of their reporting verified. This showed a fairly clear-cut relationship between injected concentration and severity of symptoms in 46 patients. Fourteen of the incidents were with 2–2.5% thiopentone, and there was one slight hypoaesthesia but no gangrene as mentioned in Dr. Taff's letter.[3]

When this survey was carried out, it was common practice to inject directly into a vein, and few of these patients had an infusion. Furthermore, 5% then was an acceptable concentration in both Ireland and North America. I subsequently obtained details of another 18 arterial injections with 2.5% solution (making a total of 32) with no severe sequelae. I would be interested in hearing of cases of gangrene with this low concentration.

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A Simple Way to Convert *p*H to Hydrogen Ion Concentration

To the Editor:—On examining the relationship between the blood *p*H and the corresponding amount of hydrogen ions in nanoequivalents per liter, I realized that for *p*Hs between 7.20 to 7.50, a single rule makes it easy to convert from one scale to the other.

If the last two digits of the *p*H are subtracted from the number 80, the correlative amount of nanoequivalents per liter is found. For example:

$$pH = 7.35$$

$$80 - 35 = 45, \text{ therefore:}$$

$$[H^+] = 45 \text{ n Eq/l}$$

If the amount of nanoequivalents per liter is subtracted from the number 80, the last two digits of the corresponding *p*H are found. For example:

$$[H^+] = 55 \text{ n Eq/l}$$

$$80 - 55 = 25, \text{ therefore:}$$

$$pH = 7.25$$

The proposed rule of 80 has its rationale in the fact that over the *p*H range 7.20–7.50, each 0.01 unit change in *p*H is approximately equivalent to a 1.0 n Eq/l change (in opposite direction) in hydrogen ion concentration.[1] Because the starting point is *p*H 7.40 and $[H^+]$ = 40 n Eq/l, the sum of the last two digits of the *p*H and the correlative number of nanoequivalents per liter of hydrogen ions concentration always will be 80 in the range mentioned above.

I do not know if this rule has been reported before. Recently I presented two lectures on acid-base balance, and my literature review did not reveal any such rule. I would like to hear from any of your readers who might know of previous publications of this rule. In any case, it may help ease the *p*H and $[H^+]$ calculations in the acid-base balance.

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