

msk

AUTUMN 2012

FROM ORTHOPAEDIC SERVICES AT THE HOSPITAL OF St JOHN & St ELIZABETH

MINIMAL INVASIVE PARTIAL KNEE REPLACEMENT

.....
*HJE LEADS THE WAY
WITH OUR NEW UNIT
ONE-STOP SHOP FOR
HYPERMOBILITY*
.....

*ROTATOR CUFF TEARS
POINTS TO ADDRESS*
.....

*KEINBÖCK'S DISEASE
LOSS OF WRIST ACTION
AND CHRONIC PAIN*
.....

*FOCUS ON TENNIS:
ANALYSING A TENNIS
STYLE AND WRIST ACTION
CAN HELP TREAT PAIN*

BACK PAGE: A FULL LIST OF OUR SPECIALIST UNITS

**ANKLE SPRAINS:
WHAT TO LOOK FOR,
WHEN TO REFER,
WHEN TO WAIT**



CONTENTS

4

FOCUS ON ANKLE SPRAINS

6

SPORTING HAND & WRIST INJURIES

8

OUR LEADING KNEE UNIT CONSULTANTS

10

PARTIAL KNEE REPLACEMENTS

12

COMPLICATIONS IN TOTAL KNEE REPLACEMENT

14

ROTATOR CUFF TEARS

15

HYPERMOBILITY: OUR ONE-STOP SHOP

16

KIENBOCK'S DISEASE

18

ST JOHN'S HOSPICE

19

BERG BALANCE ASSESSMENT

20

OUR SPECIALIST UNITS & CONTACTS



Hospital of St John & St Elizabeth
150 years of compassion and excellence supporting St John's Hospice

OUR ACHIEVEMENTS AND OUR AIMS FOR 2013

Welcome to the Winter Edition of MSK magazine. Even though the year is drawing to a close, the Hospital is still forging ahead.

Works to install a new 256-slice state-of-the-art CT scanner, which will offer the very best quality images and more advanced clinical applications, will be completed by the New Year.

This £1.2m investment in our Imaging Department comes less than a year after we became the first private hospital in the UK to have a 3T MRI.

As the official medical facility of UK Athletics, we were delighted at the success of the 2012 GB Olympic team after many of the medal-winning track and field athletes were treated at the Hospital.

Our reputation, especially in Orthopaedics, is spreading.

A record 293 GPs attended our Annual Symposium to hear lectures from 15 of our leading consultants. We plan to build on this success and the extremely positive feedback by hosting a special hot topics Annual Symposium in March.

Meanwhile, last month, 266 healthcare professionals attended our Hypermobility Seminar. The Hypermobility Unit, led by Professor Rodney Grahame, is the UK's only private specialist unit and is already attracting international interest.

We are also launching a Knee Unit. This will complement our wide range of world-class orthopaedic services – we have many specialist consultants and boast the Spine and Shoulder Units as well as the world-renowned London Foot and Ankle Centre.

The success of the Hospital allows us to fund our on-site hospice, St Johns, which has just launched London's first palliative care ambulance service. Our Hospice@Home service scooped the prestigious Domiciliary/Home Healthcare Provider 2012 at the Laing Buisson Independent Healthcare Awards, beating hundreds of rivals.

I thank you for your support in 2012 and wish you a Merry Christmas and a Happy New Year.

Kind regards,

DAVID MARSHALL CHIEF EXECUTIVE



TINA CELEBRATES WITH US ON CASUALTY FIRST'S ANNIVERSARY



Holby City's Tina Hobley and St John & St Elizabeth CEO David Marshall cut the anniversary cake with Casualty First Consultant Andre van Nierop

TV star and local resident Tina Hobley joined us to celebrate Casualty First's first birthday.

The Holby City actress is a great supporter of St John's Hospice, which receives most of its funding from the Hospital.

Following a hugely successful launch in September 2011, the private walk-in centre treated more than 6,000 patients in its first year. Just under half the patients attending the urgent care centre suffer from an orthopaedic complaint, including fractures and sprains.

The uptake of this year's £5 flu vaccination offer has been huge, with adults and children from the age of three being offered the vaccine.

Even with this massive demand, average waiting times still remain only a few minutes, winning many new fans, including Tina who is married with three children – Isabella, 13, Olivia, 4 and 2-year-old Orson.

Before cutting the cake, Tina said: "We have not had to face anything serious other than the typical challenges that every family faces. That said, it's comforting to know that we are so close to places like the Casualty First facility."

Our experienced doctors and nurses are able to treat all minor illnesses, accidents and injuries and uniquely treat children from the age of one.

Your fast-track referral service

Casualty First is increasingly being used as a fast-track referral service by physiotherapists and other health professionals. Referrals to consultants from this doctor-led service are accepted by all major health insurance companies, with most patients being seen in our outpatient department within 24 hours of visiting the centre.

ANKLE SPRAINS – WHAT TO LOOK FOR, WHEN TO REFER, AND WHEN TO WAIT



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The spectrum of injuries labelled 'ankle sprain' is broader than any other term used in orthopaedics. Recovery can take two days or a year and some patients will never fully recover. This article is written to provide a comprehensive guide to assessing and managing an ankle sprain, highlighting the key indicators for referral to an orthopaedic surgeon.

The value of early assessment

It is important to make an assessment as soon as possible after the injury takes place. Palpate the ankle for tenderness and consider what lies underneath. Early X-ray is beneficial. If there is huge swelling, severe pain and inability to bear weight, you need to be very suspicious of a potential fracture or highly significant soft-tissue injury.

The history of an ankle sprain is usually that of an inversion-type twist of the foot followed by pain and swelling. An individual with an ankle sprain can almost always walk on the foot, albeit carefully and with pain.

Guidelines for assessing a sprained ankle



Assess the severity of the injury, including:

- Pain, swelling, bruising and range of movement.
- Ability to bear weight, balance, gait.
- Treatment measures already tried.
- Are there any complicating factors?
- Presence of pain or bony tenderness elsewhere may indicate a possible fracture.
- Deformity of a limb, or postural abnormality.
- Evidence for, or indication of, damage to nerves or circulation.
- Whether the person is taking medication (e.g. anticoagulants) which may affect the injury.
- Any complicating illness (e.g. neuropathy, bleeding disorder, or history of deep vein thrombosis). Neuropathy or lack of sensitivity of the foot puts the person at increased risk of complications.

How should an ankle sprain be managed?

- Do not immobilise the joint. Begin flexibility (range of motion) exercises as soon as they can be tolerated without excessive pain. It is thought that functional stress stimulates collagen replacement.
- Advise a person with a sprain or strain to seek further medical advice if there is:
 - *Lack of expected improvement after following basic home management guidelines (for example, if they continue to have difficulty walking).*
 - *Worsening of symptoms (for example, increased pain or swelling).*
 - *Concern regarding the nature and extent of the injury.*
- Review a sprain after a few days to assess muscle contractile function, depending on the severity of the injury.

Is there a fracture?

The ability to walk on the foot usually excludes a fracture. Consider neurovascular compromise if the patient reports a cold foot or describes the symptoms of paresthesias. When considering whether a patient can bear weight, you should apply a lower threshold to older patients. How long to watch and wait? When the sprained ankle does not heal. Up to 40 per cent of patients with ankle sprains remain symptomatic six months after their injury. Any patient still troubled with the ankle giving way or swelling after two months of physiotherapy is likely to be suffering from a remedial occult injury. This indicates there may be:

- A fracture or avulsion not noted on standard radiographs
- Damage to the articular surface of the talus
- Lateral ligament insufficiency
- Tendon injury
- Synovial impingement

The majority of 'problem' ankles do have significant potential for improvement with appropriate assessment including MRI and ultrasound.

It is essential to refer a problem ankle if symptomatic after two months. When making the referral to a foot and ankle specialist surgeon, you need to list occult injuries – all the fractures, OCD (osteochondritis dissecans) Achilles or peroneal pathology.

Clear indications for ankle surgery

Very few ankle sprains require surgery acutely, but some will fail to get better and require surgery – impingement OCD, instability, for example. Chronic ankle instability increases the risk of further injury and weakness.

One of the few absolute indications for surgery in patients with a sprained ankle is an inferior tibio-fibular joint third-degree sprain that causes widening of the ankle mortise. To restore the ankle mortise, the distal tibiofibular articulation must be screwed together.

Sometimes, surgery is required if the initial diagnosis was incorrect. For example, missed syndesmotic injuries can be disastrous and early intervention is very beneficial.

ATFL and calcaneofibular ligament (CFL) are best treated surgically.



**Congratulations to Andy Murray
on winning the
US Open tennis**



Mr Goddard has treated most of the UK's top ten tennis players

ANALYSING A TENNIS STYLE AND WRIST ACTION CAN HELP TREAT PAIN

**MR NICHOLAS GODDARD
MB BS FRCS**

Tennis can undoubtedly lead to various problems, particularly with the hand and wrist, but it is interesting to note that the majority of professional players surprisingly get very little in the way of upper-limb injuries. Faced with a tennis player

One makes the diagnosis on the nature of the symptoms. Did the problem come on suddenly or is there a more insidious slow onset of symptoms tending to imply an overuse problem? How long have the symptoms been present? How severe are they? What exactly are they and what treatment has taken place so far? As far as the amateur players are concerned, probably the most important factor is change. If one has been playing at a standard level

it is head-heavy or head-light, can have a knock-on effect up the limb. New strings and different tension can result in problems with the elbow. It is therefore relevant to look at what may have changed and then gradually eliminate those possible causative factors and so improve symptoms. This may require going back to an old racquet. It is important to establish that the racquet is in fact the right size and the grip is appropriate. Too small a grip can result in problems at the wrist, too large a grip in problems at the elbow.

We have many diagnostic tools available to us, beginning with simple clinical examination looking at the site of the pain. One must remember that there are many causes of pain on the outside of the elbow of which "tennis elbow" is merely one. Nowadays, our investigations are much more sophisticated. Plain X-rays can be helpful but probably the MRI will provide the most accurate diagnosis and is undoubtedly a valuable diagnostic tool.

As far as the treatment of tennis injuries is concerned, the majority will respond to standard measures of rest, ice, compression, elevation and anti-inflammatory medication. Occasionally we get involved as surgeons, particularly with regard to the more recalcitrant conditions such as torn cartilages, unstable tendons and occasionally fractures.

Above all, with regard to tennis, players should analyse their technique, look closely at their shots and, faced with a problem, should seek appropriate help, initially from physiotherapists, and hopefully avoid the surgeon's knife.

Diagnosing the nature of a player's symptoms can be influenced by changes in playing habits, equipment and even the performance level

presenting with a particular complaint one must try to identify the problem. It is important to reassure or to establish whether the problem could be made worse by continuing playing and, crucially, whether the player can take part in that important tournament.

Having established a diagnosis one must obviously take steps to try to improve the situation. Sometimes this can be by simple rest, anti-inflammatory medication, physiotherapy, steroid injections and, occasionally, by surgery. For treatment one must establish exactly what is injured – whether it is the bones, the joints, the soft tissues (muscles, tendons or ligaments). Are the muscles torn or inflamed? Is the bone broken, or is it in fact normal?

or at the same level for a prolonged period and then suddenly develops symptoms in the wrist or elbow it is important to establish what exactly has changed. Sometimes the change can go unnoticed. A new coach, for instance, can bring in a new range of shots. Excessive topspin is more likely to cause problems in the wrist whereas a sliced backhand can cause problems with the elbow.

Technique in itself is therefore important. A new racquet can drastically alter the way one plays. Newer racquets are much lighter and perhaps more flexible than the older ones and are less likely to engender problems with the elbow, although paradoxically they can cause problems with the wrist. The weighting of the racquet, whether

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OUR CONSULTANTS:

INTRODUCING OUR NEW KNEE UNIT

Visit our new Knee Unit website:
www.londonkneespecialists.co.uk
Contact: 020 7432 8297

● Our new Knee Unit brings together many of the country's leading lower-limb specialists to provide unparalleled access to top surgeons. Our Consultants are available every weekday plus Saturdays, with urgent appointments available on the same day or within 24 hours.



Mr Nimalan Maruthainar
FRCS (Tr & Orth) MBBS BSc (Hons)

He qualified from the Royal Free followed by basic surgical training at Norfolk and Norwich. Further training at RNOH included one year as Clinical Lecturer at the Institute of Orthopaedics, UCL. His fellowships included the Joint Reconstruction Unit, RNOH and Knee Unit, University of Southern California, then consultant at the Royal Free since 2005.

Previously an Honorary Senior Lecturer at UCL, he is Associate Editor Orthopaedics and Trauma Specialist Collection, NHS Evidence & Trust Speciality Training Director for Trauma & Orthopaedic Surgery, Royal Free. He has special interests in hip and knee arthroplasty and the orthopaedic aspects of lysosomal storage diseases.



Mr Robert Marston MBBS FRCS (Eng & Edin), FRCS (Orth)

Obtaining his MD from St Thomas's Hospital, he completed fellowships at the RNOH with Johnson & Johnson as Zimmer Hip Fellow and BOA Travelling Fellow in USA and Australia.

His main NHS post is at Imperial with honorary positions at St Luke's Hospital and Ravenscourt Park NHS Treatment Centre.

His specific interest and expertise is lower-limb trauma and he runs the 24-hour trauma unit for the elderly at St John & St Elizabeth's.

His orthopaedic subspecialty interests are primary, complex primary and revision hip surgery. He performs knee arthroscopy, anterior cruciate ligament reconstruction and knee replacement and some foot and ankle.



Mr Raj Bhattacharya FRCS (Tr & Orth) MBBS MRCS (Ed) MRCS (Glas) MSc

After starting his medical career in Lanarkshire and the North-East of England, he completed basic surgical training, Masters degree and registrar training.

He undertook Fellowships in Knee Surgery and Trauma in Edinburgh, then Knee Surgery at Southampton Knee Unit before becoming Consultant at Imperial in 2010.

His clinical interests include mainly complex trauma and knee injuries as well as hip and knee joint replacements. He also has active research interests in these areas, is widely published and has presented his work internationally. He is heavily involved in the teaching and training of medical students at Imperial College Medical School.

STATE OF THE ART IMAGING

The Knee Unit uses the hospital's state-of-the-art imaging suite, which includes the latest 256-slice CT and 3T MRI scanners. A team of specialist Consultant MSK Radiologists are on hand to provide interventional procedures and reporting within 24 hours.

Our new Phillips Brilliance iCT TVI 256 slice CT scanner, one of the first of its kind to be installed in a UK hospital, provides unrivalled image quality in a fraction of the scan time with a reduced radiation dose. Due to the unique configuration of the system, the image quality is significantly improved for the most accurate representation of even the most difficult to image anatomic areas and includes Metal Artefact Reduction for Orthopaedic implants.



Mr Nicholas Garlick
MBBS FRCS (Edin) FRCS (Eng) FRCS (Orth)

Having qualified at St Bartholomew's Medical School, he completed registrar training at St George's Hospital, Royal Free and Royal National Orthopaedic Hospital Rotations.

His lower-limb specialist training took place at the Royal National Orthopaedic Hospital and the Charnley Joint Replacement Unit, Redhill. He undertook further specialist training in shoulder surgery at the Royal National Orthopaedic Hospital, a speciality which he maintains.

His main NHS consultancy is at the Royal Free Hampstead where he is Clinical Lead in Orthopaedic Surgery. He teaches students at the Royal Free and University College Medical Schools.

Mr Nicholas Goddard MBBS FRCS

Following graduation from St Bartholomew's Medical School which included further training at the University of Vancouver, he undertook diplomas in Microsurgical Techniques and Surgery of the Hand and Upper Limb at the University of Paris VI.

He started his consultancy at the Royal Free in 1990 where he remains. He is an honorary consultant for several organisations including Surrey County Cricket Club, Dispensaire Français, London and the Royal Ballet School.

He's published over 90 articles and book chapters and 2,000 medicolegal papers. He is an examiner for IMRCS (RCS), European Diploma in Hand Surgery and MB BS (University of London).



Mr James Youngman MBBS FRCS (Tr & Orth)

Graduating from Middlesex and UCL, he worked in major trauma at Whipps Cross and the Royal London before becoming consultant at UCLH, experienced in adult and paediatric trauma.

He has a major interest in treatment of knee problems including complex trauma, sports injuries and degenerative conditions, and advanced arthroscopic techniques with complex ligament reconstruction using hamstring, patella tendon or allograft.

His deformity work includes correction of long-bone deformity, either by osteotomy and acute correction using Ilizarov or Taylor spatial frames. Performing and teaching knee-replacement techniques including complex knees with severe deformity, he carries out degenerative hip reconstruction and revision arthroplasty.

MINIMALLY INVASIVE KNEE REPLACEMENT SURGERY

Mr Robert Marston looks at the advantages of partial replacements



MR ROBERT MARSTON
MBBS BSc (Hons)
FRCS FRCS (Orth)

Not all patients who experience severe pain and disability as a result of osteoarthritis of the knee require a total knee replacement. Approximately 25 per cent of patients in Europe have a type of arthritis in the knee which is suitable for partial knee replacement.

This operation was developed in many centres throughout Europe in the 1970s but the most notable success has been with the Oxford "unicondylar" knee replacement. This was originated by the late Professor John Goodfellow (Professor of Orthopaedic Surgery at the Nuffield Orthopaedic Centre) and Dr John O'Connor (a bioengineer).

They recognised that certain patients had osteoarthritis limited to the inner bearing surface of the knee joint (medial tibiofemoral surface). They developed an operation whereby a small amount of worn cartilage and its underlying bone was removed from the adjacent surfaces of the inner side of the knee joint. A metal plate was then cemented on to both these freshened bone surfaces and a mobile high-density polyethylene bearing was snapped into place, the curvature of the upper plate conforming to a concavity in



the plastic bearing. The advantages of this operation were many.

Firstly, the operation could be performed through an incision that did not involve cutting into the quadriceps muscle tendon. It is the cutting into the quadriceps tendon which contributes the majority of the pain that patients experience when recovering from total knee replacement and gives the procedure its reputation as a painful operation.

Secondly, all the knee ligaments remain intact. By definition, a patient requiring a total knee replacement has an absent anterior cruciate ligament since it has been eroded over time by extra bone produced by arthritic joints (osteophytes). Some surgeons also sacrifice the posterior cruciate ligament. In unicondylar replacement both these ligaments remain intact. Therefore the complex interaction between muscle movement and ligament restraint

is preserved (knee kinematics). The result of this is that the patient feels they have a natural-feeling knee because of the preserved normal knee kinematics. This is not the case in patients who undergo total knee replacement.

Thirdly, rehabilitation is much quicker, with patients spending one to two nights in hospital rather than four or five. They leave as soon as they can achieve full extension of the knee and at least 90 degrees of flexion. Also they are able to go up and downstairs and use one walking stick only for approximately three to four weeks, putting all their weight through the operated knee.

Finally, the operation is much less invasive. Blood loss is minimal and it is very unusual to require transfusion, unlike total knee replacement. The reduced requirement for blood and fluid replacement and minimal opiate pain relief means that patients get better much sooner.

KNEE REPLACEMENT: TOTAL OR PARTIAL?

If knee arthritis is causing severe pain and restricting mobility so that quality of life is impeded, knee replacement of some sort is appropriate. The careful clinical and radiological assessment of a patient with knee arthritis is vital in order to make the correct decision.

The clinical assessment must answer the following questions:

1. Does the patient's knee have a functioning anterior cruciate ligament?
2. Is the varus deformity less than 10 degrees, and can it be corrected?
3. Has the patient got full extension or lacking a maximum of 10 degrees full extension?



● Left knee Xrays before and after partial knee replacement

The clinical assessment should be followed by special X-rays which have to be specifically requested from the radiographer.

1. An X-ray of both the knees taken from the front with the patient standing. The gap between the bones on the inner side of the joint gives a measure of the degree of thinning of the articular cartilage and therefore the severity of the osteoarthritis. Furthermore, one knee can be compared with the other and finally one can make sure that there are no X-ray changes of osteoarthritis in the outer compartment of the knee.
2. A lateral view. This can give corroborative evidence as to whether the anterior cruciate ligament is intact. If the tibia has slipped forward on the femur this is an indication that the anterior cruciate ligament is not fully functional.
3. A skyline view of the patellofemoral joint. This view is very good at excluding severe bone on bone osteoarthritis in the patellofemoral joint and giving further information as to whether there are osteophytes on the outer femoral condyle.

If a patient fits these criteria they would be suitable for a medial Oxford unicondylar knee replacement. The operation should never be done as a half-way stage to total knee replacement. The evidence from the Scandinavian Knee Register shows that partial knee replacements have longevity equal to that of a total knee replacement, eg in excess of 15 years. To prevent early failure the assessment therefore has to be exact. The outer compartment of the knee must not be too worn otherwise osteoarthritis will progress and a total knee replacement will be required. Likewise, a non-functioning

anterior cruciate ligament can lead to both an unstable bearing and dislocation of the bearing, or loosening of the tibial component. Ignoring too much in the way of patellofemoral osteoarthritis can cause pain at the front of the knee which is particularly troublesome when patients go up and down stairs, inclines or rise from chairs.

Within the 25 per cent of patients who have arthritis limited to one area of the joint there are perhaps one per cent of patients who have arthritis limited to the outer part of the joint and a mirror-image type of prosthesis has been designed for lateral compartment osteoarthritis.

One to two per cent of patients have osteoarthritis which is just confined to the patellofemoral joint. In these patients a plastic button is used to resurface the worn-back surface of the knee cap and a small metal plate is cemented into the groove that the knee cap articulates with on the lower end of the thigh bone.

In summary, osteoarthritis of the knee does not mean a total knee replacement in the case of every patient. It is, however, important to have a careful clinical and radiological assessment of the knee prior to making a decision as to what type of knee replacement is appropriate for the individual patient.

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COMPLICATIONS OF TOTAL KNEE REPLACEMENT

A quick concise summary of the current incidence of potential surgical complications in Total Knee Replacement



MR R. BHATTACHARYA
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FRCS(Tr. & Orth.)

Total Knee Replacement (TKR) is one of the commonest orthopaedic procedures with over 70,000 performed per year in the UK alone.

Currently there are more than 150 different types of knee prosthesis available in the UK market. However, a close analysis will reveal that only a few of these implants actually have long-term results with true long-term data.

The National Joint Registry in the UK captures information on all knee replacements performed within the UK and is a great source of survival and outcome data.



X-rays of Total Knee Replacement

COMPLICATIONS

Currently, the approximate survival rate for TKR in UK is 95% at 10 years and 85-90% at 15 years. Complications following TKR can be summarised broadly into Early and Delayed. A list of the common complications are provided in the table on far right.

EARLY

Intra-operative:

These can be related to the anaesthesia or the actual surgical procedure. The risk of mortality

from TKR is 0.5%. The Standardised Mortality Ratio in the UK for a comparable population is 0.74% which means that one is less likely to die while having a knee replacement than a comparable general population. The likely cause of this fallacy is that someone undergoing a knee replacement has to be reasonably healthy to be advised to have this procedure by his or her surgeon, thereby causing a healthier selection bias in this group of patients. Other anaesthetic risks intra-operatively include cardiovascular, respiratory and renal complications. Intra-operative surgical complications include the following:

Fractures

The incidence of this is 1:1000 for TKR (compared to up to 20% in Total Hip Replacements). The fractures can occur in the femur, the tibia or the patella if it is also being replaced.

Haemorrhage

Knee replacement is performed most commonly under tourniquet. The average blood loss during surgery is about 500 mls with approximately 1.5 L of total loss around the entire peri-operative period.

Neurovascular damage

The incidence of damage to nerves or arteries, including major vessels and nerves, is approximately 2.5%.

Tendon damage

Damage to the tendons and ligaments of the knee occurs to the extent of 0.2%. This is mainly related to the patellar tendon and occasionally the collateral ligaments.

Immediate post-operative:

Infection

Infection occurs in about 1-2% of cases and may require further washout of the knee in an attempt

to prevent the infection from becoming more deep-seated. The incidence of superficial infection is around 1.5% and deep infection around 0.5%.

Thromboembolism

Deep-vein thrombosis and subsequently pulmonary embolism can occur in up to 1.5% of cases and may require hospital admission following discharge. NICE has recently come up with an evidence-based guideline advising some form of VTE prophylaxis post TKR but there is still hesitation among the orthopaedic community to embrace these guidelines wholeheartedly due to the adverse effect of bleeding as well as subsequent infection in the haematoma arising from thromboprophylaxis.

Haemorrhage

Bleeding may continue into the postoperative period and up to 50% of patients require between 1-3 units of blood. Newer practices like administering antifibrinolytic agents such as tranexamic acid are being explored to reduce this need for transfusion.

Neurovascular damage

Neurovascular damage is often picked up postoperatively although this is an intraoperative phenomenon. Incidence of damage to artery is about 0.5% and damage to nerve about 2%. This can be as a result of direct damage during surgery or as a result of tourniquet, leading to tourniquet palsy. The common peroneal nerve is one of the more commonly damaged nerves.

Stiffness

Approximately 2% of patients suffer from knee stiffness following surgery. The best indicator of postoperative range of movement in knee replacement is the preoperative range of movement and in patients who have suffered from prolonged knee stiffness preoperatively, it is

WHERE DO WE CURRENTLY STAND?

difficult to significantly improve their range of motion postoperatively.

DELAYED

Intermediate:

Swelling

Swelling is normal following TKR, so patients should be warned that it may take time to resolve, often up to six months or more. As long as it is not associated with other worrying symptoms such as wound discharge, redness etc then there should be no cause for concern.

Infection

This is also possible at the intermediate stage and should be actively looked for.

Instability

This can be a difficult problem to diagnose as well as resolve and patients present with varying symptoms like pain and even dislocation of the implants in some cases. There can be maltracking of the patella on the knee causing any of these symptoms.

Stiffness

This can be persistent at this stage. Approximately 5% of patients end up with stiffness following knee replacement.

Long term:

Pain

This can be a manifestation of a diverse range of problems. The usual causes that should be looked for are infection and loosening. Component malpositioning can also cause pain in the long term. Some patients suffer from chronic regional pain syndrome after TKR but fortunately most of these resolve by six months. Sometimes no actual cause for the pain can be ascertained. The incidence of unexplained pain after one year is in the region of 10%, taking up to two years for this to resolve. Whether this is because the actual



X-rays of aseptic loosening of a Total Knee Replacement 15 years after implantation



X-rays of periprosthetic fracture treated with intramedullary fixation

cause settles down or whether patients become accustomed to the pain and stop complaining is difficult to ascertain. It is, however, important to note that without a firm diagnosis, revision surgery to resolve pain is associated with poor outcome.

Extensor mechanism damage

There is a 1% incidence of damage to the extensor mechanism, i.e. quadriceps or patellar tendon or patella in the long term.

Periprosthetic fracture

There is a 2% incidence of this in the long term and it can usually be attributed to some form of trauma, even low-impact ones.

Dislocation

Depending on the type of implant used, dislocation can occur in up to 2% of cases.

TABLE OF COMPLICATIONS

Early

Intra-operative

Anaesthetic

- Cardiovascular
- Respiratory
- Renal

Surgical

- Fractures
- Haemorrhage
- Neurovascular damage
- Tendon damage
- Component malalignment
- Soft-tissue imbalance

Immediate post-operative

- Infection
- DVT/PE
- Haemorrhage
- Neurovascular damage
- Stiffness

Delayed

Intermediate

- Swelling
- Pain
- Stiffness
- Instability

Long term

- Infection
- Aseptic loosening
- Peri-prosthetic fracture
- Dislocation
- Extensor mechanism damage

Above is a list of the common complications that can occur after Total Knee Replacement. It is worth keeping in mind that even the "common" complications are actually quite rare and almost nine out of ten patients are very happy after a Total Knee Replacement. Patients should be allowed to make an informed decision with regard to their surgery and it is useful to make them aware of potential risks. However, during the discussion these risks should be put in perspective in terms of the overall high success rate of TKR.

ROTATOR CUFF TEARS



MR PHILIP AHRENS
FRCS (Tr & Orth)

The major points to address during physical examination of patients with suspected rotator cuff pathology include the loss of active or passive range of motion, painful range of motion, presence of muscle atrophy, weakness, swelling and tenderness.

Many eponymous tests have been described to examine the shoulder. However, there is a lack of consensus on clinical assessment of patients with shoulder pain and suspected rotator cuff pathology. Rotator cuff tears are a common cause of shoulder pain and occupational disability.

More than 50 per cent of individuals older than 60 have at least a partial-thickness rotator cuff tear, with significant impact on their quality of life, and marked functional impairment. As a large percentage of older individuals maintain a very active lifestyle, it is important for clinicians to be able to accurately identify and appropriately manage patients with rotator cuff tears.

The conclusions of published research are in agreement that most specific tests for rotator cuff pathology are inaccurate. There is insufficient evidence in recent literature to recommend any one clinical examination test for diagnosis of rotator cuff pathology*.

Poor diagnostic accuracy of clinical tests for

The Shoulder Unit is the UK's leading centre for shoulder and elbow surgery. It has an international reputation for excellence in treating professional sportsmen and Olympic athletes, with the same high level of care provided to all our patients. www.shoulderunit.co.uk

rotator cuff pathology may be related to the close relationships of structures in the shoulder, the poor anatomical basis of the tests and the lack of their reproducibility. Therefore experience in performing and combining clinical tests is important; and other information, such as mechanism of injury, pain behaviour and location of pain, combined with conventional radiographic signs, is also essential to making an accurate diagnosis.

* *Sports Med Arthrosc.* 2011 Sep;19(3):266-78. *Clinical tests for the diagnosis of rotator cuff disease.* Longo UG, Berton A, Ahrens PM, Maffulli N, Denaro V.

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The Hypermobility Unit

at the Hospital of St John & St Elizabeth

The only facility of its kind, the forward-thinking multidisciplinary Hypermobility Unit at the world-renowned Hospital of St John and St Elizabeth is a 'one-stop-shop', catering for all the medical needs of patients with Joint Hypermobility Syndrome (JHS), Ehlers-Danlos syndrome (EDS) and rarer forms of hypermobility. Our team is experienced in the diagnosis and management of all musculoskeletal disorders, and is unique in providing treatment and services associated with such disorders under one roof. Housed in state-of-the-art surroundings, our services and clinics include a rheumatology clinic, neurogastroenterology, autonomic

Our Multidisciplinary Team of Consultants Include...

- **Rheumatologists specialising in Hypermobility**
Professor Rodney Grahame CBE MD FRCP FACP
Advisor to the Hypermobility Association
Dr Alan Hakim BA MA MB BChir CCST FRCP
CMO of the Hypermobility Association
Dr Hanadi Kazkaz LRCP LRCS LRCPS MRCP MSc
- **Paediatrician**
Dr Nelly Ninis MBBS MRCP MD MSC DTM&H
- **Gastroenterologists**
Professor Qasim Aziz FRCS PhD
Dr Claude Botha MB ChB MRCPsych
- **Pain Psychologists**
Dr Netali Levi BA (Hons) D.Clin.Psy
Dr Claire Williams D.Clin.Psy MA
- **Neurologist**
Professor Christopher Mathias MBBS DPhil DSc FRCP FMedSci
- **Geneticist and Dermatologist**
Professor Francis Michael Pope MBBCh FRCP MD
- **Podiatrist**
Mrs Sophie Roberts BSc (Hons) Podiatry SRCh MChs

HYPERMOBILITY OUR 'ONE-STOP SHOP'

dysfunction, clinical genetics, oral surgery and laryngology as well as specialised therapy (physiotherapy, occupational therapy, podiatry and pain psychology). The consultants in the unit receive referrals from the UK and across the world.

With great flexibility and convenience, the unit is able to call upon a wide range of services within the hospital, working closely with other disciplines such as urogynaecology, cardiology and orthopaedic surgery to provide multi-disciplinary care and support for patients with complex problems.

Using the latest in clinical and diagnostic procedures, imaging and pathology, consultants conduct a physical examination and provide a thorough evaluation of a patient's condition. Once diagnosis has been made, treatment, support and management techniques are provided to make day-to-day life easier, reducing stress to the joints and improving quality of life. Following assessment, specialist advice can be provided to the GPs and physiotherapists who routinely manage the patient's care.

- For appointments with any of our hypermobility consultants call outpatients on 020 7806 4060.
- For appointments with a specialist physiotherapist call physio on 020 7806 4010.



MR ELLIOT SORENE
MBBS FRCS EDHS

KIENBÖCK'S DISEASE

Avascular necrosis of the lunate, Kienböck's disease, is a progressive, debilitating disease that may lead to chronic pain and loss of wrist function. The aetiology of Kienböck's remains unidentified, the natural history is poorly defined, and the radiographic appearance does not always correlate with the clinical findings. Some progress has been made in the identification and an understanding of the progression of the avascular process and its deleterious effects on wrist mechanics.

Many patients with Kienböck's disease think they have a sprained wrist and in many cases there is a prolonged period of time until they are correctly diagnosed. This disorder may be confused with benign cysts and traumatic fractures which can also cause some collapse of the lunate. However, these conditions are uncommon and Kienböck's disease should be the first to be considered.

Kienböck's disease most often occurs between the ages of 20 and 40 and is twice as common in men. In advanced disease the symptoms are those of established osteoarthritis of the wrist. Bilateral Kienböck's disease is uncommon.

In Kienböck's disease, the blood supply to the lunate is interrupted and the bone undergoes changes and eventually collapses.

Patients often complain of a painful and sometimes swollen wrist. There may be a limited range of motion in the affected wrist (stiffness) and decreased grip strength in the hand. Often there can be tenderness directly over the top of the wrist and pain or difficulty in turning the hand upward.

Kienböck's disease progresses through four stages. In its early stages, it may be difficult to diagnose because the symptoms are so similar to those of a sprained wrist. Even X-rays of the wrist may appear normal.



Stage 1: X-rays may be normal or suggest a possible fracture. Magnetic resonance imaging (MRI) may also be helpful in making the diagnosis in this early stage.



Stage 2: The lunate bone begins to harden. Brighter or whiter areas on X-rays indicate that the bone is dying. MRI or computed tomography (CT) may be used to assess the bone. Wrist pain, swelling and tenderness are common.



Advanced Grade 3B Kienböck's disease with lunate collapse

Stage 3: The dead bone begins to collapse and break into pieces. As the bone begins to break apart, the surrounding bones may begin to shift position. Increasing pain, weakness in gripping, and limited motion may be experienced.



Stage 4: The surfaces of adjoining bones are affected. One result may be generalised arthritis of the wrist.

Although there is no way of definitively curing this condition, there are several nonsurgical and surgical options for treating this disease, depending on which stage the lunate has reached. The goals of treatment are to relieve the pressure on the lunate and to try to restore blood flow within the bone. Many patients, even with advanced Kienböck's

disease, remain functional and with tolerable symptoms. Therefore, a trial of conservative treatment with splinting for up to three months, or casting and adjunctive analgesic or anti-inflammatory medication, appears to be warranted in most patients, regardless of the stage at presentation. Surgical intervention should be reserved for patients who fail a trial of conservative

management and remain symptomatic.

There are several surgical options for treating the more advanced stages of Kienböck's disease, ranging from attempts at revascularising the osteonecrotic lunate to unloading it either by manipulations of carpal bones or by adjustment of the relative lengths of the radius and ulna.

Once a lunate has fragmented then various methods have been used to restore, replace or ablate the lunate using techniques to bone graft the lunate, excise it, replace it with bone, muscle, vascularised grafts or with artificial materials such as silicone, ceramic and steel. The salvage options of proximal row carpectomy, joint replacement or fusion have also been reported. There are numerous publications now that report late outcomes of several of these interventions.



Vascularised Bone Grafting

The choice of procedure will depend on several factors, including disease progression, activity level, personal goals and the surgeon's experience with the procedures. In some cases, it may be possible to return the blood supply to the bone (revascularisation).

This procedure takes a portion of bone (graft) from the inner bone of the lower arm. The graft is lifted up on a named blood vessel and inserted into the lunate, providing both biological vascularised bone and also a structural advantage in reconstructing the lunate.

SURGICAL CHOICES IN TREATING KIENBÖCK'S

If the bones of the lower arm are uneven in length, a joint levelling procedure may be recommended. The radius bone may be shortened by removing a section of the bone. This levelling procedure reduces the forces that bear down on (compress) the lunate and seems to halt progression of the disease.



Proximal Row Carpectomy (PRC)

If the lunate is severely collapsed or fragmented, it can be removed with the two bones on either side of the lunate. This procedure, called a proximal row carpectomy (PRC), will relieve pain while maintaining partial wrist motion.

Another procedure that eases pressure on the bone is fusion. In this procedure, several of the small bones of the hand are fused together. If the disease has progressed to severe arthritis of the wrist, fusing the bones will reduce pain and help maintain function. The range of wrist motion, however, will be limited.

There is also the option in certain cases of undertaking a lunate replacement. If the wrist is severely destroyed then the options are total wrist arthrodesis (fusion) or total wrist replacement.



Scapho-capitate fusion (Limited wrist fusion)

● Mr Sorene has an interest in Kienböck's disease and undertakes all of the most modern treatments for Kienböck's disease including arthroscopic treatment, wrist denervation, limited wrist fusions, proximal row carpectomy and lunate replacement surgery.

WRIST REPLACEMENT



Xrays show how wrist alignment in severely damaged wrists can be corrected by total replacement.



Wrist function can be mostly retained following wrist replacement

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AWARD WINNING HOSPICE@ HOME SERVICE!

● Our Hospice@Home service has won a prestigious national award. The team was awarded the Domiciliary/Home Healthcare Provider 2012 at the Independent Healthcare Awards in September at a dinner held in Central London. They were among the 18 winners showcasing companies working across a wide range of specialities, from acute hospitals to rehabilitation units. This is the first time that the Hospice has been nominated for an award.

FANTASTIC ACHIEVEMENT

After the amazing victory Chief Executive David Marshall said: 'This is a fantastic achievement by the team and has certainly given the Charity and especially St John's Hospice the reward they deserve for their tireless work in stressful situations.' The award was set up to specifically recognise outstanding quality and innovation in the Independent healthcare sector. Established in 2006, they aim to laud the achievements within the sector and to praise the high standards of those who deliver true excellence in their work.

HIGHLY TAILORED APPROACH

Judges for the event organised by healthcare intelligence provider Laing & Buisson singled out St John's Hospice highlighting, "its highly tailored approach to the very delicate subject of patients dying in the comfort of their homes."

Palliative care ambulance



Ready to go: The Hospice ambulance drivers

ST JOHN'S LEADS THE WAY FOR PATIENTS

A new dedicated Palliative Care Ambulance was launched for patients known to St John's Hospice from the beginning of November. This will provide increased comfort and responsiveness to enable patients to be transferred from their home to St John's Hospice when they are in need of an urgent or planned admission.

This new service will also allow patients to be transferred from St John's Hospice to their own home to be able to continue to receive care and support there and it will also provide the facility to transfer

patients from hospital to St John's Hospice and from St John's Hospice to specialist appointments.

The St John's Hospice Palliative Care Ambulance is the first of its kind in London and has been specially fitted to provide the highest levels of comfort and support for patients.

They will have a dedicated team of three ambulance drivers who have been given comprehensive training and induction relating to their roles in supporting patients, often at the end of life, being transferred between the Hospice and home.

www.stjohnshospice.org.uk

ASSESSING A PATIENT AT HOME USING THE BERG BALANCE TEST

One of the advantages of domiciliary physiotherapy is that we are able to assess a patient within their home environment. This is particularly useful when evaluating a patient's mobility and their likelihood of falling.

A number of factors which contribute to falls in the elderly have been identified. These include lower extremity disabilities, foot problems, reduced sensation, increased reaction time and gait and balance abnormalities.

Physiotherapists in the clinical setting often choose the Berg Balance Test to gauge balance impairment because it is easy to administer, takes approximately 20 minutes to complete and doesn't require sophisticated equipment. The test is valid and highly specific with a strong inter-rater reliability.

It also correlates with platform-based measures of postural sway.

The assessment consists of 14 tasks performed in a standard order. Each task is scored on a five-point scale (0-4) depending on quality of performance or time taken to complete the task. Equipment required: a step stool, two chairs with arms, a tape measure, a stopwatch and a pen.

THE TASKS ARE:

1. *Sitting to standing*
2. *Standing unsupported*
3. *Sitting unsupported*
4. *Standing to sitting*
5. *Transfers*
6. *Standing with eyes closed*
7. *Standing with feet together*
8. *Reaching forward with outstretched arms*
9. *Retrieving object from floor*
10. *Turning to look behind*
11. *Turning 360 degrees*
12. *Placing alternate foot on stool*
13. *Standing with one foot in front of the other*
14. *Standing on one foot*

The maximum score is 56. A high score indicates good balance and a lower risk of falls, while a score of less than 45 indicates an increased risk of falls. Interestingly, people who score very low on a Berg Balance Test (i.e. the most physically impaired) tend not to fall because they do not take risks in the same way that someone with a score closer to the 45-point cut-off might. It is suggested that the lowest scorers use strategies to compensate for their limited mobility, such as having an assistant with them, or using assistive devices.

We must bear in mind that falls are multi-factorial and in order to accurately predict a patient's risk of falling, their environment and how well they perform, their ADLs must also be examined.

Contact: Physiotherapy department on 020 7806 4010 or email the Lead Domiciliary Physiotherapists at megan.sumner@hje.org.uk or lynsey.wyatt@hje.org.uk



ORTHOPAEDIC SPECIALITY UNITS



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Our Orthopaedic Surgeons Cover All Specialities

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- Mr Mo Akmal, Spinal Surgeon
- Mr Marcus Bankes, Hip Surgeon
- Mr Raj Bhattacharya, Knee Surgeon
- Mr Charalambos Charalambides, Lower Limb Surgeon
- Mr Carlos Cobiella, Shoulder & Elbow Surgeon
- Mr Steven Corbett, Shoulder & Elbow Surgeon
- Mr Mark Davies, Foot & Ankle Surgeon
- Mr James Davis, Foot & Ankle Surgeon
- Mr Nicholas Garlick, Knee, Hip & Shoulder Surgeon
- Mr Nicholas Goddard, Knee, Hand & Wrist Surgeon
- Mr Chinmay Gupte, Knee Surgeon
- Prof Fares Haddad, Hip & Knee Surgeon
- Mr Robert Hill, Paediatric & Trauma Surgeon
- Mr David M. Hunt, Paediatric & Knee Surgeon
- Mr Martin Klinke, Foot & Ankle Surgeon
- Mr Marcus Lee, Shoulder & Elbow Surgeon
- Mr Robert Marston, Hip & Knee Surgeon
- Mr Nimalan Maruthainar, Hip & Knee Surgeon
- Mr Rahul Patel, Sports & Knee Surgeon
- Mr David Redfern, Foot & Ankle Surgeon
- Mr Peter Reilly, Shoulder & Elbow Surgeon
- Mr Matthew Solan, Foot & Ankle Surgeon
- Mr Elliot Sorene, Hand, Wrist & Elbow Surgeon
- Mr David Sweetnam, Sports & Knee Surgeon
- Mr Panos Thomas, Sports & Knee Surgeon
- Mr Andrew Wallace, Shoulder & Elbow Surgeon
- Mr James Youngman, Lower Limb, Deformity & Trauma Surgeon

Expert Sports Physicians

- Dr Paul Dijkstra, Sports Physician & UK Athletics
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- Prof Cathy Speed, Sports Physician & Rheumatologist

Leading Rheumatologists

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- Dr Alan Hakim
- Dr Pamela Mangat
- Dr Martin Seifert
- Dr Richard Stratton
- Dr Maresa Carulli
- Dr Hanadi Kazkaz
- Dr Richard Rees
- Prof Cathy Speed
- Dr Colin Tench
- Prof Rodney Grahame

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- Our profits help support St John's Hospice which cares for more than 2,000 terminally ill people and their families every year.

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20