pick our tools of choice. After all, we know there’s more than one way to get from Point A to Point B, and the best way to do it is the way that works best for each one of us.