

ABSTRACT BOOK

**16th European SICOT Trainees` Meeting
Kołobrzeg, 7 – 9 May 2009**

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Message from the Chairman of SICOT TM Organizing Committee

Dear Colleagues,

We have a great pleasure to invite you to join the 16th European SICOT Trainees' Meeting taking place in Kołobrzeg, Poland on 7 – 9 May 2009.

Subject matter of the SICOT Trainees' Meeting contains:

- Motion preservation versus arthrodesis (spine, elbow, ankle)
- Management of posttraumatic deformities (elbow, ankle)
- Reconstruction of bone in osteoporosis and metastasis
- Multitrauma management

Invited speakers from many states will deliver keynote lectures. Original Participants reports will be presented also.

I would like to extend my sincere thanks to SICOT President Prof Dr E. Büniger and SICOT General Secretary Prof Dr J. Eulert, who contributed greatly to our Meeting. I would like to convey my deepest thanks to SICOT Headquarter Office, especially Mrs Beatrice Chaidron and the Local Organizing Committee, who worked very hard with me to create our Meeting. If you need any information or help, please do not hesitate to ask me or my colleagues.

Last, but not the least, I present my deep gratitude to our Industrial Partners for their participation in Exhibition and commercial support.

We are looking forward to seeing all of you in our fascinating Kołobrzeg. We tried to do our utmost to make an interesting and pleasant Meeting. I hope you enjoy it!

You are all welcome to Kołobrzeg.

Yours sincerely,

Professor Andrzej Bohatyrewicz
Chairman of Organizing Committee

16th SICOT Trainees' Meeting

7-9 May 2009, Kołobrzeg, Poland

Abstracts ordered by AUTHORS in alphabetical order

Presentation nr : O21

ASSESSING THE FEASIBILITY OF ULTRASOUND GUIDED FEMORAL NERVE BLOCKS ADMINISTERED BY ORTHOPAEDIC TRAINEES FOR FEMORAL NECK FRACTURES IN THE ACCIDENT AND EMERGENCY DEPARTMENT

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STUDY OBJECTIVE: To determine the feasibility of ultrasound-guided femoral nerve blockade performed by orthopaedic trainees. METHODS: This was a prospective study involving patients presenting to Accident & Emergency with fractured femurs requiring analgesia. Physicians performing the nerve blocks were orthopaedic trainees who had participated in a 1-hour training session. The participants underwent ultrasonography-guided femoral nerve blocks to provide analgesia. Any additional analgesia required was recorded. Subjects rated their pain on a Numerical Pain Rating Scale (NRS) before the nerve block and 30 & 60minutes after the nerve block. The primary outcomes for feasibility were the requirement for additional analgesia following injection and the median reduction in pain on the Numerical Pain Rating Scale after the nerve block. Secondary outcomes for feasibility included the median time for completion of the entire nerve block procedure for each subject (from initiation of ultrasonography to completion of the last injection) and the percentage of participants wishing to have the same procedure for or similar injuries in the future. Other secondary outcomes included the percentage of participants with complications during the procedure including nerve and vascular injection. RESULTS: All procedures (100%) were completed without additional anaesthesia or analgesia with significant reduction in Numerical Pain Rating Scale. There were no immediate complications. CONCLUSION: Orthopaedic trainees can perform ultrasound-guided femoral nerve blocks in the emergency department with high patient satisfaction, after minimal training.

Presentation nr : O56

RECONSTRUCTIVE SURGERY OF III B-IV TYPES OF CONGENITAL HYPOPLASTIC THUMB

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INTRODUCTION: Thumb hypoplasia represents a spectrum of deficiencies from slightly smaller thumb to a completely absent thumb. Absence a carpo-metacarpea joint in types III B-IV congenital hypoplasia by Blauths classification complicates its reconstruction. The range of possible variants of reconstruction is various from preservation of thumb to index finger pollicization. The aim of this research is description of reasonable methods reconstruction of the hypoplastic thumb used by us. MATERIAL AND METHODS: From 1990 to 2008 there are 156 patients (217 hands) with congenital hypoplastic thumb were examined and treated. We observed the new variants of IV types of hypoplasia and we have modified Blauth's classification. In 48 cases we have performed a removal thumb of III B-IV types of hypoplasia and index finger pollicization. In 42 cases we have performed thumb reconstruction. Variants of reconstruction were determined by a degree of hypoplasia os trapezium. The results of treatment at patients with thumb hypoplasia have been followed up in terms from 6 month to 17 years after operation in 76 cases (57 good, 17 fair, 2 poor). CONCLUSIONS: The

change of method reconstructive operations in patients with congenital hypoplastic thumb must includes not only the reasonable compromise between functional and cosmetic results of treatment, but also a wish of patients and their parents.

Presentation nr : O67

OUR EXPERIENCES WITH THE EXPERT INTRAMEDULLARY TIBIA NAIL IN THE CASES OF

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Our experiences with the Expert intramedullary tibia nail in the cases of proximal and distal third tibial fractures. INTRODUCTION: Intramedullary nailing is a safe, minimally invasive technique for tibial shaft fractures. Earlier the indication was focused only on the diaphysis of the bone. New generation of nails have been designed with multiple locking options to use in fractures for the distal and proximal part of the tibia. The aim of this presentation is to show our experiences with one of this new implants. MATERIAL AND METHODS: The Synthes Expert tibia nail was used in 50 cases for tibial fractures from January 2007 to December 2008. The average age of the patients was 49 years, male: female 29:21. Fracture types: 41 A2-A3, 41 C1 -C2, 42, 43 A1-A3, 43 C1 -C2. RESULTS: All of the treated fractures healed well, there was no infection, delayed bone healing or non union in this series. CONCLUSION: According to our limited experience; the Expert tibia nail is a good, safe and rather simple method for treating fractures on the proximal and distal part of the tibia.

Presentation nr : O47

TREATMENT OF FLAIL CHEST WITH FIXATION OF BROKEN RIBS BY METAL STRUTS.

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AIM OF THE STUDY: to evaluate usefulness of the surgical stabilization of the flail chest by own method. MATERIAL AND METHOD: authors present their own modification of surgical stabilization of flail chest caused by multiple rib fractures. Fixation of broken ribs is achieved by use of metal struts attached to every second broken rib by non-absorbable sutures. Struts are modelled according to rib shape. They are removed 6 weeks later during minor surgical procedure. RESULTS: the method was used in 45 patients in the period 1978-2008. The result was successful in 42 cases. Patients were discharged home within 21 days (avg. 12 days). 3 patients who died due to ARDS were referred to our clinic later than 72 hours after accident. CONCLUSIONS: surgical stabilization of the flail chest provides rapid and full recovery faster than anaesthesiological stabilization. The method should be applied as soon as possible after accident.

Presentation nr : O53

CLINICAL TESTING OF INTRA-ARTICULAR CHONDROPROTECTION METHOD BY BLOOD AUTOSERUM

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Orthopedic clinics in Gomel and Grodno (Republic Belarus) have developed and adopted a method of treating osteoarthritis of nonimmune etiology of the first and second stages using blood serum taken from the patients. Autosserum is characterized by the friction coefficient of the same value like a

healthy synovial fluid as well as similar to its biochemical composition. These facts have conditioned the use of autoserum as a biocompatible and available substitute of the synovial fluid and chondroprotection means. The preparation was injected thrice into the cavity of knee joints with 7-10 day intervals between injections. The volume of the serum was varied within 5 till 10 ml limits. The functions of patients' joints were estimated by their adaptation to natural joints using a rating scale HSS prior to therapy and 2-3 days after each injection. Medical supervision lasted from 1 till 7 months. All the patients have felt significant reduction of the pain syndrome, sliding easiness in the joint, elimination of articular crepitus and constraint, ability to sustain without pain in constrained position of the foot for a longer time. The effect of using autoserum for osteoarthritis therapy has been confirmed clinically and statistically till 99.9% validity both after the first injection and 7 months after termination of the treatment.

Presentation nr : O30

PARTIAL SHOULDER REPLACEMENT IN PATIENTS WITH PROXIMAL HUMERUS METASTATIC LESIONS.

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INTRODUCTION: Proximal humerus is one of the most common site of bone metastases. Partial shoulder replacement became an effective method of metastatic fractures and lesions in recent years. The authors started with this procedure in 1997. The clinical outcome according to range of resection, patients' age, gender and tumor origin were presented. **MATERIAL AND METHODS:** 66 patients operated between 1997 and 2008 with metastatic lesion or/and pathological fracture. Range of resection was 6-14cm with subsequent partial shoulder arthroplasty. The follow-up time was 2 months to 8 years. The final outcome was assessed by clinical examination according to Enneking scale, pain relief and X-Ray. **RESULTS:** Excellent and very good outcome showed 47 patients, while in 5 it was poor due to lack of stability and subluxation. 3 patients died within 7 days after surgery. Superficial wound infection affected 4 patients, applied conservative treatment was sufficient. Most of patients noticed pain relief which was noticed by lower dose of analgetics after surgery and patients' subjective opinions. **CONCLUSIONS:** Partial shoulder replacement after proximal humerus resection became a regular method of treatment in recent years. Though the range of movement after massive soft tissue resection is rather poor, patients' acceptance rate and pain relief is high.

Presentation nr : O61

CHANGE IN THE LENGTH OF THE PATELLAR TENDON. A METHOD OF ASSESSMENT WHICH CAN BE APPLIED IN PATELLO-FEMORAL JOINT REPLACEMENT.

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The study aimed to establish an accurate method of assessing patella tendon length change, the method was then applied to patello-femoral replacement (PFR) patients. The shape of the patella is changed by PFR; previously described methods are flawed as they rely on the patella length as part of a ratio. We rendered radiographs to digital format with a radiograph scanner. By altering the scale of the image with image manipulation software such that two fixed bone landmarks were the same distance apart on both radiographs we corrected for differential magnification. The method was validated by adjusting and examining two lateral knee radiographs of patients taken within 6 months of one another. The method proved reproducible with mean shortening of 0.6% (range; 6% shortening to 3% lengthening). We conducted a retrospective analysis of two groups of forty patients, PFR patients and total knee replacement (TKR) patients. Immediate preoperative radiographs were compared with

those one year postoperatively. Mean change in length of the tendon after PFR surgery was 0.1 % of shortening (range; 14% shortening to 11% lengthening). Only one case showed shortening over 10%. Mean shortening in TKR was 7.14% (range; 25% shortening to 7% lengthening). There was a statistically significant difference between the unoperated, PFR and TKR groups ($P < 0.001$). This method enables accurate assessment of tendon length change. This method has not been previously described, it has further potential applications. Shortening of the patellar tendon occurs less frequently after PFR than after TKR.

Presentation nr : O60

OUR EXPERIENCE WITH THE AVON PATELLOFEMORAL ARTHROPLASTY

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INTRODUCTION: The aim of our study was to introduce our mid-term results with the AVON patellofemoral arthroplasty. **MATERIAL AND METHODS:** 15 cases (14 patients) have been evaluated between May 2004 and December 2007. The average age of the patients was 58,3 years (47-79). The average follow-up time was 32,8 months (14-56). The ROM, the change in retropatellar pain on Huskisson VAS was compared and for the additional evaluation the Knee Society Score (KSS) was used. A/P, lateral and tangential 30° views have been performed for xR evaluation. **RESULTS:** There was no significant difference in the ROM. According to the retropatellar pain the average improvement was 75% (50-100). Concerning the KSS: 10 cases were in the "excellent", 4 cases in the "good" and 1 case was in the bad group. There was one serious and one minor complication in this series. **DISCUSSION:** The result of the lateral retinacular release for treating isolated patellofemoral arthritis was not so encouraging before in our practice. According to the isolated patellofemoral arthroplasty with same indication seems to be much more successful as our mid-term results demonstrated as well.

Presentation nr : O9

USE OF PRIMARY FEMORAL IMPLANTS IN REVISION HIP ARTHROPLASTY

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OBJECTIVE: Revision hip arthroplasty is becoming a frequently performed surgery in recent years. It may be associated with increased bone loss and use more costlier revision implants. This retrospective study analyses our use of primary femoral implants in revision surgery. **METHODS:** 19 patients underwent revision hip arthroplasty using primary implants from Jan 2006 - July 2008 using posterior approach. Patients were assessed clinically and radiologically. The decision to use the primary implants was made by analyzing the residual bone stock on radiographs which was confirmed intra-operatively. Pre-revision diagnosis was aseptic loosening (15), deep infection (3) and recurrent dislocation (1). **RESULTS:** Mean age at revision surgery was 67.7 years (52-77). The mean follow-up was 13.36 months (6 - 36 months). The median pre-operative oxford hip score was 45 (IQ range 39-49.5). The post-operative hip score was 23 (IQ range 15.5-25) ($P \text{ value} \leq 3.81 \times 10^{-6}$). None had dislocation, implant subsidence, peri-prosthetic fracture or anterior thigh pain. There was a single case of deep seated infection which needed a further revision surgery. No thromboembolic complications were encountered. **DISCUSSION:** At revision surgery the type of implant used is often dependent on the amount of existing bone stock. We believe that the use of primary implants should be considered for revision hip surgery especially in the younger subgroup of patients. We have achieved stable mechanical fixation of femoral implants in this young/active patient cohort using primary implants. This is both cost effective and preserves native bone stock.

Presentation nr : O62

DEMOGRAPHIC INFLUENCES ON THE OXFORD KNEE SCORE. FACT OR FICTION?

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INTRODUCTION: The Oxford Knee Score is a well validated, commonly used scoring system. Previous studies have suggested that the score is influenced by demographic differences between patients in particular the functional component more than the pain and clinical components. **METHODS:** The pre, 3 months and 12 months post-surgical Oxford Knee Scores were collected from 1492 patients from five distinct demographic locations undergoing total knee arthroplasty over twelve years under the care of 8 different consultants. The scores were then analysed to test whether age, postcode, sex or consultant in charge had any significant effects on the outcome. **RESULTS:** No significant difference in outcome was found between the five locations used in the study however when the results are adjusted for age there was a significant difference. In this study female patients had higher scores at both 3 and 12 months. Age of patient was also found to be of borderline significance when determining the post-operative scores. **CONCLUSION:** This large patient sample study shows that the Oxford Knee Score in post-operative patients is not as heavily influenced by demography as previously suggested. The results show that patients who are older and/or male will have better outcomes from knee arthroplasty. Individual surgeons do not significantly affect the outcome although some surgeons may have better results when age of patient is taken into account. Lastly, post code and life style has no significant influence on the outcome neither should be taken for any consideration for surgery.

Presentation nr : O63

NEONATAL FRACTURES: REASSURING OUTCOMES

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INTRODUCTION: Neonatal fractures are often quite distressing to parents and medical teams involved. Their management is usually problematic due to the small size of the baby but invariably results in normal function¹ **METHODS:** We reviewed the notes of neonates in two different hospital and in different borough who sustained fractures from 2002-2007. Clavicle and humeral fractures were treated in swaddling bandages for 3 weeks. Femoral fractures were treated in gallow's traction for 2-3 weeks. X-rays were taken once weekly. Patients were examined and radiographs of the previously fractured bones were taken after 2 years, Function of the affected limb was also assessed and compared with the unaffected side. **RESULTS:** Twenty Seven (27) neonates sustained fractures predominantly due to birth trauma. Distribution of injury was as follows: Clavicle : 8 Humerus : 9 Femur : 5 Skull : 5. The twenty two (22) patients with long bone fractures were reviewed, functionally assessed and radiographs were taken of the affected limb. All twenty two (22) patients fractures healed satisfactorily clinically and radiologic ally with no residual deformity, limb length discrepancy or functional impairment at >= 2 years follow up. All parents were very satisfied with the outcome. **CONCLUSION:** Neonatal fractures occur in <1% of births. Neonates with fractures are referred for Orthopaedic management usually to the relief of the Obstetric team as possible life time deficit is assumed. In our study we had similar results with all of our neonates with long bone fractures having good radiological results and no functional deficit when reviewed after 2 year.

Presentation nr : O19

SPLASH HAZARD IN ELECTIVE PRIMARY KNEE AND HIP ARTHROPLASTY IS A VISOR MASK SUFFICIENT?

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INTRODUCTION: Intraoperative splash is a common occurrence in elective hip and knee arthroplasty (THA and TKA) and can potentially transmit blood borne diseases such as Hepatitis B, C and HIV with devastating consequences. **MATERIAL AND METHODS:** A prospective study with ethical committee approval was carried between December 2007 and April 2008. 62 consecutive patients under 3 surgeons were included in the study. Kimberley-Clark visor mask was used as default protective gear for all the surgeries. Splash on visor, mask and face were counted at the end of procedure for surgeon, assistant and scrub nurse. **RESULTS:** Splash occurred in all patients (100%). Average splash on surgeon, assistant and scrub nurse in THA and TKA were 221.2(SD 124, Range 38-491), 201(SD 122.4, Range 21-566), 0.4(SD 1.1, Range 0-4) and 195.3(SD 88.9, Range 46-368), 170.6(SD 73.4, Range 25-290), 0.2(SD 0.9, Range 0-4) respectively. There was no statistical difference in number of splash, on surgeon, assistant and scrub nurse between two surgeries. **CONCLUSION:** Despite surgeons best efforts splash remains an inevitable health hazard in THA and TKA. Simple visor mask does not provide appropriate protection to the surgical team. Surgical helmet system (SHS) completely eliminates the risk of splash and also eliminates the risk of intraoperative wound contamination by reverse splash by virtue of its sterility. Our study recommends the use of SHS as a routine protective measure in THA and TKR.

Presentation nr : O14

Topic: Reconstruction of bone in osteoporosis and metastasis

Abstract nr : 20492

FRACTURES IN PROXIMAL SPINAL MUSCULAR ATROPHY (SMA)

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Fractures are an important problem of patients with spinal muscular atrophy (SMA). X-rays, particularly of the lower extremities of patients unable to walk, regularly show marked demineralization with osteopenia caused by inactivity. An interaction between osteoclast-stimulating factor (OSF) and SMN protein with potential effect on osteoclast formation and bone resorption activity is under discussion. Fractures frequently occur spontaneously or during trivial occasion. A total of 131 patients with SMA with an average age of 13.6 years (η 9.2, 0.7, 65.6) were evaluated retrospectively. 38 out of 81 SMA II patients and 17 out of 33 SMA IIIa patients had suffered fractures occurring at an average age of 8.3 years (η 5.3, 0.0, 25.1) in SMA II and 9.3 years (η 6.0, 0.0, 22.1) in SMA IIIa. Most frequent were fractures of the femur (50) usually supracondylar localised, lower leg and ankle (15), and upper arm fractures (9). The distribution of fractures was different in SMA II and SMA IIIa. The majority of the fractures could be treated conservatively. 2 femoral shaft fractures, one upper arm and a lower arm fracture were treated surgically by osteosynthesis. The immobilisation of the affected limb should be for as short as possible. Longer immobilisation leads to deterioration of motor ability. Competent fracture treatment is an important part of the orthopaedic care of SMA patients.

Presentation nr : O59

EXPERIENCE OF TOTAL KNEE ARTHROPLASTY FOR SECONDARY GONARTHROSIS IN YOUNG PATIENTS

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Introduction. One of the most important and difficult problems is development of surgical treatment for degenerative conditions of the knee. Material and method. The aim of investigation was the assessment of possibility and results of total knee arthroplasty (TKA) at young patients with the 3rd – 4th stage of gonarthrosis. Carrying out this work we analyzed 39 cases of TKA at 39 patients operated in 2003-2007. The age of patients range between 19 – 45 years. All patients were implanted bicondylary unconnected knee joint endoprosthesis “Scorpio” (Stryker Corp., USA). All patients were divided into 2 group depends on cause of gonarthrosis (in addition each group were divided into 2 subgroup in depends on age of patients – under 30 years and above 30 years). The first group: 13 patients with posttraumatic gonarthrosis. Patients under 30 years were in 15, 4% cases, above 30 years were in 84, 6%. The second group: 26 patients with rheumatoid arthritis. Patients under 30 years were in 42, 3% cases, above 30 years were in 57, 7%. Results. The results of TKA in young patient (under 45 years) with posttraumatic gonarthrosis and rheumatoid arthritis in 77% and in 96, 2% cases were perfectly or good, and satisfactory in 15, 4% and in 3, 8% cases. Best result had appeared of patients under 30 years. Conclusion. Thus TKA is proved to be the most effective treatment for the 3rd – 4th stage of gonarthrosis in patients of younger groups.

Presentation nr : O54

RESULTS OF ARTHROSCOPICAL ABRASIVE CHONDROPLASTY IN PATIENTS WITH GONARTHROSIS

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Introduction. Knee arthroscopy is commonly performed for treating meniscus injury and for cartilage microfracturing. Material and method. Carrying out this work we analyzed medical histories of 31 patients with gonarthrosis who were subjected to arthroscopical abrasive mechanical chondroplasty (AAMC) with/without microfracturing in Minsk city clinical centre of traumatology and orthopaedics during 2005-2007 period. The age of patients range between 10 – 69 years. The average monitoring period: 7.9 months. According to the type of operation patients were divided into 2 groups: 1) The 1st group: 19 patients subjected to AAMC by R.P. Ficat system 2) The 2nd group: 12 patients subjected to AAMC with microfracturing. Results. Analysis indicated that in the first group after operation 47,4% of patients stated disappearance, 26,3% of patients - considerable decrease in painful syndrome increase in motion activity, 15,8% of patients stated to have returned to the initial state of health, 10,5% of patients – worsening in health status as compared with the initial status. In the second group after operation 50% of patients stated disappearance, 33,3% of patients - considerable decrease in painful syndrome increase in motion activity, 16,7% of patients stated to have returned to the initial state. Conclusion. In the first and the second groups 73.7% and 83.3% of operations consequently turned out to be perfectly or well done. Thus AAMC in combination with/without microfracturing is quite efficient palliative type of operation among patients with gonarthrosis.

Presentation nr : O52

THE BIOLOGY OF ACL RECONSTRUCTION

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INTRODUCTION: Surgical reconstruction of the injured Anterior Cruciate Ligament (ACL) is an effective solution to knee instability, but not all grafts incorporate well. The biological environment in the knee that controls graft integration is not well understood, and this study aims to fill that gap as the first step towards a translational approach to optimise outcomes. **METHOD:** Over two stages, tissue samples and knee fluid samples were harvested from patients undergoing ACL reconstruction. These samples were cultured and stored to allow batch analysis for a variety of cytokines, growth factors and collagenases. **RESULTS:** Stage 1 (n=14) identified the presence of specific pro-inflammatory cytokines, growth factors and latent collagenase. Information gathered allowed a more targeted approach to be used in stage 2 (n=18). Stage 2 data from tissue cultures suggest that collagenase activity peaks later than 6 hours post-op. The relationships between collagenase activity and levels of TNF-alpha, IL-1beta and bFGF are of potential interest, and the profiles of patients will be compared with longer term follow-up data to determine any effects on outcomes. **CONCLUSION:** Further detailed assessment of the biology of ACL graft incorporation is required, but these preliminary data have clarified some of the details worthy of further study.

Presentation nr : O10

EARLY READMISSIONS FOLLOWING TOTAL HIP REPLACEMENT

Philip HOLLAND

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INTRODUCTION: The early readmission of patients following a total hip replacement (THR) has a significant cost; reduces patient satisfaction; is often used as an indicator of performance and has increased over the last 10 years in the UK. We aim to establish why patients are readmitted and how this can be avoided. **METHOD:** We retrospectively analysed the case notes of 222 patients who underwent a primary elective total hip replacement between the 1st of August 2007 and the 31st of July 2008 at Aintree University Hospital. We recorded the details of all readmissions within 28 days of discharge including the length of readmission, investigations performed and the final diagnosis. **RESULTS:** Results showed 22 (10%) patients were readmitted and 14 (64%) of these were for the investigation of a suspected ipsilateral deep vein thrombosis (DVT). The other readmissions were 3 (14%) patients with chest pain; 3 (14%) patients with suspected wound infections and 2 (9%) patients with medical conditions not related to their surgery. For the investigation of a DVT the total number of days spent in hospital was 27 with a mean stay of 1.9 days. One patient had a confirmed DVT. **CONCLUSION:** Inpatient assessment of a suspected DVT is usually unnecessary and yet is a common reason for readmission which we believe is not unique to our hospital. Ensuring consistent out patient DVT investigation alone could halve early readmission rates.

Presentation nr : O22

TOTAL ANKLE ARTHROPLASTY. AN INSIDE VIEW OF TOTAL ANKLE ARTHROPLASTY

Martin HUBER

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Until recently the treatment of inflammatory joint disease and painful end-stage arthritis of the ankle was dominated by arthrodesis. Although this may provide welcome pain relief, the loss of joint

mobility means that the outcome of the procedure is less than ideal, with associated arthritis developing in the surrounding joints and a pathological gait. Recent developments in total ankle arthroplasty feature a three part mobile bearing ankle with a resurfacing talus design that enables surgeons to achieve accurate surgical outcomes and restoration of normal ankle joint mobility with minimal bone resection.

Presentation nr : O39

EXPERIENCE AND OUTCOME OF ELBOW RECONSTRUCTION FOR OLD NEGLECTED ELBOW INJURIES WITH DEFORMITIES.

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Introduction: Incidence of neglected elbow injuries is very high in the West African Subregion. Managing such injuries remain a nightmare to Orthopaedic Surgeons who often prefer to shy away from such injuries due to high rate of failure in meeting the expectations of these patients. Aim: To share our experiences in the challenges and outcome in the management of such injuries. Patients and Method: Counseling on the problems, options, and outcome of treatment with respect to joint stability, ranges of motion, pain and patient satisfaction was given to patients and consent obtained for surgery. Post operatively results were assessed using a patient-centred scoring system based on ranges of motion, pain, cosmesis, joint stability, complications, and patients satisfaction. Result: 21 Patients with neglected elbow injuries and stiffness presented to our hospitals between January 2005 to December 2008 consented to non-replacement elbow reconstruction. M: F ratio was 0.9:1. Age range 8-52years (average -23yrs). Eleven Left and 10 right elbows were involved. Road Traffic Accident was the most common cause of injury (60%). Diagnoses were fractures (19%), Dislocations (24%) and Fracture-Dislocations (57%). Interval between injury and treatment ranged from 4-730days (average 6months). Nineteen cases (90%) had traditional bonesetters treatment prior to presentation. Over 70% had open reduction and soft tissue reconstruction. Overall outcome was: 0% excellent, 14.29% Very Good, 52.38% Good/satisfactory, 23.81% fair, and 9.52% poor. Conclusion: We conclude that operative elbow reconstruction improves elbow function even after significant period of neglect

Presentation nr : O42

POSSIBILITY, RESULTS OF CONSERVATIVE TREATMENT AND CAUSATIVE PROPHYLACTICS IN THE SO - CALLED IDIOPATHIC SCOLIOSIS - VERSUS OPERATIVE PROCEDURES – IN OBSERVATIONS OF 15 YEARS.

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INTRODUCTION. The etiology of the so-called idiopathic scoliosis [AIS] founded by Karski/1995-2008/. Previous reha-treatment was not successful and many of children were operated on. To understand “the new therapy” I present new classification (2001–2004/2006). Problem of treatment: conservative treatment versus operative procedure. Results of extension&strengthening exercises were only bad. New causal exercises for prophylaxis & treatment is effective. Prof. Malawski as first introduced “new treatment”. MATERIAL AND METHODS. Old and new exercises for AIS-Material:1400 children from 1985-2008. There were: a. children who never treated through “old/bad” rehabilitation exercises(50%), b. children treated with “old exercises” for 3-months(21%), c. children treated with “bad exercises”1-2-3 years(29%). A physical-mathematical formula for “bad/strengthening exercises”- (Malicki–Polish Academy of Science) is as follows: $F(ro)=F(cor)xsina \times krg/r$. Our observations were confirmed by Malawski/Warsaw/1994 and Kotwicki&Dobosiewicz&Szulc&Rapala/2003. Our new rehabilitation exercises are: a/exercises to remove the contractures of the right hip,-flexion-extension asymmetric exercises for spine,b/active sport in schools and in “sport clubs”–like Karate, Taekwondo, Aikido etc.,c/special kind of sleep positions, d/“at ease” standing only on the left leg. New classification (Karski-2001–2004/2007)-

Dependence on “models of hips movements”. ”S”-3D-I-epg-scoliosis,”C-1D-II/A-epg-scoliosis &”S”-2D or mix-epg-scoliosis, ”I”-2D or mix-III-epg-scoliosis/confirmation-Stokes /www.ortopedia.karski.lublin.pl. RESULTS. New treatment is effective in II/A&II/B&III-epg and effective in the beginning phase of the I-epg. In I-epg 20% children-corsets. In I epg very good&good results-87%. In II/A-epg, II/B-epg very good&good results-93%. Only 13% of children in I-epg, in II-epg 7% need surgery. CONCLUSIONS. A/ Every type of scoliosis starts when the child starts to stand and to walk/Connection with”syndrome of contractures and deformities”Mau,Karski,Oleszczuk/. B/ The old “extension/strengthening exercises” are extremely wrong. C/ The new symmetric&asymmetric flexion&flexion-rotation exercises, constitute good prophylactics and effectiveness in scoliosis. D/ Our conservative treatment/15y./ versus operative procedure (spondylodesis, instrumentation) show that only 13% of children from I-epg would require surgery, remaining 87% children require-new exercises&in I-epg-20%-corsets. E/ Lublin experience stays in accordance to “Bone and Joint Decade 2000-2010”. Literature by author/www.ortopedia.karski.lublin.pl .

Presentation nr : O44

ARTHROSIS OF THE FIRST METATARSOPHALANGEAL JOINT - ARTHRODESIS OR ARTHROPLASTY? PRELIMINARY REPORT.

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Summary: Arthrodesis of the 1st metatarso-phalangeal joint is still the gold standard procedure for the treatment of severe arthritis of the first metatarsophalangeal joint. The aim of that study was to as to compare the early clinical outcomes of a total joint arthroplasty with arthrodesis for the treatment of this condition. Material and methods: 25 patients with hallux rigidus were treated with either arthrodesis (21 feet) or total joint arthroplasty (4 feet). Postoperative patient satisfaction and function were graded with use of the American Orthopaedic Foot and Ankle Society (AOFAS) score. Authors described different fusion techniques altogether with different bone stabilisation systems. Total big toe arthroplasty technique was outlined. Results: At the time of final follow-up (at a mean of 10 months), the satisfaction ratings in the arthroplasty patients were excellent for all 4 feet. In the arthrodesis group there were 15 feet with excellent result, 5 feet with fair result and 1 failure because of non-union. 3 patients with fair results suffered from improper big toe position with shoe conflict and 2 patients after fusion required prominent hardware removal. The AOFAS score and patient satisfaction were better in the arthroplasty group. Conclusion: The right position for the fusion is difficult to achieve and malunion is a common cause of failure. Prosthetic replacement needs further observation for durability and survivorship. Both techniques are useful for alleviating symptoms in patients with severe osteoarthritis of the first metatarsophalangeal joint.

Presentation nr : O26

SURGICAL TREATMENT OF SEVERE CASES OF FLAT FOOT DEFORMITY DUE TO NEGLECTED TIBIALIS POSTERIOR TENDON DYSFUNCTION.

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AIM: Triple arthrodesis through lateral approach in the treatment of neglected valgus flatfoot deformity in the adult, secondary to insufficiency of the tibialis posterior tendon is a well recognized procedure. Authors propose a double, talocalcaneal and talonavicular fusion performed via medial approach, as a alternative to standard one. MATERIAL AND METHODS: The authors reviewed 10 cases where subtalar and talonavicular arthrodesis was performed from medial approach. Bones were stabilised with Herbert-type 6mm and 4,5 mm compression screws. Internal fixation was facilitated by use of dedicated aiming device Unima guide (EOS). Intraoperative fluoroscopic imaging was effectively reduced. No bone grafts were used. The patients were evaluated using the American Orthopedic Foot and Ankle Society Score (AOFAS).RESULTS: Talocalcaneal and talonavicular fusion was achieved in

all cases. Rigid internal fixation allowed full weightbearing two months after surgery. Arthrodesis position was not an optimal one in 3 cases. Wound problems and secondary healing occurred in one patient. There were no nervous or vascular complications. The average AOFAS score improved from 34 points pre-op to 70 points post-op. **CONCLUSION:** Subtalar and talonavicular arthrodesis performed from the medial incision was found to be an effective procedure in the treatment of acquired flat foot deformity due to insufficiency of the tibialis posterior tendon. Medial incision offers easier and faster approach with minimal bone resection required. Hypertrophied medial column is a source of local bone grafts when necessary.

Presentation nr : O8

FUNCTIONAL ANALYSIS OF MUSCLE ACTIVITY IN PATIENTS THAT UNDERWENT TOTAL HIP REPLACEMENT VIA DIRECT ANTERIOR MINIMAL INVASIVE APPROACH

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Total hip replacement (THR) is operating procedure that includes two principal stages: the incision approach and subsequently correct fixation of implants. Patients after THR expect constant pain relief as well as quick return to professional and recreational activity. Daily activity of patients after surgery depends mainly on function of muscles and tendons which may be injured during incision procedure. Degree of muscles and tendons damage relates with applied method of surgical approach. The study group embraces 30 patients after minimal-invasive THR with anterior direct approach. The electromyography activity of gluteus medius and tensor fasciae latae was evaluated in four functional tests: standing-up from chair, going on stair-step up, Trendelenburg test and walking at motorised treadmill. The results were normalised by activity measure in maximum isometric contraction. The control group comprises 30 patients that underwent THR procedure with standard lateral Harding approach. Although clinical tests (WOMAC and HHS) and radiological results were comparable in two groups, the activity of the abductor muscles was greater in MIS-group in all tests regardless of postoperative rehabilitation course. THR performed via direct anterior minimal-invasive approach allows preserving abductor muscles, and additionally, is related with less postoperative pain which diminishes rehabilitation time and facilitates to return to sport activity.

Presentation nr : O5

CLINICAL EFFICIENCY OF BONE RECONSTRUCTION IN DISSEMINATED METASTATIC DISEASE

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Modern techniques of bone reconstruction as well as pre- and postoperative chemotherapy protocols have radically changed prognosis and clinical state of patients with metastatic disease. The authors have presented a number of surgical solutions in treatment of large bone tissue defects due to advanced metastatic disease. Material was composed of selected 63 patients with disseminated metastatic disease who were hospitalized in the University Department of Orthopaedics and Traumatology of Szczecin, Poland between 2002 and 2008. Patients with solitary lesions were excluded from the study. The treatment included methods of reconstructive surgery aiming at limb salvage. The following techniques were used: en bloc tumor resection without stabilization, en bloc

resection with internal fixation, resection with allograft, resection with knee or hip arthroplasty, internal fixation without resection, corpectomy with vertebral prosthesis and posterior spinal stabilisation. The observation period varied from 3 months to 5 years. In spite of the low rate of long term survival in the study group the authors have emphasized that challenging reconstructive techniques allowed patients to preserve limb motion even though far metastatic lesions were present. In some cases local recurrence around the prosthesis appeared however it was not the reason for loosening of the implant. The authors have also concluded that the usage of allogenic bone grafts for reconstruction is not contraindicated in metastatic disease. Especially in disseminated lesions treatment should be aimed at providing the patient the comfort of life with preserved functional limb what also implicates significant psychological effect.

Presentation nr : O57

SURGICAL PROBLEMS WITH TOTAL KNEE ARTHROPLASTY AFTER FAILED HIGH TIBIAL OSTEOTOMY - EARLY RESULTS.

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INTRODUCTION: The outcome of total knee arthroplasty (TKA) in patients after proximal tibial osteotomy (HTO) remains controversial especially after failed HTO. **MATERIAL AND METHODS:** 21 TKA were performed on 20 patients. There were 17 women and 3 men of age from 62 to 88 (average 68.6) years). Bilateral TKA was performed on one woman. Primary Coventry osteotomy was done in 19 knees and 2 in strange one. Pain, osteoarthrotic changes and malalignment of mechanical axis of the knee and in two cases tibia nonunion were an indication for surgery. **RESULTS:** All patients were examined after average follow-up 2.1 years according to Clinical Rating System. 19 patients had very good and good results. In one case after 2 years due to tibial medial condyle necrosis the revision knee arthroplasty was performed. **CONCLUSIONS:** The soft tissue balance in TKA after HTO is much more demanding then in ordinary TKA. The outcome of TKA in patients after failed HTO depends from severity of deformity of the tibia and could be worse than after primary TKA.

Presentation nr : O20

HAP+B -TCP - USEFUL BIOMATERIAL IN REVISION TKA AND THA CLINICAL AND RADIOLOGICAL EARLY RESULTS

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INTRODUCTION: Hydroxyapatite is well know bone substitute. From 2007, HAP+B-TCP is used together with bone graft for revision hip and knee arthroplasty in our department. **MATERIAL AND METHODS:** 24 patients underwent revision hip and knee arthroplasty using impacted, morcellized, frozen, irradiated allograft and HAP+B-TCP for reconstruction of bone deficiencies. Here were 16 acetabular (12 women and 4 men) and 8 knee (5 women and 3 men) reconstructions. The mean follow-up was 11.4 months. **RESULTS:** The overall survival rate was 96%. Radiographic evidence of allograft incorporation was observed in 15 of 16 acetabula and in all knees. The one cup showed significant migration with increased bone deficiency without sign of loosening (revision was performed). In one knee early infection was developed. And after two stage revision new knee prosthesis was implanted. There were no any major complications such as fractures, or vascular-nervous damages. **CONCLUSIONS:** Impacting bone grafting with HAp+B-TCP has shown promising results in revision surgery. The results have been encouraging, and this technique remains our procedure of choice for managing bone defects in primary and revision hip and knee arthroplasty.

Presentation nr : O50

COW-RELATED TRAUMA; A 10 YEAR REVIEW OF INJURIES ADMITTED TO A SINGLE INSTITUTION.

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Introduction: Bovine related injuries to farmers are common in rural communities. Many injuries are significant requiring hospital admission and surgery. We reviewed all cattle-related injuries admitted to a regional trauma centre over 10 years and detail the nature of the injuries. Method: A retrospective review was undertaken, using hospital inpatient coding system (HIPE) to identify patients admitted following cow-related trauma for the last 10 years. From retrieved charts mechanism of injury was identified, demographics recorded and Injury Severity Score (ISS) and Trauma Injury Severity Score (TRISS) calculated based on the injuries sustained. Results: 47 patients were identified, with a median age of 53 years. 8.5% of injuries occurred in children, and 25% in patients over 65 years old. 75% of those injured were male. Kicking was the most common mechanism of injury (47%), but charge/head-butt injuries and trampling injuries were associated with more serious injury scores. 72% of patients were admitted under Orthopaedics as their primary care team, 25% under General Surgeons, with one patient admitted medically. Mean ISS score was 6.9 (range 1-50). 41 operative interventions were performed on 30 patients during their admission. 6.3% of patients required admission to Intensive Care with a mean length of stay of 12.3 days (range 2-21 days). There was no mortality. Conclusion: Cow-related trauma is a common and potentially serious mechanism of injury. Head-butt and trampling injuries should be considered akin to high velocity trauma.

Presentation nr : O3

THE METHODS OF OPERATIVE TREATMENT IN PATIENTS WITH PROXIMAL FEMUR METASTASES – OWN EXPERIENCE.

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OBJECTIVE. The main aim of the paper was treatment overview operative treatment in patients with proximal femur metastases. MATERIAL AND METHODS. 263 patients operated between 1996-2008. In patients with preserved hip acetabulum and rather poor long life prognosis an Austin Moore long or regular stem partial prosthesis was implanted. In patients with better prognosis a regular THR or tumor endoprostheses were implanted. RESULTS AND CONCLUSIONS. Radiologically and clinically most of cases were assessed as good and fair. The operations let most of patients continue their oncological treatment, lowered the analgetics consumption and improved their quality of life. Fair and bad results were found in patients with large soft tissue resection and patients bad general condition before surgery. The above shown method of metastases treatment in comparison to other methods - plaster immobilization, AO - in which subsequent use of analgetics is needed and lower patient mobility is applied-is the method of choice.

Presentation nr : O16

LESS INVASIVE STABILISING SYSTEM (LISS) PLATE VERSUS RETROGRADE INTRAMEDULLARY (IM) NAIL FOR OSTEOPOROTIC DISTAL FEMORAL FRACTURE (AO33A1 TO AO33C3).

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INTRODUCTION: Distal femoral fractures are not as common as proximal femoral fracture in elderly, but they can lead to significant post-injury morbidity and mortality. Elderly patients have poor bone quality and they do not tolerate a major open surgery. A LISS plate overcomes many of these problems. The results of treatment with LISS plates and retrograde IM femoral nail in osteoporotic distal femoral fracture treated in our hospital were compared. **METHOD:** Retrospective review of case notes and X-rays of patients aged 60 years or above at the time of injury, over a period of seven years were done. We recorded the type of injury, procedure, complications, follow-up period, time to union, knee range of movement, need for further surgery and weight-bearing status at last follow-up. **RESULTS:** The LISS plate group has higher mean age (82.13 years Vs 75.88 years), had better knee range of movement at discharge, had fewer complications (4.17% Vs 66.67%), needed fewer second surgery (4.17% Vs 33.33%), and had lower mean follow-up period (5.06 months Vs 7.50 months). **CONCLUSIONS:** Our study looked into a physiologically high risk patient group who have poor tolerance for major surgery. In our study, patients treated with the LISS plate appear to have a better out-come as compared to IM nail.

Presentation nr : O7

HIP RE-SURFACING ARTHROPLASTY: A 6 YEAR RETROSPECTIVE SURVIVORSHIP STUDY.

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We report experience of 207 consecutive metal on metal hip resurfacings implanted by one surgeon since January 2002. The mean age at operation was 56 years and follow-up ranged from 12 to 84 months (mean 39 months). Data regarding any episode of dislocation or revision surgery was sought on all patients by means of a telephone survey with postal follow up of non-responders and a review of hospital notes. We acquired data on 98% of cases and discovered three unrelated deaths. We found a single case that required revision (0.5 %). This patient developed recurrent dislocation and underwent early revision to a constrained total hip replacement. This was the only failure in the series and no further revisions are pending. This is substantially less than the 1.6 % (1.3% - 2.0%) rate estimated in the National Joint Registry 4th Annual report, UK. We discovered neither infections nor femoral neck fractures. One male with an asymptomatic resurfacing suffered a petrochanteric fracture as a result of significant violence 15 months after operation. Dislocation in a total of four cases (1.9 %) was the commonest complication encountered and constituted the only cause for re-operation in this series. This is consistent with published rates of dislocation following a posterior approach. Our survivorship results compare very favourably with outcomes reported from centres of excellence and far exceed the estimates published by the National Joint Registry, UK.

Presentation nr : O34

SPONDYLODESIS, DYNAMIC STABILIZATION OR DISC PROSTHESIS ?

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Chronic back pain hurts, according to American Academy of Orthopaedic Surgeons data, more than 4 millions persons per year and costs society 100 billions of dollars. At many persons complaints are caused by degenerative changes of intervertebral disc. Conservative treatment often lasts more than six months and in default of absence of expected recovery it is an indication for the surgical treatment. In the last years number of procedures in the surgery of the intervertebral disc rose. Their purposes are pain relief, restoration of spine mechanical function and in extreme cases achievement of spondylodesis. Most often used are: intervertebral disc prosthesis, interspinous stabilization and posterior dynamic stabilization. We present experience of Spine Surgery, Oncological Orthopaedic

and Traumatology Clinic, University of Medical Sciences in Poznan in usage of the intervertebral disc prosthesis, posterior dynamic stabilization and spondylodesis in the treatment of chronic discogenic back pain. According to our experience, backed up also with notifications from literature, indications for:1) disc prosthesis is degeneration of maximum 2 motion segments, when height of degenerative disc is more than 50%, with small degenerative changes of facet joints in young adults2) posterior dynamic stabilization is degeneration of maximum 2 motion segments with moderate facet joints arthrosis and first degree spondylolisthesis3) spondylodesis are multisegmental degeneration of intervertebral discs restricting motion of the facet joints, accompanying spondylolisthesis and spine instability. Correct patients qualification for conducting particular techniques allows to get expected results.

Presentation nr : O29

OPERATIVE TREATMENT OF THE SACRAL BONE TUMOR

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Sacral bone tumor are rare and cumbersome in operative treatment. Due to specific topology and biomechanical node that is constituted by sacrum, any resection above S2 vertebrae endanger the stability of the pelvic ring that in turn can impair the mobility of the patient. In the paper we present 6 patients with sacral bone tumor treated operatively in Spine Department in Poznań 2007-2008. The types of tumor were chordoma (3 cases), chondrosarcoma (2 cases) and one leiomyosarcoma. All of them were treated operatively due to the nerve compression symptoms. The stabilization was performed in four cases due to the suspected instability respectively to magnitude of the resection. We present the follow-up examination focused to the quality of live, ambulation and dependancy in normal activity. In the final examination rather number of the nerve roots compromised is more important for the outcome prediction then the magnitude of the resection. The proper stability is achieved with the proper lumbo-pelvic fixation.

Presentation nr : O28

PERCUTANEOUS ABLATION OF THE METASTATIC TUMOR IN VERTEBRAL BODY WITH SUBSEQUENT INTERNAL STABILIZATION WITH BONE CEMENT.

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We present for the first time in Poland performed the ablation of the metastatic tumor in vertebral body followed with internal stabilization with the bone cement with ArthroCare system. The pathological fracture in the course of disseminated neoplastic disease is difficult to be treated with standard procedure. The staging of the disease usually disqualifies the patient from the standard operative treatment. Then in majority of cases the type of compression fracture with the specific pattern of the fragment displacement is usually discouraging for standard vertebroplasty. In presented case we employed the coablation debulking technique of the tumor tissue prior to the filling the void with the bone cement. The 47 year old male with disseminated lung cancer, developed for two months prior to the index treatment. The fracture pattern was the main cause for instability, subsequent pain and fixed bed position. After the treatment patient was able to ambulate without any external orthosis with the significant decrease level of pain. In our opinion the debulking with the coablation is a reasonable process in cases with pathological fracture prior to vertebroplasty.

Presentation nr : O2

USAGE OF MEGAENDOPROTHESIS SYSTEMS IN MANAGEMENT OF FEMORAL METASTASES

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In a past few years we have been observing a considerable progress in diagnostics and treatment of femoral metastases. The simultaneous progress in technology of production of the megaendoprosthesis systems allows us to qualify more patients with metastatic bone disease for limb salvage surgery. We are able to reconstruct whole femoral bone with surrounding joints preserving full limb functionality. In the years 1997 – 2008, at the Clinic of Spine Surgery, Oncologic Orthopedics and Traumatology we treated 65 patients with femoral metastatic tumors. In this group of patients we used 42 endoprostheses of the hip joint, 2 endoprostheses of the femur shaft, 18 endoprostheses of the distal femur epiphysis and 3 megaprostheses of the entire femur. In all our patients we observed diminishing of pain and fast return of motoric functionality after operation. Average period of postoperative observation was 2 years and 4 months. We had complication rate of 20%. 9 patients had postoperative luxation of the hip prosthesis due to the necessity of radical resection including the part of muscles stabilizing the hip joint. At 2 patients we diagnosed periendoprosthetic fracture and only 2 patients suffered from septic complications. The objective of these therapeutical procedures were to preserve the limb, and thanks to this, keep the patients in better shape. They bring release from pain in the area of the metastatic tumor. In consequence, some of the patients were qualified to further paliative chemotherapy.

Presentation nr : O4

SURGICAL TREATMENT OF SPINAL METASTASES

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Surgical treatment of patients with spinal metastases is usually a significant challenge and requires strict cooperation of orthopedic surgeon and oncologist. Presented material contains of 42 persons operated in Spine Surgery, Oncological Orthopaedics and Traumatology Department, Medical University in Poznan in years 2001 – 2008. Primary tumor localization were: breast (10 persons), lungs (9 persons), kidneys (7 persons), prostate (4 persons), uterus (3 persons), of unknown origin (3 persons). Operative treatment included: anterior reconstruction of vertebral body with usage of distractive prosthesis spondylectomy with spinal column shortage, hemisacrectomy / sacrectomy with L5/S1 discectomy. For spinal stabilization multisegmental, transpedicular screw-rod systems, pelvic screws and metal plates were used. Surgical treatment in 60% of cases of metastases is focused on anterior decompression and spinal column reconstruction (cage, cement, osseous implant). Complication ratio of this procedure is between 20% and 30% where stability loss is among most common. Isolated posterior decompression (laminectomy) in non-paliative cases is currently contraindicated. Diversity of minimal invasive procedures allows more appropriate treatment for paliative care with minimal complication risk. Percutaneous debulking with subsequent vertebroplasty seems to be promising technique. The availability of advanced implants allows the segmental reconstruction. The reconstruction may be performed in two stage procedure or with the single approach (either in thoracic and lumbar spine). Transpedicular fixation, with spinal canal decompression, gives superior primary stabilization compared to previously advocated techniques.

Presentation nr : O58

THE IMPLANTATION OF A NON CONSTRAINT TKA WITH THE USE OF NAVIGATION IN PATIENTS WITH A DEFORMITY OF THE DISTAL FEMUR

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Introduction: Due to congenital (skeletal dysplasia) or acquired (posttraumatic or iatrogenic) deformities of the femur the implantation of TKA, especially a bicondylar non-constrained prosthesis, might be difficult since intramedular rods cannot be used. Method: To assist TKA implantation we used a cinematic navigation system (Orthopilots, B. Braun-Aesculap, Germany). We collected and followed the clinical and radiological data of 20 TKA-operations following deformities of the distal femur, due to previous osteotomy in 12 patients, due to trauma in 5 patients and due to skeletal dysplasia in 3 patients. Results: Due to excessive preoperative malalignment simultaneous femoral osteotomy to preserve the insertion of the collateral ligaments was necessary in two cases. The postoperative implant position resulted in an average mechanical limb axis of $0,4^{\circ}$ of varus. In all but one patient we resulted with a mechanical limb axis in a range between $\pm 3^{\circ}$. Postoperative Insall Knee score averaged 91 mainly due to ligament balancing and pain reduction, less due to improvement of range of motion. Comparing navigation and x-ray data showed a high degree of conformity (less than $0,5^{\circ}$ of variation) in all but two cases. In these two patients collection of cinematic data was aggravated by ankylosis of the ankle respectively simultaneous femoral osteotomy. Discussion: With the use of navigation in implantation of a non-constrained bicondylar TKA in patients with deformities of the distal femur we were able to get nearly as successful results as in patients without deformities.

Presentation nr : O27

LIMB SALVAGE SURGERY

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Limb salvage surgery is defined by oncological removal of the tumor, followed by bone or soft tissue reconstruction. Limb salvage surgery is indicated in case of low grade tumors (according to Enneking classification), border tumors such as giant cell tumors and for metastasis. During a 5 years period (04. 2004 - 01. 2009), 307 cases of musculo-skeletal tumors, both benign and malign, were hospitalized in our clinic. 172 cases were submitted to surgery. Limb salvage procedures (resection reconstruction, simple resection, endoprosthesis or comfort osteosynthesis), were applied to 60 cases. The average age of the subjects was 37 years old (limits 10-81), with a relatively male predominance sex ratio (27 female to 33 male). Postoperative complications were represented by: osteosynthesis material failure, bone graft resorption, infections, and local recurrence. The results of limb salvage surgery were encouraging, allowing the patient to have a socio-professional re-entrance, in normal parameters. Reconstructive surgery encounter a low rate complications, combined with a high satisfaction of the patient, this facts increasing the enthusiasm for limb salvage techniques.

Presentation nr : O25

ANKLE FUSION IN THE TREATMENT OF FOOT DEFORMITY.

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Introduction. Ankle joint fusion with pain, invalid position of the foot and/or ankle instability are indications for ankle joint arthrodesis. Compressive external fixation seems to be the method of choice in such kind of operating procedures. Material and method. We analyzed 26 patients in which ankle fusion were performed in years 1992-2008. Age of patients varied from 11 to 50 years, on average 22,5 years. Etiology of the initial disorders was inborn in 10 cases, posttraumatic in 13 cases and neurogenic in remaining 3 cases. The disorder within ankle joint was accompanied by shortening of the lower limb in 9 cases and lower limb axis deformity in 7 cases. There were performed isolated fusion of tibio-talar joint in 20 cases, arthrodesis of tibio-talar and talo-calcaneal joint in 6 cases. In 10 patients we have performed acute correction of foot position and in remaining 16 slow correction was performed. In 3 patients tibia lengthening was performed in the same time. Stabilisation period with the use of Ilizarov apparatus varied from 10 to 14 weeks. After that ankle joint was immobilized in plaster cast for consecutive 4 weeks. During the whole stabilisation period slow compression was used in rate of 0,25 do 0,5 mm per week. Observation period varied from 1 to 15 years on average 8 years. Results. Results of treatment were underestimated according to Mazur functional scale (1979). In majority of cases the aim of treatment was achieved. In two cases fusion was partial and in 1 cases the fusion was not achieved. In 1 female the foot was placed in excessive plantar flexion. In majority of patients we observed compensational increase of range of movement of other foot joints. Conclusions. Ilizarov method permit very precise placement of the foot in ankle joint by slow correction which is complementary to acute correction performed intraoperatively. This method also permit ankle fusion in patients with neurological and soft tissue disorders of the foot.

Presentation nr : O24

ANKLE ARTHROSIS EPIDEMIOLOGY IN A BIG INDUSTRIAL REGION AND OUR INITIAL EXPERIENCE OF ANKLE JOINT REPLACEMENT.

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Before opening of regional podiatric facility retrospective investigation with absolute calculation was made. We estimated a possible number of podiatric patients, ankle fractures in a population, and number of patients, suffering from ankle arthrosis. A sickness rate among population of more than 2,5 million people were estimated after analyzing of activities of 2 largest hospitals, the biggest outpatient clinic of Novosibirsk, Podiatric ward of NIITO and Novosibirsk Regional Commission of inability detection.. Having analyzed all the data, we made several inferences, concerning a high rate of regional podiatric sickness rate, regional number of podiatric disabled persons, the ankle arthrosis sickness rate and disability rate. Important information obtained after calculating the ratio between the number of ankle fractures and the number of ankle arthrosis in the population. All positions illustrated with expressive figures. At the same time we operated on 16 patients, who suffered from ankle arthrosis. All patients proceeded ankle joint replacement, clinical results were estimated. Having analyzed two complications we found our initial experience positive. The main inference ankle arthrosis hits young people and quite widespread. Ankle replacement is a perspective method of surgical treatment of the ankle arthrosis.

Presentation nr : O6

TWO YEAR FOLLOW UP OF ACETABULAR BONE DENSITY CHANGES AFTER TOTAL HIP ARTHROPLASTY USING QUANTITATIVE COMPUTER TOMOGRAPHY-ASSISTED OSTEODENSITOMETRY

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Introduction: Bone remodelling following total hip arthroplasty (THA) is a common and complex phenomenon. To assess these changes, quantitative computer tomography (qCT)-assisted osteodensitometry has proven to be a very useful tool, allowing differentiation between cortical and cancellous bone. Numerous investigations have been performed looking at femoral remodelling; but little is known about acetabular changes after insertion of prosthesis. The aim of this randomised controlled trial was to compare peri-acetabular bone density (BD) changes after insertion of a press-fit cup with soft or hard liner materials. Methods: Twenty four hips that had received a press-fit cup with either an Alumina ceramic liner or a highly cross-linked polyethylene liner, two years previously, were investigated. Clinical outcome assessments and CT examinations were performed taken 10 days, 1 year and 2 years after the index operation. BD was assessed using qCT-assisted osteodensitometry. Results: No significant differences were found in peri-acetabular BD changes between the two patient cohorts. Changes in cortical BD were moderate, whereas cancellous BD loss was notable (up to -48%), and was found to be significantly higher ($p \leq 0.02$) than cortical BD loss in all regions of interest. Conclusion: The loss of peri-acetabular cancellous BD and retention of cortical BD observed in both cohorts, suggests stress transfer to cortical bone. This supports previous studies theories about press-fit cups and stress shielding.

Presentation nr : O38

MOBILITY OF ELBOW JOINT AFTER SURGICAL RELEASE OF POSTTRAUMATIC CONTRACTURE: ANALYSIS OF RESULTS.

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OBJECTIVE: The purpose of this study was to analyze the outcome of surgical treatment of elbow contracture performed in our centre. Posttraumatic contracture of the elbow joint is a serious complication which arises often in patients who sustained complex injuries to this joint. It can occur after distal humeral fractures, proximal fractures of radius and ulna or acute elbow dislocations and is particularly common in case of immobilization of the joint longer than three weeks. MATERIAL AND METHODS: Between 2003 and 2008 we treated operatively 76 patients who did not respond satisfactorily to conservative treatment and physiotherapy. The surgery was performed using an anterolateral approach and consisted of excision of joint capsule as well as removal of osteophytes and loose bodies, collateral ligament repair or fixation device removal when necessary. We analyzed retrospectively the range of motion of 52 patients who reported for follow-up after a mean period of 3 months. They were 34 men and 18 women whose mean age was 34 years (range 18-59). Their mean range of motion before surgery was 110 degrees for flexion and 45 degrees for extension. RESULTS: After surgery the mean gain of combined flexion-extension movement was 30 degrees (range -5 to 95). In case of 12 patients who were operated on exclusively due to the limitation of the forearm rotation, the mean improvement was 80 degrees of combined pronation and supination (range -20 to 140). CONCLUSIONS: Operative treatment of posttraumatic elbow contracture usually allows a significant improvement in the mobility of the injured joint although regaining full range of motion is often impossible owing to the persistent deformity of bone surfaces due to the initial trauma.

Presentation nr : O66

BONE MINERAL DENSITY IN POSTMENOPAUSAL WOMEN WITH OSTEOPOROTIC FRACTURES

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This research is aimed at studying the bone mineral density among postmenopausal women with osteoporotic fractures. The total of 160 postmenopausal women 45–79 years old were examined. Patients were divided into two groups: group A – women (n=100, average age – 63,2±0,9 years) without osteoporotic fractures, group B – women (n=60, average age – 65,5±1,2 years) with osteoporotic fractures in their anamnesis. The questionnaire; measurement of anthropometrical characteristics; bone mineral density (BMD), T- and Z-scores of the spine (L1–L4), and forearm were determined by means of Dual-energy X-ray absorptiometer "Prodigy" (GE Medical systems, 2005). All indexes of different skeletal areas measured by DXA in postmenopausal women with osteoporotic fractures were significantly lower ($p < 0,001$) compared with the data of women without osteoporotic fractures: total body–BMD: 0,999±0,015 g/cm² and 1,097±0,010 g/cm²; spine (L1–L4)–BMD: 0,909±0,023 g/cm² and 1,094±0,017 g/cm²; femoral neck–BMD: 0,780±0,016 g/cm² and 0,886±0,014 g/cm²; total femur–BMD: 0,839±0,019 g/cm² and 0,968±0,016 g/cm²; midforearm–BMD: 0,562±0,013 g/cm² and 0,648±0,010 g/cm², accordingly. **CONCLUSION:** Low bone mineral density of different skeletal areas is a significant predictor of osteoporotic fractures in postmenopausal women.

Presentation nr : O51

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BACKGROUND: Our aim was to compare semitendinosus-gracilis double-bundle (STG-DB) with bone-patellar tendon-bone single-bundle (PTB-SB) anterior cruciate ligament reconstructions with respect to their clinical and radiological outcome at an average follow-up of 1.5 years. **METHODS:** Eighty-four out of 108 comparable patients (45 STG-DB, 39 PTB-SB) were retrospectively assessed by the Tegner, IKDC, WOMAC Score and KT 1000 arthrometer. Comparison of groups was given with respect to demographic data, preoperative activity levels and rehabilitation pathways. Statistical analyses were performed using t-tests for comparison of the means and Mann-Whitney tests for nonparametric data. **RESULTS:** There was no significant difference in the Tegner, WOMAC and subjective IKDC Score. The objective IKDC Score (DB versus SB) showed following numbers with a borderline $p=0.055$: sixteen to 6 -A-, 25: 31 -B-, 4: 1 -C- and 0: 1 -D-. The KT 1000 side-to-side measurement showed no significant difference (DB: mean 1.16mm; range -4 to 7, SB: mean 1.38; range -3 to 7; $p=0.57$). The DB group was significantly superior in terms of the Pivot-shift sign (DB: 82% -equal-, 16% +glide-, 2% ++dunk; SB: 49% equal, 51% +glide; $p=0.0008$) and the postoperative kneeling discomfort (DB: 75% none, 25% mild; SB: 41% none, 59% mild; $p=0.001$). **CONCLUSIONS:** We confirm Fu et al. concerning a higher rotational stability due to the postero-lateral bundle and Biau et al. in terms of higher prevalence of postoperative kneeling discomfort in the PTB group, which is a matter of concern in certain professions.

Presentation nr : O65

PITFALLS AND COMPLICATIONS OF OPEN WEDGE HTO

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Medial open wedge high tibial osteotomy (HTO) has gained popularity recently over the lateral closing wedge. This is due to many advantages including maintaining the shape of the upper tibia and avoiding patella baja, besides the reproducibility of the operation. However, there are certain pitfalls in using this technique such as over tightening of the medial compartment, due to incomplete MCL release, or changing the upper tibial slope. Complications may also occur such as intra-articular fractures, breaking of the lateral cortex and nonunion of the osteotomy site. We discuss the pitfalls and how to avoid them and managing the complications intra and postoperatively if they occur.

Presentation nr : O55

OATS GRAFTS IN OSTEOCHONDRAL DEFECTS OF THE KNEE

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Osteochondral defects of the knee arise commonly due to OCDs (osteochondritis dissecans) or traumatic cartilage injuries.. We describe fixing or replacement of these defects using 1-4 osteochondral autografts (av 2.6), using the OATS technique. We had nine cases with an average age of 24 years (ranging 18-46). The defect diameter ranged from 1- 3.5 cm (av 2.5 cm). The problem arises when there is a bony defect in addition to the cartilage defect, and there is a need to restore the surface of the femoral condyle to its normal shape. Our technique of protruding the graft from the defect corrects this dilemma and allows for bone and cartilage growth. Follow up ranged up to 17 months with complete restoration of the articular surfaces, seen on MRI. OATS grafting remains a valuable single surgery solution to solve osteochondral defects with low morbidity, cost and a fast learning curve.

Presentation nr : O49

MANAGEMENT OF THE DISLOCATED KNEE.

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Knee dislocations result in multiligament injuries. Injury to two or more major ligaments is now considered a frank dislocation. The management of these cases presents a challenge to the knee surgeon. We present the management of 11 acute and 5 chronic cases. All the cases had an ACL, PCL or bicruciate injury plus one or more collateral ligament injuries. The acute cases were treated with an open repair or reconstruction of the ligaments, while chronic cases were reconstructed open, arthroscopically or arthroscopic assisted. Different approaches and methods of fixations were used and are described in this article. In the acute cases, the average follow up was 11.8 months, the Lysholm score was 84 and the final ROM was bet 85-125°. In the chronic cases the average follow up was 11.3 months, Lysholm score was 77 and ROM ranged from 85-125°. Our results show a better outcome with acute management of knee dislocations, which shortens the duration of treatment, and requires less grafts than late reconstructions.

Presentation nr : O17

TREATMENT OF HIP DEFORMITY AND PELVIC OBLIQUITY

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Treatment of pelvic obliquity often depends of hip deformity and consider a special method for correction, hip and knee axis need a special correlation of alignment , a special hinges modified for treatment both of hip and knee deformities, the used hinges are modified system of Salamehfix4, [SLDF4] .From 2002 to 2007, 60 cases where treated with various hip and knee deformities.Cases which treated are congenital or acquired femur deformities , neglected hip dislocations or subluxations or post traumatic and post paralytic hip mal alignment and the main principal procedure done its the pelvic support osteotomy according to Ilizarov principal in treatment of Neglected dislocations in order to restore femur length and hip and knee alignment , the same principal was used in treatment some of hip post paralytic problems , because of muscle and bone insufficiency we have to make bony support to the pelvis or even changing the hip angel in order to replace some of muscle paralyses insufficiency this will decrees of Trendelenburg gait and limping and at the same time we can restore limb length inequality and correction of knee deformity .Other cases where treated are some of hip and knee post traumatic or congenital or even some cases of Osteoarthritis. Complications where mostly superficial pin infection which treated locally. Conclusions: Correction of hip deformity is very essential for treatment of pelvic obliquity and the used system is differs by simplicity, small size in correlation to its functional hinges and stability of fixation and gives good results.

Presentation nr : O43

TREATMENT OF PELVIC OBLIQUITY AND STATIC SCOLIOSIS WITH EXTERNAL FIXATION

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Treatment of pelvic obliquity consists of Femur congenital and acquired deformities, hip and knee deformities like old hip dislocations or subluxations or even paralytic malformations, hip and knee axis need a special correlation of alignment for this reason a special hinges are modified for treatment of either isolated hip, knee deformities or when we have combined deformity an combined hinges modified for treatment both of hip and knee deformities, the used hinges are modified system of Salamehfix4, [SLDF4] .From 2002 to 2007, 60 cases where treated with various hip and knee deformities. Cases which treated are congenital or acquired femur deformities , neglected hip dislocations or subluxations or post traumatic and post paralytic hip mal alignment and the main principal procedure done its the pelvic support osteotomy according to Ilizarov principal in treatment of Neglected dislocations in order to restore femur length and hip and knee alignment , because of muscle and bone insufficiency we have to make bony support to the pelvis or even changing the hip angel in order to replace some of muscle paralyses. Other cases where treated are some of hip and knee post traumatic or congenital or even some cases of Osteoarthritis. Complications where mostly superficial infection which treated locally. CONCLUSIONS: Correction of pelvic obliquity is a good method of treatment of mobile scoliosis and we have to consider it. The used system is differs by simplicity, small size in correlation to its functional hinges and stability of fixation and gives good results.

Presentation nr : O68

TREATMENT OF CONGENITAL AND ACQUIRED FOOT DEFORMITIES WITH EXTERNAL FIXATIONS.

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The treatment of complex foot deformities often needs the use of special external fixators to treat the deformities of multiplanar direction and contractures of the ankle joints, equinovarus deformity. From 1993 to 2008 we treated 125 cases of severe foot deformities with congenital clubfoot, neuromuscular deformities and posttraumatic deformities age between 3 to 45 years with external fixators. In some cases the treatment was combined with lengthening and axial correction of the lower leg if needed. The average time for correction is 4 to 6 weeks followed by 2-3 months of fixation to keep the final correction. A special orthosis is needed after removal of the fixation devices for another 6 months. Complications were mostly superficial Pin infection, loosening of wires, no nerve or vascular damage and no thrombosis was seen. In all cases a plantigrade foot was achieved with stiffness of the joints in neuromuscular diseases. The walking ability was in most cases much better due to the plantigrade position of the foot; enable the patient to walk without any aid accepts orthopedic shoes. The satisfaction rate of all patients was very good; some of the patients were able to walk first time due to the correction. The use of external fixation is an ideal treatment in complex congenital or posttraumatic foot deformities to achieve a good correction and good functional and cosmetic result for the patient.

Presentation nr : O70

RED DOTS. HELP OR HINDRANCE?

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INTRODUCTION:"Red Dots" are markers put on skeletal radiographs by radiographers to indicate suspicion of a fracture as a mechanism to prevent fractures being missed by A&E. We aim to establish the sensitivity of red dots and the accuracy of A&E diagnosis. METHODS;We prospectively collected data from 50 consecutive new fracture clinic patients recording if the radiograph had a "red dot", the diagnosis made by A&E and the final diagnosis by a senior orthopaedic surgeon. RESULTS:37 patients had the final diagnosis of a fracture and 13 a diagnosis of soft tissue injury.34 radiographs were marked with a red dot; 30 (88%) showed a fracture and 4 (12%) did not. 16 radiographs were not marked with a red dot; 7 (44%) showed a fracture and 9 (56%) did not. A&E diagnosed 42 fractures of which 37 (88%) had a fracture and 5 (12%) had a soft tissue injury. The remaining 8 patients were correctly diagnosed by A&E to have soft tissue injuries. A &E diagnosed 60% of soft tissue injuries as fractures when a "red dot" was present compared with 27% when one was not. CONCLUSION:"Red dots" are neither specific nor sensitive enough to reliably guide diagnosis. A&E have a tendency to over diagnose fractures but rarely miss them. The presence of a "red dot" appears to increase this over diagnosis.

Presentation nr : O69

TREATMENT RESULTS OF THE CALCANEUM ARTICULAR FRACTURES WITH USE OF RECONSTRUCTIVE PLATE.

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In this paper the results, of surgical open reduction and stable osteosynthesis of a calcaneum fractures with use of reconstruction plate, are presented. Material contains patients treated in our ward in years 2001 - 2006. Patients were evaluated using AOFAS scale. Authors take note that the calcaneum fractures are mostly intra-articular, thus they should be reduced very precisely to reconstruct the articular surface and shape of the heel. Osteosynthesis should be stable enough, that cast is not necessary, and early rehabilitation can be implemented. Qualification to surgical treatment should be based upon the classification of calcaneum articular fractures presented by R. Sanders.

Presentation nr : O48

THE USE OF EXTERNAL FIXATION SYSTEMS IN POLYTRAUMA PATIENTS

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Polytrauma condition are frequently life-threatening situations and require a special approach. External fixation systems are valuable tools for such patients with open limb fractures and compound intraarticular fractures. Polytrauma extends the indications for use of external fixation and especially the Ilizarov frame. These systems allow early ambulation and weight bearing by the patient. External fixator allows accessibility to wound and limb with stable fixation in anatomical alignment and are simple and versatile and may be used also as a definitive treatment Ilizarov method is particularly advantageous for tibial plateau and pilon fractures, open fractures with contamination, poor soft tissue, bone loss, segmental fractures, adjacent joint instability (fixation across joints) and polytrauma patients with multiple limb injuries to enable early weight bearing. Pin tract infection (PTI) is the most common complication of external fixation. Its rate varies from 10%-50%. Superficial PTI are treated by a small incision under local anesthesia and oral antibiotics. Untreated cases of PTI with pin tract osteomyelitis require aggressive surgery with curettage and intravenous antibiotic treatment. Malposition of the fracture may require revision of external fixation and additional acute or gradual correction. Delay in callus appearance may require treatment by either gradual compression of the fracture or just the opposite dynamization of device. In cases of nonunion bone, grafting may be the procedure of choice. In order to avoid joint contractures, early and aggressive physical therapy with restoration of range of motion should be performed. Early weight bearing is the best prophylaxis against disuse osteoporosis.

Presentation nr : O23

ANKLE ARTHRODESIS WITH ILIZAROV EXTERNAL FIXATOR FOR SEVERE POST TRAUMATIC DEGENERATIVE CHANGES

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PURPOSE: We report our experience with ankle arthrodesis using Ilizarov External fixator in 42 patients with extensive damage of the ankle joint, mainly with post traumatic osteoarthritis, during the last 7 years. **PATIENTS:** Mean age was 36 years (21-54). 36 Pts had posttraumatic arthrosis following complicated intraarticular fractures, 5 had extensive osteochondritis dissecance and 1 had failure of union after RAF arthrodesis. All procedures were done with open arthrotomy, 16 through lateral approach and 26 through anterior approach. Bone grafting was used in 9 cases due to extensive damage of talar bone. Temporary fixation by Steinman pin was done in all cases after open alignment of ankle joint, and then Ilizarov external fixator was applied, followed by removal of the temporary fixation. Full weight bearing was allowed from the 3rd or 4th postoperative day. Time in fixator ranged from 6 to 14 weeks (average 9,5 weeks). **RESULTS:** Solid arthrodesis was achieved in all cases. 38 patients were free of pain, 4 patients continued to complain of pain due to degenerative changes in subtalar joint which presented before surgery. 1 patient developed RSD and was treated successfully by analgesics and physiotherapy. 5 cases of superficial pin tract infection were observed

and treated with antibiotics. There were no cases of deep wound infection in this series. CONCLUSION: This method has been proven useful for primary arthrodesis of ankle joint, mainly for complicated cases after multiple surgeries, or in patients with advanced posttraumatic changes.

Presentation nr : O45

DAMAGE CONTROL ORTHOPAEDICS IN POLYTRAUMATIZED PATIENTS

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The principles of fracture management in patients with multiple injuries continue to be of crucial importance. Early treatment of unstable patients with head, chest, abdomen or pelvic injuries with blood loss) followed by an immediate fracture fixation (Early Total Care) may be associated with a secondary life threatening posttraumatic systemic inflammatory response syndrome (SIRS). This depends on the type and severity of injury (The first hit). Fracture fixation by reamed nails in these unstable patients is defined as The second hit and is associated with adult respiratory distress syndrome (ARDS) and multiple organ failure (MOF) with a relatively high morbidity and mortality. Primary external fixation in such patients is a safe procedure. Therefore, current recommendation for long bone fracture fixation in patients with multiple injuries, is to use a modular, minimal invasive external frame. This approach currently described as Damage Control Orthopaedic Surgery. The basic principles of DCO are stabilization and control of the injury and then only after few days of metabolic and respiratory recovery followed by a definitive management of the fracture fixation. A significant reduction in incidence of general systemic complications (ARDS, MOF) has been described in DCO groups of patients in comparison with ETC group. Changing of the treatment protocol from ETC to DCO is not associated with increased rate of local complications (pin-tract infections, delayed unions or non-unions). Lower complication rate in DCO despite higher ISS compared with the ETC, DCO surgery appears to be a viable alternative for polytraumatized patients with femoral shaft fracture.

Presentation nr : O13

COMPUTER AIDED PERCUTANEOUS VERTEBROPLASTY AND KYPHOPLASTY USING EFILM WORKSTATION SOFTWARE

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OBJECTIVE:To evaluate the feasibility and efficacy of using Efilm software in percutaneous vertebroplasty and kyphoplasty. **METHOD:** The study group included 20 patients. Preoperative CT or MRI was required. The DICOM files were imported into Efilm software. Before operation an ideal needle trajectory was drawn in the interface of the software, and the skin entry point, depth and angle of the needle could be determined. The positions of the virtual needle tips were recorded. During the operations, the skin entry points could be located with vernier caliper, and the needles were placed according to the predetermined parameters with Accuangle. The position of the real needle tips were calculated with Efilm through fluoroscopy, which were compared with the corresponding data of preoperation, the difference was calculated. The accuracy was graded as follows: <5 mm, excellent ; 5 mm to 10 mm, good ; >10mm, poor. **RESULT:** The difference between the intraoperative distance between the needle tip and the midline of the vertebral body and that of preoperation was 3.1mm (range, 0 to 6 mm). The difference between the intraoperative distance between the needle tip and the anterior wall of the vertebral body and that of preoperation was 4.1mm (range, 0 to 8 mm). 15 patients were rated as excellent, 5 patients were rated as good. **CONCLUSION:** Efilm workstation software can provide us with accurate parameters such as the ideal entry point, depth and angle of needles preoperatively, under the guide of which the needle can be placed as it was planned.

Presentation nr : O15

SURGICAL MANAGEMENT OF FRACTURE ANKLE IN ELDERLY PATIENTS IS IT WORTH TO PERFORM OSTEOSYNTHESIS OF OSTEOPOROTIC BONE

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Background: Fractures of osteoporotic bones in elderly patients are often difficult to manage. There is argument if one should treat such fractures surgically or conservatively or should plan primary ankle arthrodesis. Osteoporotic bone may be difficult to fix or the fixation may fail. Malunion of fracture may lead to development of early osteoarthritis of ankle joint. Methods: Retrospective study involving all elderly patients (age >60) who had any surgical intervention (MUA or ORIF) to the fractured ankle. We analysed management and follow up of 126 patients who were operated in our District General Hospital in years 2001-2007. Results: About 77% of our patient had open reduction and internal fixation; others had closed manipulation under anaesthesia. Our patients had multiple co-morbidities including diabetes (around 10%) The results of fixation were satisfactory despite osteoporotic bone. Early complications included superficial wound infection (13% of patients- all infections settled after conservative management with antibiotics and dressings), one chest infection. No difference in diabetic patients. Late complications include development of osteoarthritis (2%) and metal work loosening (2%). There were no reported ankle deformities and satisfactory union of fracture was achieved in all patients. Amongst patients who had MUA more than 20% developed post traumatic osteoarthritis of ankle and 18% developed chronic ankle pain. Conclusion: Our experience from DGH shows that accurate reduction and internal fixation of osteoporotic ankle fractures is beneficial and may prevent post-traumatic osteoarthritis. The osteosynthesis failure rate was very low and patient spent less time in plaster and starts physiotherapy earlier.

Presentation nr : O12

VERTEBROPLASTY IN THE TREATMENT OF SPINE FRACTURES

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Vertebroplasty is direct injection of bone cement into vertebral body. The goal of procedure is pain reduction. Method is used most frequently in osteoporotic fractures and vertebral haemangioma. Aim of paper: to evaluate the results of treatment of vertebral pathologies with vertebroplasty. Material: 69 patients (52 women, 17 men). Diagnosis: primary osteoporosis 49, secondary 2, myeloma multiplex 2, haemangioma 12, metastases 3, cystic fibrosis 1. 77 procedures performed, cement injected into 90 vertebrae. Most frequently affected bodies: Th11 (18) and L1 (15). Mean time lap from symptoms onset to surgery: 7.4 weeks (2 weeks - 8 months). Mean age: 64 years (38 - 80). Level of vertebroplasty varied from C3 to L5. We evaluated subjective pain intensity (VAS): prior to surgery, after surgery, at follow-up; course of surgery, presence of early and late complications. Follow-up: 43 months (2 - 68 months). Before surgery VAS score: 7.3 (3 - 9), after surgery 2.9 (0 -9) at follow-up 3.2 (0 - 6). Intraoperative complications: two cases cement leakage into spinal canal. One case required revision surgery, other was asymptomatic. In 6 cases asymptomatic cement leakage in the ventral direction was noted. Three patients had simultaneous posterior fusion. In five cases adjacent vertebral fractures were noted less than 3 months from initial surgery. 1) Vertebroplasty is an effective method in the treatment of pain following vertebral compressive fractures. 2)In specific cases it might be combined with posterior fusion. 3)The number of complications is low, but they might have very serious consequences.

Presentation nr : O35

RESULTS OF TREATMENT CERVICAL DISC DISEASE WITH ARTIFICIAL CERVICAL DISC IMPLANTATION

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Traditional method of treatment cervical disc disease is discectomy with spondylodesis anterior. Alternative method to spondylodesis is cervical artificial disc alloplasty. Object of the study is clinical and radiological results of treatment of single and multilevel cervical disc disease with artificial cervical disc implantation. Material of this study is 35 patients (24 females and 11 males) operated to the end of 2008 in Orthopaedic Department of Jagiellonian University in Zakopane. 46 artificial discs were implanted. 11 patients have double-level alloplasty. 29 patients were operated on C5/C6 level, 11 on C4/C5 level, 4 on C6/C7 level and 2 on C3/C4 level. It was necessary to perform C3-C6 laminoplasty in 2 cases after artificial cervical disc implantation. Mean patient's age was 45 years (29-64). Pre- and postoperative Neck Disability Index, Visual Analog Scale, cervical spine range of motion on radiographs and in physical examination, analyzing of surgical procedure were made to evaluate the results of cervical artificial disc alloplasty. Mean post-operative follow-up time was 21 months (12- 40 months). Mean surgery time was 142 minutes (69-246). Mean surgery blood lost was 50ml (0-150ml). VAS was decrease from 8.2(4-10) to 4.1(1-9) after surgery. NDI decreased after disc alloplasty procedure. Artificial cervical alloplasty was successful in most patients, but three early postoperative complications were seen. Single or multilevel cervical artificial disc alloplasty is very effective method of treatment cervical disc disease.

Presentation nr : O37

SELECTED ASPECTS OF OPERATIVE TECHNIQUE DURING TOTAL ELBOW ARTHROPLASTY IN PATIENTS WITH PRIMARY AND POSTTRAUMATIC ARTHROSIS

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Total elbow arthroplasty is an alternative of treatment among other things in patients in which there is no possibility of primary stable osteosynthesis of distal humerus fracture and in patients with primary and secondary arthrosis of elbow joint. The objective of the present study was to show selected aspects of operative technique of semiconstrained prosthesis implantation. We pointed out on tricks of capsular and collateral ligaments release. We discussed intraoperative problems connected with gross posttraumatic deformities and bone loss of distal humerus.