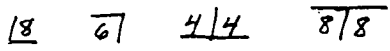
Babble or Babel?

Once upon a time, there was a widely-used, simple and useful method of identifying teeth by number. Dentists numbered human teeth from the midline, from 1 to 8. Each tooth type was identified by a single digit — the 1's were all central incisors, the 8's were all third molars.

The Flaw

Eight digits cover all of the human tooth types, but a normal dentition has four of each, one in each quadrant. In the days when writing was done by hand, a simple diagrammatic notation divided the mouth into quadrants as viewed from the front, and the numbers were written in the proper quadrants.



It was quick and easy for handwritten notations, but as printing became the norm for everyday writing, the diagrammatic notation proved impossible for typists and cumbersome at best for typesetters. The need for a new system was clear.

The Military to the Rescue

World War II forced a change. The military faced an urgent need for a uniform tooth identification system that was unambiguous, used standard english characters that would be understood by any recruit who passed a basic literacy test, and could be typed on a standard typewriter.

With great ingenuity, the teeth were handled like a squad of new recruits. Line up in two ranks and count off!

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17

It does meet the basic recording requirements, but it makes no dental sense at all.

The first molars can no longer be identified by a single digit; the 6's have become 3, 14, 19 and 30. The old 2's are 7, 10, 23, and 26.

Some teeth have one digit, some have two — it makes no difference, because the individual digits have lost their meaning. All that they tell us is how far we must march along a prescribed path from the "last" upper right molar, which is probably not even there. A wealth of information has been discarded for the sake of simple typability.

To make matters worse, the 68 two-digit numbers still available to identify the 20 deciduous teeth are ignored in favor of the alphabet.

A	B	C	D	E		F	G	H	I	J
T	S	R	Q	P		O	N	M	L	K

One would be hard-pressed to produce a more cryptic code for the second deciduous molars than A, J, K, T.

With universal military service, this "system" was foisted on a generation of dentists and eventually promoted with wry humor under the grand-sounding "universal" appellation.

Meanwhile, across the sea—

Our international colleagues obviously faced the same problem, but the Federation Dentaire Internationale addressed the question with a committee of scientists who approached it systematically with open minds. A hundred two-digit numbers obviously offer more than one option for identifying 52 teeth, even without resorting to the alphabet.

Ease of typing, printing, and computer manipulation were the primary criteria. They recognized the merits of the 1—8 numbering of the older system and elected to keep it. They also recognized the merits of retaining the clockwise sequence that progresses from upper right to left and then lower left to right.

The problem was in the diagrammatic quadrant notation, so that was where the changes were made.

The result was a simple, logical system easily understood by all, whether they be dentist, allied professional, or clerical person. The quadrants are numbered 1—2—3—4 in the accepted clockwise sequence, and for the deciduous teeth we go around once more with 5—6—7—8.

The quadrant number is the first digit in the identifier for a specific tooth, and its position within that quadrant is the second.

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

55 54 53 52 51 61 62 63 64 65
85 84 83 82 81 71 72 73 74 75

Every digit provides descriptive information.

The unique two-digit combination for each tooth tells at a glance whether it is upper or lower, right or left, molar or incisor. The upper right first molar is 16 (quadrant 1, tooth 6). This is not a simple decimal count-off, so to emphasize the significance of the individual digits they are pronounced individually as one-six, not as the decimal number sixteen.

This system was adopted by the Federation Dentaire Internationale fifteen years ago, with the recommendation that it be adopted by national dental associations. It was reported in detail in *Dental Abstracts* (published by the American Dental Association) in February, 1971, and featured on the cover of the next issue in March, 1971.

Meanwhile, dentists in the United States continue to fumble along with the "universal" notation while we continue to call third molars 8's and central incisors 1's.

Babble and Babel are not the only options

The ADA goal of establishing a uniform system has great merit. It has faltered for the last fifteen years because of the unfortunate decision to champion the babble of the seriously defective "universal system."

- Dentists still find it useful to refer to 8's and 4's and 1's.
- Easy visual and computer recognition of teeth *and their location* is important to professionals, researchers, and insurance personnel.
- One digit for the quadrant, one for the tooth, meets *all* identification needs, as well as that for typability.
- Counting alternately forward and backward from 1 to T meets only the most elementary need for typability.

The FDI has led the way, but inertia and an NIH (Not Invented Here) attitude continue to impede the adoption of the obviously superior International System in the United States. If utility and logic are not enough, just basic pride should be sufficient cause for us to overcome those impediments and put the embarrassing "universal system" behind us as expeditiously as possible.

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