The Days of Multiple Tooth Identification Systems Are Numbered

Is it a maxillary left central incisor, tooth 9, 21, or [1? Confusing, isn't it? If it isn't confusing to you, it *is* confusing to a computer. With the proliferation and increased use and acceptance of computer data systems, it is vital that our profession standardizes a system or mechanism for identifying teeth, surfaces, and procedures that will be recognizable by automated systems. Americans have accepted the Universal tooth numbering system, while the rest of the world uses the FDI (Federation Dentaire Internationale) system. The Universal system, using number 1 to 32 nomenclature, was adopted by the American Dental Association in 1968. This system does not account for any parameter other than individual tooth identification, which is a weakness in the system.

The ISO (International Standards Organization)/FDI nomenclature not only accounts for the identification of individual teeth, but also for designated areas of the oral cavity such as the maxillae, the mandible, each quadrant, each sextant, and the entire oral cavity. This allows specific and more precise numeric identification by computers and dentists. Most of our readers are familiar with the ISO/FDI system of two digits: the first digit is the quadrant (1 for maxillary right, 2 for maxillary left, 3 for mandibular left, and 4 for mandibular right); individual teeth are the second digit (1 to 8, beginning with the midline and proceeding distally). Therefore, the maxillary left central is tooth 21. The other areas of the mouth, by quadrant, sextant, etc, use a designating system of 00 for the entire mouth, 01 the maxillae, 02 the mandible, 10, 20, 30, and 40 for the quadrants, and 03, 04, 05, 06, 07, 08 for the sextants, each logically beginning on the maxillary right. This system would not work using these numbers in the Universal system because of duplicate numbers. Confusion would occur, even if the numbers were in specifically designated positions.

The Universal system could adopt another convention. I am proposing 330 for the entire oral cavity, 340 for the maxillae, 350 for the mandible, 360 to 390 for the four quadrants, and 400 to 450 for the sextants. But how would we use these numbers, and more importantly, why? Furthermore, these numbers do not go far enough; they do not designate the tooth surface. Therefore, if a tooth surface is appropriate, use a 1 for mesial, 2 for distal, 3 for occlusal, 4 for buccal, 5 for lingual, 6 for mesio-

occlusal, 7 for disto-occlusal, 8 for mesio-occlusodistal, and 9 for mesio-occlusodistobuccolingual. So what would an amalgam on the occlusal surface of the mandibular right first molar translate into? 002120303: 002120 (the CDT code) for the amalgam, 30 for the tooth, and 3 for the surface. A periodontal surgical procedure in the maxillary left quadrant would be 004260370: 004260 for the surgical procedure and 370 for the maxillary left quadrant.

What is missing from this sequence of numbers is the diagnostic code. Unfortunately, the diagnostic codes currently available are antiquated and essentially useless. There is an effort underway to update these codes to modern, meaningful diagnostic descriptions. Once they are established and accepted, those three to five digits would be added as the leading digits in the sequence. This would designate the clinical diagnosis, procedure, tooth or oral area, and specific surface. These same numerical sequences are applicable to the FDI/ISO system.

There are other systems being proposed, some more complicated than others. We must reach a compromise between ease of use and the quality and quantity of information captured in these systems.

Why should we use such a system? Computers can understand it, dentists can understand it, it reduces confusion, reduces paperwork, and it very specifically identifies what we are doing for our patients. Databases can easily translate this information into written language, and it can also be used for quality management systems. The additional tooth surface identification could be added to the FDI/ISO standard, where the last digit is the surface designator.

Does this make sense to you? Do you have any comments? Please contact me.

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