Tooth numbering progress

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Tell any orthodontist about a patient with tooth #20 absent and tooth "L" submerged and the response will probably be a long blank stare. If you instead refer to the teeth as the lower left #5 and "D," the conversation will hardly skip a beat. Astonishingly, the first tooth notations mentioned are from the only (until recently) official tooth designation system in the USA, the so-called "Universal" system; and the latter ones are from the ubiquitous, logical method called the Zsigmondy or Palmer system. The symbolic-quadrant Palmer system has continued to be the unofficial tooth numbering method of choice for many American dentists because of its easy recognition and comprehension, qualities nonexistent with the incumbent Universal system.

Nevertheless, in our computerized society today, even the user-friendly Palmer system is compromised. It is inadequate for computer data processing because of its reliance on nondigital symbolism: the quadrant "corners" and the alphabetized deciduous dentition simply will not compute. What shall we do now?

Well, a solution has indeed arrived. It is called the FDI two-digit tooth numbering system. This method of numeric tooth designation possesses all the properties of logic and literacy consistent with true universal communication, and it has been in use and thriving for over 20 years around the world, but for odd reasons has not been welcome in the USA. In October 1994 at the annual meeting of the American Dental Association in New Orleans, a dream finally came true: organized dentistry in the United States officially accepted the pre-eminently sensible FDI two-digit system by adopting the "International Standard Organization (IOS) TC 106 Designation System for Teeth and Areas of the Oral Cavity."[1,2] By January 1995, the ADA Commission on Dental Accreditation was urging all dental educational programs in the United States to include the ISO/FDI system in their teachings along with the entrenched Universal system.

The FDI two-digit system (Figure 1) was introduced in 1970 by the Fédération Dentaire Internationale (now know as the FDI World Dental Federation). It is a wholly digital system of

Figure 1
FDI two-digit tooth numbering system.

Permanent Teeth	
Right	Left
18 17 16 15 14 13 12 11	21 22 23 24 25 26 27 28
48 47 46 45 44 43 42 41	31 32 33 34 35 36 37 38
Deciduous Teeth	
Right	Left
55 54 53 52 51	61 62 63 64 65
85 84 83 82 81	71 72 73 74 75

Examples:
lower left second premolar = 35, pronounced "three-five"
upper right deciduous first molar = 54, pronounced "five-four"

tooth notation that makes visual sense, cognitive sense, and computer sense. The FDI method identifies each of the 32 permanent teeth with a two-digit number, the first digit indicating the quadrant (1-to-4) and the second digit designating the tooth type (1-to-8). The 20 deciduous teeth are represented in similar logical fashion: quadrant, 5-to-8, and tooth type, 1-to-5.

A mention is in order about the ISO and the "TC 106" standards (of which the FDI system is a part) that the ADA officially endorsed. The ISO (International Standards Organization) is a worldwide federation of national standards bodies based in Geneva, Switzerland. It consists of technical committees that represent an array of disciplines seeking improved international standardization. Technical Committee (TC) 106 specifically represents the field of Dentistry in the organization. In 1977, ISO TC 106 published ISO 3950 entitled, "Dentistry—Designation system for teeth and areas of the oral cavity," based upon the FDI two-digit tooth numbering system with additional numeric notations for areas of the mouth. A second edition of the ISO 3950 document was issued in 1984, and it was reissued in an updated form last year.

Only during the past few years has pressure been applied on the ADA asking for a close reexamination of its position on tooth numbering. One of the first calls for action was our 1993 article in the, "Journal of Dental Education," tracing the history of tooth-notation methods and pointing out the deficiencies of the Universal system and the advantages of the computer-logical FDI system.[3] Spurred by this article, the American Association of Orthodontists' House of Delegates voted in May 1994 to encourage the ADA, "to adopt the FDI World Dental Federation two-digit tooth numbering system and promote its use within the dental profession." The ADA was very receptive to this new input, because in 1992 it had assigned several of its Councils the task of studying and facilitating computer-based patient record-keeping and electronic transfer of clinical data. With fresh impetus, the ADA Councils unanimously recommended in August 1994 that the ADA House of Delegates recognize the ISO/FDI system along with the already recognized "Universal/National" system. Two months later in New Orleans, the ADA House of Delegates consented.

We predict there will be further progress in ADA tooth designation policy in a few years that will completely phase-out the difficult, computer-incompatible Universal system. For now, we may cheer that American dentists, at last, will begin speaking, writing, and knowing the same tooth numbering language used by the rest of the world—the ISO/FDI two-digit system.

So, take a good look at Figure 1. Copy it, post it in your office, and distribute it to your teammembers. It is the "new" and best standard for written, spoken, and computerized tooth numbering, and it makes remarkable good sense. And now it's official.

References

1. Definition of tooth designation systems (Resolution 50-H, 1994:652). American Dental Association Current Policies 1994.
2. Recognition of tooth designation systems for electronic data interchange (Resolution 51-H, 1994:675). American Dental Association Current Policies 1994.
3. Peck S, Peck L. A time for change of tooth numbering systems. J Dent Educ 1993;57:643-7.

Editor's note

With the publication of this guest editorial by Peck and Peck, acceptance of the ISO/FDI two-digit numbering system by The Angle Orthodontist is official. From now on this numbering system will be applied uniformly to all case reports as well as original articles to the extent that it is practical. Further, we will assume responsibility for promoting its use throughout the specialty of orthodontics, its educational institutions, as well as the dental community.

As stated so well by Peck and Peck, "It is past time for American dentists to begin speaking, writing, and knowing the same tooth numbering system used by the rest of the world...the ISO/FDI two-digit system."