



ISSUE 05 | WINTER 2011

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Or visit our website

www.orthosports.com.au

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.

www.orthosports.com.au

Welcome Message

Winter is here and with that comes a long line of winter sports. The cold weather and early snow brings skiing and snowboarding to mind, to prepare for the ski season Drs Sher and Bruce gave lectures to the ski patrol in readiness for the busy season of snow sport injuries.

Winter also means Rugby, Netball, Hockey, AFL, Soccer and many other sports that bring with them a vast array of knee, ankle, shoulder, foot, hip and general orthopaedic traumas.

Leading on from the completion of our knee examination series, we commence our shoulder examination series on page 3.

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

The Young Patient who Dislocates their Shoulder for the First Time

This is one of the most controversial topics in orthopaedics. The literature has established that the younger the patient, the higher the risk of recurrence (up to 90% in persons under 20 years). With each instability episode, increasing damage is done to the articular cartilage and other structures of the shoulder. One can extrapolate from that, that the more frequent the number of dislocations, the higher the risk of developing Glenohumeral arthritis.

When a patient dislocates the shoulder the labrum can tear (a bankart lesion), the capsule is stretched and bony damage can occur to the Humeral head (a Hill Sachs lesion) or Glenoid (a bony bankart lesion).



Fig 1. Arthroscopic picture of torn Anterior Labrum



Fig 2. Arthroscopic picture of Hill Sachs lesion

When there is a large labral tear or significant bony damage, the risk of recurrence and more subsequent damage to the joint is very high. This risk is amplified if the patient is young, active and plays contact sports.

A general approach to the first time dislocator is to initially perform a thorough history and examination. A plain x-ray will assess the bony damage. If it is possible to arrange an MRI with intra articular contrast, this will give a good view of the labrum.

If the MRI reveals no bony or labral damage, commence physiotherapy immediately. There is no evidence in the literature to suggest that sling immobilisation is of any benefit. Once



Fig 3. X-ray showing bony Bankart lesion and Hill Sachs lesion

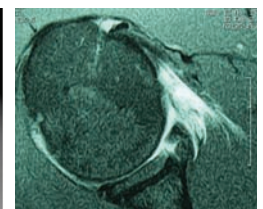


Fig 4. MRI showing torn anterior labrum

the shoulder is strong, usually at about 6 to 8 weeks after the injury, the patient is generally allowed back to full activity. If the dislocation recurs then surgery is recommended.

In these active young patients, if there is a large labral tear then arthroscopic surgery is recommended to repair the labrum and reduce the risk of recurrent dislocations. The surgery carries a 4 to 6 month rehabilitation period and the success rate is approximately 90%.



Fig 5. Arthroscopic photo of labral repair

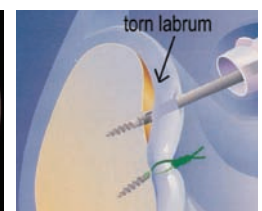


Fig 6. Diagram of labral repair using anchors

If there is significant bony damage then a larger and more complicated procedure is required to compensate for the bone loss which involves transferring the coracoid process into the defect.

In summary, a dislocated shoulder is not a benign injury and can do significant structural damage to the joint. This damage can be minimised by early surgery in the high risk individual.

Dr Jerome Goldberg

Management of Acute Ankle Sprains

Acute ankle sprains are an extremely common injury in both sport and the general community. The 'garden variety' ankle sprain involves the lateral ligament complex. It generally occurs in a position of plantar flexion and inversion, where the foot 'rolls under' the ankle. Clinical assessment of the ankle is very important as it should not be assumed that all ankle sprains are lateral ligament sprains. Important conditions to exclude are:



External rotation test

1. Syndesmosis sprains – This injury is a disruption of the inferior tibiofibula ligaments. It is important to differentiate this injury as it runs a more protracted time course (roughly twice as long as a lateral ligament sprain) and occasionally requires surgery. On history

the patient describes a dorsiflexion and external rotation mechanism, which is quite different to the plantar flexion inversion mechanism of a lateral ligament injury. Clinically pain is felt with forced external rotation of the foot with the ankle in a neutral position.

2. Fractures – The common fractures accompanying an ankle sprain include either medial or lateral malleoli, the base of 5th metatarsal or one of the midfoot bones, such as the navicular. Imaging guidelines known as the Ottawa ankle rules provide guidelines for when to x-ray an injured ankle and have been shown to reduce radiology requirements for emergency departments by 30%.



Stirrup brace

3. Peroneal tendon subluxation – The peroneal tendons are held in place by the peroneal retinaculum, which may be ruptured in an acute ankle sprain. This leads to instability of these tendons. Clinically this may be diagnosed by asking the patient to actively dorsiflex and externally

rotate the foot, whilst palpating for the tendons snapping from posterior to anterior over the malleolus. This may require surgical repair.

If these conditions are excluded, then almost all ankle sprains may be treated with functional rehabilitation. This may include partial immobilization in a stirrup brace, weight-bearing as tolerated, anti-inflammatory measures (ice, compression, NSAIDs) and physiotherapy which has both a 'hands-on' and an exercise component.

Dr Paul Annett

Treatment of Bunions

The term "bunion" is commonly used to describe any enlargement or deformity around the great toe. The origin of the term "bunion" is from the latin word *bunio*, meaning turnip. The most common cause of a bunion deformity is due to hallux valgus, where there is lateral deviation of the great toe, and a medial eminence.

AETIOLOGY

Studies have shown that painful hallux valgus is a problem of the shoe wearing population, occurring in up to 33% of people as compared to 2% of the unshod persons. The fact that hallux valgus does not occur in everyone wearing shoes, or does occur in the unshod population suggests that there is an underlying hereditary component that may predispose to this condition.

The first metatarso-phalangeal joint is subjected to a number of deforming forces. When the toe is straight, these forces are balanced and do not cause a deformity. Once hallux valgus occurs, the pull of tendons around the joint becomes imbalanced, allowing for further worsening of the deformity. Pressure on the medial eminence from shoes, and altered pressure on the great toe commonly causes pain.

Painful hallux valgus occurs far more commonly in females than males. While deformities may first arise in the teenage population, patients usually seek treatment for this condition around the sixth decade of life due to worsening of the deformity, difficulty with shoe wear, and pain and deformity in the great toe or lesser toes.

DIAGNOSIS

The majority of patients report pain over the medial eminence of the great toe. Up to half of patients will report pain underneath the second metatarsal head, usually due to transfer of weight bearing to this part of the foot as the deformed first ray is unable to share load.

Pain can be present all of the time, but patients usually report worsening of pain with shoe wear and improvement of pain with open toed shoes or thongs.

I prefer to order standing or weight bearing radiographs as they better demonstrate the true deformity. The presence or absence of arthritis and the anatomic structure of the foot demonstrated on radiographs will help

to establish the diagnosis and dictate appropriate treatment.

TREATMENT

Non-operative management usually alleviates symptoms associated with hallux valgus. Patients are encouraged to use wide shoes with a wide toe box. Shoes can be stretched by a shoemaker to relieve pressure points over the bunion. Podiatric care, with the use of bunion pads, night splints, or bunion posts, have been shown to be effective in relieving symptoms. These products have not been effective at preventing the progression of the deformity.

When conservative management has failed to relieve symptoms, operative management is considered. Proper correction of the deformity involves a rebalancing of the forces around the first metatarsophalangeal joint. I have had excellent results with a procedure known as the SCARF osteotomy. The first metatarsal is cut and the bone shifted laterally to re-align the bony deformity. This procedure, popularised by a French surgeon, Louis Barouk, allows for correction of large deformities, and patients are allowed to immediately bear weight on the operated foot. Surgery can be done on both feet simultaneously.



Before

After

Above: the most common cause of a bunion is Hallux valgus. With the scarf osteotomy procedure, the first metatarsal is cut and the bone shifted laterally to realign the bony deformity.

KEYPOINTS

- Bunions are mainly due to hallux valgus, a deformity of the great toe MTP joint.
- Pain from the deformity can be controlled by wider shoes and podiatric care.
- Hallux valgus may progress over time, and may cause symptoms in the lesser toes.
- Surgery is considered when non-operative treatments have failed to control symptoms.

Dr Todd Gothelf

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KEY EXAMINATION POINTS

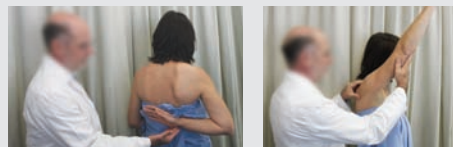


SHOULDER EXAMINATION SERIES

Shoulder pain is common and can be difficult to diagnose accurately. It is helpful to remember that certain diagnoses are more common in certain age groups. Across the board, impingement is by far the most common diagnosis but in the younger age groups (20-40) one should consider instability both as it's own diagnosis and as a cause for secondary impingement. In the 30-50 year age group remember adhesive Capsulitis (which unfortunately is overdiagnosed) as well as impingement; and in the 50+ age group add arthritis to the list above.

As with all joints a thorough history is required to appropriately direct your clinical examination. Ask about the patient's age, hand dominance, sport and work activities. Does the injury prevent or interfere with work, hobbies and sport? The location and nature of the pain, instability, stiffness, locking, catching and swelling are all critical questions. Pain from the shoulder is often felt in the upper arm and night pain is common. Stiffness or loss of motion is seen with adhesive capsulitis, arthritis and posterior glenohumeral dislocation. Pain or inability to throw suggests anterior glenohumeral instability. Pain at the top of the shoulder may be AC joint arthritis. A history of a fall, or pain with lifting, may indicate a rotator cuff tear and may be associated with bruising in the upper arm (which could also indicate a fracture).

Clinical examination requires inspection, palpation, evaluation of range of motion and provocative testing. Always remember to check the neck and elbow and look for neurological problems. Bones, muscles and soft tissue structures can all be injured around the shoulder. The rotator cuff is made up of 4 muscles: the supraspinatus, infraspinatus, teres minor and subscapularis, with the



From left: internal rotation, forward elevation, and external rotation.

supraspinatus being the most commonly injured muscle.

INSPECTION

The shoulders and arms should be properly exposed to look for swelling, asymmetry, muscle atrophy, scars and bruising. Loss of shoulder roundness may be from a dislocation or chronic muscle wasting. Scapular winging and poor scapulothoracic rhythm can indicate a nerve injury or be the cause of secondary impingement. Wasting of the supraspinatus or infraspinatus makes you suspicious of a rotator cuff tear, suprascapular nerve entrapment or neuropathy.

PALPATION

Palpation should include examination of the acromioclavicular and sternoclavicular joints, the cervical spine and the biceps tendon. The glenohumeral joint, coracoid process, acromion and scapula should also be palpated for any tenderness and deformity.

RANGE-OF-MOTION TESTING

Always compare the two shoulders with both active and passive range of motion. Forward elevation, external and internal rotation and abduction are the most useful movements. A difference in active and passive motion is usually caused by a rotator cuff tear. Loss of some motion can be caused by impingement, calcific tendonitis and chronic instability. A global loss of motion is caused by arthritis, chronic dislocations, fractures and massive rotator cuff tears.

STRENGTH TESTING

When testing the rotator cuff be sure to compare the painful side to the unaffected side to detect subtle differences in strength and motion. True weakness should be distinguished from weakness that is due to pain. A patient

with subacromial bursitis with a tear of the rotator cuff often has objective rotator cuff weakness caused by pain when the arm is positioned in the arc of impingement, however the rest of the rotator cuff examination may be normal.

The supraspinatus can be tested by having the patient abduct the shoulders to 90 degrees in forward flexion with the thumbs pointing downward. The patient then attempts to elevate the arms against examiner resistance. This is often referred to as the "empty can" test.

Next, with the patient's arms at the sides, the patient flexes both elbows to 90 degrees while the examiner provides resistance against external rotation. Weakness of external rotation almost always indicates a rotator cuff tear.

Subscapularis function is assessed with the lift-off test. The patient rests the dorsum of the hand on the back in the lumbar area. Inability to move the hand off the back by further internal rotation of the arm suggests injury to the subscapularis muscle. A modified version of the lift-off test is useful in a patient who cannot place the hand behind the back. In this version, the patient places the hand of the affected arm on the abdomen and resists the examiner's attempts to externally rotate the arm.

Injections can be used for diagnosis and treatment. If a subacromial injection relieves pain and restores motion and strength the patient usually has impingement rather than a rotator cuff tear. AC joint injections are useful to deal with superior shoulder pain (please refer to the "Teaching" Section of our website and go to "Injection Techniques").

The next newsletters will deal with further clinical examination specific to rotator cuff tears and instability.

Dr Doron Sher



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



Spotlight on Dr John Negrine

Dr. Negrine specialises exclusively in conditions of the Adult Foot and Ankle covering all aspects of sports injuries, arthritis and foot deformity.

Dr. Negrine is the Immediate Past President of the Australian Orthopaedic Foot and Ankle Society (2008-2010) as well as a member of the Australian, American and European Foot and Ankle Societies. He also has numerous local and international presentations and publications to his name.

Dr. Negrine graduated from the University of Sydney in 1984. He completed his residency at Royal North Shore Hospital Sydney. In 1989 he was selected as Commonwealth Orthopaedic Registrar, Royal National Orthopaedic Hospital London. In 1990 Dr Negrine commenced the Sydney Orthopaedic training scheme which he completed in 1993 gaining the Fellowship of the Royal Australasian College of Surgeons (Orthopaedic).

In 1994/5 he was the Accredited Foot and Ankle Fellow at Baylor University Medical Center, Dallas Texas where he studied and worked under the world renowned Foot Surgeon Dr. James W. Brodsky.

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
HURSTVILLE 2 Pearl Street, Hurstville NSW 2220 Tel: 02 9580 6066	Prof. Warwick Bruce	Hip and Knee
	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
OLYMPIC PARK Retail 4, 8 Australia Ave Sydney Olympic Park NSW 2127 Tel: 02 9735 3637	Prof. Warwick Bruce	Hip and Knee
	Dr John Trantalis	Shoulder and Elbow
	Dr Peter Walker	Hip and Knee
PENRITH Level 3, 1a Barber Avenue, Kingswood NSW 2747 Tel: 02 4721 1865	Dr Todd Gothelf	Shoulder, Foot & Ankle
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 John Trantalis	Shoulder and Elbow
SYDNEY Level 3, 187 Macquarie Street, Sydney NSW 2000 Tel: 02 9735 3637	Dr Peter Walker	Hip and Knee

Sport & Exercise Medicine Physicians

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

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