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WHO ARE WE?

Orthosports is a professional association of Orthopaedic Surgeons based in Sydney.

We specialise in joint replacement, arthroscopic and reconstructive surgery.

Orthosports also includes a team of Sport & Exercise Medicine Physicians who are dedicated to promoting excellence in the treatment of musculoskeletal disorders in both adults and children.

Our team of surgeons has particular expertise in hip and knee replacement, ACL Reconstruction, knee and shoulder arthroscopy, open shoulder surgery, trauma, foot and ankle surgery, fracture management, paediatrics and many subspecialist procedures.

All of our practices are conveniently located next to physiotherapy, x-ray and imaging facilities.

Our mission is to have the facilities to offer everything our patients may need but also to be small enough to look after the little details that make all the difference to patient care.

OUR WEBSITE IS YOUR ORTHOPAEDIC RESOURCE

If you haven't visited our website recently, please take the time to visit and take a look around. It contains descriptions of many common surgical conditions and procedures as well as lectures, animations and videos of lectures given by our surgeons and sports physicians over recent years.

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Welcome Message

As we tune in to the 2012 Olympics, Dr Doron Sher looks at meniscal tears and Jana Pittman's historic 2004 hurdles race.

Dr Paul Annett brings us up to date with Autologous Blood Injections in the Management of Tendinopathy and Dr Todd Gothelf commences the first part of our Foot and Ankle Examination Series.

We hope you enjoy this issue of Orthosports News. **The Team at Orthosports**

Olympic race ends in tears

As London 2012 approaches, we look back to the Athens Olympics in 2004 where Jana Pittman impressively competed in her 400 metre Olympic hurdles event. Pittman's knee surgery (a lateral meniscal tear) was conducted 10 days before her Olympic event. As impressive as it was that she managed to race at all, she was only able to achieve 5th place in an event she would usually have won easily. We take a look at meniscal tears and repairs in this article.

The meniscus works like a shock absorber in the knee, assists with lubrication of the joint and helps to stabilise the knee. Most meniscal injuries are from a twisting type movement of the knee. Unfortunately the meniscus has a poor blood supply and it therefore has a limited potential to heal.

Injury to the meniscus and even partial loss of meniscal function significantly alters force transmission across the knee. This allows arthritis to develop in the knee over a very long time period (the severity and timing of the resulting arthritis depends on your age, activity levels, body weight and degree of meniscal damage). Damaging your lateral meniscus, as Jana did, has a much poorer long term prognosis than damage to the medial meniscus.

Most patients with a repairable meniscus are under 45 years of age and up to 80 percent of these are associated with a tear of the anterior cruciate ligament. Isolated tears in young patients can result from a specific high energy twisting incident but older patients may develop symptoms just standing from a chair.

An MRI scan helps determine the extent of the tear but the final decision to repair can not be made until the time of surgery as it depends on the size, site and the quality of the remaining meniscus.

MRI scan findings should be closely correlated with the patient's symptoms and signs as up to one third of meniscal tears present on MRI are asymptomatic.



While there are other possibilities the two common forms of meniscal tears are:

1. **Bucket handle** – This is often a larger tear that is amenable to repair.
2. **Degenerative** – The tear starts at the inner edge and works its way back. This causes a horizontal tear which is not repairable.

Symptomatic degenerative tears are best treated with a partial menisectomy but in younger patients every effort should be made to repair the meniscus where possible.

Rehabilitation after a meniscal repair can take up to 6 months to complete but is well worth the effort as it protects the knee from arthritis in the long term.

Generally speaking younger patients should be referred early for surgery as the results of repair are better if performed soon after the injury.

Dr Doron Sher
Knee, Shoulder and Elbow Surgeon

Autologous Blood Injections in the Management of Tendinopathy

Autologous blood injection (ABI) is a simple and generally beneficial procedure for the treatment of chronic tendinopathy.

Tendinopathy is a significant cause of musculoskeletal presentation to both general practitioners and specialists alike and may take 12-18 months to settle down. Tendinopathy is generally a self-limiting degenerative process and the prognosis should be considered favourable, however a small sub-set of patients will fail to improve. This may be despite conventional treatment including: anti-inflammatory medications, cortisone injections and eccentric rehabilitation programmes.

It has been postulated that injections of blood products – either autologous whole blood, or PRPP (platelet rich plasma protein) – may be helpful in stimulating tendon regeneration. The theoretical use of blood product injections relates to platelet derived growth factors (PDGF's) that are carried in the platelets in whole blood. Areas of tendinopathy are characterised by poor blood supply which may contribute to their slow healing. Injecting fresh blood around tendons may introduce growth factors to the area, which may stimulate a healing response. The landmark paper supporting Autologous Blood Injections (ABI) was written by Edwards on the effects on tennis elbow(1). 26 of 28 patients in this study improved after a series of up to 3 injections. Other studies have also shown benefits in other tendon conditions including golfer's elbow and patella tendonosis. Thus ABI gives us a treatment option between physio and anti-inflammatory treatment and surgery.

ABI is a relatively simple procedure to perform. It involves taking a small quantity of venous blood and re-injecting it around the affected



Pic 1: Blood is taken from the cubital fossa



Pic 2: ABI to the greater trochanter for gluteus medius tendinopathy

tendon. It can be performed on the day of consultation and does not require imaging guidance. A PRPP injection requires 30 mls of blood which must be centrifuged for 15 minutes. It requires more time and expense and there are limited studies showing any benefit over ABI in the treatment of tendinopathy.

The main side effect from these injections is pain and bruising at the site of the injection. The severity and duration of this varies from person to person, but may be anywhere from 1-2 weeks. This is best treated with ice and simple analgesics. Maintenance exercises may be performed as soon as the local pain settles, and should be encouraged. The recovery time for these injections may be anywhere between 1-6 weeks. Injections may need to be repeated up to 3 times, generally at 6 week intervals, depending on the level of improvement.

In summary, a reasonable paradigm for the treatment of tendinopathy may include:

- Initial physiotherapy with an exercise component (generally an eccentric program)
- If pain persists or is interfering with rehabilitation exercises or

daily activities then consider 2-3 corticosteroid injections at 4-6 week intervals with continuation of rehabilitation exercises.

- If pain is recurring or there is limited improvement with this approach then consider second line treatment with a blood product injection.
- ABI is suggested initially as it is a cheaper alternative and more readily administered. The literature suggests similar levels of efficacy between ABI and PRPP and there is nothing to suggest that PRPP injections have advantages over and above autologous blood injections.
- If autologous blood injections are unhelpful (up to 3 injections), then consider a trial of PRPP injection.
- Consider surgery as a last option if all other treatment options have been exhausted. Typically this is when pain is persistent for more than 12 months and work and daily activities are interfered with.

1. Edwards SG, Calandruccio JH. Autologous blood injections for refractory lateral epicondylitis. *J Hand Surg [Am]*. Mar 2003;28(2):272-8.

Dr Paul Annett
Sport & Exercise Medicine Physician

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KEY EXAMINATION POINTS



FOOT AND ANKLE EXAMINATION SERIES – PART 1

Examination of the Ankle and Hindfoot

GENERAL CONSIDERATIONS:

Skin, Circulation and Sensation:

Foot and ankle pathology often occur in patients due to co morbidities such as diabetes, neuropathy, or inflammatory conditions. Painful feet may occur as a result of inflammation or vascular compromise, rather than any focal pathology in the feet. A palpable dorsalis pedis and posterior tibial arterial pulse will indicate adequate perfusion. Neuropathy can be checked with the use of a Semmes-Weinstein monofilament. Skin and joints can be checked for any rashes, lesions, or joint swelling.

Walking and alignment: The patient is asked to walk to assess their gait pattern. Pain on one foot can present with an antalgic, or painful gait. The feet are assessed for normal heel strike, foot flat and toe-off phases of walking.

The patient is then asked to stand facing the wall so that the feet are assessed from behind. This view will help to assess the alignment of the feet, whether there is a high arch, normal arch, or flat foot.



The right foot has a valgus heel and a "too many toes" sign, indicative of posterior tibialis tendon dysfunction.

Single-Limb Toe Raise: The patient is asked to stand flat on the ground on the affected foot, then to raise the heel to stand on the toes. This test is normal when the heel is able to rise off the ground and invert into slight varus due to the pull of the posterior tibialis tendon on the navicular. Inability to perform this test indicates possible pathology in the posterior tibialis tendon or Achilles tendon.



Examination of the foot and ankle is done in the seated position with the patient slightly higher than the examiner.

The patient is then asked to sit on the examination table, while the examiner sits on a stool. The feet are dangling off the table with the knees flexed to facilitate the examination.

Range of Motion: The ankle joint is put through a range of motion of dorsiflexion and plantarflexion. Dorsiflexion normally is about 15 degrees and is considered abnormal if the ankle cannot be dorsiflexed past neutral. Lack of dorsiflexion past neutral can be due to gastrocnemius or Achilles tightness. The hindfoot joints: The hindfoot joints move the heel from eversion to inversion. These joints include the talonavicular joint, subtalar joint, and calcaneocuboid joint. Normal eversion is 15 degrees and inversion greater than 30 degrees. Stiffness of the hindfoot may be due to arthritis of any of the three joints, a subtalar coalition, or longstanding posterior tibialis tendon dysfunction (PTTD).

SPECIFIC DIAGNOSES:

Ankle arthritis, synovitis, impingement, or Talar Dome Lesions

Pain is present on palpation of the anteromedial and anterolateral gutters of the ankle joint. Patients without arthritis will have a normal range of motion, whereas arthritic joints are usually stiff.

Peroneal Tendon Pathology - Pain is present when the tendons are palpated along their course just posterior to the fibula toward the base of the fifth metatarsal.

Plantar fasciitis - Pain is present at the origin of the plantar fascia on the base of the calcaneus. There should be no pain elsewhere around the foot.

Posterior Tibialis Tendon

Dysfunction (PTTD) - This condition involves a swollen, tender posterior tibialis tendon. Pain and swelling is present along the course of the tendon just posterior to the medial malleolus distally to the navicular tuberosity. Pain is exacerbated with resisted inversion of the hindfoot. A patient with PTTD will be unable to perform a single-limb toe raise due to weakness from the dysfunctional tendon. "Too many toes" can be seen when looking at both feet from behind as the affected foot arch is collapsed and the forefoot is abducted.

Achilles Tendon Disorders/

Ruptures - The Achilles tendon is best examined with the patient lying prone. Tendinitis presents with either fusiform swelling of the tendon or swelling at its insertion on the calcaneus. These areas can be exquisitely painful to palpation. A rupture is indicated by three signs: 1) a palpable defect, 2) an abnormal **Thompson test** (with an intact tendon, squeezing the calf will cause the foot to plantarflex. When the Achilles ruptures the foot fails to plantarflex), 3) With the knees flexed, the foot with a ruptured tendon will naturally lie with more dorsiflexion.



Left to Right: The Thompson Test is positive in an Achilles rupture when a calf squeeze fails to cause the ankle to plantarflex, Achilles rupture: A defect is palpable at the site of rupture as the finger runs across the tendon.



Photograph and X-ray of a severely deformed ankle. The main deformity is in the subtalar joint below the ankle.

Dr Todd Gothelf
Foot, Ankle and Shoulder Surgeon

Sydney
Shoulder
Clinic

A sub-group of Orthosports, The Sydney Shoulder Clinic is a specialist shoulder service providing clinical care in physiotherapy, sport & exercise medicine and orthopaedic surgery.

www.sydneyshoulderclinic.com.au

Orthopaedic Surgeons and their Interests

LOCATION	SURGEON	SPECIALTY
CONCORD 47-49 Burwood Road, Concord NSW 2137 Tel: 02 9744 2666	Dr Todd Gothelf	Shoulder, Foot & Ankle
	Dr John Negrine	Foot & Ankle (Adult)
	Dr Rodney Pattinson	Paediatrics and General Orthopaedics
	Dr Doron Sher	Knee, Shoulder and Elbow
	Dr Kwan Yeoh	Hand, Upper Limb and General Orthopaedics
HURSTVILLE 2 Pearl Street, Hurstville NSW 2220 Tel: 02 9580 6066	Dr Jerome Goldberg	Shoulder
	Dr Todd Gothelf	Shoulder, Foot & Ankle
	Dr Andreas Loeffler	Spine, Trauma, Hip and Knee
	Dr John Negrine	Foot & Ankle (Adult)
	Dr Rodney Pattinson	Paediatrics and General Orthopaedics
	Dr Ivan Popoff	Shoulder, Knee and Elbow
	Dr Allen Turnbull	Hip and Knee
	Dr Kwan Yeoh	Hand, Upper Limb and General Orthopaedics
PENRITH Level 3, 1a Barber Avenue, Kingswood NSW 2747 Tel: 02 4721 1865	Dr Todd Gothelf	Shoulder, Foot & Ankle
	Dr Kwan Yeoh	Hand, Upper Limb and General Orthopaedics
RANDWICK 160 Belmore Road, Randwick NSW 2031 Tel: 02 9399 5333	Dr Jerome Goldberg	Shoulder
	Dr Todd Gothelf	Shoulder, Foot & Ankle
	Dr Andreas Loeffler	Spine, Trauma, Hip and Knee
	Dr John Negrine	Foot & Ankle (Adult)
	Dr Rodney Pattinson	Paediatrics and General Orthopaedics
	Dr Ivan Popoff	Shoulder, Knee and Elbow
	Dr Doron Sher	Knee, Shoulder and Elbow
	Dr Kwan Yeoh	Hand, Upper Limb and General Orthopaedics

Sport & Exercise Medicine Physicians

PHYSICIAN	LOCATION	PHYSICIAN	LOCATION
Dr Paul Annett	Hurstville	Dr Mel Cusi	Concord Hurstville Randwick
Dr John Best	Randwick		



Dr Andreas Loeffler
– Orthopaedic Surgeon

Spotlight on Dr Andreas Loeffler

Dr Andreas Loeffler is an Orthopaedic Surgeon with a special interest in hip and knee replacement and spine surgery.

He graduated from the University of Sydney in 1984 having previously gained a Bachelor of Science in Human Biology at the University of Zambia.

Dr. Loeffler completed basic surgical training in Canberra and his advanced training on the Sydney Orthopaedic Training Scheme. Dr Loeffler

is currently on the AOA Board of Directors and Chairman of Professional Development and Standards. Dr Loeffler is a regular volunteer for the Orthopaedic Outreach Charity.

After completing formal training Dr. Loeffler undertook additional courses in spinal and trauma surgery in Europe, including completing a Fellowship in C.D. Spinal instrumentation in France.

Dr Loeffler consults from the Hurstville and Randwick Offices.

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