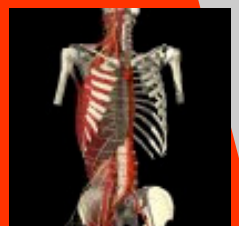
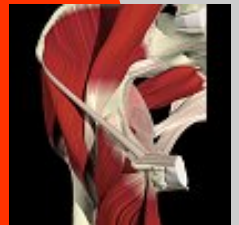


Musculoskeletal Research Centre

MRC ANNUAL REPORT 2004-2005



Contents

Director's report	3
About the MRC	4
Members of the MRC	4
Research group highlights	5
Orthopaedics	5
Sports medicine	6
Gait and balance	7
Physical activity for people with a disability	8
Foot and ankle	9
Spinal research	10
Publications	11
Grants	15
Journal editorships / peer reviewing	16

Director's Report

The Musculoskeletal Research Centre (MRC) produced excellent research outputs in 2004-2005. More than 80 papers were published in 2004/2005 and over \$1M was received in grants.

2005 was marked by the departure of Professor Meg Morris after five years as Director. Dr Nick Taylor has provided the leadership for the MRC after Professor Morris' departure.

The MRC is looking to further develop its research output in 2006 by moving from the School of Physiotherapy to the Faculty of Health Sciences. This move will allow greater collaboration between Schools, staff and disciplines within the Faculty. This should translate into greater success in publications, grants and student completions.

Negotiations with the Faculty have resulted in an allocation in the budget for a Professor and Director for the MRC and it is planned that this position will be advertised in early 2006.

This report details the research in the main areas of orthopaedics, sports medicine, foot and ankle and physical activity for people with a disability. It can be seen that the MRC is a strong research centre, ready to increase its profile and output in the coming years.

Success in grants

The Gait laboratory at La Trobe University was one of four included in a prestigious NHMRC Clinical Centre for Research Excellence (CCRE) in gait rehabilitation with the laboratories at University of Melbourne, Royal Children's Hospital and Kingston Centre. Associate Professor Julian Feller represents La Trobe on the board of management for this collaboration, which will bring to La Trobe University doctoral stipends and opportunities for collaborative projects.

Associate Professor Feller and Dr Webster also obtained \$270,000 from an Australian Research Council Linkage Grant. This grant



Dr Nick Taylor
Acting Director

entitled 'Factors that influence functional locomotion in older adults' will operate from 2004-2007. Other collaborators were Meg Morris, Roger Wales and Kim Bennell.

Dr Kate Wester was also successful in obtaining an NHMRC grant with collaborators from the Repatriation General Hospital in Adelaide. The grant will investigate the suppression of respiratory sensations and reflexes by reduced blood oxygen levels.

Aside from the Category I grants, the MRC researchers have been successful in obtaining money from a wide range of granting bodies. These successful applications are detailed in relevant sections of this report.

Facilities and equipment

The gait laboratory equipment has been upgraded and now has state of the art motion analysis system with an 8 camera Vicon and two force plates. This upgrade will allow a wider variety of projects to be completed in the lab and continues to be used extensively by a range of staff and students and is a major feature attracting industry funding.

Staffing

The MRC welcomed Dr Hylton Menz in 2003 and he has added significantly to the expertise in the Centre as can be seen from his foot and ankle report. Dr Jenny Keating departed from the MRC to take up a Professorial position at Monash University.

About the MRC

Background

The Musculoskeletal Research Centre (MRC) was established in 2001 as a multi-disciplinary centre that provides an evidence base for clinical practice in the musculoskeletal area.

The vision inherent in the establishment of the MRC was that this centre would facilitate high quality musculoskeletal research at La Trobe University, specifically in the Faculty of Health Sciences.

Aims

The aims of the Centre are to:

- conduct high quality research in fields of musculoskeletal physiotherapy, surgery, medical practice, and physiology, anatomy and pathology of musculoskeletal injuries;
- provide a research-driven evidence base for clinical practice in the musculoskeletal field;
- obtain funding for musculoskeletal research;
- foster the development of an international team of researchers in the musculoskeletal field;
- significantly expand the opportunities for research in the musculoskeletal field;
- promote the teaching and research activities of members of staff in the musculoskeletal field to the University;
- promote the training of postgraduate students in research in the musculoskeletal field;
- provide research and development for health care industries and
- co-ordinate and utilise the experience and knowledge of appropriate scientists and technologists in health care and related industries.

Members of the MRC

Director (acting)

Dr Nick Taylor

Board of management

Dr Nick Taylor
Associate Professor Julian Feller
Associate Professor Jill Cook

Post-doctoral fellows

Dr Hylton Menz
Dr Kate Webster

Members

Professor Karen Dodd
Professor Chris Handley
Associate Professor Tim Bach
Mr Rod Cooper
Dr Megan Davidson
Dr Rod Green
Dr Brian Grills
Dr Mirna Ilic
Mr Alex Kountouris
Dr Karl Landorf
Dr Shannon Munteanu
Mr George Murley
Mr Ken Niere
Dr Tania Pizzari
Dr John Schuijers
Mr Daniel Serrano
Dr Nora Shields
Dr Alex Ward
Dr James Wickham
Ms Jo Wittwer
Mr Gerard Zammit

Student members

Mr Peter Kent
Mr Peter Malliaras
Ms Jodie McClelland
Ms Simone O'Shea
Ms Natalia Skhuratova

Orthopaedics

Motion analysis research

One of the major achievements was an ARC Linkage Grant with Smith and Nephew. Dr Kate Webster led a team including Associate Professor Julian Feller, Prof Meg Morris, Prof Roger Wales and Professor Kim Bennell. This industry partnership will investigate age-related changes in human locomotion and the effects of different treatments, particularly knee replacement, on gait disorders. Jodie McClelland was awarded the APAI scholarship from this grant to undertake her PhD studies. Jodie's first study will be to investigate the reliability of biomechanical measurements in people with knee replacement surgery whilst performing a number of functional activities such as lunging, stair negotiation and carrying heavy objects.

Another major achievement was the NHMRC Clinical Centre of Research Excellence Grant for major studies on "Clinical Gait Analysis and Gait Rehabilitation". This grant provides \$2 million over five years to link together the gait research laboratories at La Trobe University, the Hugh Williamson Gait Laboratory, Royal Children's Hospital, the Kingston Centre Gait Laboratory and the University of Melbourne and Monash University. This will enable our orthopaedic gait research program to be expanded. Assoc Prof Julian Feller is representing the MRC as a chief investigator on the Board of Management.

Anterior cruciate ligament reconstruction

Associate Professor Julian Feller and Dr Kate Webster have continued and expanded their critical evaluation of factors influencing outcome following ACL reconstruction. The ideal graft for use in Australian Rules footballers has been investigated by physiotherapy honours student Elizabeth Johnson. The increasingly recognised impact of psychological factors on the level of function achieved following this type of surgery has also been investigated by honours student Jennifer Langford who followed a cohort of subjects for a 9 month period.

Following on from their previous radiographic analysis of graft tunnel widening following ACL reconstruction, Webster and Feller have further evaluated the techniques for this type of study and documented the measurement error associated with these techniques.

Publications

Feller JA, Webster KE, Taylor N, Payne R, Pizzari T. Physiotherapy attendance after anterior cruciate ligament reconstruction. *British Journal of Sports Medicine* 2004;38:74-77.

Webster KE, Feller JA, Elliott J, Hutchison A, Payne R. A comparison of bone tunnel measurements made using computed tomography and digital plain radiography following ACL reconstruction. *Arthroscopy* 2004;20:946-950.

Webster KE, Gonzalez-Adrio, R, Feller JA. Dynamic joint loading following hamstring and patellar tendon anterior cruciate ligament reconstruction. *Knee Surgery Sports Traumatology Arthroscopy* 2004;12:15-21.

Webster KE, Kinmont JC, Payne R, Feller JA. Biomechanical differences in landing with and without shoe wear after anterior cruciate ligament reconstruction. *Clinical Biomechanics* 2004;19: 978-981.

Webster KE, Wittwer JE, O'Brien J, Feller JA. Gait patterns following anterior cruciate ligament reconstruction are related to graft type. *American Journal of Sports Medicine* 2005;33:247-254.

Webster KE, Chiu JJ, Feller JA. Impact of measurement error in the analysis of bone tunnel enlargement after anterior cruciate ligament reconstruction. *American Journal of Sports Medicine* 2005;33:1680-1687.



Sports medicine

Sports medicine research has prospered in 2004/2005. Our strong international collaborations continue to strengthen, with Swedish, Danish and Canadian visitors to La Trobe. We look forward to continuing world class research with these international experts. Locally, we have focussed on tendon research on clinical cohort studies as well as investigating cellular and matrix changes in tendinopathy with the experts in the School of Biosciences. Other areas of research included epidemiological research in several sports, clinical interventions in acute injury as well as research into bone, muscle and tendon interactions in young and older individuals. We have commenced collaborations with RMIT as well as maintained our research contacts with Deakin University and University of Melbourne. Our strong local and international links reflect the MRC standing in research and will provide the basis for future grant applications and research outputs.

Publications

- Black J, Cook J, Kiss ZS, Smith M. Intertester reliability of sonography in patellar tendinopathy. *Journal of Ultrasound in Medicine* 2004;23:671-675.
- Gaida J, Cook JL, Bass SL, Austen S, Kiss ZS. Are unilateral and bilateral patellar tendinopathy distinguished by differences in anthropometry, body composition or muscle strength in elite female basketball players? *British Journal of Sports Medicine* 2004;38:581-585.
- Cook JL, Khan KM. What is the best treatment for patellar tendinopathy? In: MacAuley D, Best T, editors. *Evidence-based Sports medicine*. 2nd ed. London: BMJ Books; 2005.
- Cook J, Malliaras P, Kiss ZS, Ptaznik R. Is vascularity more evident after exercise? Implications for tendon imaging. *American Journal of Roentgenology* 2005;185(5).
- Cook JL, Malliaras P, Luca JD, Ptaznik R, Morris M. Vascularity and pain in the patellar tendon of adult jumping athletes: a 5 month longitudinal study. *British Journal of Sports Medicine* 2005;39:458-461.
- Cook JL, Ptaznik R, Kiss ZS, Malliaras P, Morris ME, Luca JD. High reproducibility of patellar tendon vascularity assessed by colour Doppler ultrasonography: a reliable measurement tool for quantifying tendon pathology. *British Journal of Sports Medicine* 2005;39:700-703.
- Cook JL, Malliaras P, Luca JD, Ptaznik R, Morris ME, Goldie P. Neovascularisation and pain in abnormal patellar tendons of active jumping athletes. *Clinical Journal of Sport Medicine* 2004;14:296-299.
- Cook JL, Khan KM, Kiss ZS, Purdam CR, Webster KE. Posterior leg tightness and vertical jump are associated with US patellar tendon abnormality in 14-18-year old basketball players: A cross-sectional anthropometric and physical performance study. *British Journal of Sports Medicine* 2004;38:206-209.
- Cook JL, Feller J, Bonar SF, Khan KM. Abnormal tenocyte morphology is more prevalent than collagen disruption in asymptomatic athletes' patellar tendons: Is this the first step in the tendinosis cascade? *Journal of Orthopaedic Research* 2004;24:334-338.
- Young M, Cook J, Purdam C, Kiss ZS, Alfredson H. Conservative treatment of patellar tendinopathy: A 12-month prospective randomised trial comparing two treatment protocols. *British Journal of Sports Medicine* 2005;39:102-105.
- Visnes H, Hoksrud A, Cook J, Bahr R. No effect of eccentric training on jumper's knee in volleyball players during the competitive season - a randomized clinical trial. *Clinical Journal of Sport Medicine* 2005;15:225-232.
- Scott A, Khan K, Heer J, Cook J, Lian O, Duronio V. High strain mechanical loading rapidly induces tendon apoptosis: an ex vivo rat tibialis anterior model. *British Journal of Sports Medicine* 2005;39:e25.
- Scott A, Khan KM, Cook JL, Duronio V. What do we mean by the term "inflammation"? A contemporary basic science update for sports medicine. *British Journal of Sports Medicine* 2004;38:372-380.
- Scott A, Khan KM, Cook JL, Duronio V. What is inflammation? Are we ready to move beyond Celsius? *British Journal of Sports Medicine* 2004;38:248-249.
- Purdam CR, Johnsson P, Alfredson H, Lorentzon R, Cook JL, Khan KM. A pilot study of the eccentric decline squat in the management of painful chronic patellar tendinopathy. *British Journal of Sports Medicine* 2004;38:395-397.
- Orchard J, Cook JL. Stress-shielding as a cause of insertional tendinopathy: the operative technique of limited adductor tenotomy supports this theory. *Journal of Science and Medicine in Sport* 2004;7:424-428.
- McBurney H, Cook J. Precautions and contraindications to exercise in elderly people with cardiorespiratory and musculoskeletal conditions. In: Morris MS, A, editor. *Optimizing physical activity, exercise and health in older people*. London: Elsevier; 2004. p. 288-302.
- Khan K, Cook J, Young M. Patellar tendinopathy: The science behind the treatment. In: Sanchis-Alfonso V, editor. *Anterior knee pain and instability in the young patient: Black Hole of Orthopaedics*. London: Springer-Verlag; 2005.
- Khan KM, Cook JL. Patellar tendinopathy: Where does the pain come from? In: Sanchis-Alfonso V, editor. *Anterior knee pain and instability in the young patient: Black Hole of Orthopaedics*. London: Springer-Verlag; 2005.



Gait and balance

In 2004-2005, Dr Kate Webster has led a team of researchers and research students investigating gait, balance and movement disorders in people with neurological conditions. The particular focus has been on understanding gait disorders in people with varying types of dementia and has included collaborative projects with Austin Health.

In 2005 a longitudinal project investigating the relationship between Alzheimer's disease, gait abnormalities and falling began. This project involves collaboration between MRC researchers (Dr Kate Webster, Ms Joanne Wittwer, Dr Hylton Menz) an Austin Health neurologist (Dr John Merory) and two physiotherapy honours students (Peta Andrews, Edwina Lorbach). People with Alzheimer's disease fall three times more often and are twice as likely to sustain a fracture from falling as cognitively healthy older adults. This project aims to provide insights into the mechanisms responsible for falls in people with Alzheimer's disease.

Validation of equipment used to measure gait is another area of research focus, with MRC researchers making a significant contribution to the validation of the GaitRite electronic walkway system. This system is being used by Professional Doctorate student Deborah Kay to determine the effect of lighting conditions on walking performance in older community dwelling adults.

Publications

Menz HB, Lord SR, St George R, Fitzpatrick RC. Walking stability and sensori-motor function in older people with diabetic peripheral neuropathy. *Archives of Physical Medicine and Rehabilitation* 2004;85:245-252.

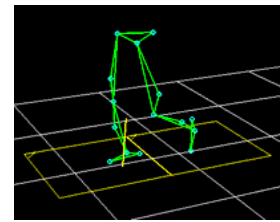
Menz HB, Latt MD, Tiedemann A, Kwan MMS, Lord SR. Reliability of the GAITRite® walkway system for the measurement of temporo-spatial parameters of gait in young and older people. *Gait and Posture* 2004;20:20-25.

Merory J, Webster K, Wittwer J. Gait analysis in dementias. *Neurobiology of Aging* 2004;25: S109-S110.

Taylor AJ, Menz HB, Keenan A-M. Effects of experimentally-induced plantar insensitivity on forces and pressures under the foot during normal walking. *Gait and Posture* 2004;20:232-237.

Taylor AJ, Menz HB, Keenan A-M. The influence of walking speed on plantar pressure measurement using the two-step gait initiation protocol. *The Foot* 2004;14:49-55.

Shkuratova N, Morris ME, Huxham F. Effects of age on balance control during walking. *Archives of Physical Medicine and Rehabilitation* 2004;85:582-588.



Webster KE, Wittwer JA, Feller JA. Validity of the GAITRite walkway system for the measurement of averaged and individual step parameters of gait. *Gait and Posture* 2005;22:317-321.

Menz HB, Lord SR. Gait instability in older people with hallux valgus. *Foot and Ankle International* 2005; 26:483-489.

Lavcanska V, Taylor NF, Schache AG. Familiarization to treadmill running in young unimpaired adults. *Human Movement Science* 2005; [epub ahead of print].

Menz HB, Morris ME. Clinical determinants of plantar forces and pressures during walking in older people. *Gait and Posture* 2005; [epub ahead of print].

Physical activity for people with a disability

The focus of our research is on investigating the benefits, feasibility and safety of community based fitness programs such as strength training and aerobic exercise programs for people with a range of disabilities. The group is led by Professor Karen Dodd, Dr Nicholas Taylor and Dr Nora Shields. The group has produced more than 20 publications over the last two years. In 2004 our group received an honourable mention from the prestigious Business/Higher Education Round Table (B-HERT) for outstanding achievement in education and training. In 2005 the group was a finalist in Education category of the Victoria Sport and Recreation Go for your Life awards. The group has received more than \$150,000 in grants in 2005, including a tender from the Australian Physiotherapy Association to investigate the evidence for the effectiveness of exercise programs for people with impairment. The group has formed important collaborations with Professor Kerr Graham from the Royal Children's Hospital, Associate Professor Damiano (USA) and Dr Rod Green.

Our research group has also put much effort into translating our research into practice as evidenced by the number of our invited presentations to clinicians. A highlight of this year has been the production of an innovative instructional DVD and booklet on strength training for young people with cerebral palsy (see picture).

Publications

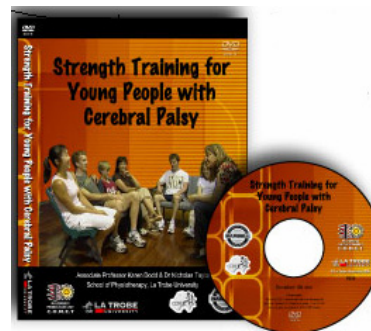
Taylor NF, Pizzari T. Therapeutic exercise guidelines for the rehabilitation of older people following fracture. In *Optimizing exercise and physical activity in older people*. Eds. Morris M, Schoo A. Edinburgh, Butterworth-Heinemann. Ch 9: 187-213. ISBN: 0-750-65479-1, 2004.

Dodd KJ, Taylor NF, Bradley S. 2004. Strength training for older people. In *Optimizing exercise and physical activity in older people*. Eds. Morris M, Schoo A. Edinburgh, Butterworth-Heinemann. Ch7: 125-158. ISBN: 0-750-65479-1, 2004.

Allen J, Taylor NF, Dodd KJ, McBurney H, Larkin H. Strength training can be enjoyable and fun for adults with cerebral palsy. *Disability and Rehabilitation* 2004;26:1121-1127.

Morri, S, Dodd KJ, Morris ME. Outcomes of progressive resistance strength training following stroke: a systematic review. *Clinical Rehabilitation* 2004;18:27-39.

Shields N, Dodd KJ. A systematic review on the effects of programmes designed to improve strength for people with Down syndrome. *Physical Therapy Reviews* 2004; 9:109-115



Taylor NF, Dodd KJ, Larkin H. Adults with cerebral palsy benefit from participating in a strength training programme at a community gymnasium. *Disability and Rehabilitation* 2004;26:1128-1134.

O'Shea S, Taylor N, Paratz J. Peripheral muscle strength training in chronic obstructive pulmonary disease: a systematic review. *Chest* 2004;126:903-914.

Taylor NF, Dodd KJ, Graham HK. Test-retest reliability of hand-held dynamometric strength testing in young people with cerebral palsy. *Archives of Physical Medicine and Rehabilitation* 2004;85:77-80.

Murdoch A, Taylor N, Dodd K. Physical therapists should consider including strength training as part of fracture rehabilitation. *Physical Therapy Reviews* 2004;9:51-59.

Dodd KJ, Taylor NF, Graham HK. Strength training can have unexpected effects on the self-concept of children with cerebral palsy. *Pediatric Physical Therapy* 2004;16:99-105.

Taylor NF, Dodd KJ, McBurney H, Graham HK. Factors Influencing adherence to a home-based strength-training programme for young people with cerebral palsy. *Physiotherapy* 2004;90:57-63.

Dodd KJ, Taylor NF. 2005. Strength training for young people with cerebral palsy (DVD and booklet). Melbourne, COMET La Trobe University. ISBN 1-920-94855-4.

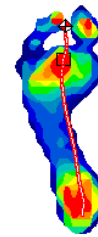
Taylor NF, Dodd KJ, Damiano DL. Progressive resistance exercise in physical therapy: a summary of systematic reviews. *Physical Therapy* 2005;85:1208-1223.

O'Shea SD, Taylor NF, Paratz JD. Measuring changes in activity limitation and participation restrictions for people with chronic obstructive pulmonary disease. *International Journal of Therapy and Rehabilitation* 2005;12:264-268.

Mirkovic M, Green R, Taylor N, Perrott M. Accuracy of clinical tests to diagnose superior labral anterior and posterior (SLAP) lesions. *Physical Therapy Reviews* 2005;10:5-14.

Lyngcoln A, Taylor N, Pizzari T, Baskus K. The relationship between adherence to physiotherapy and outcome after wrist fracture. *Journal of Hand Therapy* 2005;18:2-8.

Foot and ankle



The foot and ankle research stream within the MRC was initiated by the appointment of Dr Hylton Menz as NHMRC Australian Clinical Research Fellow in 2003. The main focus of this research is the effects of foot problems on balance and falls in older people. The core investigation of this program has been a 12 month prospective study, which commenced in March 2004 and was completed in June 2005.

In addition to the falls and balance research, studies are currently underway to develop a radiographic grading system for foot and ankle osteoarthritis, to assess correlates of foot osteoarthritis in older people, and to assess the efficacy of glucosamine sulphate on osteoarthritis affecting the foot. These studies are supported by grants from the NHMRC, the Faculty of Health Sciences at La Trobe University, the Arthritis Foundation of Australia, and the Australian Association of Gerontology, and involve colleagues from La Trobe University (Dr Shannon Munteanu, Dr Karl Landorf and Mr Gerard Zammit) and Monash University (A/Prof Flavia Cicuttini).

Publications

- Menz HB. Common foot problems that can impair performance of regular physical activity and exercise in older people: prevention and treatment. In: Morris M and Schoo A (eds). *Optimizing exercise and physical activity in older people*. Edinburgh: Butterworth-Heinemann, 2004. ISBN: 0-7506-5479-1.
- Lord SR, Menz HB, Sherrington C. Falls in older people. In: Geusens P, Sambrook PN, Lindsay R (eds). *Osteoporosis in clinical practice - a practical guide for diagnosis and treatment* (2nd ed.). Berlin: Springer Verlag, 2004. ISBN: 1-85233-757-5.
- Menz HB, Lord SR, Close JC. Swapping slippers to prevent falls: where is the evidence? [letter] *The Foot* 2004;14:228-229.
- Taylor AJ, Menz HB, Keenan A-M. The influence of walking speed on plantar pressure measurement using the two-step gait initiation protocol. *The Foot* 2004;14:49-55.
- Menz HB. Two feet, or one person? Problems associated with statistical analysis of paired data in foot and ankle medicine. *The Foot* 2004;14:2-5.
- Menz HB, Lord SR, St George R, Fitzpatrick RC. Walking stability and sensori-motor function in older people with diabetic peripheral neuropathy. *Archives of Physical Medicine and Rehabilitation* 2004;85:245-252.
- Menz HB, Latt MD, Tiedemann A, Kwan MMS, Lord SR. Reliability of the GAITRite® walkway system for the measurement of temporo-spatial parameters of gait in young and older people. *Gait and Posture* 2004;20:20-25.
- Taylor AJ, Menz HB, Keenan A-M. Effects of experimentally-induced plantar insensitivity on forces and pressures under the foot during normal walking. *Gait and Posture* 2004;20:232-237.
- Menz HB, Lord SR. Gait instability in older people with hallux valgus. *Foot and Ankle International* 2005; 26:483-489.
- Menz HB, Munteanu SE. Radiographic validation of the Manchester scale for the classification of hallux valgus deformity. *Rheumatology* 2005;44:1061-1066.
- Rubin R, Menz HB. Use of laterally wedged custom foot orthoses to reduce pain associated with medial knee osteoarthritis – a preliminary investigation. *Journal of the American Podiatric Medical Association* 2005;95:347-352.
- Barr ELM, Browning C, Lord SR, Menz HB, Kendig H. Foot and leg problems are important determinants of functional status in community-dwelling older people. *Disability and Rehabilitation* 2005;27:917-923.
- Menz HB, Morris ME. Footwear characteristics and foot problems in older people. *Gerontology* 2005;51:346-351.
- Menz HB, Munteanu SE. Validity of 3 clinical techniques for the measurement of static foot posture in older people. *Journal of Orthopaedic and Sports Physical Therapy* 2005;35:479-486.
- Menz HB, Morris ME. Determinants of disabling foot pain in retirement village residents. *Journal of the American Podiatric Medical Association* 2005;95:573-579.
- Close JCT, Lord SR, Menz HB, Sherrington C. What is the role of falls? *Best Practice and Research Clinical Rheumatology* 2005;19:913-935.
- Menz HB. Analysis of paired data in physical therapy research: time to stop double-dipping? [guest editorial]. *Journal of Orthopaedic and Sports Physical Therapy* 2005;35:477-478.
- Menz HB, Morris ME, Lord SR. Foot and ankle characteristics associated with impaired balance and functional ability in older people. *Journal of Gerontology – Medical Sciences* 2005;60A:1546-1552.
- Menz HB, Morris ME. Clinical determinants of plantar forces and pressures during walking in older people. *Gait and Posture* 2005; [epub ahead of print].
- Menz HB, Lord SR. Optimizing gait in older people with foot and ankle disorders. In: Alexander NB, Hausdorff JM (eds). *Gait Disorders: Evaluation and Management*. Boca Raton: Marcel Dekker Publishing, 2005. ISBN: 0-82472-393-7.
- Lord SR, Sherrington C, Menz HB. Ageing and falls. In: Haslam R, Stubbs D (eds). *Understanding and Preventing Falls*. London: Taylor and Francis, 2005. ISBN: 0-41525-636-4.

Spinal research

The MRC is currently collaborating with the Whiplash and Neck Pain Research Unit at the University of Queensland in an international, multicentre study addressing the prediction of outcome following whiplash injury. In the Victorian arm of the trial, conducted at La Trobe, approximately 80 participants with recent whiplash injury will be tested on four occasions over a twelve month period. Parameters to be examined include pain levels and sensitivity, neck range of motion and muscle function and psychological distress. It is anticipated that the study findings will help guide early management of whiplash injuries and provide more accurate estimates of prognosis.

Another feature of the 2004-05 period was the development and testing of the whiplash disability questionnaire (WDQ) that will enable therapists to accurately measure whiplash associated disability and treatment outcome in patients who have experienced this type of injury. A similar instrument is being developed for measurement of headache related disability (headache disability questionnaire-HDQ) with preliminary findings showing excellent reliability and validity.

Publications

Davidson M, Keating JL, Eyres S. A low back specific version of the SF-36 Physical Functioning scale. *Spine* 2004;29:586-594.

Downey B, Taylor N, Niere K. Can manipulative physiotherapists agree on which lumbar level to treat based on palpation? *Physiotherapy* 2004;89:74-81.

Kent P, Keating J. Do primary-care clinicians think that non-specific low back pain is one condition? *Spine* 2004;29:1022-1031.

Hahne AJ, Keating JL, Wilson SC. Do within-session changes in pain intensity and range of motion predict between-session changes in patients with low back pain? *Australian Journal of Physiotherapy* 2004;50:17-23.

Jull G, Niere K. Headache and the cervical spine. In: Gull G and Boyling J (eds): *Grieve's Modern Manual Therapy*. 3rd ed Churchill Livingstone, 2004.

Niere K, Jerak A. Comparison of patient report by questionnaire and headache diary for measurement of headache frequency, intensity and duration. *Physiotherapy Research International* 2004;9:149-156.

Niere K, Torney S. Clinicians' perceptions of minor cervical instability. *Manual Therapy* 2004;9:144-150.

Pinfold M, Niere K, Hoving J, Green S, O'Leary E, Buchbinder R. Validity and internal consistency of a whiplash-specific disability measure. *Spine* 2004;29:263-268.



Willis C, Niere K, Hoving J, Green S, O'Leary E, Buchbinder R. Reproducibility and responsiveness of the whiplash disability questionnaire. *Pain* 2004;110:681-688.

Keating JL, Kent P, Davidson M, Duke R, McKinnon L, De Nardis R. Predicting short term response and non-response to neck strengthening exercise for chronic neck pain. *Journal of Whiplash and Related Disorders* 2005;4:41-53.

Kent PM, Keating JL. The epidemiology of low back pain in primary care. *Chiropractic and Osteopathy* 2005 Jul 26;13:13.

Kent P, Keating JL. Classification in nonspecific low back pain: what methods do primary care clinicians currently use? *Spine* 2005;30:1433-1440.

Publications

2004

1. Black J, Cook J, Kiss ZS, Smith M. Intertester reliability of sonography in patellar tendinopathy. *Journal of Ultrasound in Medicine* 2004;23:671-675.
2. Cook JL, Feller JA, Bonar SF, Khan KM. Abnormal tenocyte morphology is more prevalent than collagen disruption in asymptomatic athletes' patellar tendons. *Journal of Orthopaedic Research* 2004;22:334-338.
3. Cook JL, Khan KM, Kiss ZS, et al. Posterior leg tightness and vertical jump are associated with US patellar tendon abnormality in 14-18-year old basketball players: A cross-sectional anthropometric and physical performance study. *British Journal of Sports Medicine* 2004;38:206.
4. Cook JL, Kiss ZS, Khan KM, Purdam CR, Webster KE. Anthropometry, physical performance and ultrasound patellar tendon abnormality in elite junior basketball players: A cross sectional study. *British Journal of Sports Medicine* 2004;38:206-209.
5. Cook JL, Malliaras P, Luca JD, et al. Neovascularisation and pain in abnormal patellar tendons of active jumping athletes. *Clinical Journal of Sport Medicine* 2004;14:296-299.
6. Davidson M, Keating JL, Eyres S. A low back specific version of the SF-36 Physical Functioning scale. *Spine* 2004;29:586-594.
7. Dooley P, Howgate M, Schuijers J, Grills B. Early callus of fractured rib of rats contracts and relaxes ex vivo. *Journal of Orthopaedic Research* 2004;22:1063-1071.
8. Downey B, Taylor N, Niere K. Can manipulative physiotherapists agree on which lumbar level to treat based on palpation? *Physiotherapy* 2004;89:74-81.
9. Feller JA, Webster KE, Taylor N, Payne R, Pizzari T. Physiotherapy attendance after anterior cruciate ligament reconstruction. *British Journal of Sports Medicine* 2004;38:74-77.
10. Feller JA. Anterior cruciate ligament rupture: is osteoarthritis inevitable? *British Journal of Sports Medicine* 2004;38: 383-384.
11. Gaida J, Cook JL, Bass SL, et al. Are unilateral and bilateral patellar tendinopathy distinguished by differences in anthropometry, body composition or muscle strength in elite female basketball players? *British Journal of Sports Medicine* 2004;8:581-585.
12. Jackson BD, Teichtahl AJ, Morris ME, Wluka AE, Davis SR, Cicuttini FM. The effect of the knee adduction moment on tibial cartilage volume and bone size in healthy women. *Rheumatology* 2004;43:311-314.
13. Jackson, BD, Wluka AE, Teichtahl, AJ, Morris ME, Cicuttini FM. Reviewing knee osteoarthritis - A biomechanical perspective. *Journal of Science and Medicine in Sport* 2004;7:347-357.
14. Kent P, Keating J. Do primary-care clinicians think that nonspecific low back pain is one condition? *Spine* 2004;29:1022-1031.
15. Landorf KB, Keenan A-M. Effectiveness of different types of foot orthoses for the treatment of plantar fasciitis. *Journal of the American Podiatric Medical Association* 2004;94: 542-549.
16. Luke C, Dodd KJ, Brock K. Outcomes of the Bobath concept on upper limb recovery following stroke. *Clinical Rehabilitation* 2004;18:888-898.
17. Menz HB, Latt MD, Tiedemann A, Kwan MMS, Lord SR. Reliability of the GAITRite® walkway system for the measurement of temporo-spatial parameters of gait in young and older people. *Gait and Posture* 2004;20:20-25.
18. Menz HB, Lord SR, Close JC. Swapping slippers to prevent falls: where is the evidence? *The Foot* 2004;14:228-229.
19. Menz HB, Lord SR, St George R, Fitzpatrick RC. Walking stability and sensori-motor function in older people with diabetic peripheral neuropathy. *Archives of Physical Medicine and Rehabilitation* 2004;85:245-252.
20. Menz HB. Two feet, or one person? Problems associated with statistical analysis of paired data in foot and ankle medicine. *The Foot* 2004;14:2-5.
21. Morris ME, Osborne D, Hill K, Kendig H, Lundgren-Lindquist B, Browning C, Reid J. Predisposing factors for occasional and multiple falls in older Australians who live at home. *Australian Journal Physiotherapy* 2004;50:153-159.
22. Morris SL, Dodd KJ, Morris ME. Outcomes of progressive resistance strength training following stroke: a systematic review. *Clinical Rehabilitation* 2004;18:27-39.
23. Niere KR, Torney SK. Clinicians' perceptions of minor cervical instability. *Manual Therapy* 2004;9:144-150.
24. Orchard J, Cook JL. Stress-shielding as a cause of insertional tendinopathy: the operative technique of limited adductor tenotomy supports this theory. *Journal of Science and Medicine in Sport* 2004; 7:424.
25. Ozcan J, Ward A, Robertson V. A comparison of true and premodulated interferential currents. *Archives of Physical Medicine and Rehabilitation* 2004;85:409-415.

Publications

26. Pinfold M, Niere KR, O'Leary EF, Hoving JL, Green S, Buchbinder R. Validity and internal consistency of a whiplash-specific disability measure. *Spine* 2004;29:263-268.
27. Purdam CR, Johnsson P, Alfredson H, Cook JL, et al. A pilot study of the eccentric decline squat in the management of painful chronic patellar tendinopathy. *British Journal of Sports Medicine* 2004;38:395-397.
28. Samiric T, Ilic MZ, Handley CJ. Characterization of proteoglycans and their catabolic products in tendon and explant cultures of tendon. *Matrix Biology* 2004;23:73-140.
29. Samiric T, Ilic MZ, Handley CJ. Large aggregating and small leucine-rich proteoglycans are degraded by different pathways and at different rates in tendon. *European Journal of Biochemistry* 2004;271:3612-3620.
30. Scott A, Khan KM, Cook JL, Duronio V. What do we mean by the term "inflammation"? A contemporary basic science update for sports medicine. *British Journal of Sports Medicine* 2004; 8:372-380.
31. Scott A, Khan KM, Cook JL, Duronio V. What is inflammation? Are we ready to move beyond Celsius? *British Journal of Sports Medicine* 2004;38:248.
32. Schoo AMM, Morris ME, Bui QM. The effects of exercise performance, concurrent physical activities and analgesics on pain in people with osteoarthritis. *New Zealand Journal of Physiotherapy* 2004;32:67-74.
33. Shields N, Dodd K. A systematic review on the effects of exercise programmes designed to improve strength for people with Down syndrome. *Physical Therapy Reviews* 2004; 9:109-115.
34. Shields N, O'Hare N, Gormley J. An evaluation of safety guidelines to restrict exposure to stray radiofrequency radiation from short-wave diathermy units. *Physics in Medicine and Biology* 2004;49:2999-3015.
35. Shields N, O'Hare N, Gormley J. Contraindications to short-wave diathermy: results of an Irish survey. *Physiotherapy* 2004;90:42-53.
36. Shkuratova N, Morris ME, Huxham F. Effects of age on balance control during walking. *Archives of Physical Medicine and Rehabilitation* 2004;85:582-588.
37. Taylor AJ, Menz HB, Keenan A-M. Effects of experimentally-induced plantar insensitivity on forces and pressures under the foot during normal walking. *Gait and Posture* 2004;20:232-237.
38. Taylor AJ, Menz HB, Keenan A-M. The influence of walking speed on plantar pressure measurement using the two-step gait initiation protocol. *The Foot* 2004;14:49-55.
39. Ward A, Ioannou H, Robertson V. The effect of duty cycle and frequency on muscle torque production using kHz frequency range alternating current. *Medical Engineering and Physics* 2004;26:569-579.
40. Webster KE, Feller JA, Elliott J, Hutchison A, Payne R. A comparison of bone tunnel measurements made using computed tomography and digital plain radiography following ACL reconstruction. *Arthroscopy* 2004;20:946-950.
41. Webster KE, Gonzalez-Adrio, R, Feller JA. Dynamic joint loading following hamstring and patellar tendon anterior cruciate ligament reconstruction. *Knee Surgery Sports Traumatology Arthroscopy* 2004;12:15-21.
42. Webster KE, Kinmont JC, Payne R, Feller JA. Biomechanical differences in landing with and without shoe wear after anterior cruciate ligament reconstruction. *Clinical Biomechanics* 2004;19:978-981.
43. Wickham JB, Brown JMM, McAndrew JM. Muscles within muscles: The classical triphasic EMG burst and its applicability to segments of large radiate agonist/antagonistic muscles. *Journal of Musculoskeletal Research* 2004;8:107-117.
44. Wickham JB, Brown JMM, McAndrew JM. Muscles within muscles: anatomical and functional segmentation of selected shoulder joint musculature. *Journal of Musculoskeletal Research* 2004;8:57-73.
45. Willis C, Niere KR, Hoving JL, Green S, O'Leary EF, Buchbinder R. Reproducibility and responsiveness of the Whiplash Disability Questionnaire. *Pain* 2004;110:681-688.
46. Yao M, Dooley P, Schuijers J, Grills B. The effects of hypothyroidism on nerve growth factor and norepinephrine concentrations in weight-bearing and non-weight-bearing bones of rats. *Journal of Musculoskeletal and Neuronal Interactions* 2004;4:1108-1161.

Publications

2005

1. Abrams D, Davidson M, Harrick J, Harcourt P, Zylinski M. Monitoring the change: Current trends in outcome measure usage in physiotherapy. *Manual Therapy* 2005 [epub ahead of print].
2. Barr ELM, Browning C, Lord SR, Menz HB, Kendig H. Foot and leg problems are important determinants of functional status in community-dwelling older people. *Disability and Rehabilitation* 2005;27:917-923.
3. Bilney B, Morris ME, Churchyard A, Chiu E, Georgiou-Karistianis N. Evidence for a disorder of locomotor timing in Huntington's disease. *Movement Disorders* 2005;20:51-57.
4. Close JCT, Menz HB, Sherrington C, Lord SR. What is the role of falls? *Best Practice and Research in Clinical Rheumatology* 2005;19:913-935.
5. Cook J, Malliaras P, Kiss ZS, Ptaznsnik R. Is vascularity more evident after exercise? Implications for tendon imaging. *American Journal of Roentgenology* 2005;185.
6. Cook JL, Malliaras P, De Luca J, Ptaznsnik R, Morris ME. Vascularity and pain in the patellar tendon of adult jumping athletes: a 5 month longitudinal study. *British Journal of Sports Medicine* 2005;39:458-461.
7. Cook JL, Ptaznsnik R, Kiss ZS, Malliaras P, Morris ME, DeLuca J. High reproducibility of patellar tendon vascularity assessed by colour Doppler ultrasonography: a reliable measurement tool for quantifying tendon pathology. *British Journal of Sports Medicine* 2005; 9:700.
8. Cooper RL Taylor NF, Feller JA. A randomised controlled trial of proprioceptive and balance training after surgical reconstruction of the anterior cruciate ligament. *Research in Sports Medicine* 2005;13:217-230.
9. Cooper RL Taylor NF, Feller JA. A systematic review of the effect of proprioceptive and balance exercises on people with an injured or reconstructed anterior cruciate ligament. *Research in Sports Medicine* 2005;13:163-178.
10. Davidson M, Keating J. Clinimetrics: The Oswestry Disability Questionnaire. *Australian Journal of Physiotherapy* 2005;51:270.
11. Dobson F, Graham HK, Baker R, Morris ME. Multilevel orthopaedic surgery in group IV spastic hemiplegia. *Journal of Bone and Joint Surgery* 2005;87:548-555.
12. Dodd K, Shields N. A systematic review on the outcomes of cardiovascular exercise programs for people with Down syndrome. *Archives of Physical Medicine and Rehabilitation* 2005;86:2051-2058.
13. Huxham F, Baker R, Morris ME, Iansek R. Defining spatial parameters for non-linear walking. *Gait and Posture* 2005 ; [epub ahead of print].
14. Ilic MZ, Carter P, Tyndall A, Dudhia J, Handley CJ. Proteoglycans and catabolic products of proteoglycans present in ligament. *Biochemical Journal* 2005;385:381-388.
15. Keating JL, Kent P, Davidson M, Duke R, McKinnon L, De Nardis R. Predicting short term response and non-response to neck strengthening exercise for chronic neck pain. *Journal of Whiplash and Related Disorders* 2005;4:41-53.
16. Landorf KB, Radford J, Keenan A-M, Redmond AC. Effectiveness of low-Dye taping for the short-term management of plantar fasciitis. *Journal of the American Podiatric Medical Association* 2005;95:525-530.
17. Lavcanska V, Taylor NF, Schache AG. Familiarization to treadmill running in young unimpaired adults. *Human Movement Science* 2005;24:544-547.
18. Maciel J, Taylor NF, McIlveen C. A randomised clinical trial of activity-focused physiotherapy on patients with distal radius fractures. *Archives of Orthopaedic and Trauma Surgery* 2005; [epub ahead of print].
19. MacKintosh, S, Hill K, Dodd KJ, Goldie, P, Culham E. Falls and injury prevention should be part of every stroke rehabilitation plan. *Clinical Rehabilitation* 2005;19:441-451.
20. Menz HB, Lord SR. Gait instability in older people with hallux valgus. *Foot and Ankle International* 2005; 26:483-489.
21. Menz HB, Morris ME, Lord SR. Foot and ankle characteristics associated with impaired balance and functional ability in older people. *Journal of Gerontology – Medical Sciences* 2005;60A:1546-1552.
22. Menz HB, Morris ME. Clinical determinants of plantar forces and pressures during walking in older people. *Gait and Posture* 2005; [epub ahead of print].
23. Menz HB, Morris ME. Determinants of disabling foot pain in retirement village residents. *Journal of the American Podiatric Medical Association* 2005;95:573-579.
24. Menz HB, Morris ME. Footwear characteristics and foot problems in older people. *Gerontology* 2005;51:346-351.
25. Menz HB, Munteanu SE. Radiographic validation of the Manchester scale for the classification of hallux valgus deformity. *Rheumatology* 2005;44:1061-1066.

Publications

26. Menz HB, Munteanu SE. Validity of 3 clinical techniques for the measurement of static foot posture in older people. *Journal of Orthopaedic and Sports Physical Therapy* 2005;35:479-486.
27. Menz HB. Analysis of paired data in physical therapy research: time to stop double-dipping? *Journal of Orthopaedic and Sports Physical Therapy* 2005;35:477-478.
28. Morris ME, Huxham F, McGinley J, Matyas T, Iansek R. Three-dimensional gait biomechanics in Parkinson's disease: evidence for a centrally mediated amplitude regulation disorder. *Movement Disorders* 2005;20:40-50.
29. Pizzari T, Taylor NF, McBurney H, Feller JA. Adherence to rehabilitation following anterior cruciate ligament reconstructive surgery: implications for outcome. *Journal of Sport Rehabilitation* 2005;14: 201-214.
30. Rubin R, Menz HB. Use of laterally wedged custom foot orthoses to reduce pain associated with medial knee osteoarthritis – a preliminary investigation. *Journal of the American Podiatric Medical Association* 2005;95:347-352.
31. Said CM, Goldie PA, Culham E, Sparrow WA, Patla AE, Morris ME. Control of lead and trail limbs during obstacle crossing following stroke. *Physical Therapy* 2005;85:413-427.
32. Schoo AMM, Morris ME, Bui QM. Predictors of Home Exercise Adherence in Older People with Osteoarthritis. *Physiotherapy Canada* 2005;57:1-9.
33. Scott A, Khan K, Heer J, Cook JL, et al. High strain mechanical loading rapidly induces tendon apoptosis: an ex vivo rat tibialis anterior model. *British Journal of Sports Medicine* 2005; 39:e25.
34. Taylor NF, Dodd KJ, Damiano DL. Progressive resistance exercise in physical therapy: a summary of systematic reviews. *Physical Therapy* 2005;85:1208-1223.
35. Visnes H, Hoksrud A, Cook J, Bahr R. No effect of eccentric training on jumper's knee in volleyball players during the competitive season - a randomized clinical trial. *Clinical Journal of Sport Medicine* 2005; 15:225.
36. Webster KE, Chiu JJ, Feller JA. Impact of measurement error in the analysis of bone tunnel enlargement after anterior cruciate ligament reconstruction. *American Journal of Sports Medicine* 2005;33:1680-1687.
37. Webster KE, Wittwer JA, Feller JA. Validity of the GAITRite walkway system for the measurement of averaged and individual step parameters of gait. *Gait and Posture* 2005;22:317-321.
38. Webster KE, Wittwer JE, O'Brien J, Feller JA. Gait patterns following anterior cruciate ligament reconstruction are related to graft type. *American Journal of Sports Medicine* 2005;33:247-254.
39. Young MA, Cook JL, Purdam CR, Kiss ZS, Alfredson H. Eccentric decline squat protocol offers superior results at 12 months compared with traditional eccentric protocol for patellar tendinopathy in volleyball players. *British Journal of Sports Medicine* 2005; 39:102-105.

Grants

2003-2004	Handley CJ	Arthritis Foundation	\$30,000
2003-2007	Menz HB	NHMRC	\$63,500 pa
2004	Green R, Taylor NF	La Trobe Faculty grant	\$4,432
2004	Menz HB, Munteanu SE	La Trobe Faculty grant	\$9,958
2004	Cook JL	La Trobe Faculty grant	\$8,967
2004	Cook JL	La Trobe Faculty grant	\$8,900
2004	Cook JL, Webster KE	Douglas Pharmaceuticals	\$46,000
2004	Cook JL	Australian Institute of Sport	\$7,500
2004	Cook JL	Women's Golf Australia	\$5,000
2004	Cook JL	Aust Institute of Sport	\$46,000
2004	Dodd KJ, Taylor NF, Graham K	Aust Barbell Co	\$9,800
2004	Dodd KJ, Taylor NF, Graham K	Royal Children's Hospital	\$13,000
2004	Dodd KJ, Morris S	La Trobe Faculty grant	\$3,970
2004	Bilney B, Dodd KJ	Hygenic Corp	\$1,500
2004	Morris ME	La Trobe Faculty grant	\$9,095
2004	Wickham J, Pizzari T	La Trobe Faculty grant	\$8,702
2004	Keating JL	La Trobe Faculty grant	\$5,938
2004	O'Halloran P, Webster KE	La Trobe Faculty grant	\$9,920
2004	Burns J, Landorf KB, Penkala S	University of Western Sydney	\$45,212
2004	Feller JA, Webster KE	Stryker Australia	\$30,000
2004	Feller JA, Webster KE	Smith & Nephew Australia	\$50,000
2004-2006	Cook JL	NHMRC	\$89,000
2004-2005	Cook JL	Sports Injury Prevention	\$20,000
2004-2007	Webster KE, Feller JA, Morris ME, Wales RJ, Bennell K	ARC Linkage grant with Smith & Nephew Australia	\$270,000
2004-2007	McEvoy RD, Catcheside PG, Webster KE	NHMRC	\$272,925
2005	Sims J, Galea M, Dodd K, Taylor N, Joubert J	Beyond Blue	\$85,000
2005	Menz HB	Arthritis Foundation	\$14,400
2005	Cook JL	Aust Academy of Science	\$11,000
2005	Brauer SG, Morris ME, Menz HB	Brain Foundation of Aust	\$20,000
2005	O'Halloran P, Browning C, Webster KE	La Trobe Grant Preparation Support Scheme	\$4,880
2005	Ward AR	La Trobe Faculty grant	\$4,794
2005	Green R, Taylor NF	La Trobe Faculty grant	\$6,186
2005	Shields N, Dodd KJ, Taylor NF	La Trobe Faculty grant	\$10,000
2005	Landorf KB	La Trobe Faculty grant	\$2,499
2005	Dodd KJ, Taylor NF, Shields N, Bruder A	Aust Physiotherapy Assoc	\$8,000
2005	Graham HK, Baker R, Dodd K, Taylor N	Murdoch Institute	\$48,000
2005	Feller JA, Webster KE	Stryker Australia	\$30,000

TOTAL: \$1,462,428

Journal editorships / peer reviewing

Prof Karen Dodd

Peer reviewer, *Physiotherapy, Australian Journal of Physiotherapy, Australian Health Review*

AIProf Jill Cook

Associate editor, *Journal of Science and Medicine in Sport*
Member of International Advisory Board, *Physical Therapy in Sport*
Peer reviewer, *British Journal of Sports Medicine, Journal of Anatomy, Cell and Tissue Research, American Journal of Roentgenology, Clinical Journal of Sport Medicine*

AIProf Julian Feller

Peer reviewer, *Knee Surgery Sports Traumatology Arthroscopy, British Journal of Sports Medicine, Arthroscopy*

Dr Megan Davidson

Peer reviewer, *Australian Journal of Physiotherapy*

Dr Karl Landorf

Member of International Advisory Board, *The Foot*
Contributing editor, *Journal of the American Podiatric Medical Association*
Member of Editorial Advisory Board, *Australasian Journal of Podiatric Medicine*

Dr Hylton Menz

Editor (Australasia), *The Foot*
Contributing editor, *Journal of the American Podiatric Medical Association*
Editorial board member, *Journal of Science and Medicine in Sport*
Member of international advisory board, *Physical Therapy in Sport*
Peer reviewer, *Age and Ageing, Diabetic Medicine, Gait and Posture, Journal of Orthopaedic and Sports Physical Therapy, BMC Musculoskeletal Disorders, Experimental Brain Research, Archives of Physical Medicine and Rehabilitation and Diabetologia.*

Mr Ken Niere

Peer reviewer, *Physiotherapy, Australian Journal of Physiotherapy, Manual Therapy*

Dr Nora Shields

Peer reviewer, *Physiotherapy, Physical Therapy, Australian Journal of Physiotherapy*

Dr Nick Taylor

Peer reviewer, *Research in Sports Medicine, BMC Musculoskeletal Disorders, International Sports Medicine Journal, Physical Therapy in Sport, Journal of Rheumatology*

Dr Kate Webster

Member of Editorial Board, *Journal of Sports Science and Medicine*
Peer reviewer, *International Journal of Psychophysiology, British Journal of Sports Medicine, Medical Science Monitor, Physiotherapy Theory and Practice, Sleep, Physiotherapy, Journal of Science and Medicine in Sport*