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Allen's Test—Positive or Negative?

To the Editor:—Edgar V. Allen, M.D., in 1929, first described "the compression test" for localizing occlusion of arterial blood flow to the palmar arch of the hand in patients with thromboangiitis obliterans.[1] This test has been named after Allen and is applied routinely on each patient in our hospital prior to percutaneous arterial puncture.

Confusion arises, however, in what constitutes a positive or a negative Allen's test. Reports in the literature are contradictory, and these can lead to problems in documenting the results of this proper test.

Shapiro described Allen's test as positive when the ulnar artery adequately supplies the entire hand.[2] Greenhow agrees in his description of a "false-negative" result as a delay in return of the arterial blush due to full extension of the patient's hand.[3] Abadir and Ung described this same delay in arterial blush as a "false-positive" result.[4]

Allen did not define his compression test as positive or negative. To do so can lead not only to miscommunication but also to poor documentation. To be more accurate, we believe an Allen's test should be described according to the length of delay in return of the arterial blush.

For example, the Allen's test was performed on the patient's right hand with a three-second delay. We consider a delay of five seconds or more to be abnormal.

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Averaging *p*H *vs.* H^+ Values, an Irrelevant Debate

To the Editor:—The lively correspondence provided by Giesecke[1] and Pace *et al.*[2] cannot, alas, continue forever. However, before editorial wisdom curtails this entertainment, you might perhaps allow a practical and statistical comment.

Before converting numbers to a statistic, such as a mean, one question is to be satisfied: "Why do it?" The answer must be "To provide the reader with useful information." The mean is the value around which the data are grouped, the standard deviation represents the scatter, and the standard error represents the accuracy of the mean. These values are useful when data are scattered with approximately a normal distribution. Giesecke creates five solutions of differing *p*Hs and mixes them; Pace *et al.* postulate mixing two such solutions. Neither example has a normal distribution and a mean is therefore unlikely to provide useful information; as both letters laboriously demonstrate, a mean *p*H will certainly not represent the *p*H of the mixture. If in practice any of us needed such information we would simply mix and measure!

Mean, standard deviation, etc., are appropriately applied to *p*H, or to H^+, when one, or the other, representation of the acidity has a reasonably normal distribution; healthy blood-gas values provide an example with a familiar mean *p*H of 7.4. However, gastric acidity shows no simple gaussian distribution, whether expressed as *p*H or as $[H^+]$. Indeed, consideration of the stomach's physiologic function permits us to anticipate high acidity during active hydrochloric acid formation and reduced acidity at other times. Representing such a complex distribution with a single mean is inappropriate.

Of clinical concern in the original paper was the