ORTHOSPORTS



WHO

ARE WE?

Orthosports is

a professional

association of Orthopaedic

Surgeons based

in Sydney.

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Welcome to the Autumn edition of Orthosports news.

In this issue, Dr Doron Sher discusses HTO in younger patients and reviews Knee Examination on page 3.

Dr John Negrine looks at Common Fractures of the Foot & Ankle on page 2.

With the new RACGP triennium our Category 1 GP modules are being well received by the GP community, see page 4 for upcoming workshop dates.

- The Team at Orthosports



ORTHOSPORTS LOCATIONS

www.ortho	sports.com.a	
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> Randwick	02 9399 5333	
> Penrith	02 4721 7799	
> Hurstville	02 9580 6066	
> Concord	02 9744 2666	

High Tibial **Osteotomy**

Many patients with medial compartment arthritis of the knee wish to remain fit and active but treatment options for them are limited if they wish to run, kneel or do manual work. Total knee replacement (TKR) is reliable at providing pain relief for these patients but it restricts their work and sporting capabilities considerably.

The main goal of a high tibial osteotomy (HTO) is to re-align the leg to decrease the pain associated with arthritis. In younger patients who wish to remain active this improves function and slows the progression of the arthritis. Older or less active patients may be satisfied with a TKR but it is an imperfect long-term solution for active patients. Unicompartmental knee replacement (UKR) has created poorer outcomes for these patients in the longer term when they were later converted to a total knee replacement. Unfortunately the results of revising a UKR to a TKR are about the same as revising a primary TKR to a revision TKR. In contrast to this, the results of performing a TKR after an opening wedge HTO are similar to those of a primary TKR.

The most important part of achieving success with proximal tibial osteotomy is selection of the appropriate patient. They should be relatively young, active, have reasonable range of motion in the knee and have only one part of the knee affected. Unlike a total knee replacement an HTO imposes no permanent activity restrictions.

IMAGING

The standard OA knee series of xrays is performed. In addition, single leg standing films from the hip to the ankle are taken to assess knee alignment and calculate the amount of correction required. MRI scans are helpful and are usually performed but are not actually needed for surgical decision making.

SURGERY

An arthroscopy is typically performed at the time of the operation. A small incision is made over the pes anserinus bursa on the proximal medial tibia and an opening wedge osteotomy performed under image intensifier control. The patient stays in hospital overnight and is discharged the next day on crutches and in a hinged brace.

POST OPERATIVE CARE

For the first six weeks the knee is kept in a range of motion brace and the patient remains touch weight bearing using crutches. From week 6 to 12 the brace is discontinued



Combined high tibial osteotomy and revision ACL reconstruction

and their weight bearing is increased gradually to full at the end of the six week period. From 3 to 6 months postoperatively the patient is encouraged to progress their activities as tolerated.

Unlike after a TKR the patient may return to running and jumping sports and labouring work if they choose to.

CONCLUSION

It is expected that the results of high tibial osteotomy will deteriorate with time and the majority of these patients will end up with a TKR as the rest of their knee becomes arthritic. For most patients they will have had an extra 10 years of high level activity which a TKR would not have provided for them.

Dr Doron Sher

Common Fractures of the Foot and Ankle

"If all else fails talk to the patient!"

When seeing a patient with a fracture it is as important to talk to the patient about the mechanism of injury as it is to look at the x-ray that the patient is thrusting into your hand.

Did the patient twist their ankle on a 3 cm uneven piece of pavement? Did they slip on a wet surface in a supermarket? Did they fall 10 m out of a building? Was their foot run over by a 10 ton truck? Did they fall off a horse? Importantly, when a patient is injured on the sporting field were they able to keep playing or were they stretchered off in spectacular fashion and taken to hospital by helicopter?

When examining a patient with a fracture the clinical signs are: swelling, deformity and point tenderness over bone. Most patients with foot and ankle fractures do not need an MRI scan!

In the scope of this article I will speak about fractures of the ankle including the anterior process of the calcaneus. Fractures of the fifth metatarsal and toe fractures.



Jones fracture requiring 6 weeks non-weight bearing on crutches

ANKLE FRACTURES:

Ankle fractures are extremely common and usually result from a twisting injury. They are often associated with sprains. A fractured ankle sustained twisting it on a footpath is different to an ankle fracture sustained by falling 10 m out of a building.

Ankle fractures are broadly classified as being below, at, or

above the syndesmosis. Fractures below the syndesmosis will generally heal nonsurgically. Fractures at the syndesmosis sometimes require surgery and fractures above the syndesmosis nearly always require surgery.

Ankle sprains often result in avulsion fractures from the distal fibula, lateral wall of the talus, lateral wall of the calcaneus or the anterior process of the calcaneus. These avulsion fractures are generally small and are usually managed with the customary rest, ice, compression, elevation.

Larger fragments sometimes need to be reattached. The best way to image ankle fractures in this situation is a fine cut CT scan.

FRACTURES OF THE FIFTH METATARSAL:

These fractures frequently accompany ankle sprains. When examining a patient with an ankle sprain it is very important to palpate the fifth metatarsal for tenderness



From left: Dancer's fracture 5th metatarsal with comminution; Fracture healed uneventfully with non surgical treatment; and Displaced fracture little toe quite amenable to reduction under local anaesthetic in the office

over bone. Broadly speaking fifth metatarsal fractures occur in the tuberosity proximally, the junction of the metastasis and the diaphysis and in the distal shaft.

Tuberosity fractures will generally become pain free whether or not the fracture is displaced and whether or not the fracture unites. Pseudarthrosis with fibrous tissue bridging the gap will usually be painless and not require any further treatment.

The long spiral fracture of the fifth metatarsal sometimes known as the dancer's fracture has a somewhat sinister radiological appearance but generally unites uneventfully (see *image above left*).

The fracture which generally causes the most trouble is the fracture at the diaphysis/metaphysis junction. This is known as the Jones' fracture. This fracture can either occur as an acute fracture or as a stress fracture. The optimal management is six weeks in plaster nonweight bearing. Unfortunately even with this treatment there is a 25% incidence of non-union. (refer image)

I usually consider open reduction internal fixation in the high demand patient or the athlete which increases the chance of union to approximately 90% and substantially decreases the risk of re-fracture.

TOE FRACTURES:

Toe fractures particularly fifth toe fractures are common and often result from getting the toe caught on a piece of furniture.

If the toe is reasonably straight and the fracture does not involve the joint the patient will usually make an uneventful recovery but needs to be warned that the toe will swell for up to 6 months. This is particularly an issue in ladies who want to wear fashionable shoes!

If the toe is not straight they can generally be straightened in the office under local anaesthesia and then buddy taped to the adjacent toe for a period of 3 to 6 weeks.

In the great toe intra-articular fractures which are displaced sometimes need open reduction internal fixation to prevent the development of arthritis.

Dr John Negrine



Knee Examination Series (Part 1)

A careful history offers a high index of suspicion to the diagnosis for most knee injuries. This includes previous injuries, the mechanism of injury, the development of pain, swelling, instability, locking and the response to treatment.

MENISCAL TEARS

History – meniscal tears may present acutely or as overuse. Localised joint line pain, mechanical symptoms (locking or catching) and movement restrictions are all features.

Gait and stance – the patient may have a limp , limited movement or pain squatting.

Effusion –There will always be swelling with a chondral injury but not always with a meniscal tear.

Joint line tenderness – useful but not very specific. The knee is bent to 90 degrees and the entire joint line is palpated looking for pain. Allowing the hip to drop out to the side allows more specific palpation the medial meniscus.

McMurray's Test – With the patient supine, bend the knee and twist the foot (internal and external rotation). A click (and often pain) is felt at the joint line as the knee is brought into flexion.

Thessaly's test is more sensitive and specific than McMurray's test. The patient balances on you or a wall, lifts their good leg, bends the bad knee to 30 degrees and twists to the left and right. They will feel pain at the site of the meniscal tear.

ACL TEARS

Anterior cruciate ligament tears present as acute injuries. This may be contact or non-contact. In the case of noncontact injury the history is usually of a patient playing sport with the foot planted attempting a side stepping manoeuvre.

The knee gives way with a popping sound and the patient falls to the ground.

Occasionally the patient may describe a hyperextension injury or a quadriceps active mechanism when the pop occurs as they jump into the air. The knee may swell immediately or later that night and walking is usually painful. Most sportspeople are unable to continue playing their sport at the time of injury.

On examination it is important to ensure that the patient is relaxed. This is often difficult when the knee is painful and swollen and the examination can be challenging. In order to obtain relaxation, the patient is asked to rest his or her head on a pillow with their arms by their sides. Placing a pillow below the knee is often more comfortable for the patient.



LACHMANN TEST

The knee is unlocked in 30° of flexion. The patient's heel rests on the couch. The examiner holds the patient's tibia, with the thumb on the tibial tubercle. The examiner's other hand is placed on the patient's thigh a few centimetres above the patella. Placing your leg under the thigh can make it easier to control the femur in larger patients. The hand on the tibia applies a brisk anteriorly directed force to the tibia.

The quality of the endpoint at the end of the movement is described as either "firm" or "soft " and is always compared to the other knee. If the movement of the tibia on the femur comes to a sudden stop, this is described as a firm endpoint. A soft endpoint almost always indicates a torn ACL. A firm endpoint results from the sudden tensioning of the ACL.

PIVOT SHIFT

Tests screening for pivot shift were first described in 1968. Since then, many such tests have been devised: A shift means that the ACL has gone.

Description of the test: The patient is positioned supine and you stand on the



affected side. You use one hand to hold the patient's foot in very slight internal rotation. With the other hand, you apply a valgus stress to the posterolateral aspect of the proximal calf. At this point, flexion is started. The lateral tibial plateau will be seen to sublux forwards during the first degrees of flexion. As flexion progresses, the anterolaterally subluxed tibia will suddenly reduce, at 30° of flexion. This reduction is associated with a characteristic clunk, which the patient will readily recognise.



ANTERIOR DRAWER IN 90° FLEXION OR DIRECT ANTERIOR DRAWER

The examiner sits on the patient's toes, which has been placed in neutral position. The knee is in 90° flexion. The index fingers are used to check that the hamstrings are relaxed, while the other fingers encircle the upper end of the tibia and pull the tibia forwards.

If a direct anterior drawer is obtained, the ACL will be torn. However, for this sign to be elicited, peripheral structures such as the medial meniscus or the meniscotibial ligament are usually also damaged. This ligament forms a wedge, in 90° flexion, preventing anterior tibial translation. The finding of an anterior drawer is conclusive evidence of an ACL tear. However, not every ACL tear will be associated with a positive anterior drawer test.

Dr Doron Sher

Orthopaedic Surgeons and their Interests

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Dr Ivan Popoff	Shoulder, Knee and Elbow
Dr Allen Turnbull	Hip and Knee
Dr Kwan Yeoh	Hand, Upper Limb and General Orthopaedics

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3 hours of convenient online learning and
3 hours of workshop time (6.30pm-9.30pm)

NEW TRIENNIUM MODULES:

Shoulder Pain & Injury – 40 Cat1 CPD points:Penrith:Tuesday, 18th JulyRandwick:Thursday, 3rd AugustConcord:Tuesday, 8th August

Knee Sports Injuries – 40 Cat1 CPD points: Randwick: Thursday, 8th June Concord: Tuesday, 25th July

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Dr Paul Annett	Hurstville
Dr John Best	Randwick
Dr Mel Cusi	Concord Hurstville Randwick Penrith

SOME COMMENTS RECEIVED FROM GPS:

"An excellent meeting. It was among the best I have ever attended."

"I was very impressed by both the online and face to face components and found it very useful in updating my knowledge."

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