
Experimental evidence has shown that people with Parkinson's disease have deficits in the initiation and execution of movements. The delay in response initiation may be due to impairment in the organisation or translation of motor programs into muscle actions. The slowness in the execution of simple movements may result from inappropriate scaling of muscle activity, defective predictive function or defective memory for the computed forces. Extra slowness in the execution of complicated concurrent movements appears to be a result of deficits in switching from one program to another within a motor plan in sequential movements, or in superimposition of motor programs to form a motor plan in simultaneous movements.

Keywords: Motor Skills; Movement Disorders; Parkinson Disease; Psychomotor Performance; Reaction time


This study was designed to describe the accuracy and intrasession reliability of weightbearing measurements obtained with digital bathroom scales during comfortable bilateral upright stance in patients with stroke. The 20 subjects were all independently ambulatory with a unilateral assistive device. Their weightbearing during comfortable stance was measured over three trials. Analysis of variance revealed that the sum of the weightbearing measurements of the paretic and nonparetic sides did not differ significantly from total body weight. Thus, the measurements were considered accurate. Some variability in the weightbearing measurements was demonstrated with analysis of variance, which revealed significant differences between trials on both sides. Nevertheless, reliability as described by intraclass correlation coefficients was good (0.829 paretic side, 0.876 nonparetic side). Although such reliability is sufficient to justify clinical use, methods for increasing reliability should be examined.

Keywords: Cerebrovascular Disorders; Evaluation Studies; Gait; Locomotion; Movement; Rehabilitation; Reproducibility of Results


The aim of this study was to test the efficacy of thermal ultrasound therapy as a treatment for severe post partum breast engorgement. A randomised double-blind, placebo-controlled trial was conducted on 197 breasts. Two ultrasound machines of identical appearance were used. One was working normally, the other had the crystal replaced with a resistor producing surface heat only. Assessment of effectiveness was subjective, using visual analogue scales for pain and hardness, and objective, using tonometry. Results indicate that both the true and sham machines were effective in reducing subjectively perceived pain and hardness. However, the results of this study show that the effect cannot be attributed to the ultrasound component.

The chief physiotherapists of 47 Australian metropolitan public hospitals were asked about the hours of provision and organisation of cardiothoracic physiotherapy services. Forty three per cent provided physiotherapy services only during the day, 12 per cent during the day and evening, and 45 per cent provided 24-hour coverage. Variation among the states was found in the provision of cardiothoracic physiotherapy. Most hospitals which provided 24-hour coverage used on-call. Thirty three per cent of hospitals rostered staff to work during the evening and only 7 per cent had rostered night shifts. Differences could not be attributed to variations in hospital size. The implications of these findings for the physiotherapy profession and patient care are discussed and the need for further research highlighted.

Keywords: Hospitals, general; Intensive Care Units; Respiratory Care Units


The key elements of management including the history, assessment and possible interventions are described in this article. The indications for intervention and its parameters are determined on an individual basis to maximise the benefit-to-risk ratio. Heavy resistive or exhaustive exercise, for example, cannot be supported physiologically as a means of preserving function in most patients. However rest, pacing of activities, lifestyle modification, orthotic fitting, weight control, use of aids and devices should be of value. Despite the importance of rest, inactivity is associated with detrimental side effects which can be accentuated in the patient with the sequelae of poliomyelitis. Research is needed to establish criteria for prescribing therapeutic interventions including rest and low intensity exercise for the post-polio myelitis population.

Keywords: Disability Evaluation; Poliomyelitis; Physical Therapy; Rehabilitation


An Australia-wide questionnaire survey was conducted of 318 people who contracted polio between 1907 and 1962. It examined their medical histories, post-polio symptoms, effects of these symptoms on respondents' lives, and treatments found to be effective or ineffective. The average respondent was experiencing increasing muscle weakness, pain and fatigue. These imposed major restrictions on daily living activities and resulted in fear and depression. Physiotherapists were the allied health professionals most likely to be consulted. Physiotherapy was rated as providing considerable or some relief by a relatively high proportion (80 per cent) of clients but it also attracted criticism primarily due to vigorous exercise programs that increased fatigue and weakness. Aspects of the care of people with late effects of polio are discussed.

Keywords: Health Personnel; Handicapped; Poliomyelitis; Research

The primary purpose of this study was to determine the effect of histamine iontophoresis on the cardiovascular system. Blood pressure and heart rate were monitored in 15 healthy males (ages 23-28 years) during histamine iontophoresis and direct current stimulation treatments. Cardiovascular responses were monitored before (for five minutes), during (for 20 minutes) and after (for five minutes) treatments. Blood pressure and heart rate did not change significantly (p > 0.05) from the baseline during either of the treatments, except in the fifth minute of the treatment when the systolic blood pressure during histamine iontophoresis was significantly lower than during direct current stimulation (p < 0.01). No other significant difference in the measured responses was noted. It was concluded that local administration of histamine dihydrochloride (1 per cent gel) into the skin by direct current for 20 minutes did not appreciably alter the blood pressure and heart rate responses.

Keywords: Cardiovascular System; Histamine; Iontophoresis


One of the modifications of the upper limb neural tissue tension test (Butler 1987) sequences the movements of scapula depression, elbow extension, glenohumeral internal rotation, forearm pronation, wrist and finger flexion or extension and glenohumeral abduction. This test is used in the clinical situation but no normative data have been established. Fifty normal subjects were tested for the normal sensory responses and for the range of glenohumeral abduction in both a wrist and finger flexion and extension position. For both tests, approximately 40 degrees of glenohumeral abduction was available in the final positions. Gender and side tested did not influence results. The test using wrist and finger flexion mainly produced a strong painful stretch over the radial aspect of the proximal forearm and elbow. In contrast no single area was predominant for the test using wrist and finger extension. Knowledge of these normal responses is necessary for clinical decision making of abnormality.

Keywords: Arm; Nerve Tissue; Reference Values


A total of 144 articles in the field of gerontology/geriatrics published between 1980-88 in leading physiotherapy journals in America, Australia, Canada, New Zealand and the United Kingdom were examined in terms of source of publication and authors, research design and possible professional practice implications. The study examines the subject content of what physiotherapists from different countries have published on ageing; documents the current literature reflecting professional practice achievements and research interest; and identifies gaps in topics included in the physiotherapy journals.

The fact that articles on gerontology are under-represented in physiotherapy journals is readily apparent. A trend towards publishing more data-based articles; a low percentage of articles written jointly by physiotherapists and other professionals; and limited collaboration as measured by joint publication between physiotherapists working in clinical settings and those working in tertiary institutions has also emerged.

Eight therapists each examined 16 subjects (14 with documented ACL pathology, two normal subjects) in a single session. Instrumented anterior laxity measurements were performed bilaterally on all subjects prior to testing. Therapists assessed the degree of anterior translation on a visual analogue scale, and indicated whether the nominated knee tested positive or negative using the Lachman test. Intertester reliability in assessing anterior translation was low. Correlation between the overall therapists' translation measurements and the arthrometer was moderate. Intertester reliability in indicating whether the nominated knee tested positive or negative was low. These findings suggest that greater expertise is necessary for therapists to reliably use the Lachman test as an assessment procedure in evaluation of the injured knee.


Intervertebral instability is a condition which can potentially cause pain in the lumbar spine. This clinical paper considers a case study where a diagnosis of instability was made based on manipulative examination techniques and where this diagnosis was confirmed from lateral functional x-rays. This paper emphasises the importance of the examining therapist being on the look out for joint hypermobility as well as hypomobility in patients presenting with pain of spinal origin.


The purpose of this study was to develop a reliable procedure to measure passive ankle dorsiflexion in the clinical setting. A known torque was applied to produce ankle dorsiflexion in a standardised testing position. Ankle angle was measured using skin surface markers and polaroid photography. The interrater reliability of this procedure was evaluated by having five testers each measure 15 subjects. It was found that the procedure was highly reliable; the Intraclass Correlation Coefficient for the combined group data was 0.97 and the percentage intertester agreement was 77 per cent. These results demonstrate that the measurement procedure has the potential to be a clinically useful means of evaluating the effect of physiotherapeutic intervention aimed at altering passive ankle dorsiflexion movement.

Female A Grade basketballers were examined for invertor and evertor muscle strength. Two test groups participated. The injured group were players who had persisting disability following ankle sprains. The control group were players who had never sustained an ankle sprain. Test apparatus was the Orthotron isokinetic dynamometer at contraction speed of 180° per second. Trends towards higher invertor and evertor strength in the uninjured group when compared with the injured group found in the present study have been supported by one other report. Invertors were found to be significantly stronger than evertors in both injured and uninjured groups, with the exception of the dominant leg of the uninjured group. A significant weakness in non-dominant evertors of the uninjured group was detected. Dominance did not significantly alter strength differences in the invertor or evertor muscle groups within the uninjured population. The clinical importance of strengthening the peroneal muscles in ankle sprain rehabilitation is discussed, and further research considerations provided.

Keywords: Ankle; Basketball; Sports Medicine; Sprains and Strains


Movement can be recorded and analysed using the combined techniques of video recording and computer processing. The actions of turning pages of a journal, drawing objects on a sheet of paper and standing from a chair are used to illustrate how modern developments in video recording, transfer of video images to computer, and computer processing can be combined to provide for objective and detailed recording and analysis of movement. Such systems for computer-based image analysis should become a major assessment and research tool for physiotherapy in the future.

Keywords: Microcomputers; Movement; Videotape Recording


In a pilot study which investigated the effectiveness of hydrotherapy in the management of lumbar spondylosis, a group of 20 people suffering from chronic lower back pain were given a four week trial of hydrotherapy treatment, consisting of three individual sessions each week. The group was assessed both before and after the course of hydrotherapy and each person was also sent a questionnaire three months after the conclusion of their treatment. Results demonstrated a reduction in pain levels and suggested that thoraco-lumbar mobility could be improved, especially if the range was less than normal before treatment. Results from the questionnaires showed that the beneficial effects from hydrotherapy may not be long lasting, suggesting the need for continuing sessions to maintain improved mobility and reduced pain levels.

Further studies including a matching control group are indicated to confirm

Keywords: Backache; Hydrotherapy; Lumbosacral Region; Pilot Projects


Inhibitive casting of the upper limb was used in the rehabilitation of an eight-year-old girl who
sustained a severe closed head injury. The procedure involved concurrent casting of both upper and lower limbs on the left. The wrist and fingers of the right hand were also casted during the initial program. The casting of the upper limbs proved to be a major factor in the subsequent reduction of contracture and hypertonicity and in the establishment of normal movement patterns. Furthermore, a widespread effect on muscle tone was noted during the casting procedure. Keywords: Arm; Neural Inhibition; Pediatrics


A frequently stated aim of physiotherapy educational programs is to produce graduates capable of, and wishing to pursue, lifelong learning. To help achieve this goal, curricula commonly include the promotion of independent or self-directed learning. This paper supports the need for developing self-directed learning, orientation and skills and argues that this can be best achieved by bringing these skills into the mainstream of tertiary education programs such as physiotherapy, rather than isolating them to specific subjects. The challenge of mainstreaming is to appreciate how the basic ideas of self-directed learning can be incorporated into all areas of the curriculum. This paper presents strategies, issues and problems associated with mainstreaming of self-directed learning. Keywords: Education, continuing; Physical Therapy