

## O.F.S. SCHOOL OF PHYSIOTHERAPY

It seems as if the First Years are getting into the swing of things already and settling down—the party they gave us went down very well. We do thank them for all the trouble they went to to make it a success.

Our heartiest congratulations and good wishes to Lucill Oertel—a Second Year—who is to be married to Martin van Schalkwyk on 22nd May. We wish them the very best of luck for the future.

Three of our girls made Varsity hockey teams this year—Toni Smit and Arlene Kruger who played first and toured Rhodesia during the holidays—and Jane Vorster who played for the second team in East London. Keep it up girls—we are proud of you!

To those who passed their sups—well done—and good luck to all for the mid year exams.

## DIE UNIVERSITEIT VAN STELLENBOSCH

Ons wil almal vir mnr. Goedhart, ons nuwe lektor, baie welkom heet hier in ons Matie-geledere. Volgens hom het hy met „sy neus in die botter geval” wat betref die fisioterapedians. Ons hoop egter hy voel net sò oor die klassee.

Ook baie welkom aan mej. Stephan wat na twee jaar se afwesigheid, besluit het om 'n bietjie vir die derdejaars onderhande te neem. Ons hoop net die groot klas kry haar nie onder nie.

Ja, die jaarlikse fisioterapedinee-dans het gekom en gegaan, en was weer soos altyd 'n groot sukses. Die Brackenfell Motel het uitgehang met heerlike geregte, die atmosfeer kon niemand iets aan verander nie, en die derdejaar-studente, wat die funksie gereël het, het gesorg dat alles so glad soos seep verloop het. Soos gewoonlik het ook 'n paar harte in die slag gebly. Veral die derdejaars is die ergste getref.

Cupido het egter onder die vierdejaars sy grootste slag geslaan. Baie geluk aan Anna-Maré Steyn en Esther le Grange met hulle verlowings en 'n groot geluk aan Elsabé Maree wat reeds haar eerste roeping vervul het, naamlik om van van te verander.

Die tee by Stellenbosch, gereël deur die tweedejaar-studente het almal baie geniet. Die eetgoed was heerlik! Baie dankie Carol de Villiers vir al julle moeite.

Die fisioterapeute van Huis Francie van Zijl was vanjaar baie bly om mej. Runnalls vir ete in die koshuis te kon ontvang. Ons hoop die ander lektrises sal haar voorbeeld volg, en ons belooft dat almal dan die verskil tussen letterlik en figuurlik sal weet!

## ABSTRACTS

*Am. J. Physiol.*, 219, 5, Nov., 1970:

MORTIMER, J. T., MAGNUSSON, R., and PETERSÉN, I.:  
Conduction velocity in ischemic muscle: effect on E.M.G. frequency spectrum.

*Summary:* A study of the effects of ischaemia on red muscle (soleus) and white muscle (gastrocnemius) was made by recording the conduction times during and following periods of repeated contractions whilst the muscle was ischaemic. The action-potential conduction velocity decreased significantly during ischaemia, the decrease being more pronounced in gastrocnemius than in soleus. Much smaller changes in conduction velocity resulted on prolonged stimulation of dextran-perfused muscle, and the authors concluded that the maintenance of normal conduction velocity was dependent upon the blood flow for the removal of metabolic by-products (probably lactic acid) rather than for an energy supply.

*Ibid.*, 219, 6, Dec., 1970:

ZALEWSKI, A. A.: Effects of reinnervation on denervated skeletal muscle by axons of motor, sensory, and sympathetic neurons.

*Summary:* This study was undertaken to establish which type of nerve fibre was responsible for the trophic action of nerve on muscle, it having been noted that the effects of denervation are reversed following reinnervation by axons of motor neurons, but not following reinnervation by sensory neurons. Denervated rat sternomastoid muscles were reinnervated by axons of (1) the original motor nerve, (2) the motor hypoglossal nerve, (3) sensory neurons of the vagal nodose ganglion, and (4) preganglionic cervical sympathetic nerve fibres. Functional reinnervation only occurred in the cases of (1) and (2); muscles reinnervated by sensory or sympathetic fibres continued to resemble chronically denervated muscle.

*J. Neurol. Sci.*, 11, 6, Dec., 1970:

1. EDSTRÖM, L.: Selective changes in the sizes of red and white muscle fibres in upper motor lesions by Parkinsonism.

*Summary:* Histochemical studies were made of muscle biopsy material from one group of patients with upper motor neurone lesions and another group with Parkinsonism. White muscle fibres demonstrated atrophy whilst red muscle fibres either remained unchanged or showed hypertrophy. It was suggested that this was directly related to the disuse of phasic motor units in these conditions, due to paresis or akinesia, and increased input to tonic motor units as a result of spasticity or rigidity.

2. EDSTRÖM, L.: Selective atrophy of red muscle fibres in the quadriceps in long-standing knee-joint dysfunction: Injuries to the anterior cruciate ligament.

*Summary:* Vastus medialis was biopsied in 10 long-standing and one acute case of anterior cruciate ligament injury. The majority showed a marked difference in size between red and white muscle fibres, demonstrating—in contrast to the above study on upper motor neuron lesions and Parkinsonism—a selective atrophy of the red fibres. This atrophy is compared to that following soleus tenotomy (McMinn and Vrbóva, 1962) and various reasons for its occurrence are postulated, the most probable being that joint instability following anterior cruciate injury approximates the results of a tenotomy in interfering with proprioceptive function. Inhibition due to pain, where present, would also reduce proprioceptive input.

**J. Neurol. Neurosurg. Psychiat., 33, 5, Oct., 1970:**

GILLIATT, R. W., LE QUESNE, P. M., LOGUE, V., *et al.*:  
Wasting of the hand associated with a cervical rib  
or band.

*Summary:* Nine patients presented unilateral wasting of the hand muscle associated with either an elongated transverse process of C/7 or a cervical rib. In almost all cases sensory disturbances preceded the motor changes. At operation, all cases showed a fibrous band extending from C/7 transverse process or the rudimentary rib to the region of the scalene tubercle, which had caused angulation and often visible pathological changes in either the lower roots or the lower trunk of the brachial plexus. Whilst sensory symptom were relieved following operation, weakness and wasting were only arrested and appeared little improved even after periods of up to eight years after the operation.

**J. Neurosurg., 33, 4, Oct., 1970:**

SCHNEIDER, R. C., GOSCH, H. H., NORRELL, H., *et al.*:  
Vascular insufficiency and differential distortion of  
brain and cord caused by cervicomedullary football  
injuries.

*Summary:* A rather horrifying account of injuries sustained at American football, interesting because the mechanisms of injury are not only discussed, but also illustrated by photographs taken at the moment of the accident.

**J. Appl. Physiol., 29, 6, Dec., 1970:**

PETRO, J. K., HOLLANDER, A. P., and BOUMAN, L. N.:  
Instantaneous Cardiac Acceleration in Man induced  
by a Voluntary Muscle Contraction.

*Summary:* In a study of health subjects the authors consistently found an instantaneous acceleration in the heart rate following upon a short static biceps contraction. They cite other literature to support their hypothesis that the muscle spindles may be the receptors for a reflex decrease of vagal dominance on the heart rate, but recognise that the pathway to the cardioinhibitory centre is not yet established.

**Annual Review Physiol., 32, 1970:**

SANDOW, A.: Skeletal Muscle.

Summarises research done and published on skeletal muscle during the two years ending July, 1969. Over 300 references are given.

**Yearbook of Neurology and Neurosurgery, 1970:**

DE JONG, R. N., and SUGAR, O. (editors).

Reviews literature published in the year ending October, 1969, including both books and journals. The sections in this issue of most interest to physiotherapists are probably those on Neuroanatomy and Neurophysiology, Myopathies and Parkinson's Disease (in the section on Neurology) and those on Trauma, Disk Disease and Involuntary Movements (in the section on Neurology). The other sections, unfortunately, contain little of practical interest to the physiotherapist.

S. IRWIN-CARRUTHERS

**OTHER ARTICLES OF INTEREST****Am. J. Occ. Ther., 14, 7, July, 1970:**

CURRERI, P. W., and PRUITT, B. A.: Evaluation and  
Treatment of the Burned Patient.

**Ibid., 14, 8, August, 1970:**

VON PRINCE, K. N. P., CURRERI, P. W., and PRUITT, B. A.:  
Application of Fingernail Hooks in Splinting of  
Burned Hands.

**Am. J. Physiol., 219, 5, Nov., 1970:**

OTSUKA, M., and ONTSUKI, I.: Mechanism of muscular  
paralysis by insulin with special reference to periodic  
paralysis.

**Arch. Neurol., 23, 3, Sept., 1970:**

BRODY, I. A., and ROZEAR, M. P.: Contraction Response  
to Muscle Percussion—Physiology and clinical  
significance.

**Develop. Med. and Child Neurol., 12, 5, Oct., 1970:**

BRINK, J. D., GARRETT, A. L., HALE, W. R., *et al.*:  
Recovery of Motor and Intellectual Function in  
Children Sustaining Severe Head Injuries.

**J. Applied Physiol., 29, 4, Oct., 1970:**

KROEMER, K. H. E., and GIENAPP, E. M.: Hand-held  
device to measure finger (thumb) strength.

**J. Neurol. Neurosurg. Psychiat., 33, 5, Oct., 1970:**

STALBERG, E., and TRONTEJL, J. V.: Demonstration of  
axon reflexes in human motor nerve fibres.

**Ned. tijd. voor fysio., 80, 11, Nov., 1970:**

ROZENDAL, R. H., en CHATINIER, K.: Analyse van het  
gangpatroon van jongens, meisjes en jonge vol-  
wassenen.

**Ibid.:**

KLASING, W. E.: Ultrageluid-therapie.

**Ibid., 80, 12, Des., 1970:**

DRIESENS, D. J.: Een beknopt overzicht van de behande-  
ling met tractie.

**S.A. Med. J., 44, 40, 1 147, Oct., 1970:**

PILKINGTON, P.: Sports and Athletic Injuries, a Physio-  
therapist's Approach.

**SPECIALLY RECOMMENDED****Supplements to "Neurology":**

1. The Torsion Dystonias (Dystoria Musculorum Deformans), Neurology 20, 11, Part 2, Nov., 1970.
2. Pharmacologic and clinical experiences with levodopa: A symposium, Neurology, 20, 12, Part 2, Dec., 1970.

**BOOK REVIEW**

**PHYSICAL THERAPY EXAMINATION REVIEW BOOK, VOLUME II.** Clinical Application by R. A. Hershey, B.A., M.A., R.P.T. Publishers: Medical Examination Publishing Co. Inc., 65-36 Fresh Meadow Lane, Flushing, N.Y. 11365.  
Price \$7.00.

This is a book consisting of 2 000 multiple choice questions, the answers of which are referenced to standard textbook of Physical Therapy in America.

This form of testing and examining is not widely used in the medical and paramedical fields in South Africa at present, however, a trial run is being considered by our Universities in the M.B.B.Ch. examinations in selected subjects.

The advantage of multichoice questions is the tremendous fields that can be covered in any one subject, but depth of knowledge cannot be tested by this method.