

knee and ankle would introduce an error of 6 m/s in MNCV estimations of the tibial nerve segment knee to the ankle. Consequently, the objections raised by Yates and Brown (1979) can not be accepted. The F wave, as the M response, method has a number of indispensable applications in clinical neurophysiology.

C. P. PANAYIOTOPOULOS

*Eginition Hospital,
74 Vasilisis Sophias Avenue,
Athens, Greece*

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SIR,—It was not our intention to suggest that the F discharge method for measuring proximal conduction times should be abandoned. Clearly the method is helpful. We wanted simply to look critically at some of the physiological determinants behind the F discharge, emphasise those areas where there are valid questions and uncertainties, and focus on some of the limitations in the use of this method.

To our knowledge no one has measured directly the central delays for F discharge motoneurons in any significant numbers of units in man, or for that matter, in an experimental model like the cat. Therefore, there must be a measure of uncertainty about the order of central delay in motor units particularly in pathological states where even less is known about possible mechanisms for the backfiring of motor neurones. There is little argument, however, that even substantial differences in the central delays of different motor units may make little practical difference to the estimates of proximal conduction times or velocities, particularly if the length of the peripheral nerve is long as in the posterior tibial nerve in the lower limb.

One of the most serious possible errors in the F discharge method is whether the F discharge motor units represent the shortest latency motor fibres comparable, therefore, to those motor unit potentials that determine the maximum M response conduction velocity. In our investigation in healthy subjects it was our observation that only about one half of motor units have an F discharge, even in response to long stimulus trains (100–200 stimuli). Even this limited sample, however, probably provides a representative range of conduction velocities comparable to the conduction velocity range for all the motor fibres included in the maximum M response. How representative the F discharge is of the fastest conduction velocity motor fibres depends on the frequency of motor unit discharge, selection by stimulus intensity of particular conduction velocity motor fibres, and the stimulus train length. In our view, stimulus trains that are too short may not recruit a sufficiently large and representative number of motor unit potentials in the F discharge. Therefore, it is our suggestion that at least 50–100 stimuli be used to obtain the F discharge and the stimulus intensity be at or near supramaximal intensity. It is our experience that healthy subjects and even more frequently patients with a peripheral neuropathy find these stimulus trains can be uncomfortable, particularly when part of a large and extensive peripheral electrophysiological investigation.

In summary, we feel that the F discharge test is a useful method to

measure proximal motor conduction times but has important theoretical and, at times, practical limitations. It is not our intention to suggest abandonment of this test, but rather to introduce a critical note of caution and direct our attention to some of the possible errors in interpretation of this test.

S. K. YATES
W. F. BROWN

*Department of Clinical Neurological
Sciences,
University Hospital, London, Ontario
N6A 5A5, Canada*

Notices

The Fifth Asian and Oceanian Congress on Neurology will be held from 18 to 21 November 1979 at the Philippine International Convention Center, Manila. The theme will be Neurology in the Health Care Delivery System in Asia and Oceania. The host society is the Philippine Neurological Association, and information can be obtained from Rooms 11–12, Makati Medical Center, Amorsolo Street, Makati, Metro Manila, Philippines.

The Second International Child Neurology Congress will be held in Sydney, New South Wales, Australia from 26 to 30 November 1979.

The Second International Symposium on Developmental Disabilities will be held in the Sasakawa Hall, Tokyo on 20–21 November 1979 under the sponsorship of the Japanese Society of Child Neurology. Members of the Organising Committee cordially invite paediatricians, neurologists, and all colleagues working in this field to the Symposium. Free communications will not be accepted. The languages used will be English and Japanese and simultaneous translation from English to Japanese and from Japanese to English will be available. The registration fee is 10 000 yens. Applications should be made to the Secretariat, The Second International Symposium on Developmental Disabilities, c/o Department of Pediatrics, Tokyo Women's Medical College, 10 Kawada-cho, Shinjuku-ku, Tokyo 162, Japan.