SPNZ
SPORTS PHYSIOTHERAPY NEW ZEALAND

A Special Interest Group of:
PHYSIOTHERAPY NEW ZEALAND
Kōmiri Aotearoa

IFSP
Member of the International Federation of Sports Physiotherapy

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BULLETIN

SPNZ CONTACT DETAILS

Michael Borich (Secretary)
26 Vine St
St Marys Bay

Welcome to the August 2011 edition of the SPNZ Bulletin.

RUGBY WORLD CUP EDITION

With less than 30 days to go before kick-off in the 2011 Rugby World Cup, SPNZ are pleased to be able to bring you an interview with the All Blacks physiotherapist, Pete Gallagher. Pete talks about the sports medicine set-up at the NZRU, common injuries, injury prevention and management programmes, and return-to-sport processes for some of the best rugby players in the world.

To complement the rugby theme, we have an article review presenting a clinical decision rule with high sensitivity for detecting fractures following cervical spine trauma. This article is particularly relevant for any members working with contact sports teams including rugby. The Special Projects team have also reviewed a range of articles relating to epidemiology, ankle injuries, prevention of hamstring injuries in rugby, management of rotator cuff tears and instability and community–based prevention programmes. We hope you find the range of material in this section useful in your clinical practice.

Planning for the 2012 SPNZ Symposium- “Preparation, Practice, Performance” continues, with keynote speakers confirmed. Applications are now open for long (30 minute) and short (15 minute) presentations from members. See the 2012 Symposium Section (page 5).

A reminder that the second Asics Education Funding round closes on August 31st. If you need assistance to attend continuing education courses, or conduct research into sports and orthopaedic areas, take advantage of the SPNZ Education Fund. Details on page 3.

Do you hold “Advanced Practitioner” membership of the NZ College of Physiotherapy (Sports and Orthopaedic tag)? SPNZ would like to establish a database of Advanced Practitioner members to whom we can direct enquiries regarding specific sports, specific musculoskeletal conditions, age groups and programmes. If you are an Advanced Practitioner and would be willing to have your name included in this database, see “Latest News” for more details.

We have also included a list of SPNZ membership benefits (Latest News). Take full advantage of the range of discounts on clothing, footwear and books, as well as the numerous printed resources available to members including JOSPT, APA Sports Physio magazine and our online resources.

Enjoy the Rugby World Cup and everything is crossed for a good result!

SPNZ Executive

IN THIS EDITION

To locate a page quickly, click on the 'pages' symbol at the top of the pdf reading panel at left of screen and select the required page.

LATEST NEWS

SPNZ Symposium: Prevention, Practice, Performance.

Sebel Trinity Wharf Hotel, 17th & 18th March 2012.

Dr Jill Cook (Monash University) has been confirmed as our keynote speaker. Jill is world renowned for her work in the area of tendon research, and also for her clinical skills in putting the research into practice. Also confirmed are Caryn Zinn (sports nutritionist) and Richard van Platteringen (sports podiatrist). Put the date in your diary and we look forward to seeing you in Tauranga next year. More updates will be available as they become available on: www.nzsopa.org.nz/symposium.html

Call for papers.

The education committee is currently looking for speakers for long (30 min) and short (15min) presentations that will fit the direction of the symposium. If you are interested in presenting please submit an abstract and brief CV to:

Hamish Ashton (Symposium Chairman)
help@nzsopa.org.nz

Advanced Practitioners (Sports & Orthopaedic) database.

We would like to establish a database of SPNZ Advanced Practitioner members.

SPNZ are occasionally contacted by physiotherapists, medical and allied professionals and members of the public seeking physiotherapists with advanced or specialized skills in the area of sports or orthopaedic physiotherapy. We would like to create a database of our Advanced Practitioner members so that we can direct these enquiries to appropriately skilled physiotherapists. If you currently hold Advanced Practitioner membership status with the NZCP ("Sports & Orthopaedic" tag), and consent to your contact details being made available in response to enquiries, please send your details to the SPNZ Secretary mborich@ihug.co.nz and include the following information:

- Name
- Address
- Phone contact details
- Email address
- Area of specialist practice (specific sport, body region, specific injuries, age groups, programmes etc)
- Professional sporting involvement (if any): (sport and level)

Asics Education Fund: Funding Opportunities for Continuing Education and Research.

SPNZ offer $1000 twice per year to assist members with continuing education and research costs.

Application instructions and application forms are available on the SPNZ website. You will need to provide your login and password information.

Deadline for next funding round 31st August 2011

International Journal of Sports Physical Therapy

The IJSPT journal is available to purchase for individual members.

To view contents of the current issue click here

The current issue contains a number of high quality articles including "**Functional Movement Screen™ - normative values in a young, active population**", by SPNZ President Dr Tony Schneiders from the University of Otago. Other articles include a review on conservative management of patellofemoral pain, the predictive ability of upper limb functional tests for softball throw distance, and rehabilitation guidelines for exertional compartment syndrome.

SPNZ members interested in subscribing to this journal can purchase an individual subscription through the journal directly. To purchase a subscription go to the IJSPT website, and click on "subscriptions". Subscription rate for 2011 is €20.

International Federation of Sports Physiotherapy News

Keep up to date with IFSP News.

The IFSP newsletters are available to download in .pdf format from the website http://www.ifsp-world.org/. For the current newsletter, click on the following link: June 2011 Newsletter

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LATEST NEWS

SPNZ Membership Benefits

Remember to take advantage of the full range of SPNZ member benefits:

- FREE online access to JOSPT (value approx USD$275)
- FREE Editions of the Quarterly APA “Sports Physio” Magazine
- 20% Discount on all McGraw-Hill book publications
- Funding Support for continuing education and research.
- Substantial discount, Advanced Notice and preferential placing on SPNZ Educational Courses.
- Access to website with clinical and relevant articles.
- Sports Physiotherapy Forum to discuss ideas and ask questions
- Bi-monthly NZSOPA Bulletin featuring Activity, Course and information updates.
- FREE classified advertising in the NZSOPA Bulletin

Interested in helping SPNZ?

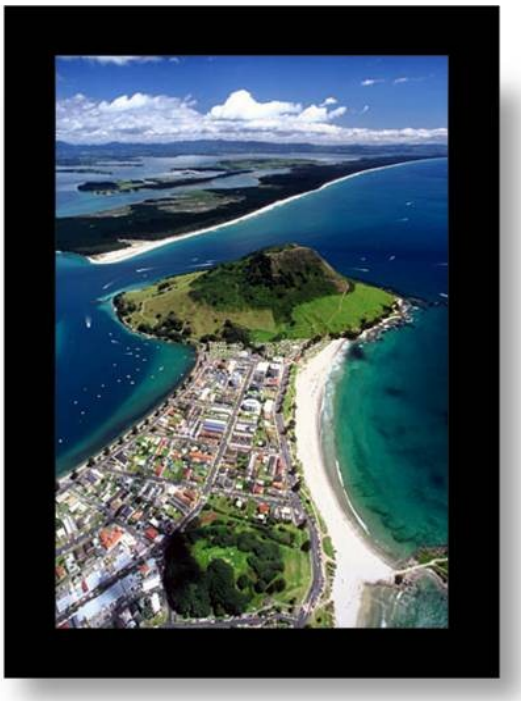
The Special Projects team could use your help.

This group help the SPNZ Executive with various ‘special projects’ and assist with contributions to the Bulletin. Do a little, or do lots, it’s up to you.

If you’re interested in helping or want to know more? Contact

acadogan@vodafone.co.nz

PREVENTION, PRACTICE, PERFORMANCE



Sebel Trinity Wharf Hotel Tauranga

March 17th and 18th 2012.

Speakers confirmed:

KEYNOTE SPEAKER

Dr Jill Cook - Monash University, Australia

INVITED SPEAKERS

Caryn Zinn - Sports nutritionist

Richard van Plateringen - Sports podiatrist

More information as it becomes available:

CALL FOR PAPERS

"Prevention, Practice, Performance"

Sports Physiotherapy New Zealand hosts biennial symposiums to portray the breadth of knowledge associated with Sports Physiotherapy. The symposiums are largely practically based with presentations having a 'take home' message. The focus is on "I can use this in my practice tomorrow"

The education committee is currently looking for speakers for long (30 min) and short (15min) presentations that will fit the direction of the symposium.

If you are interested in presenting please submit an abstract and brief CV to:

Hamish Ashton, Symposium Chairman help@nzsopa.org.nz

SPNZ is now on Facebook

Check us out at:

www.facebook.com/SportsPhysiotherapyNZ

Website Gems

Links to Video clips

RUGBY WORLD CUP 2011

Pete Gallagher - All Blacks Physiotherapist

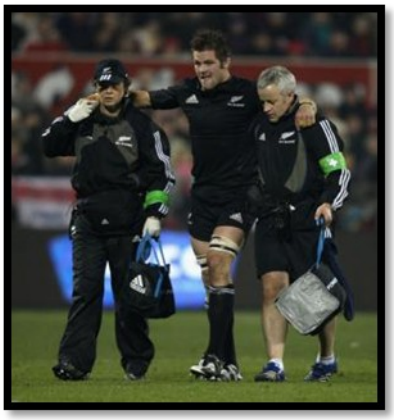
With less than 30 days to go before kick-off in the 2011 Rugby World Cup, we talk to Pete Gallagher, All Blacks Physiotherapist, about his role in the NZRU medical team, common rugby injuries, injury prevention, management and rehabilitation, and return to sport processes for arguably the best rugby team in the world.

PETE GALLAGHER

All Blacks Physiotherapist

How does the medical team work together within the All Black setup in the diagnosis and rehab of injuries?

The All Blacks have a highly integrated approach when it comes to the diagnosis and management of the injured athlete. Deb Robinson is primarily responsible for diagnosis with the assistance of expert advice as required. The rehabilitation parameters are defined as a group (Dr, Physio, Massage Therapist, Strength and Conditioning Coach and Coaching staff) to ensure there are no grey areas when it comes to the athletes return to play programme.



All Blacks doctor Deb Robinson and physiotherapist Pete Gallagher assist Richie McCaw from the field.

The physio is responsible for the design and delivery of the rehabilitation programme with input from all involved. The key rehabilitation focus is to ensure that when the athlete returns to play he is able to tolerate the rigors of the game and perform at the level test rugby demands. This requires the full recognition of the players strength and conditioning requirements and the utilization of coaching staff (who introduce rugby skill work) during the rehabilitation continuum.

What type of injury prevention programmes are running within the All Black set up?

Every athlete has an individual performance programme that identifies their functional limitations and recognizes previous injury history. Effective communication with the Super Rugby Franchises that involves weekly contact with the players providers regarding; current injury status and strengthen and conditioning programme feedback; ensures that each athletes major prehab work-ons are an integral part of their performance programme.

Prehab

Key targeted areas are functional limitations following significant injuries. (Rehab sessions on light days will be programmed once a week to target these areas for the athlete)

Position specific preventative programming included and performed 1 – 2 x per week as part of their gym based performance programme e.g.

- eccentric hamstring work (Nordic drops) for backs and at risk forwards
- loaded eccentric calf work for forwards (front row forwards need an emphasis placed on their programming in this area)

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RUGBY WORLD CUP 2011

- shoulder and neck prehabilitation circuits with therapeutic exercises e.g. deep neck flexor strengthening included (loose forwards in particular need this work)
- Knee and ankle neuromuscular / proprioceptive exercises (Locks get a lot of knee injuries in this game)
- Eccentric exercises for the tendinopathies in the team (daily routine)

Core and Stability exercises

Programmed with the strength and conditioning staff. Concepts like TA/ Multifidus activation / glut activation / and Scapulothoracic / humeral relationships are integrated into performance programme. Plenty of education obviously required here

Functional movement patterns

Overhead squats, lateral movement glut activation exs, CKC shoulder activities are included as part of the structured warm up for gym sessions for all players and also in field based warm ups.

Neck strengthening

Field based warm ups also include some specific neck strengthening drills for the whole team – this is done in conjunction with our scrum coach Mike Cron.

Flexibility programmes

There is greater attention being given by players (led by providers) in this area. Players stretch individually during the day and attend the organised stretch class on Friday nights prior to test matches (Voluntary and physio/ S and C coach and player driven)

Technical sessions

There is a real emphasis on coaching technique regarding areas like tackling and the clean out where players are at the most risk of getting injured of they are technically poor.

Player Development

Recognition is always given to the “training age” of the athlete and their ability to tolerate training and game loads. Athletes are monitored during trainings and games when involved with Super Rugby and All Blacks campaigns using GPS, Contact Algorhythms, Self rated perceived exertions and wellness questions plus one on one communication (of course) to ensure they are not over cooked during a campaign.

Individual work ons in the S and C are cycled into weeks when they are recovered sufficiently to be able to perform these effectively. Training loads are progressed and modified by the S and C team with medical input based on how the athlete is travelling and their training history.

Strapping

Strapping of previous significant injuries (ankles, knees , shoulders etc. for trainings and games)

What are the most common or the most serious rugby injuries in terms of time lost from sport?

There is plenty of great research out of the Premiership in the UK by Brooks et al. that have started to clearly define what injuries lead to the longest time out of the game. (This article is reviewed by the SPNZ Special Projects Group in the Research Reviews section).

Game Injuries

Highest incidence (most common) :Thigh haematomas, hamstring injuries, calf injuries, ankle lateral ligament sprains, knee MCL sprains and concussions.

Highest risk (longest time out of the game) : ACL injury, shoulder dislocations and instability, MCL injury, hamstring injuries, knee meniscal/articular cartilage and foot fractures

Training Injuries

Highest incidence : Hamstring strains, calf strains, lateral ankle ligament, adductor muscle injury, hip flexor strain, Lumbar disc / nerve root injury

Highest risk: Hamstring muscle injury, knee meniscal / cartilage damage, Achilles tendon injury, lumbar disc / nerve root injury, Inferior tib / fib syndesmosis injury

What are the return-to-sport processes to international rugby following injury and who is involved?

This all depends on the time of year the athlete is injured. Each player can play in potentially 4 - 5 teams per calendar year with different medical providers in each environment. This year dependent on the injury a potential All

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RUGBY WORLD CUP 2011

Black at the end of the Super Rugby Season (and there are a number of them) may return to play for a club team in his province and then for his ITM cup team and then the All Blacks. This requires a lot of clear communication regarding diagnosis, rehabilitation parameters and interventions and the return to play plan. The aim of the process is to ensure the best programme is put in place to ensure the athlete returns to play ready to perform not just ready to participate. One of the strengths of the game in New Zealand is that an athlete centered care model is the focus of teams medical and S & C teams at the ITM cup through to All Black level. And that relationships between teams are consultative and inclusive. We are very lucky with the quality of providers we have involved in the game.

What are the biggest physiotherapy challenges working with the All Blacks?

I am extremely lucky to have worked with a great group of people whilst I have been involved with the All Blacks. The integrated model is the strength of the All Blacks programme across the board; all players and management included. The fact that there is a high level of trust that all members of the team can perform their respective roles makes it easier to meet the standards that you put upon yourself.

SPNZ thank Pete for his time and wish him and the team all the best as they prepare for the Rugby World Cup. We know they will do the country proud.

Hopefully the Bledisloe Cup won't be the only trophy Richie gets his hands on this year!

CLINICAL SECTION

ARTICLE REVIEW

The Canadian C-Spine Rule for Radiography in Alert and Stable Trauma Patients

Screening for clinically important cervical spine injury is something all side-line physiotherapists should be familiar with. This article provides guidelines for assessing the need for cervical radiograph following blunt trauma.

ABSTRACT

Context High levels of variation and inefficiency exist in current clinical practice regarding use of cervical spine (C-spine) radiography in alert and stable trauma patients.

Objective To derive a clinical decision rule that is highly sensitive for detecting acute C-spine injury and will allow emergency department (ED) physicians to be more selective in use of radiography in alert and stable trauma patients.

Design Prospective cohort study conducted from October 1996 to April 1999, in which physicians in EDs evaluated patients for 20 standardized clinical findings prior to radiography. In some cases, a second physician performed independent interobserver assessments. A convenience sample of 8924 adults (mean age, 37 years) who presented to ten EDs in Canadian community and university hospitals with blunt trauma to the head/neck, stable vital signs, and a Glasgow Coma Scale score of 15 was analysed.

Main Outcome Measure Clinically important C-spine injury, evaluated by plain radiography, computed tomography, and a structured follow-up telephone interview. The clinical decision rule was derived using the κ coefficient, logistic regression analysis, and X^2 recursive partitioning techniques.

Results Among the study sample, 151 (1.7%) had important C-spine injury. The resultant model and final Canadian C-Spine Rule comprises 3 main questions: (1) is there any high-risk factor present that mandates radiography (ie, age □65 years, dangerous mechanism, or paresthesias in extremities)? (2) is there any low-risk factor present that allows safe assessment of range of motion (ie, simple rear-end motor vehicle collision, sitting position in ED, ambulatory at any time since injury, delayed onset of neck pain, or absence of midline C-spine tenderness)? and (3) is the patient able to actively rotate neck 45° to the left and right? By cross-validation, this rule had 100% sensitivity (95% confidence interval [CI], 98%-100%) and 42.5% specificity (95% CI, 40%-44%) for identifying 151 clinically important C-spine injuries. The potential radiography ordering rate would be 58.2%.

Conclusion We have derived the Canadian C-Spine Rule, a highly sensitive decision rule for use of C-spine radiography in alert and stable trauma patients. If prospectively validated in other cohorts, this rule has the potential to significantly reduce practice variation and inefficiency in ED use of C-spine radiography.

Stiell IG et. al. Journal of American Medical Association (2001). Vol 286(15):1841-1848

INTRODUCTION

Over one million patients with potential cervical spine (C-spine) injury following blunt trauma are treated annually in US emergency departments (EDs). In patients presenting with intact neurological status the incidence of acute fracture or spinal injury is less than 1%. Most clinicians make liberal use of C-spine radiography due to concerns about potentially disabling spinal injuries. However, such practice is inefficient as more than 98% of C-spine radiographs are negative for fracture.

There are no widely accepted safe and efficient guidelines for the use of C-spine radiography following injury. A clinical decision rule can be defined as a decision-making tool which is derived from original research, incorporating 3 or more variables from the history, physical examination, or simple tests. Ottawa knee and ankle rules have been developed and are widely used to guide diagnostic and therapeutic decisions. The objective of this study was to derive a highly sensitive clinical decision rule for detecting acute C-spine injury in alert and stable patients who are at risk of neck injury following blunt trauma.

METHODS

This prospective cohort study was conducted in 10 large Canadian community and university hospitals. The study included consecutive adult patients presenting to the ED following acute blunt trauma to the head or neck. Patients were eligible for inclusion if they were at risk of C-spine injury either with the presence of neck pain following a mechanism of injury, or with the absence of neck pain but had all of the following: visible injury above the clavicles, had not been ambulatory, and had sustained a dangerous mechanism of injury. Patients had to be *alert*, with a score of 15 on the Glasgow Coma Scale (GCS) (scale range, 3-15), and *stable* with normal vital signs. Patients

CLINICAL SECTION

ARTICLE REVIEW CONTINUED...

were excluded if they had minor injuries, such as simple lacerations, were injured more than 48 hours previously, had penetrating trauma, presented with acute paralysis, had known vertebral disease, had returned for reassessment of the same injury; or were pregnant. The research ethics committees of the study hospitals approved the protocol without the need for patients to give informed consent.

Standardized Patient Assessment

Patient assessments were completed by physicians certified in emergency medicine or by supervised residents in emergency medicine training programs. Prior to data collection, assessors completed a 1-hour training session on the evaluation of patients for standardized clinical findings from the history, general examination, and assessment of neurological status. Findings were recorded prior to radiography. A subset of patients were independently assessed by a second emergency physician to investigate interobserver agreement.

Outcome Measures and Assessment

C*linically important cervical spine injury* was the primary outcome measure, which is defined as any fracture, dislocation, or ligamentous instability shown by diagnostic imaging. All C-spine injuries were considered clinically important with the exception of a neurologically intact patient with 1 of 4 injuries: (1) isolated avulsion fracture of an osteophyte (2) isolated fracture of a transverse process not involving a facet joint (3) isolated fracture of a spinous process not involving the lamina or (4) simple compression fracture involving less than 25% of the vertebral body height. Patients underwent plain radiography of the C-spine at the discretion of the physician based on clinical examination rather than any preset guidelines. Radiographs were interpreted by qualified radiologists who were blinded to the clinical examination results. Enrolled patients who did not undergo a C-spine radiograph were followed up with a 14-day proxy outcome measure administered by telephone. These patients were classified as having no clinically important C-spine injury if they met all of the following 4 criteria for 14 days: (1) neck pain rated as none or mild, (2) restriction of neck movement rated as none or mild, (3) use of a cervical collar not required, and (4) neck injury has not prevented return to usual occupational activities. Patients were recalled for clinical assessment and radiography if they did not fulfil the criteria . Patients who could not be reached for follow up were excluded from the final study analysis.

RESULTS

Between October 1996 and April 1999, 8924 patients were enrolled and assessed for clinically important C-spine injury. Sixty-nine percent of patients underwent C-spine radiography and the remaining 31.1% underwent the structured 14-day telephone interview. Of all the study patients, 151 (1.7%) were found to have a clinically important C-spine injury. An additional 28 (0.3%) patients were judged to have a clinically unimportant C-spine injury, primarily avulsion fractures. None of the patients contacted for the telephone interviews were determined to have a C-spine injury.

Twenty-five primary predictor variables were statistically analysed and ultimately combined to form a clinical decision rule. Univariate analyses were used to determine the strength of association between each variable and the primary outcome to aid selection of the best variables for multivariable analyses. Recursive partitioning was performed using KnowledgeSEEKER, version 3.1 (Angoss Software International, Toronto, Ontario). In addition, statistical validation using a jackknife nonparametric estimate of bias for the sensitivity, specificity, and overall accuracy of the rule was performed.

The Canadain C-spine clinical decision rule subsequently devised asks 3 basic questions and establishes the safety of evaluating active range of motion by identifying high-risk and low-risk factors. The potential classification performance of the Canadian C-Spine Rule for identifying the 151 cases with clinically important C-spine injury in this study demonstrates a sensitivity (95% CI) of 100% (98%-100%) and a specificity of 42.5% (40%-44%). The rule also would have identified 27 out of 28 patients with clinically unimportant C- spine injury.

DISCUSSION

The Canadian C-Spine Rule identifies those trauma patients who require C-spine radiography based on 3 simple clinical questions. First, patients judged to be at high risk due to age, dangerous mechanism of injury, or paresthesias must undergo radiography. Dangerous mechanisms of injury are: (1)fall from ≥1 meter/5 stairs, (2) axial load to head, eg, diving, (3) Motor vehicle collisions (MVC) at high speed (>100 km/hr), rollover, ejection, (4) motorized recreational vehicles, (5) bicycle collision. Second, patients with any 1 of the following 5 low-risk characteristics may safely undergo assessment of active range of motion: (1) simple rear-end MVC, (2) sitting Position in ED, (3) ambulatory at any time, (4) delayed onset of neck pain, (4) absence of midline C-spine tenderness . Third, patients who are able to actively rotate their neck 45° to the left and to the right, regardless of pain, do not require C-spine radiography. If prospectively validated in other cohorts, this rule could standardize and improve efficiency in the use of C-spine radiographyin EDs.

References available on request.

ASICS REPORT

Gel Nimbus 13 Shoe Report

Now in its 13th year of existence, Nimbus continues to make further refinements, namely to improve efficiency from midstance to propulsive phase of gait.

Midstance to propulsion gait is the most important area of focus for a podiatrist and would be described as when the foot is flat on the ground and going forward until there is full weight over the toes. Any gait that is inefficient during this phase is likely to put the runner under a higher risk of hip, knee, shin or calf injury. We are therefore very interested in seeing how our patients' shoe performs in helping to manage their injury.

The undercarriage of Nimbus is notably different from its predecessor. A Foot Guidance channel has been carved through the outsole and midsole to encourage the direction of movement along a more efficient path. This travel route helps transition the foot from its pronated midstance position to a resupinated state ready for take off. This feature indirectly helps to reduce overpronation whilst cutting bulk weight from the shoe.

The midsole material continues to be constructed from Solyte foam instead of former spEVA. The Solyte cap is a new addition and is designed to improve comfort underneath the forefoot. It is gender specific in that Asics acknowledge women's body weight is lower than men's and a more compressible cap is used to give women the benefit of it's deformation under forefoot load gait – a time where plantar pressure is at it's highest.

Trusstic space continues to connect the rear and forefoot components of the shoe. It works as a flexible bridge system, and deforms to a degree under midstance load. Again it is gender specific, as recent studies measuring Plantar fascia and Achilles tendon length in women find that during ovulation or 3rd week of menstrual cycles, fascia and tendon length increase, hence the arch effectively drops. The trusstic system allows the arch to drop without adding pressure or frictional stress to this part of the foot. It is a feature designed to reduce Plantar fascial irritation and arch blistering.

The Nimbus upper has an open weave toe box to recognize the need for maximum ventilation in this area. Its lack of overlay also reduces overall shoe weight.

Biomorphic fabric has a 2 way stretch and is placed in the lateral forefoot and medial arch – areas where the shoe upper normally creases without such fabric. This is an important comfort feature and helps reduce 5th toe blistering and corn lesions.

Footnote:

Retailers should be comfortable in suggesting Nimbus to two opposite types of runners: slow, heavier style runners who are prone to wearing out the forefoot, and bounding runners who have a short but high cadence and land in the middle of the shoe instead of its heel.

Check the customers' former shoes to see whether Nimbus is a suitable option. If their old shoes have lateral forefoot compression in the midsole or your customer has callus around the 5th metatarsal region, the Nimbus would be the first shoe of choice to consider.

RESEARCH SECTION

SPNZ PHYSIOTHERAPY RESEARCH REVIEWS

INJURIES IN RUGBY UNION

In keeping with the rugby union theme of this edition, the SPNZ Special Projects group reviewed several articles relating to epidemiology, specific injury, prevention and management of rugby injuries. The articles are applicable at any level of rugby union, whether treating a social or club level rugby player in the clinic, or working with elite teams. The article on ankle syndesmosis injuries is also relevant to other contact and multidirdectional sports.

Reviews by Wayne Fausett, Monique Baigent, Nathan Wharerimu and Amanda O'Reilly

www.nzsopa.org.nz/resources.html

Risk Factors for Syndesmotic and Medial Ankle Sprain: Role of Sex, Sport, and Level of Competition

Waterman, BR., Belmont, PJ., Cameron, KL., Svoboda, SJ., Alitz CJ., & Owens, BD. (2011). *American Journal of Sports Medicine* 39, 992. doi: 10.1177/0363546510391462

Article Summary

Amongst athletic populations ankle sprains are the most common presenting injuries. 85% of these consist of lateral ligament sprains (ATFL, CLF and PTFL). The objective of this prospective cohort study was the look at the rate of syndesmotic and medial ankle sprain injuries in a sporting population. The injury data was extracted from physically active cadets in the USA military academy between the years 2005 and 2009. Sports the cadets were involved in ranged from basketball and football to ice hockey, biathlon, wrestling and handball. The main outcome measures were incidence of new ankle sprains per 1000 person years at risk (1 cadet x years of sporting involvement) and the incidence of new ankle sprains per 100 000 athlete exposures (1 cadet x each sports related session).

Over four years 1206 cadets sustained ankle injuries amongst an at risk population of 20336 person years. Data showed that 11.8% of ankle sprains in these subjects involved the syndesmotic (85) or medial (61) ligaments of the ankle. Syndesmotic ankle sprains resulted in longer time lost to injury (mean 13.9 days) than medial ankle sprains (mean 10.7 days). When compared with females, males have a higher rate of medial ankle sprains but not of syndesmotic sprains. 81% of all ankle injuries occurred during the cadets' sporting activities, with 54% sustained during university sports. The higher the level of competition, the higher the incidence of ankle injury. Another interesting finding was that patients who sustained medial and syndesmotic ankle sprains had significantly higher BMI than those who did not.

Clinical Significance:

This article illustrates that in a fit population approximately 1 in 10 ankle sprains may be complex (syndesmotic or medial) sprains. All patients should be screened for these, in particular, from the results of this study, males playing at a high level of competition with perhaps moderate BMIs should be ruled out for these injuries. These injuries are not uncommon in rugby players who sustain a severe inversion injury, or whose foot is twisted (usually externally rotated) on a fixed tibia. The clinician should be alert to these injuries as recovery can be slow, and treatment can differ from treat-

RESEARCH SECTION

SPNZ PHYSIOTHERAPY RESEARCH REVIEWS CONTINUED.....

Surgical management of large rotator cuff tears combined with instability in elite rugby football players.

Goldberg JA, Chan KY, Best JP, Bruce WJM, Walsh W, & Parry W. *British Journal of Sports Medicine* (2003), 37, 179-181.

Article Summary

This case series describes post-operative outcomes for 6 male professional rugby/league players (mean age 26 years) who underwent both rotator cuff (RC) repairs and shoulder stabilisation procedures. Prior to their RC injuries, 5 of the participants described instability symptoms ("dead arm", weakness, looseness), lasting more than 6 months. Two players had full dislocations, with 1 of those occurring at the time of RC injury. All RC repairs were performed within 12 days of presentation. The average tear size was 3.8cm (1.5 – 6cm), and all involved supraspinatus, with the largest tears also involving infraspinatus. Patients began passive ROM exercises 2 days post-op, and then active exercises at 6 weeks. The stabilisation procedure (anterior capsular shift) was performed 8-12 weeks after the RC repair. After 6 weeks immobilisation, passive exercises were permitted, followed by active exercises. Light resistance exercises began 4 months post-op, with all patients returning to contact sport at 9 months. Five of the participants returned to pre-injury levels or higher within 12 months of the initial surgery, with 1 player retiring due to a combination of injuries suffered over the years. Participants were followed up on average 34 months later, and all were asymptomatic with the 5 active players still participating in professional rugby.

Clinical Significance

As we know, large RC tears in younger people are not common, and tend to result from a single traumatic event. In 5 of the cases considerable degeneration was noted in the RC, and it was suggested repetitive microtrauma from the physical demands of rugby (tackling, scrums, mauls) may have weakened the tendons, predisposing them to rupture. Also, repeated overstretching of the static shoulder stabilisers due to the physical demands of rugby results in overloading of the RC, possibly leading to fatigue-induced failure when subjected to a large external force. From a practical perspective, early recognition and treatment of GHJ instability in rugby players is necessary to reduce the load on the RC, and decrease the chance of a significant RC injury. Interestingly, both procedures used 'open' techniques (deltoid off), as these are thought to provide better functional outcomes.

Recent trends in rugby union injuries

Brooks JH & Kemp SP. *Clinics in Sports Medicine* (2008), 27, 51-73

Article Summary

This article provides a summary of epidemiological studies of injuries in rugby union. The game itself has undergone significant changes since the advent of professionalism in 1995. Players are bigger, faster, and stronger, there are more "collision" events (tackle, rucks etc), and as a large percentage of injuries occur during these situations, the potential for injury has increased. The majority (80-90%) of injuries occur during games, with the incidence of injury increasing with age and competitive level. Approximately 50% of all game injuries occur in the lower limb, with the knee, thigh, and ankle the most common sites. Head and neck injuries (lacerations and concussions) are the next most common (up to 33%), with the upper limb accounting for 15-25% of game injuries. The most common match injury is a thigh haematoma, with hamstring injury the most common training injury. Training injuries account for only 10-20% of all rugby injuries. During training, lower limb strains/sprains from running activities are more frequent, while contact-type injuries are much less common. Overall, internal knee derangements and hamstring injuries cause the most time lost for forwards and backs respectively. There is a common belief wearing protective equipment can reduce injury risk, however, research indicates headgear and shoulder pads do not reduce concussions and shoulder injuries respectively. Wearing of mouthguards may protect against dental injury but does not decrease the risk of concussion. Non-fatal catastrophic spinal injuries are extremely rare (1/10,000 players per season), and the majority of them occur in a tackle or scrum. It is unclear if a number of recent rule changes instigated in an attempt to decrease the risk of spinal injuries have had a positive effect. Epidemiological data is useful for identifying injury incidence and severity, and development of prevention strategies, however the majority of rugby injury data is from studies of professional rugby union, and it is unclear if the research findings translate to other groups (amateur, age-group, female).

RESEARCH SECTION

SPNZ PHYSIOTHERAPY RESEARCH REVIEWS CONTINUED…..

Incidence, risk and prevention of hamstring muscle injuries in professional rugby union

Brooks JH, Fuller CW, Kemp SP, Reddin DB. *American Journal of Sports Medicine* (2006),34:1297-1306
DOI: 10.1177/0363546505286022

Article Summary

This cohort study was conducted to identify the incidence, severity and risk factors associated with hamstring muscle injuries in professional rugby union. Hamstring injuries were reported over two seasons from twelve English Premiership rugby union clubs. Data was collected about how and where the hamstring injury was sustained, how long it took to return to training, whether the injury was new or recurrent and when in the match the injury occurred. In addition all players were assigned to one of three hamstring training groups to identify if hamstring strengthening and stretching exercises could reduce the incidence and severity of injuries. Hamstring muscle injuries on average resulted in 17 days of lost time with recurrent injuries significantly more severe than new injuries. Second-row forwards sustained the fewest and least severe match injuries. Backs were more likely than forwards to sustain a hamstring injury. Running accounted for most injuries but kicking resulted in the most severe injuries. More injuries occurred in the latter half of each half but injuries in the early part of the second half were more severe. The chance of a player sustaining an injury during a match was significantly higher when very high volumes of training were performed in the preceding week. Nordic hamstring strengthening exercise in addition to conventional strengthening and stretching exercises resulted in lower incidence and severity of injury.

Clinical Significance:
This is a well presented study that gives several statistics on hamstring injury that is specific to rugby union. It is interesting to see that recurrent injuries were more severe than new injuries and had a high incidence. This suggests that hamstring muscle injuries are not properly rehabilitated. It would have been good to see the full program that players undertook to rehabilitate from their injury and how much attention was given to this program once they had returned to match fitness. This may reveal areas of rehabilitation that need to be improved on. The Nordic exercise seems promising. It is more representative of the loads that go through the hamstring during athletic function so it would be expected to improve the resilience of the hamstring to injury. I would like to see a follow on study from this one that assesses if the Nordic exercise can prevent recurrence of hamstring injury when used as a specific rehabilitation tool rather than a generic exercise for all players.

Evaluation of RugbySmart: A rugby union community injury prevention programme.

Gianotti SM, Hume PA, Quarrie, KL. (2009) *Journal of Science and Medicine in Sport;* 12: 371-375

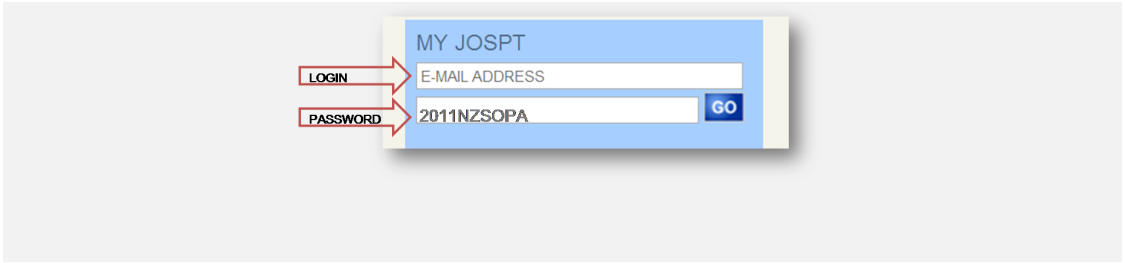
Article Summary

The RugbySmart programme is a joint project between the Accident Compensation Corporation (ACC) and the New Zealand Rugby Union (NZRU). The programme was implemented in March 2001. The programme was delivered to coaches and referees via video presentations and workshops. RugbySmart contained evidenced-based information about physical conditioning, tackling and scrummaging technique, injury management, warm up/cool down, protective equipment and injury reporting. This study evaluated the effect of RugbySmart on reducing injury rates. Self-reported behaviour surveys were carried out and then compared from years 1996-1998 and 2005. ACC claim rates were also analysed. A reduction claim rate of greater than 10% per 100,000 players was considered significant. Targeted injury sites such as knee, neck/spine and leg (excluding knee and ankle) had decreased by 2005. Player behaviour and injury management showed worthwhile effects for safe tackle, safe ruck, safe scrum and cool down but not warm up.

Clinical Significance:
The RugbySmart programme has shown to have a positive effect on reducing ACC injury claims per 100,000 rugby players in specific areas that are covered by the programme such as technique, conditioning and injury management. An improvement in injury prevention behaviour of players also has been a result of the implemented programme. This study was only an evaluation of the RugbySmart programme but further prospective analysis with a larger sample size should be performed to fully evaluate the effect of this injury prevention programme.

RESEARCH SECTION

JOURNAL OF ORTHOPAEDIC & SPORTS PHYSICAL THERAPY



July 2011; Volume 41, Issue 7

www.jospt.org

CASE REPORT

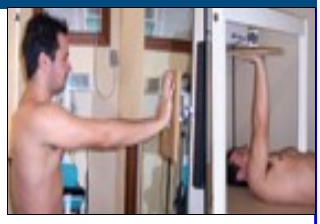
Forearm Pain, Diagnosed as Intersection Syndrome, Managed by Taping: A Case Series

Shouta Kaneko, Hiroshi Takasaki

RESEARCH REPORT

Activation of Selected Shoulder Muscles During Unilateral Wall and Bench Press Tasks Under Submaximal Isometric Effort

Helga T. Tucci, Marcia A. Ciol, Rodrigo Cappato de Araújo, Rodrigo de Andrade, Jaqueline Martins, Kevin J. McQuade, Anamaria S. Oliveira



Low-Intensity Pulsed Ultrasound Accelerates Healing in Rat Calcaneus Tendon Injuries

Sérgio Luiz Jeremias Júnior, Gilberto Luis Camanho, Ana Cristina Ferreira Bassit, Andrea Forgas, Sheila J. M. Ingham, Rene Jorge Abdalla

The Relationships Between Inter-recti Distance Measured by Ultrasound Imaging and Abdominal Muscle Function in Postpartum Women: A 6-month Follow-up Study

Lih-Jiun Liaw, Miao-Ju Hsu, Chien-Fen Liao, Mei-Fang Liu, Ar-Tyan Hsu

EDITORIAL

Taking in the View From 30000 Feet

Julie M. Fritz

RESEARCH REPORT

Factors Associated With Care Seeking From Physicians, Physical Therapists, or Chiropractors by Persons With Spinal Pain: A Population-Based Study

Julia Chevan, Daniel L. Riddle

Total Number and Severity of Comorbidities Do Not Differ Based on Anatomical Region of Musculoskeletal Pain

Rogelio A. Coronado, Meryl J. Alappattu, Dennis L. Hart, Steven Z. George

An Exploration of the Relationship Between Back Muscle Endurance and Familial, Physical, Lifestyle, and Psychosocial Factors in Adolescents and Young Adults.

Amity Campbell, Andrew M. Briggs, Peter B. O'Sullivan, Anne J. Smith, Angus Burnett, Penny Moss, Leon Straker

Analysis of Knee Flexion Angles During 2 Clinical Versions of the Heel Raise Test to Assess Soleus and Gastrocnemius Function

Kim Hébert-Losier, Anthony G. Schneiders, S. John Sullivan, Richard J. Newsham-West, José A. García, Guy G. Simoneau

CLINICAL COMMENTARY

A Guide to Understanding Meta-analysis

Heidi Israel, Randy R. Richter

MUSCULOSKELETAL IMAGING

Coronoid Process Fracture

Carrie W. Hoppes, Robert J. Bahr, Benjamin K. Potter

Lumbar Synovial Cyst

Marco Barbero, Duccio Boscherini

RESEARCH SECTION

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http://researchreview.co.nz

Bone Health Research Review™

Studies in this issue:

- Clinical features of people with high bone mass
- Risk factors for ankle fracture in older women with or without diabetes
- Changes in skeletal status of older US adults over time
- Lower BMD is associated with an increased risk of MI
- Paracetamol use is a risk factor for fracture in women
- Communicating DEXA results in writing may improve osteoporosis management
- Milk intake and risk of hip fracture
- Efficacy of bazedoxifene in postmenopausal Japanese women
- Risk of fracture with proton-pump inhibitors

Foot & Ankle Research Review

Studies in this issue:

- Obese children: flat and fat feet
- Patellofemoral pain syndrome: foot posture and kinematics
- Customised insoles: effects on plantar pressures
- Optimal casts for plantar foot ulceration
- Rheumatoid arthritis and impact of forefoot bursae
- Foot orthoses reduce injury in Military personnel
- Chronic gout affects gait
- Photographs reliable for diagnosing foot ulcers
- Foot orthoses beneficial in patellofemoral pain syndrome

Sports Medicine Research Review™

- Studies in the latest issue include:

- Exercise and type 2 diabetes
- Identifying patellofemoral pain patients likely to benefit from foot orthoses
- Rotator cuff tendinopathy: pathology and related management
- A–Z of nutritional supplements: part 13
- Foot orthoses and gait
- Kinesiotape and calf function, pain and motoneuronal

Rehabilitation Research Review

Studies in the latest issue include:

- Keep exercising in multiple sclerosis.
- Peer support promotes physical activity in heart disease.
- Evidence-based cognitive rehabilitation. Knowledge brokering in children's rehabilitation organisations.
- Goal Management Training for executive functioning deficits.
- Aphasia worsens quality of life after stroke. Obesity interventions for people with a learning dis-

CONTINUING EDUCATION

Upcoming courses and conferences in New Zealand and overseas in 2011 and 2012.

www.nzsopa.org.nz/calendar.html

LOCAL COURSES & CONFERENCES

When?	What?	Where?	More information
2011			
21 August	Cognitive Behavioural Therapy 1 Day Course for Physiotherapists with Edmund Otis	Hawkes Bay	www.physiotherapy.org.nz
27 & 28 August	NZ Manipulative Physiotherapists Association Biennial Scientific Conference: "The Role of Exercise in Management of Musculoskeletal Pain &	Rotorua	nzmpa.org.nz/2011-conference
31 August	The Public Health Association's Conference 2011, Creating our Future – Now	Christchurch	nzphaconference.info/programme-2
18 September	Postural Patterning 'Common Sense for your Body'	Wellington	posturalpatterning.com/
20 & 21 October	National Community Physiotherapists Conference	Nelson	pam.blair@xtra.co.nz
26 October	Occupational Health Special Interest Group - Conference		http://www.ohsig.org.nz/
5 & 6 November	Southern Physiotherapy Symposium 6	Queenstown	Registration information
5 & 6 November	Movement Analysis and Motor Control Retraining for the Lumbar Spine	Tauranga	jenlochray@hotmail.com
2012			
March 17 & 18	Sports Physiotherapy NZ	Sebel Trinity Wharf,	www.nzsopa.org.nz

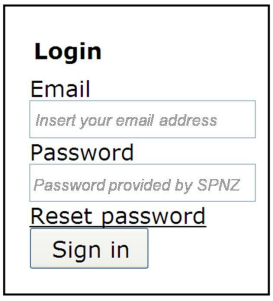
INTERNATIONAL COURSES & CONFERENCES

When?	What?	Where?	More information
2011			
19-22 October	Australian Conference of Science and Medicine in Sport	Freemantle, Perth	ACSMS Conference
27-30 October	Australian Physiotherapy Association 2011 Conference	Brisbane	http://physiotherapy.asn.au/conference2011/
10-12 Nov	Discover the Sports Pelvis—LJ Lee	Sydney	physiohealing.com.au
2012			
30 Sep - 5 Oct	IFOMPT 2012: Rendez-vous of Hands and Minds	Quebec, Canada	www.ifomptconference.org

SPNZ WEBSITE

SPNZ MEMBER SECTION

www.nzsopa.org.nz/members.html



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Your password will be sent to you by SPNZ and can be reset to a password of your choice by clicking on “Reset Password”.

MEMBERS SECTION:

Copies of all clinical article reviews and SPNZ Research Reviews that appear in the SPNZ Bulletin editions will be placed in the new “Resources” section, as well as an updated list of Open Access Journals. These will be available for

SPNZ’s Research Reviews

- Osteoarthritis
- Injuries in Cricket
- Medical Exercise
- Sport and the Disabled Athlete.

Clinical Article Reviews

- Barefoot running and the minimalist shoe debate
- Bench pressers’ shoulder—overuse tendinosis of pectoralis minor
- Blood clots and plane flights
- Heat acclimatization guidelines for high school athletes
- Management of hamstring injuries—issues in diagnosis
- Sideline evaluation of bone and joint injury
- Occular injuries in basketball and baseball
- Clinical and MRI features of a cricket bowlers side strain

AND MORE...

List of Open Access Journals

(full text available to all members)

- Sports physiotherapy

Quick Links to Members Section

Resources

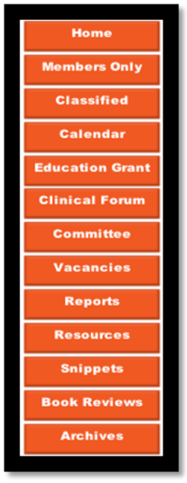
Copies of SPNZ’s Research Reviews, a list of open-access journals (full-text available), clinical article summaries and other sports physiotherapy related articles.

Vacancies

Sports Team Positions and Clinic Positions available

Clinical Forum

Got a clinical question and want advice from members?



Book Reviews

Book reviews on sports physiotherapy topics

Snippets

Quick sports physiotherapy tips

Calendar

Calendar of upcoming courses and conferences