CORRESPONDENCE

Reprints

To the Editor.—It has been brought to our attention that a large number of unsolicited reprints of a paper entitled: "Promethazine: its influence on the course of thiopentone and methohexital anaesthesia,"—*Anaesthesia,* 1961, vol. 16, page 61—have been circularized to anaesthetists in the United States.

These were purchased by permission of the authors and the Editor of *Anaesthesia,* but it did not occur to the authors when permission was granted, that the order would be for 10,000 reprints.

We wish it to be known, however, that we were not personally responsible for, nor do we condone, this mass circularization. Our American colleagues may ascribe this to us since the reprints were sent from Dublin bearing a Republic of Ireland postage stamp.

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Tourniquet Pain During Spinal Anesthesia

To the Editor.—A recent article in ANESTHESIOLOGY ("Cause of Pain from a Pneumatic Tourniquet During Spinal Anesthesia" by Drs. Egbert and Deas)[1] prompts me to write, since I believe the author's conclusions are based on an incorrect interpretation of their data.

Egbert and Deas have based their conclusions on the grounds that tourniquet pain, ". . . is carried to the spinal cord by nerve fibers larger than those transmitting pricking pain." The authors' interpretation of the writings of Heinbecker, Bishop and O'Leary[2, 3] is different than mine. I believe this group had already shown in the early 1930's that pain is carried by *small,* not large, myelinated fibers, a fact that has been corroborated repeatedly. Pain in unanesthetized man is carried only in the small myelinated A-delta fibers and in the even smaller, nonmyelinated slow-conducting C-fibers. These fibers are blocked by relatively low concentrations of local anesthetics which are insufficient to affect the larger and more resistant proprioceptive and motor fibers. The presence of complete cutaneous analgesia to pin-prick is, therefore, an indication of complete block of *all* pain fibers entering the spinal cord below the corresponding dermatomal level, even though touch and motor function may still be intact in the extremity. The reverse is true of pressure block of a nerve. Compression of a nerve trunk will differentially block the largest sensory fibers before smaller ones, and pain can still be felt after tourniquet pressure has abolished touch and proprioceptive senses in 30 minutes or less. That tourniquet pain characteristically does not arise until at least 45 minutes after inflation of the cuff, points to the likelihood of small fiber involvement. This is especially true since by that time larger myelinated sensory fibers will have become completely blocked by tourniquet compression.

Electrical stimulation of a nerve in unanesthetized man has been one of the best tools in assigning charactersitic sensory modalities to specific fiber sizes. Electrical stimulation of large fibers alone is interpreted as touch, *but never as pain.* Not until the smaller A-delta fibers are also stimulated is pain felt and interpreted as a sharp pricking. Additional increases in stimulus strength to C-fiber threshold will then add a quite uncomfortable deep aching component to the subject's pain interpretation.[4] This writer's ulnar nerve has been stimulated for hours by a current sufficient to cause muscle contractions, yet each shock was felt only as a "thump" and was never painful before, during, or after upper-arm-tourniquet compression for up to 45 minutes.