Prevention of the “Flipped” Pacemaker

To the Editor:

I have read with interest the “Communication to the Editor” by Rohlfing et al. regarding the “flipped” pacemaker.

One way to prevent flipping of a pacemaker (a form of “pacemaker twiddler’s syndrome”) is to wrap it in a Dacron pouch. This prevents rotation of the pacemaker and fixes it in position quite well. Because the orientation of the rechargeable pacemaker is so important, it would be wise to routinely use a pouch made of stretch Dacron. The pouch, moreover, has other advantages, particularly the prevention of erosion of the skin over the pacemaker from pressure necrosis, the stabilization of the junction between the pacemaker and its lead wire, and the stabilization of the vector, which simplifies checking of the pacemaker in a wave-form clinic.

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REFERENCES

Trapezoidal and Sinusoidal Wave Forms for Ventricular Defibrillation

To the Editor:

In their report entitled “The Efficacy of Trapezoidal Wave Forms for Ventricular Defibrillation,” Anderson and Suelzer have provided some valuable data on their clinical experience with the trapezoidal wave form in the prehospital treatment of ventricular fibrillation; however, scientific objectivity is offended by certain gratuitous statements and unwarranted conclusions by these authors, as well as by the appearance of an inappropriate bias toward the trapezoidal wave form in the light of their data, the literature they have cited, and the literature they have omitted.

In the brief abstract that heads the report, the second conclusion of Anderson and Suelzer, i.e., that “the trapezoidal waveform offers pulse characteristics less deleterious than other established wave forms,” is gratuitous and unwarranted, since the data presented are not related to or addressed to deleterious effects of a wave form for defibrillation.

In presenting and discussing their data on 108 patients subjected to 294 defibrillatory shocks, Anderson and Suelzer predominantly directed their attention to the results in their small subgroup of ten patients weighing 100 kg (220 lb) or more. The clinical study of Tacker et al. employing a Lown-type wave form (Leslie A. Geddes, M.E., Ph.D., oral communication, November 1975) in 111 patients was used as a basis for comparison, leading Anderson and Suelzer to state in various places, “Our results for efficacy differ from previous reports... Our reported efficacy of defibrillation is higher in large patients... Our improved efficacy of defibrillation, especially in the groups of patients weighing 80 kg and more.”

A more balanced appraisal of the data of Anderson and Suelzer in comparison with the study of Tacker et al. reveals the following: The total number of patients in these two studies was nearly identical, and the distribution of body weights was similar. The overall rates of success were 70 percent for the trapezoidal waveform and 72 percent for the Lown-type waveform. In the range of body weights from 50 to 100 kg (110 to 220 lb), where the preponderance of subjects fell, the rate of success for the trapezoidal waveform was 68 percent and for the Lown-type waveform was 71 percent. In the range from 100 to 110 kg (220 to 242 lb), the trapezoidal waveform was successful in four of six patients, or 67 percent, similar to the preponderant weight group. The study by Tacker et al. had no patients in the range of 100 to 110 kg.

Anderson and Suelzer reported that the trapezoidal waveform successfully defibrillated the four patients weighing more than 110 kg, while the one patient in the study by Tacker et al. weighing in excess of 110 kg was not defibrillated. This comparison hardly invites any conclusions concerning the relative efficacies of the trapezoidal and Lown-type waveform forms.

Another study by Tacker et al. investigated the trapezoidal waveform form, comparing the effectiveness of four different shapes of truncated exponential waveform forms in 27 human-sized animals, as well as the effectiveness of one Lown-type waveform form. With all wave forms, effectiveness was virtually 100 percent for small subjects but decreased as body weight increased, thereby supporting the concept of an electrical dose related to body weight. This study by Tacker et al. demonstrated that in the range of body weight from 31 to 90 kg (68 to 198 lb), low-current trapezoidal and truncated capacitor-discharge wave forms were not as successful as the contemporary Gurvich-Lown waveform form. Indeed, the present report of Anderson and Suelzer has shown 100