THE READERS' CORNER

JOHN J. SHERIDAN, DDS, MSD

(Editor's Note: The Readers' Corner is a quarterly feature of JCO in which orthodontists share their experiences and opinions about treatment and practice management. Pairs of questions are mailed periodically to JCO subscribers selected at random, and the responses are summarized in this column.)

1. In what percentage of cases are you using esthetic (ceramic, plastic, or miniaturized metal) brackets, and which esthetic brackets do you prefer?

Only two respondents indicated that they didn't use esthetic brackets at all, but nearly as few clinicians said they used them in every patient. The norm seemed to be around 25-30% of all cases; approximately an equal minority used esthetic brackets in fewer than 5% of their cases or in more than 60% of their cases.

The most commonly used esthetic bracket was Clarity (3M Unitek), followed by In-Ovation C and Mystique (GAC), Inspire and ICE (Ormco), Luxi II with the gold slot insert (RMO), and Radiance (American).

How would you compare the relative patient acceptance of ceramic, plastic, miniaturized metal, and conventional metal brackets?

There was a strong consensus that patients preferred esthetic brackets over conventional metal brackets. Many clinicians indicated that their acceptance rate was "excellent", with just a handful seeing no difference in patient acceptance between esthetic and conventional brackets.

Some typical comments included:

• "We have found that the acceptance rate of conventional metal brackets is significant if all the pluses and minuses are explained to the patients."
• "There is a definite trend in my practice. Kids like metal brackets and colored ligature ties. Adults prefer ceramic brackets."
• "Adults almost exclusively choose the Clarity bracket. Children prefer 'colors' and consequently choose metal. I do not charge a different fee for ceramic vs. metal, so cost is not an issue."
• "I don't feel guilty charging an extra fee for ceramic brackets. They cost me more, and I have to put up with the aggravation of dealing with fracturing, the extra time to rebond broken brackets, and grinding away fractured ceramic particles when debonding."

Where do you normally place esthetic brackets?

Most respondents said they restricted their use of esthetic brackets to the upper arches of adult patients—usually from first premolar to first premolar, occasionally from canine to canine, and even less frequently from second premolar to second premolar. Esthetic brackets were generally not placed on the lower anterior teeth, except for patients who conspicuously displayed those teeth in talking or smiling.

One clinician remarked:

• "I routinely place ceramic brackets on the upper anterior teeth, but I am reluctant to place them on lower incisors in deep-bite cases because porcelain can scar the lingual of upper incisors."

Do you use the same etching and bonding technique with esthetic brackets as with metal brack-

Dr. Sheridan is an Associate Editor of the *Journal of Clinical Orthodontics* and a Professor of Orthodontics, Jacksonville University, 2800 University Blvd. N., Jacksonville, FL 32211.

ets, and if not, how does your technique differ?

Fully 72% of the respondents who reported using esthetic brackets said they used the same etching and bonding procedures as with metal brackets. Of the remainder, some used a bonding adhesive that they would not have used with precoated metal bases, and a few used porcelain primers to improve the adhesion of the esthetic bracket bases to the enamel.

What problems have you encountered with esthetic brackets?

About 10% of the respondents reported finding no specific difficulties with esthetic brackets. Most of the others were concerned about the fragility of esthetic brackets, indicating that they found the fracture rate on the bracket wings, especially when applying strong torque, to be unacceptable. Another frequently mentioned problem was the propensity of porcelain brackets to fracture during debonding, which required grinding off the remainder of the brackets. These issues became even more pronounced when brackets had to be repositioned.

Also mentioned were the cost of esthetic brackets, their tendency to discolor over time, the interference of bracket friction with sliding mechanics, the difficulty of precise positioning, the wearing away of plastic brackets, and the abrasion caused by ceramic brackets on the lower incisors in tight occlusion.

Representative responses included:

• "I have had very few problems with esthetic brackets. Occasionally there is fracture of the tie wings. I have found that the Clarity bracket debonds easily and acts like a conventional twin bracket."

• "Ceramics are not all that esthetic. They stain over time, the metal archwire is still obvious, and the elastic ligatures also tend to stain."

What improvements would you like to see in esthetic brackets?

The majority of respondents called for a stronger and smaller esthetic bracket with a much lower risk of fracture during treatment and debonding. Some said they would appreciate less expensive brackets, an improved capacity of the bases to allow microetching and rebonding, better hooks for elastics, more transparency, better technology to improve bracket positioning, and enhanced bonding tenacity for adhesion to porcelain crowns or facings.

Are you using esthetic brackets less than previously and if so, why?

Only about a quarter of the clinicians reported that they were using esthetic brackets less frequently. Their reasons included patient objections to the extra costs, prolonged treatment due to the fragility of the brackets, and excessive bracket friction. Other reasons given for declining enthusiasm included the bulkiness of esthetic brackets and their tendency to discolor. Many of the clinicians also noted that patients did not object to metal brackets if they were assured that treatment would likely be shorter and the outcome somewhat better.

Pertinent comments included:

• "I have a busy practice, and I much prefer the much more efficient metal self-ligating bracket."

• "My adult patients are usually enthusiastic about the esthetic quality of ceramic brackets. They are simply less obvious than metal brackets, and that's an esthetic step up."

• "They make treatment more difficult, and most patients don't seem to care. Some adult patients have been disappointed in the esthetic brackets because they were more bulky, less comfortable, and discolor."

---

2. How long have you practiced orthodontics?

As would be expected, there was a wide range of experience (5-41 years) among the orthodontists in this informal survey. The majority of respondents were centered in the 20-to-35-year range.

How many clinical/laboratory staff members are in your practice?

About 40% of the practitioners reported having three or fewer clinical/laboratory staff

members. This was balanced by those who employed four to eight and a few who worked with 10 or more. One clinician had 18 clinical and lab staff members on his team.

What illnesses or other physical afflictions have you or your staff experienced that you can attribute to your practice of orthodontics?

Contact dermatitis, latex allergies, and skin reactions were much more prevalent among staff members than among the orthodontists themselves, with skin reactions being the most common afflictions. Respiratory conditions and skin hypersensitivity from working with resins and composites were rarely reported by either staff members or doctors.

Musculoskeletal pain and carpal-tunnel syndrome were roughly four times more prevalent among staff than among clinicians. The reported incidence of neck, shoulder, and back pain was higher for both groups, afflicting about 11% of the staff members and 5% of the orthodontists. Eye problems were less common, with about an equal distribution among staff and clinicians. Communicable diseases such as flu were rarely noted.

Pertinent comments included:

• "Neck/shoulder/back pain was usually associated with a stressful day. I have been diagnosed with two bulging neck disks, but I am asymptomatic now due to a physical therapy program."

• "I have no problems with eyes other than the times I need magnifying glasses to work on certain patients."

In the past 12 months, have you or your staff suffered any puncture wounds? If so, did they cause infection?

Respondents reported puncture wounds during the past year in about 18% of the doctors and 22% of staff members. Infections were rare, however, probably due to the immediate attention given to the wounds.

About how many work days have you lost due to occupational illnesses in the past 12 months?

A clear majority of the clinicians said that their staff members rarely lost work days and that the orthodontists themselves had lost none due to occupational illnesses over the past year. When staff members had to miss work, it was usually for a single day, with only two responses indicating lost intervals of six or seven days.

About how many work days have you lost due to work-related accidents in the past 12 months?

The replies indicated that orthodontists have tight control over job safety in their offices. Only one day each for one staff member and one doctor was reported lost because of work-related accidents.

What special equipment, products, or services (non-latex gloves, ergonomic furniture and equipment, etc.) have you purchased to alleviate any of these problems, and how effective have these products been?

The consensus was that special equipment, products, and services are effective in reducing or eliminating job-related afflictions. Non-latex gloves were most prominently cited, but powder- and vinyl-free gloves were sometimes mentioned as well. These were followed by the use of ergonomically designed stools and articulating head rests for better patient head positioning. Also noted was the adoption of protective eyewear, which might include magnifying features.

One respondent noted:

• "We use nitrile gloves, and we have Sirona full dental chairs with over-the-patient delivery for staff and doctor ergonomics, because conventional orthodontic chairs are poor for stressed posture positions."

What precautions or training have you initiated to avoid occupational illnesses or work-related accidents, and how effective have these been?

The most common precaution was the enforcement and periodic review of current OSHA guidelines. This was sometimes amplified by local and regional courses, online information, and staff meetings focused on barrier devices such as masks, gloves, and goggles. Many respondents recommended using ergonomically designed

clinical furniture and specific physical exercise regimes for both doctors and staff members.

The clinicians definitely concurred that their precautions and training had been highly successful in avoiding occupational illnesses and work-related accidents.

Interesting comments included:

• "All of my employees and I get routine TB checks and tetanus vaccinations, as recommended by a physician, and all of us had hepatitis-B vaccinations."

• "All staff must wear comfortable closed-toe and -heel tennis shoes while working, and uniforms are provided and periodically cleaned. If a staff member gets a puncture, they are immediately sent to my physician for a checkup and vaccination if needed."

• "All chairside assistants and I must wear a facemask, protective eyewear, and gloves. Also, gloves must be worn when cleaning and handling instruments."

• "To avoid puncture wounds, handpieces with sharp burs are placed back on the chairside holder with the bur positioned away from hands or legs."

• "I pay one-half of my employees' health-club memberships to encourage better fitness."

JCO would like to thank the following contributors to this month's column:

Dr. Cecil E. Alumbaugh, Irving, TX
Dr. Kevin J. Andrews, Sparks, NV
Dr. Richard Arnstine, Solon, OH
Dr. Rick Ballard, Sandpoint, ID
Dr. M.C. Biermann, Portland, OR
Dr. Richard Bloomstein, Livingston, NJ
Dr. Kurt T. Bowers, Bloomington, IL
Dr. George A. Bullock, Doylestown, PA
Dr. Bruce D. Burns, Kernersville, NC
Dr. J. Randall Buttram, Panama City, FL
Drs. Kenneth S. Carlough, Jeffrey E. Burzin, and Laura J. Gagnon, Clinton, CT
Dr. Ileana L. Cavanagh, Colts Neck, NJ
Dr. Benjamin F.D. Chikes, Ephrata, PA
Dr. C. Charles Collins, Indianola, IA
Dr. Larry D. Cross, Clovis, CA
Dr. Todd A. Curtis, Sycamore, IL
Drs. Mark L. Dake and Wade L. Murphy, West Plains, MO
Dr. Michael K. DeLuke, Schenectady, NY
Dr. Mark Detrick, Lake Forest, CA
Dr. James Dyer, Grapevine, TX
Dr. Brett Eckley, Beckley, WV
Dr. Merlin Ekvall, Omak, WA
Dr. Russell B. Farquhar, Aurora, Ontario
Dr. John H. Ferguson, Milledgeville, GA
Dr. Alvaro Figueroa, Chicago, IL
Dr. Thomas C. Flanagan, Hixson, TN
Dr. Myron D. Guymon, Logan, UT
Dr. Steven P. Hearne, Suffolk, VA
Dr. James Hodge, Tampa, FL
Dr. Kevin Jarrell, Kokomo, IN
Dr. Brett Johnson, Wichita Falls, TX
Dr. Jason R. Kaplan, Dunwoody, GA
Dr. William R. Koplin, Franklin, MA
Dr. Craig C. Lewis, Kissimmee, FL
Dr. Keith E. Macdonald, Mesa, AZ
Dr. Stephen J. McAuliff, Visalia, CA
Dr. James M. Meeks, Tustin, CA
Dr. Ronald L. Otto, Roseville, CA
Dr. Justin Pagan, Edmonds, WA
Dr. Timothy R. Pearson, Walnut Creek, CA
Dr. Elyane Poisson, L'Ile Perrot, Quebec
Dr. David B. Reen, West Springfield, MA
Dr. Andrew Rosen, Tucson, AZ
Dr. Jack Rosenberg, Burke, VA
Dr. David Ross, Vineland, NJ
Dr. Ramesh C. Sardana, Columbia, MD
Dr. Joel M. Schacher, Mississauga, Ontario
Dr. Keith T. Sellers, Charlotte, NC
Dr. Ron Sepic, Uniontown, PA
Dr. David Sherwood, Encino, CA
Dr. Peter M. Skoler, Quincy, MA
Dr. Scott G. Smoron, Mount Prospect, IL
Dr. Dewey J. Tiberii, Southbridge, MA
Dr. Patrick K. Turley, Manhattan Beach, CA
Dr. Allan D. Weimer, Steamboat Springs, CO
Dr. Danny Weiss, Memphis, TN
Drs. C. Edwin Wentz and Holly W. Reeves, Lubbock, TX
Dr. Franklin M. Wheelock, Roanoke, VA
Dr. Robert E. Williams, Baltimore, MD
Drs. Jack L. Wilson and Ryan K. Van Laecken, Watertown, SD