THE HOT SEAT

Retention

Dr. Graham

Over the course of my training, I've been taught by many wonderful educators—gifted, giving individuals who piqued my curiosity, challenged my thinking, and most of all gave me a lifelong love of learning. One of the greatest influences in my professional career is Dr. J. Daniel Subtelny, who has been Chairman of the University of Rochester Eastman Dental Center's orthodontic program since he created it in 1955.

At the core of Dr. Subtelny's program when I was at Eastman were his intensely probing "Hot Seat" sessions. In each seminar, an orthodontic resident was assigned a patient and asked to present everything about that individual over the course of five or six weeks, every Wednesday from 8 a.m. to noon. Imagine 20-24 hours of case presentation on one patient! We started with embryogenesis and progressed through non-nutritive sucking patterns of the fetus, any and all parafunctional habits, nutritional considerations, and every phase of growth and development. The actual treatment plan would be proffered by the beaten and humbled resident around hour 15 or 16. In Dr. Subtelny's Socratic method, every question was answered by another question until utter exhaustion settled in. But guess what? *We knew our stuff.* Hundreds and hundreds of residents over the years have passed through his refiner's fire and come out better, wiser, and humbler.

That brings us to JCO's newest feature, The Hot Seat—named after Dr. Subtelny's program.

Since my days of studying general surgery, I've continued to receive several professional journals from that field, all of which I still enjoy. One such publication, *General Surgery News,* has a department that I always look forward to reading, called "On the Spot". Using that model as an inspiration, The Hot Seat will feature some of the best clinicians and educators in our specialty. Each installment will be based on a single, often controversial topic and will have a new set of contributors. The challenge to each respondent is to be brief, sometimes pithy. And just as in the *General Surgery News* column, I'll add a few summary remarks at the bottom of each question.

Your suggestions for future topics are welcome. And if you'd like to be considered as a contributor, please e-mail me at orthograham@gmail.com.

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Contributor	Fixed retention is:	Hawley retainers are:	Long-term stability is:	Retention should:
 **R.G. "Wick" Alexander,** DDS, MSD Arlington, TX	Recommended on every mandibular arch, canine to canine.	Worn only at night in the maxillary arch. Reducing acrylic in the lingual embrasures frees the posterior teeth to settle.	Possible, and should always be a treatment goal.	Be simple and predictable if long-term stability goals are achieved during active treatment.
 **S. Jay Bowman,** DMD, MSD Portage, MI	A necessary evil in some instances, but not an excuse to misrepresent stability-study findings.	Effective and versatile, but lacking in esthetics.	Still a goal worth striving for by appropriate treatment planning and execution.	Be as effective and as unobtrusive as possible.
 **Robert S. Haeger,** DDS, MS Kent, WA	The most dependable.	Great to allow further settling of the occlusion.	A balance between lip pressure, tongue pressure, and occlusal forces, which are not constant.	Be understood in coordination with natural dental changes.
 **Neal Kravitz,** DMD, MS South Riding, VA	A major part of my practice. We regularly bond lower 3-3 with Ortho FlexTech and Transbond LR.	Still a fantastic choice. We like to add a thin layer of clear acrylic to the labial bow to provide better control of the anterior teeth.	A fish story!	Be decided upon from the very beginning and sought to the very end of treatment.
 **Elliott Moskowitz,** DDS, MS New York, NY	Predictably effective, requiring a minimum of patient cooperation, and certainly satisfies short-term retention goals.	Limited in their ability to resolve retention issues, not worn, easily lost, and ineffective for mandibular incisor retention. They belong in the museum of orthodontic appliances of yesteryear.	Something that begins in diagnosis and treatment planning and needs to be more completely explained to the patients and parents prior to treatment.	Not be a forgotten phase of orthodontic treatment. It should be taught more seriously in post-graduate residency programs and be based upon realistic patient expectations.
 **W. Ronald Redmond,** DDS, MS San Clemente, CA	Necessary, though unfortunately patients think of "fixed" retention as "permanent" (lifetime), which isn't healthy long-term.	Better for long-term retention because they're removable and facilitate good oral hygiene.	A myth—I don't think it exists.	Be prescribed as a lifetime need, just as prescription glasses are a lifetime need.
 **John J. Sheridan,** DDS, MSD Jacksonville, FL	Very beneficial if it is esthetic without the need for frequent or complex monitoring.	Dependable, and have been so for the past 105 years. The labial bar is somewhat unesthetic, but this is of minor concern when the patient can wear them at night only.	Highly improbable without long-term monitoring by a qualified professional. Our teeth tend to move toward their pretreatment positions, in addition to the changes due to aging.	Be minimally invasive, efficient, esthetic, and as comfortable as possible.
 **Sarah Shoaf,** DDS, MEd, MS Winston-Salem, NC	Great if the patient will clean well around the retainer wire.	Long-lasting, but unesthetic.	A great goal, though bones are not cement and teeth will move over time.	Keep the teeth in reasonable alignment as long as the patient uses the retaining device.
 **Peter Sinclair,** DDS, MSD Los Angeles, CA	A pain in the butt to place.	Very flexible.	The Problem in orthodontics.	Only be removed by the mortician.
 **Flavio Uribe,** DDS, MDS Farmington, CT	The best retention method to ensure acceptable long-term lower incisor alignment.	The best cleansable, long-lasting type of retainer.	More predictable if the retainers are maintaining alignment rather than the correction of an anterior open bite.	Be easier to ensure.
Commentary by Contributing Editor John W. Graham, DDS, MD Salt Lake City, UT	I think we can all agree on this one.	Moskowitz by a mile.	The bane of our existence, but Kravitz and Redmond say it best.	Well stated, Peter!

My nightmare retention case is:	Clear, slip-cover retainers are:	I tell patients that retention:	Our most common retainer problem is:	The future of retention?
A non-cooperating, high-angle, open-bite, non-growing tongue thruster!	Temporary; they prevent "vertical" driftodontics or settling (which is something we need!).	Is part of their treatment—that retainers are "pajamas" for their teeth.	Adhesive breakage on the mandibular 3 × 3.	Interproximal enamel reduction on all patients and circumferential supracrestal fibrotomy on adults with severe rotations will improve the chances for long-term stability!
When retainers are never worn and the patient never returns as prescribed—until now.	Esthetic and effective if fabricated from thin, fully conforming and comfortable plastic.	Is a lifetime commitment to periodic wear of retention devices.	Compliance.	Solid research is desperately needed to demonstrate the most effective and esthetic methods, along with appropriate timing and techniques to retain results.
An open bite or late mandibular growth.	Great for replacements or totally socked-in occlusions.	Is dependent on how picky they want to be about their teeth. The pickier you are, the longer and more often you need to wear your retainers.	Lower incisor relapse. End of discussion.	How to better understand the balance of soft-tissue forces and mesial molar pressure on the teeth.
A surgical open-bite case with adenoid facies, hypotonic muscles, mouthbreathing, and poor oral hygiene. In the mouth, the muscle always wins.	Acceptable. We like having our patients wear these retainers during the day and Hawley-type retainers at night.	Is critical to ensuring your beautiful smile.	Non-compliance with Hawley-type retainers after interceptive Phase I treatment, or broken fixed maxillary retainers spanning to the canines or premolars.	More orthodontists may consider fixed retention as luting agents improve, but removable retainers will always be part of orthodontic retention.
A patient with a robust forward tongue position that is unresolved, or significant pretreatment incisor rotations in a patient who rejects fixed retention.	An important part of modern removable retention protocols, often not designed or prescribed thoughtfully because they involve more skill than just taking an impression and fabricating a thermoplastic retainer.	Is an important aspect of orthodontic treatment that requires long-term patient understanding, cooperation, and realistic expectations.	Either lost retainers or retainers that are simply not worn consistently by the patient. Everything else is commentary.	We should ensure that orthodontic forces are consistent with the directions and magnitude of tooth movements, consider extraction therapy more rather than less, and educate patients in developing realistic expectations about retention.
Inherently unstable teeth due to excessive perioral musculature imbalance.	Effective if properly fabricated.	Will involve lifetime wearing of retainers while sleeping.	The patient not wearing the retainers as directed.	Nanotechnology that monitors tooth position and, when needed, activates the periodontal ligament to inhibit relapse.
The skeletal open bite on a non-growing patient who is blatantly exhibiting the ravages of poor hygiene.	Appreciated by the patient due to their outstanding esthetic qualities. They hold all teeth in the absolute positions where they were when braces were removed, but need to be replaced more frequently.	Is required to hold the function and esthetics that the patient and I worked so hard to achieve, and will require constant professional monitoring.	Non-compliance with retention directives.	It will depend on our progress in biological knowledge directed at decreasing the level and severity of relapse, while minimizing the dental and occlusal changes that accompany aging.
An anterior open bite that continues to creep open.	Cheap, esthetic, and usually worn by patients, but unfortunately don't last very long.	Is for life—you wear your retainer as long as you want your teeth to stay straight.	Patients losing them and not wanting to pay for replacements.	It depends on new materials that are more durable, esthetic, and effective.
A male, Class II division 2 crowded, nonextraction case who finished well at age 16. Grew from 5'2" to 6'8" in 18 months—teeth moved a mile! True story.	Good for obsessive-compulsive adults, who will wear them 48 hours a day.	Should stop when they turn 100.	Dogs.	Using a local cream to ankylose the teeth forever!
A Board-quality outcome of a patient who was corrected in all dimensions and returned with relapse in all dimensions.	A good approach for debonding and delivering retainers on the same patient visit.	Is for as long as they want to keep their teeth straight.	Non-compliance with wear.	Biological!
Every case described here keeps me up at night—thanks a lot!	Great points by all, especially about proper fit.	Shoaf and Uribe are compelling; Sinclair adds a nice twist, yet I think Alexander says it best.	Haeger and I must have the same patients!	No real consensus here, but biology seems to be the theme.