The Case for Good Records

As readers of this column will probably recall, one of my pet peeves is inadequate records. Nothing is more discouraging for an editor than to receive a manuscript that contains information on something that would be of value to the profession, such as a new technique or a new biomechanical approach, a manuscript that is well written and otherwise worthy of publication, but is accompanied by illustrations of case records that are lacking in quantity, quality, or—as happens all too frequently—both. It is particularly frustrating when the authors have developed a new idea and claim to have achieved impressive results in the manuscript, but are lacking the records to validate their claims.

So what constitutes adequate records? A good place to start is with what has become known as the “ABO series”. Although JCO does not necessarily insist on having all these records to publish in an article, the American Board of Orthodontics requires that all cases presented for consideration as “board cases” include the following (as summarized from the ABO’s website, www.americanboardortho.com).

Facial photographs: One profile, one frontal, and one smiling for each stage of treatment [JCO requests records at least for pretreatment, after debonding, and one year post-treatment]. The ABO prefers that these be taken with relaxed lips, but views with lips lightly touching are acceptable. Facial photographs should be oriented to Frankfort horizontal. The background should be free of distractions, and the lighting should reveal the facial contours without shadows. Ears should be exposed for orientation, and eyes should be open and looking straight ahead, with glasses removed.

Intraoral photographs: One frontal, one right lateral, and one left lateral view for each stage of treatment, with the teeth in maximum intercuspation. Maxillary and mandibular occlusal views are optional [JCO includes these if possible]. Intraoral photographs should be oriented to the occlusal plane and should
be as close as possible to a 1:1 ratio with the patient’s own teeth. If mirror images are used, reverse them as if looking at the patient. Images should be free of distractions such as cheek retractors, labels, fingers, and saliva bubbles; the dentition should be clean. Lighting should reveal anatomical contours with minimal shadows. [JCO will also use study cast photos, in three or five views, if needed to show articulation, or if intraoral photos are not available.]

**Periapical and panoramic radiographs:**
These must be of diagnostic quality for each stage of treatment. If a panoramic radiograph is submitted, periapical radiographs of the maxillary and mandibular incisors are highly recommended. Beginning in 2009, the Board will require bitewings and periapical x-rays for adults 21 and older, along with a panoramic radiograph or a full-mouth radiographic series. All films must be oriented correctly, with the right and left sides clearly marked. Supplemental radiographs, such as occlusal x-rays, additional periapicals, or tangential radiographs may be included if helpful for the case report.

**Cephalograms:** These must show as much of the anatomy as possible, especially in vital landmark areas, for each stage of treatment. Cephalograms should be properly standardized, oriented, and processed. The soft-tissue profile should be visible on lateral cephalograms. Posterior-anterior or submental-vertex cephalograms may be included if pertinent to the case.

**Cephalometric tracings:** Pretreatment tracings must be in black, interim tracings in blue, and post-treatment tracings in red. Cephalograms must be accurately traced using a fine pencil or pen for manual tracing, or using the computer’s drawing tool to trace the anatomical outline of a digital radiograph. Computer-generated tracings are acceptable. Templates may be used to trace the tooth outlines. Anatomical structures should be identified accurately in preparation for marking landmarks and drawing reference lines, and the soft-tissue outline of the facial profile must be shown.

The Board also requires:
1. Craniofacial composite—register on sella, with the best fit on the anterior cranial base bony structures (planum sphenoidum, cribriform plate, greater wings of the sphenoid) to assess overall growth and treatment changes.
2. Maxillary composite—register on the lingual curvature of the palate and the best fit on the maxillary bony structures to assess maxillary tooth movement.
3. Mandibular composite—register on the internal cortical outline of the symphysis, with the best fit on the mandibular canal to assess mandibular tooth movement and incremental growth of the mandible.

Adherence to the Board requirements would ensure that “adequate records” are available for the reader to fully understand the initial diagnosis of the case and to evaluate the outcome of treatment. Additional photographs are often valuable in conveying the message of any article; in the words of the ABO, “Supplemental photographs may be included and are encouraged.” For JCO’s purposes, these would include clear, well-focused close-ups of any appliance being introduced, including detailed photographs of how the appliance is constructed or applied and activated. Before-and-after photographs with the appliance in place are essential; before-and-after photographs of any specific dental movements (such as molar distalization or arch expansion) are advisable, especially if that is the point of the article.

In addition, there are special considerations to keep in mind when submitting case records for publication in print. JCO encourages authors to send original digital image files, before they have been cropped, resized, or resampled. Our graphic designers will size them as appropriate and crop out any “distractions” such as cheek retractors and fingers. If prints are submitted, they should not be cropped, either. No images, whether digital or hard copies, should be combined into montages; each digital image should be contained in its own individual file. More details on submitting figures are provided in JCO’s complete “Guide to Contributors”, available in the “contact us” section of our website, www.jco-online.com.

I would strongly encourage anyone wishing to submit a paper for consideration of publication in JCO not only to study our guidelines, but also to visit the ABO website for a full description of “adequate records”. The website includes many excellent examples that any potential author would do well to emulate. RGK