Proper Elbow Position?

To the Editor:

Regarding the report “Effects of Elbow Position on Motor Conduction Velocity of the Ulnar Nerve” by Roger M. Nelson (Phys Ther, June 1980), there seems to be a major factor that was not considered in the conclusions drawn from the study and possibly also in the method, if clinical significance of the findings was sought.

The study was done of “normal” subjects—a group of persons not ordinarily sent for diagnostic motor nerve conduction velocity (MNCV) testing. To assume that the anatomy of the elbow—as well as the specific properties of the nerve itself—are the same in persons having sustained trauma, having metabolic disorders, or simply having complaints in an ulnar nerve distribution is to make a big assumption. To suggest that the procedure be done in a certain position (my assumption, on nonnormal subjects) is beyond the scope of the reported study. One can only conclude that a standard measurement method is needed for accurate calculation of MNCVs of the ulnar nerve across the elbow in normals.

Based on what was reported in the article, one cannot conclude that any one position is better or worse than others for performing (as distinct from measuring and calculating) MNCV of the ulnar nerve, because those patients with pathological conditions may have variations in velocity dependent upon position. No variations were found with position in normals, but maximal flexion was speculated about only, not tested.

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The Author Responds:

Thank you for your interest in my article. I will attempt to answer the main points of your letter.

My interpretation of your second paragraph is that you questioned the use of a normal subject sample from which to determine the optimal angle of elbow flexion. You suggest that I should have used abnormal subjects instead of normal ones for this study. To answer this point I would refer you to the definition of the word “abnormal.” Abnormal is defined as that which is not normal. If one cannot adequately describe what factors enter into the state of normality, then the description of abnormality is very difficult.

Perhaps an historical perspective of this study would illustrate the need to describe normality before describing abnormality. This project started with a problem I was having in the clinic. I was having difficulty stating whether the nerve conduction velocity across the elbow in some of my patients was normal. This straightforward clinical problem led me to my research question: What is the best elbow position to evaluate the motor nerve conduction velocity (MNCV) across the elbow?

A review of the literature did not answer the question or solve the problem. Subsequently, my research question was refined further, and I developed a method to collect the data. Had I chosen to study abnormal subjects first, I would not have been able to come to any conclusions about the optimal position for MNCV across the elbow. Had changes occurred in testing the abnormal subjects as a function of elbow position, I would have been unable to conclude that the changes were caused by the elbow position; the changes might have been caused by the abnormality. In other words, the abnormal subjects would have added another dimension (in this case an uncontrolled one) to the research design. In my case, I studied the normal patients first and found that the elbow position, in fact, did not tend to alter the major characteristics of motor nerve conduction.

After I established that the three elbow positions (I included maximum flexion—120°) did not alter conduction in a normal sample, I set about to decide on the optimal position. This decision was based on the literature review and some anatomical considerations (see discussion in text of my article).

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Knee Function

To the Editor:

Your December 1980 special issue on the knee was super! I would like to make a few minor comments on function that seem to have been overlooked.

During normal gait, after initial contact, the quadriceps femoris muscle acts as a decelerator and the hamstring muscles pull the knee posteriorly into extension, reinforcing the action of the quadriceps...
femoris muscle as a knee extensor. Because of antero-lateral insertions of the hamstring muscles, this con-traction during terminal extension contributes considerably to lateral stability of the knee. If knee stability is contingent upon a strong contractile mechanism, the muscles in question should be exercised in the manner in which they are used. Inasmuch as the force vector is posterior to the knee during terminal extension, you must place your resistance posterior to the knee with the foot immobile. This can be done by having the patient stand facing an N-K table or Cybex® with the weight arm resting posterior to the knee: flex the knee 20 to 25 degrees and then extend against resistance. The foot remains planted.¹

During shock loadings of the knee, compressive forces are also absorbed near the upper end of the limb at the sacroiliac joint. On initial contact, the angular force vector places torque stress on the hip bone posteriorly on the sacrum, causing the elongated convexity of the ilium to “ride up” out of the elongated concavity of the sacrum, slightly spreading the joint. This stretches the ligaments, which in turn pull the joint back into its original position. The properly functioning sacroiliac joint is an extremely effective shock absorber.²

Measuring leg length from the anterior superior iliac spine to the medial malleolus is a common, but not very accurate, method. If you measure with the patient standing from the anterior superior iliac spine to the floor and from the posterior superior iliac spine to the floor, it is much easier to differentiate between actual anatomic differences and pelvic obliquity.³

REFERENCES


Is it Ethical to Evaluate?

To the Editor:

A story was recently related to me that I believe is worth sharing and discussing with the members of the Association. It deals with practicing physical therapy ethically and responsibly.

At one of our local hospitals, a physician admitted a patient for treatment of low back pain. The patient was put on strict bed rest with bathroom privileges only. He was also sent to physical therapy with orders to be brought down on a stretcher and to receive diathermy and massage.

Upon his arrival in the physical therapy department, one of the physical therapists proceeded to evaluate the patient prior to the initiation of treatment.

When the physician heard that his patient had been evaluated, he was furious. He stated that because he had evaluated the patient, there was no need for the physical therapist to do another evaluation. The physician confronted the physical therapist who told him that he had been trained to evaluate this type of condition before treating the patient and that if he was going to accept the care of the patient, he was ethically bound to perform such an evaluation before starting any treatment whatsoever. The physician filed a complaint with the chief therapist of the department and stated that if the therapist evaluated another one of his patients, he would have him fired.

This situation poses many interesting questions regarding the role of physical therapy and the rights and responsibilities of the physical therapist. This physician was not questioning the quality of that evaluation nor the competency of that particular physical therapist but rather the competency of the whole profession to evaluate patients. The major issue to be raised, therefore, is whether a physical therapist should evaluate every patient prior to treatment.

It is stated in our Guide for Professional Conduct, Principle 3.1A, Accepting Responsibility, that “the physical therapist, upon accepting the referral of a patient from a qualified practitioner, shall assume the responsibility for planning the patient’s treatment program, implementing and supervising that program, evaluating and changing that program, maintaining adequate records of the case, and filing appropriate progress reports with the attending practitioner.” Principle 3.2B, Delegating Responsibility, includes the following: “1) Evaluate each patient on the basis of the physician’s referral; 2) Plan each patient’s treatment program and determine which elements thereof can be delegated to supportive personnel; 3) Provide periodic reevaluation of the treatment program…” Therefore, according to the Guide for Professional Conduct, if a physical therapist is truly practicing ethically, he should evaluate each and every patient prior to the initiation of treatment.

We might also consider a legal aspect of this case. In the Court of Appeals, State of Arizona, Case of Sanfilippo vs. State Farm, the judge pointed out that “it is a general rule that where a person without a license performs an act amounting to the practice of medicine [not physical therapy], for instance, he is...