EVIDENCE for FRCSorth

## CMCJ OA Treatment

J Hand Surgery *Davis et al* 1997

**Trapeziectomy alone, with tendon interposition or with ligament reconstruction?: A randomized prospective study**

No difference in pain relief, hand function and thumb strength.

## Carpal Tunnel Release

BMJ Atroshi et al. 2006

Outcomes of endoscopic comapred with open surgery for carpal tunnel syndrome

## Radial Nerve Palsy with Humeral Fracture

J Bone Joint Surg Br. Giannoudis et al 2005

**Radial nerve palsy associated with fractures of the shaft of the humerus**A SYSTEMATIC REVIEW

There was no significant difference in the final results when comparing groups which were initially managed expectantly with those explored early, suggesting that the **initial expectant treatment did not affect the extent of nerve recovery adversely and would avoid many unnecessary operations**.

## Scaphoid Fracture

JBJS McQueen et al 2008

Percutaneous vs Closed management of Waist fracture – **early return to work 9.2wks and 13.4**

JBJS Br J Dias et al 2008

Clinical and radiological outcome – acute scaphoid fracture – 93 months

**NO DIFFERENCE**

## Reverse Shoulder Arthroplasty

JBJS Am Cuff et al 2008

Recent advances in reverse shoulder arthroplasty have allowed for improvement in patient outcomes while minimizing early mechanical failure and scapular notching and decreasing the overall complication rate at short-term follow-up.

## Exeter THR

**Clinical Orthopaedics Related Research Lewthwaite et al 2008**

THE EXETER UNIVERSAL HIP REPLACEMENT FOR THE YOUNG PATIENT – 10 TO 17 YEARS FOLLOW UP.

**Survivorship of stem and cup from all causes was 92.7%, at an average of 12.5 years. Survivorship of stem only from all causes was 99% and from aseptic loosening was 100%.**

**Conclusion:** The Exeter Universal Stem is shown to perform extremely well in the younger patient. No femoral component became loose and only 9 acetabular components were revised for aseptic loosening

**JBJS Br. Carrington et al 2009**

The Exeter Universal cemented femoral component at 15 to 17 years: an update on the first 325 hips.

**With an endpoint of revision for aseptic loosening, the survivorship at 17 years was 100% and 90.4% for the femoral and acetabular component, respectively.**

## NJR – Exeter V40/Contemporary MOP – 10 years CPP 3.21% (COP 2.6%)

**NJR – MRK – 10 yrs CPP 2.96%**

**NJR – Columbus – 7yrs CPP 3.27**

## The incidence of secondary pathology after anterior cruciate ligament rupture in 5086 patients requiring ligament reconstruction

* JBJS Br (Bone Joint J) Sri Ram et al 2013
* 5086 patients with a mean age of 30 years
* surgery delay >12 months – double medial meniscal and chondral injury
* **We conclude that ideally, and particularly in younger patients, ACL reconstruction should not be delayed more than five months from injury.**

## Proximal tibial osteotomy. A critical long-term study of eighty-seven cases.

JBJS Am Coventry et al 1993

* One year post op - valgus angulation >8 degrees and weight <1.32 times the ideal weight - survival 5yrs = 90%and 10yrs = 65 per cent
* One year post op - valgus angulation<8 degrees and weight >1.32 times the ideal weight – Survival 5y = 38% and 10yr =19%
* **There is a considerable risk of failure of a proximal tibial osteotomy if the alignment is not overcorrected to at least 8 degrees of valgus angulation and if the patient is substantially overweight.**

## Operative compared with nonoperative treatment of displaced intra-articular calcaneal fractures: a prospective, randomized, controlled multicenter trial.

JBJS Am Buckley et al 2002

4 trauma centers - 309 intra articular calcaneal fractures – followed up for 2-8 years

Without stratification of the groups, the functional results after nonoperative care of displaced intra-articular calcaneal fractures were equivalent to those after operative care

**After unmasking the data by removal of the patients who were receiving Workers' Compensation, the outcomes were significantly better in some groups of surgically treated patients.**

## Fracture healing in biological plate osteosynthesis.

Injury Baumgartel et al 1998

**Indirect reduction and bridge plating was superior to direct fragment reduction and anatomical fixation in respect to radiology, biomechanics and microangiography.**

**The values for bone healing were improved by applying a plate with only point contact to the bone, thus conserving the periosteal blood supply.**

## Delayed internal fixation of fractures of the neck of the femur in young adults. A prospective, randomised study comparing closed and open reduction.

JBJS Br Upadhyay et al 2004

102 patients – 15-50yrs old – displaced intracapsular NOF fractures – RCT

Posterior comminution, poor reduction and improper placement of the screws

were the major factors contributing to nonunion.

The overall incidence of AVN was 16.3% (15 of 92 patients) and it was not

influenced by these factors.

**A delay of more than 48 hours before surgery *did not influence the rate of union or the development of AVN when compared with operation within 48 hours of injury***

## Internal fixation compared with total hip replacement for displaced femoral neck fractures in the elderly

JBJS Br Tidemark et al 2003

RCT – 102 pts – mean 80yrs – IF and THR

*The failure rate after 24 months was higher in the IF group than in the THR group with regard to hip complications, and the number of revision procedures.*

*Hip function was significantly better in the THR group at all follow-up reviews regarding pain, movement and walking.*

***THR provides a better outcome than IF for elderly, relatively healthy, lucid patients with a displaced fracture of the femoral neck.***

## Total Hip Replacement Versus Open Reduction and Internal Fixation of Displaced Femoral Neck Fractures

JBJS Am Ghazi et al 2012

RCT – Longterm followup – 100 patients – mean age 78

**Over a period of seventeen years in a group of healthy, elderly patients with a displaced femoral neck fracture, total hip replacement provided better hip function and significantly fewer reoperations compared with internal fixation without increasing mortality.**

The timing of reduction and stabilisation of the acute, unstable, slipped upper femoral epiphysis
JBJS Br Phillips et al (Southamton) 2001

100 – SUFE – 14 unstable – reduction & stabilization in 24 hrs

No AVN in unstable group – 4 in stable group (out of 86)

**We recommend reduction and stabilisation of unstable slips within 24 hours of the onset of symptoms in order to reduce the risk of AVN.**

Br Med Bull. 2009;90:133-46. doi: 10.1093/bmb/ldp012. Epub 2009 Apr 17.

## Management of unstable slipped upper femoral epiphysis: a meta-analysis.

Br Med Bull 2009 Lowndes et al

Meta analysis

Unreduced group group had lower risk of developing AVN (Odds ratio 2.20)

Fixation in 24 hrs for unstable slips had better outcome (Odds ratio 0.50) – not significant

J Bone Joint Surg Am. 2004 Oct;86-A(10):2121-34.

## Legg-Calve-Perthes disease. Part II: Prospective multicenter study of the effect of treatment on outcome.

JBJS Am Herring et al 2004

438 patients (6-12 yrs) – 451 hips – prospective multicentre study

5 groups – No treatment, Brace, ROM exercises, Fem Osteotomy and innominate osteotomy

**The lateral pillar classification and age at the time of onset of the disease strongly correlate with outcome in patients with Legg-Calve-Perthes disease.**

>8yrs – B & B/C – better outcome with surgery (Stulberg I or II)

>8yrs – upto B – favourable outcome regardless of treatment

Group C – poor outcome regardless of treatment

treatment.

## The medium-term results of the cemented Exeter femoral component in patients under 40 years of age

Predominantly AVN patients

JBJS Br deKam et al 2008

104 THR in 78 patints

7yrs survival for aseptic femoral stem loosening – 100%

7yrs survival for all causes failure – 95.8%

## Cauda equina syndrome treated by surgical decompression: the influence of timing on surgical outcome

Eur Spine J Qureshi et al 2007

Prospective cohort study – 33 pts

* No significant difference in outcome with length of time to surgery
* Significantly better outcome in patients who were continent of urine at presentation
* Severity of bladder dysfunction at presentation determines recovery of bladder function

## Effect of ultraclean air in operating rooms on deep sepsis in the joint after total hip or knee replacement: a randomised study.

Lidwell et al BMJ 1982

MRC – Multicentre – THR and TKR – control and ultra-clean – 8000 ops

Control Vs Ultra Clean - Deep Sepsis – 1.5% to 0.6% (Factor 2.6)

Prophylactic Abx – Deep Sepsis – 2.3% to 0.6% (Factor 4)

## Risk factors for vascular repair and compartment syndrome in the pulseless supracondylar humerus fracture in children.

J Paed Ortho Choi et al 2010

1255 SC# - 33 absent pulses (2.6%)

Well-perfused hand - fracture reduction alone was sufficient - no patients developed compartment syndrome.

50% had absent pulses even after - yet did well clinically

Patients presenting with a poorly perfused hand are at high risk for vascular repair and compartment syndrome.

## Management of the pediatric pulseless supracondylar humeral fracture: is vascular exploration necessary?

JBJS Am Weller et al 2013

1297 – 10% with Gartland 3 had absent pulse

Lack of a palpable radial pulse after closed reduction and percutaneous pinning was not an absolute indication to proceed with vascular exploration if clinical findings (i.e., Doppler signal and capillary refill) suggested that the limb was perfused

Careful inpatient monitoring of these patients postoperatively is mandatory to identify late-developing vascular compromise.

## Open Reduction and Plate Fixation Reduced Nonunion After

## Displaced Midshaft Clavicular Fracture

JBJS Am Robinson et al 2014

RCT from Edinburgh – 200 patients

**In patients with displaced midshaft clavicular fractures, open reduction and plate fix- ation reduced the rate of nonunion and resulted in better functional outcomes than nonoperative treat- ment did.**

## Fixation of fractures of the shaft of the humerus by dynamic compression plate or intramedullary nail. A prospective, randomised trial.

JBJS Br McCormack eta l 2000

44 pts – RCT

High impingement and reoperation after IM nailing.

Fixation by IMN may be indicated for specific situations, but is technically more demanding and has a higher rate of complications.

## Dynamic compression plating versus locked intramedullary nailing for humeral shaft fractures in adults.

Cochrane Database Syst Rev Hossain et al 2011

Intramedullary nailing is associated with an increased risk of shoulder impingement, with a related increase in restriction of shoulder movement and need for removal of metalwork.

Surgical fixation of fractures of the shaft of the humerus generally involves plating or nailing. It is unclear whether one method is more effective than the other.

J Bone Joint Surg Br. 2005 Dec;87(12):1647-52.

## Radial nerve palsy associated with fractures of the shaft of the humerus: a systematic review.

JBJS Br Shao et al 2005

1045 patients

11.8% radial nerve palsies

88% recovery - spontaneous recovery in 71%

No significant difference in the final results when comparing groups which were initially managed expectantly with those explored early, suggesting that the initial expectant treatment did not affect the extent of nerve recovery adversely and would avoid many unnecessary operations.

## Nonoperative functional management of patients in tendoachilles rupture

JBJS Br 2011 Wallace et al

945pts – 12 yr followup – all non operative with functional rehabilitation protocol

(3 wks cast equinus – walking boot weight bearing– wedge off in every 2 weeks – walker off in 8 weeks

Rerupture rate with non operative – 2.8%

## Tendoachilles - Operative Vs Non-opeartive – RCT – Multicentre

JBJS Am 2010 Willits et al

144pts – 72 op – 72 non op

RCT – acceralated rehabilitation protocol – early wt bearing and mobilization

Re rupture – no significant difference

No difference in outcome

Significant difference in complications in operative group – wound problems

## Treatment of Primarily Ligamentous Lisfranc Joint Injuries: Primary Arthrodesis Compared with ORIF

JBJS Am Coetzee et al 2007

41 pts - RCT – 2yr followup

5 pts in ORIF group had OA and required fusion

Artrodesis group - 92% of their preinjury level vs 65% ORIF group

## Operative Compared with Non-operative Treatment of Displaced Intra-Articular Calcaneal Fractures

JBJS Am Buckley 2002

4 trauma centers Prospective RCT

Validated outcome measures -SF-36
424 with 471 displaced intra-articular calcaneal fractures

309 (73%) 2-8yr FU

The outcomes after non-operative treatment were not found to be different from those after operative treatment

The patients who were not receiving Workers' Compensation and were managed operatively had significantly higher satisfaction scores

## HIGH TIBIAL OSTEOTOMY VERSUS UNICOMPARTMENTAL KNEE ARTHROPLASTY FOR MEDIAL COMPARTMENT ARTHROSIS OF THE KNEE: A REVIEW OF THE LITERATURE

Iowa Orthop J Federico et al 2010

slightly better results for UKA in terms of survivorship and functional outcome

TKA is revision option for both groups – no difference

NJR shows 12% CPP for UKR and 20% CPP for PFJ Replacement

## Total knee arthroplasty after high tibial osteotomy. A systematic review.

BMC Musculoskeletal Disord van Raajj et al 2009

Prolonged surgical time, extra-operative procedures and less postoperative knee range of motion (ROM), but no increase in revision surgeries for patients receiving TKA after prior HTO compared with patients receiving primary TKA