### 3. Türkçe Konuşulan Ülkeler Ortopedi Kongresi Sözlü Bildiriler

#### S-1 Modern tespit sistemlerinin omurganın gögüs ve bel bölümdeki hasar komplekasiyonda kullanması

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Amaç: Omurganın gögüs ve bel bölüm hasar komplekasiyondan dolayı olan cerrahlık tedaviler aşağı prinsiplere uymaması lazım, buzulan omurga segmentisiinin anatomı ortası düzelmesi için yapılması gereken omurilik ve omurlilik sinir dekompressı.

Yöntem: omurganın gögüs ve bel bölümlerın hasar komplekasiyonları için yapılan tespit sistemisi ile cerrahlık ameliyatının hacmini belirlemek.

Bulgular: Bu projede 199 gögüs ve bel hasar komplekasiyonu ile hastalanan hastaları tedavi edilmiş sonuçlarını gostermektir. 178 kayıplara ameliyat yapıldı (89.4%). Erkekler sayı-134. (67.3%), kadınlar sayı -65 (32.6). Hasarın olan yerinden dolayı Th12 -  $L_1$  98 (49,2%),  $Th_{11}$  -  $Th_{12}$  56 (28,1%), Th<sub>7-8-9</sub> 17 (8,5%), Th<sub>3-4-5</sub> 14 (7%), L<sub>1</sub> 54 (27,1%), L<sub>2</sub> 29 (14,5%), L<sub>3</sub> 24 (12%) omurgular. Neurolojik açlık Frankel/ASIA, sınıflandırması ile bellirlendi. A grupasına 15 (7,5%), B 34 (17%), C 40 (20,1%), D 89 (44,7%), E 21 (10,5%) hastalar girilir. Magerl omurga hasarı. A 129 (64,8%), B 58 (29,1%), C 12 (6%) hastalar girilir. İki fazlı ameliyatlar 31 (17,4%) hastalara, ön korporedez 6 (3,3%) hastalara yapıldı. İntraameliyatlı myelografi 52 hastalara yapıldı. 19 olgularda kayıplara omurlilik sıkıştırma faktörü ortadan kaldırılması ve likvör dolaşımı kurtarmak için laminektomi yapıldı.

Çıkarımlar: Modern tespit sistemleri ile yapılan cerrahi tedaviler omurgada sıkışrma faktörlerini kaldırmak için çök yardım etmektedir.

#### S-2 O arm intraamelyat tomografinin omurga amelyatlari zamani kullanmasi

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**Amaç:** Omurga ameliyatındaki O arm sonuçlarını araştırmak.

Yöntem: 2014-2015 yıllarında 19 ve 77 yaştaki 87 hastalar (assısted fluoroscopic navigation) yöntemile ameliyatlı oldular, ortam yaş-49, erkekler-39 oldu, kadınlar-48. 40 hastalarlara vertebroplasti

yapıldı (VP). 7 hastalara bundan önce transepidikülarlı tespit yapıldı. (TT) 24-(TT) 15-omurga vücud plasti ve (TT) 3- omurganın dejeneratif hastalıkları ile hastalananlara – PLIF ve (TT) 2-omurganın boyun bölumünde ön spöndilodez olan hastalara ve 3 hastalara diger ameliyatlar yapıldı. 94 Jamşüdi iğnelerı ve 253 vida kuruldu.

Bulgular: 253 uygulanan vıdalardan sadece bir tanesi yeniden uygulandı. (0.4%) 94 iğnelerinden sadece 5 (5.3%) VP da omurga açıklıgından geçtiler, ama 2D görüntülerinden iğneler doğru durdular, iki iğne yeniden yapıldılar. 3 iğnelerinden komplikasiyonu önlemek için kemik cementosu yapılmadı. Bir omurgada VP 26 hastada yapıldı. İki omurga VP 8 hastada, üç- 4 hastada.beş iki hastdra uygulandı. Omurga vücüd plastisi gözenekli nikelid titan granüloması ile, PLIF ile omurganın boyun bölümüne kafes ve ağ implantı kuruldu ve kontrol yapıldı.

Çıkarımlar: O arm kullanması ile TT deki kurulan vıdaları, VP daki iğne navigasyonu ve kemik cementosunun ve omurga plastikasındaki nikelid titanının dağıtımı, Ön spöndilodezınde ımplantların kurulması konrtol edilebilir.

## S-3 Basic principles of treatment of patients with multiple injuries

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**Objectives:** to improve the results of treatment of patients with multiple injuries by improving the surgical treatment of patients with acute polytrauma using minimally invasive fracture fixation technology.

Methods: 85 patients with combined (57 cases) and multiple (28 cases), lesions of bones, treated in the department of multiple trauma of Institute of Traumatology and Orthopedics in Astana in the period from 2012 to 2014. There were 55 men (64.7%), 30 (35.3%) women. The largest percentage of patients was young people under 34 years of age and persons of middle age - 45-60. The main cause of injury was traffic accidents - 62% (53 cases), catatrauma - 38% (32 cases).

Results: 130 fractures were diagnosed in 85 patients. Dominated tibial fractures (39%) and hips (21%), fractures of the humerus, forearm, hand, foot were up to 40%. Compound fracture of long bone were observed in 29 (34%) cases, closed fractures - 49 (58%), the combination of open and closed fractures - in 19 (22.3%), intraarticular - 17 patients (20%). In 12 (14%) cases, fractures of extremities combined with the trauma of the pelvic

bones. Early surgery (within the first days after the stabilization of the general condition) on the segments of the supporting-motor apparatus (SMA) were 22 (22.5%) patients. During the compensation of body 63 surgery were made (41 patients), the single-stage operation during one narcosis on all segments extremities were made in 13 patients, in 28 patients - successively, with an interval of 7-10 days in two stages. 63 patients underwent a total of 88 operations, including transosseous osteosynthesis was 28 (32%) operations with osteosynthesis - 10 (11.4%), close biological osteosynthesis (CBIOS) - 34 (38.6%), the use of needles, wire - 15 (17%), amputation - 1 (1.0%). It should be noted that the minimally invasive fracture fixation technology - CBIOS reduces traumatic manipulation, facilitates the process of fixation of fractures, which makes it possible to use them widely for osteosynthesis of fractures in polytrauma SMA. The conservative method is applied to 32 segments (22

Conclusion: The introduction of surgical treatment of patients with acute of polytrauma using minimally invasive fracture fixation technology enabled the early stabilization of the patients, to avoid diagnostic mistakes and obtain positive results of treatment in 98% of cases.

#### S-4 Intra-articular fractures of the proximal interphalangeal joint: osteosynthesis by simply tractional-fixation device

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**Objectives:** The goal; simplification of surgical interventions through the use of available materials to improve the results of intra-articular fractures at proximal interphalangeal joint.

Methods: In 2015 four cases of intra-articular fractures of the proximal interphalangeal joint cured by intradigital traction-fixation device. Damaged articular surface in the range of 25% to 100%, averaging 63%. All patients were male average age of 28 years. The mechanism of injury is household. Preparation and use of this device. One pin is introduced in a transverse direction through the head or diaphysis of proximal phalange and both ends bent at 90°. The second pin carried transversely across the middle or distal part of the middle phalanx. Each side of the rod (first pin) is now bent over twice about 5-8 mm distal to the second pin. Thrust at the middle or distal phalanx of the middle phalanx raises spoke in the "hooks" spoke of the proximal phalanx, placed a constant thrust through the proximal interphalangeal joint. The side rods provide lateral stability of the joint, allowing unlimited flexion and extension. The ends of the middle phalanx of the pin can be bent at a right angle and cut, or they may be cut and

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coated with rubber stoppers, plastic caps or tape to protect neighboring fingers. The sides of the rod as well reduced. Anesthesia is usually locally, initially patientto examine by anesthesiologist. Prophylactic antibiotics intravenously or intramuscularly, and pretty much protection is obtained adjacent fingers, but leaves the distal joint is free for early exercise. The patient should be careful to promote flexion and extension finger to observe these voluntary movements. (Proximal interphalangeal joint is also moving because active movement of the distal joint is not possible without movement of the proximal joint). After placing the device, direct and side view radiographs. This should show the correction of the dorsal or palmar subluxation, a slight increase in the joint cavity and the anatomical position of the fragment. If the reduction is imperfect, gentle manipulation, such as the dorsal-palmar "compression" can be used with repeated shots. We did not find it necessary. Discussion. All patients received timely treatment with our device for restoring function in the proximal interphalangeal joint range of motion with an average of 10° to 90°. Materials for this device is easily accessible, as opposed to those which must be made to order and are rarely available when needed. Operation can be done at the OT, even at the reception department and urgent care, it takes about 30 minutes. The costs are evident, the share of costs related to any surgical procedure. The device has certain advantages over other device. Compared with rubber straps, bilateral lateral rods represent lateral stability which allowing unrestricted flexion-extension movement and prevent proximal extension of the fracture the base of the middle phalanx. Our device leaves the fingertips free for early functional movements, in contrast to the elastic systems that come forward from the fingertips, inhibiting their function in the process of recovery and pull-pin system of the device, is also unlikely to break during use. Still, questions remain. We believe that the centripetal component ligamentotaxis effect ensures that power. What about the densified fragment? Some advised to open reduction. We came to the conclusion that the dorsal and palmar lips that have been restored and heal in the normal arrangement creates the desired effect fossa, allowing only rotational movement. Open fracture for this purpose can do more harm than good.

# S-5 Complex differentiated approach to diagnosis for hypostosis of hip joint of breastfeeding age children

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Rationale: For pediatric orthopedists the pressing question is how to diagnose pathology of the hip joint. However, the problem of the specificity when diagnosing diseases of the hip joints of children is insufficiently studied and still remains relevant. For the first time defined the criteria of the complex differential diagnosis in violation of the formation of the hip joint.

Goal of the study: Develop the algorithm of examination and diagnosis, explore the essence of the changes occurring in the hip joint, as well as systematize working classification of different forms of

lesions of the hip joint: dysplastic, rachitic (delay in ossification of femoral heads) and neurogenic form.

Materials and Methods: The study was conducted on the basis of the department of pediatric orthopedics of Bishkek Research Center of Traumatology and Orthopedics. At this stage we have examined 50 children aged from 2 months to 12 months with various disorders of formation of the hip joint. In respect to the observed children it was conducted collection of medical history, clinical - radiological findings, biochemical blood tests and statistics.

Results and their discussions: Of the 50 children observed 19 had hip joint dysplasia. Of these, 12 girls and 7 boys, with a primary lesion of the left hip joint.

The first thing you should pay attention to in such children is the X-ray picture of the hip joint, in which it is marked that acetabular angle is always greater than 300. Clinically, these patients demonstrate asymmetry of folds, restriction in abduction of hips and excessive external rotation.

Neurogenic lesion form of the hip joint Occurred at 7 children, under which unilateral lesions were observed. Obstetric history of these children showed that mothers had premature births, severe, or pregnancy proceeded unfavorably (A.R.V.I., severe pregnancy toxemia etc.). And these children are observed at neurologists with diagnoses (infantile cerebral paralysis, encephalopathy, intracranial pressure etc.). Clinically it is manifested by: restriction in abduction, limitation of internal and external rotation of heaps, increased muscle tone and T-reflex. On X-ray picture it is noted that acetabular angle is greater than 300, delay in ossification of ossification site in the affected part.

Rachitic form of lesion occurred in 11 children under the age of 5-6 months. From the anamnesis follows that the pediatricians did not carried out the prevention of rickets, or made the wrong appointment of vitamin «D». Complaints of mothers indicate increased sweating of children. Clinically it is observed dryness of integuments, asymmetry of hip folds, excessive or limited abduction of hips. At X-Ray picture one can see that acetabular angle less than normal and delay in ossification of ossification site or absence of ossification. The biochemical analysis of blood shows Ca, Phosphorus is decreased, alkaline phosphatase is increased.

Conclusion: Thus, we have developed a differential diagnosis and classification at infringement of the formation of the hip joint. The above leads to the fact, correctly chosen tactics of functional treatment at infringement of the formation of the hip joint in infancy allows: significantly reduce the time of treatment, avoid possible complications and adapt child to early axial load.



### S-6 Knee arthroplasty in severe forms gonartroz

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Knee replacement is by far the most progressive method of surgical treatment of lesions of the joints of different etiology, which is developing rapidly and is increasingly used in orthopedic practice.

We used implants sled type. Overall, 96 patients were performed 101 operations on knee replacement with artificial implants. The age of patients ranged from 20 to 71 years. The main contingent of the patients were women - 90 men - 6 patients. The average age of women was 50 years, men - 54 years old. The vast majority of transactions carried out using cement fixation, which was due to both economic reasons (cementless implants for fixing cement is more expensive models), and the presence of the majority of patients expressed phenomena of osteoporosis. In addition, according to the literature, cement technique gives the best long-term results than Cementless. According to the literature, the results of knee replacement prosthesis with patellar and without a comparable, so we opted for simplification and reduction of the duration of the operation. As the development of this method, we are faced with a number of specific features of the knee joint. All surgical procedures were performed under conditions of significant degradation of joints, however, most patients had different axial deformation of the knee. Most often, patients have been with varus deformity. When surgical intervention in most patients degradation was more pronounced on the medial femoral-tibial side of the knee joint, which manifests itself a violation of the axis of the limbs (varus deformity), so in severe varus deformity of the limb at the knee height of the tibial resection increased. And, accordingly, to achieve a balance of joint space in extension and flexion angle of 90°, we were set up to ear implants 10-12 mm. If you have a long-term knee flexion contractures, even after replacing the knee joint with an artificial one, it is very difficult to develop a movement to some time we applied in such cases myofasciotenodesis, but the consequences of such operations is very grim. Given these circumstances, we have developed a method of intraoperative redressement thigh. Before endoprosthesis is made to shorten the femur resection and extramedullary fixation plate. By shortening the femur is relaxation and stretching the thigh muscles, so we can simultaneously eliminate contractures of the knee joint without interfering with the soft tissue structures. Clinical evaluation was performed for the evaluation table Knee Society, consisting of two parts: assessment of knee function and functional capacity of the patient. Complications: paresis of the peroneal portion of the sciatic nerve is marked in 4 cases. After the medical treatment the patient came regression of neurological symptoms before the full restoration of nerve function. Two patients with rheumatoid arthritis and secondary gonarthrosis range of motion in the knee joint remained unsatisfactory (less than 30°). This can be explained by the peculiarities of their mentality, by virtue of which it was not possible to achieve compliance with the normal period of rehabilitation. The mean preoperative functional evaluation of the knee was

in a group of patients with rheumatoid arthritis and secondary gonarthrosis 23 points, with 31 points gonarthrosis post-traumatic gonarthrosis 26 points, with 21 points spondylitis disease. The postoperative functional evaluation of the knee was in a group with rheumatoid arthritis and secondary gonarthrosis 83 points, with 87 points gonarthrosis, post-traumatic gonarthrosis 79 points, with 70 points spondylitis disease. Radiological evaluation was conducted in the period from 3 to 6 months. None of the observed patients with signs of instability implants have been identified; postoperative ossification is also not detected.

Thus, the experience knee replacement endoprostheses new generation we evaluate as positive. Positive immediate and long-term outcomes (catamnesis - 6 years) by total knee arthroplasty using our designs and techniques show the effectiveness of this method of treatment, which allows to eliminate pain and restore full range of motion in the joint in a short time after surgery, patients return old motor activity. There is reason to believe that the continued accumulation of experience with knee replacement allows achieving excellent outcomes in most patients.

### S-7 External fixation device - treatment of bone fractures

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Objective: To analyze the effectiveness of our construction external fixation device apparatus for the treatment of long bone fractures with multiple and associated injuries. At the department of Traumatology, during the period of 2011-2014y., 23 patients were treated with combined and multiple injuries of the musculoskeletal system using external fixation device (patent-FAP 0019 from 00737 08.06.12 y. Uzbekistan). All patients received injuries in a road traffic accident. Men - 17, women - 6. The age of patients ranged from 19 to 68 years. After providing first aid at the reception, because of the severity of the condition they were hospitalized to the reanimation department. All patients delivered to the hospital in traumatic shock condition. As soon as the condition of the patients was stabilized, operations were performed and fixation of bone fractures using external fixation device. Osteosynthesis was carried out in the first and second periods of traumatic disease. In the postoperative period, first day we proceeded to activate of patients. Using of external fixation device gives the following positive aspects: relief care for severe and comatose patients; nullified pressure sores; verticalization of patient, which contributes to the early detection of signs of congestive pneumonia due to the lower divisions to facilitate auscultation of the chest; the stability of fracture fixation level is the prevention of pain. In addition prevention of complications such as thrombosis, non-physiological position of the patient at the foot end raised beds when patient in skeletal traction, overload right heart, increased central venous pressure, high standing of the diaphragm and decrease its excursions; low activity of the patient, especially in the early days - the general hypokinesia; immobilization of the affected limb (pain due to imperfections immobilization) - local hypokinesia. Thus, our external fixation device design allows early activation of patients and can be a method of choice for the treatment of patients with multiple and associated fractures of the long bones.

## S-8 The total hip replacement in severe forms of dysplasia

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One of the causes of underdevelopment is osteoarthritis of the hip (dysplasia), while degenerative lesions in the hip dysplastic coxarthrosis accounting for up to 78%, of which up to 19% - for severe dysplasia. In the Kyrgyz Republic, this figure varies between 19 - 23% [S. Dzhumabekov 2012; E.M Sultanov, 2004].

In Bishkek Research Center of Traumatology and Orthopedics in the period from 2006 to 2014 there were 178 patients with severe forms of dysplastic coxarthrosis, which produced a total hip replacement using - cement less, hybrid cement and implant design. 195 transactions total primary hip replacement were made. Follow-up period ranged from 3 months up to 8 years. Age, which ranged from 16 to 78 years (mean 39.7). Among the operated patients, most were women, indicating that the prevalence of dysplasia in females. Thus, in 147 patients showed changes in the hip joint from both sides, which characterizes dysplasia.

Joint replacement leads to an increase in the length of the operated limb (due to installation of the acetabula component prosthesis in the true acetabulum) and the lateralization of the bottom of the acetabulum as a result of bone grafting, restoration of neck-shaft angle of the femoral component of the prosthesis. This entails restructuring operated joint biomechanics, creating the need for joint replacement in the contralateral joint bilateral lesions. Terms defined second operation recovery time lost blood volume, tone muscles of the operated limb function of the hip joint, as well as the time required for implant osseo integration (at least 2 months.).

The preoperative average SDI-3 (proposed SP Mironov and coworkers in 2008) all had below normal. A postoperative functional outcome in patients averaged 87.4 points. In patients with dysplastic coxarthrosis installation pelvic component in the true anatomical position, in some cases, it was technically impossible because of the shortage of bone tissue with severe nedopokrytiem acetabular component. In patients with dysplastic coxarthrosis installation pelvic component in the true anatomical position, in some cases, it was technically impossible because of the shortage of bone tissue with marked limitation of coverage of the acetabular component.

Thus, the statistical analysis of the data evaluation of treatment outcomes of patients with dysplastic coxarthrosis by total hip replacement yielded good results in 84.6% of cases. Endoprosthesis reduces pain, improves gait and normalizes the biomechanical relationships in the hip joint, increases range of motion.

#### S-9 Omurga vücudu hasarı olanlara transepidikularlı plasti

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Amaç: Bizin taraftan gözenekli nikelid titan granüloması ile omurga vücud plastisi geliştirilmiş. Aşılama yapmak için özel sertifika ve izin verilmektidir. Tedavi sonuçlarını araştırmak.

Yöntem: 2008-2015 202 omurga hasarı olan hastalara ameliyatlar yapıldı. Orta yaş – 38 yaş. Erkek sayı-133, kadın sayı-69. Omurganın torasik bolüm kırık sayı-37, Lomber bölümü-128, iki bölümleri-37. Transepidikülarlı plasti gözenekli nikelid titan granülomasın transepidikülarlı tespit (TT) koşullarda yapıldı. TT vıdaların oyalamasından ve lıgamentotaksisinden sonra on taraftan bağlar.

Bulgular: 202 hastalardan 191 hastalara bir ameliyat yapıldı, 11 tekrar ameliyatlar yapıldı, 3 hastalara kasafla (cage) ön spöndilödez yapıldı. 6-yeniden kablolama (TT) bir hastaya – spinal stenoz kaldırılması, diğer hastaya komşu omurguya çementolu vertebroplasti yapıldı. 36 (13%) hastalarda TT kırılması gösterildi.

Çıkarımlar: Omurga vücud trasnepidikularlı plastisi taze A2, A3, B2 kırıkları olan, ark kök boyutu en az 5 mm olan hastalara endikedir. Kontrendike kronik ve patlayıcı kırıklar olan hastalaradır.

### S-10 Management of polanda syndrome

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Urgency: treatment of a syndrome Polanda (joint venture) – difficult in the technical plan operative intervention where three aims are pursued: elimination of defect of edges with restoration of a bone skeleton, elimination retraction of hemithorax and creations of correct anatomic mutual relation of soft fabrics with nipple and mammary gland modeling. The rarity of the given pathology and a brief experience of orthopedists in joint venture treatment, and also a variety of clinical displays doesn't give standard surgical decisions.

**The work purpose:** the analysis of results of surgical treatment of the joint venture.

Material and methods: in orthopedy branch 4 patients from the joint venture where in one case there was a link sided variant with a return arrangement of an internal, from dekstrakardium to the full form situs viscerum inversus have been operated.

To all patients necessarily spent спирографию, an electrocardiogram, heart ultrasonic where revealed infringements from heart and respiratory organs. For specification of deformation of a thorax carried anthopometrical clinical investigation of a thorax and a computer tomography in 3Д reconstruction.

Correction of defect of edges with restoration of a bone skeleton was reached by the split costal cartilages, and elimination западения гемиторакса slanting остеотомией breasts and stabilization by a frame metalware which repeats a normal oval of half of thorax. A metalware deleted in 2 years, and we consider that strong enough skeleton of a thorax is in this time formed.

Results: the remote results of treatment of patients are tracked from 1 year till 3 years. The remote anatomo-functional result satisfied in orthopedic aspect, but plastic correction of pectoral muscles and a mammary gland further is necessary to this patients.

#### S-11 Femur boyun kırıkları osteosintezi için yeni implant modeli: Sonlu elemanlar analizi

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Amaç: Femur boyun kırıklarında kullanılan modern implantlara rağmen kaynamama ve femur başı avaskular nekrozu gibi komplikasiyonlar kaçınılmazdır. Modern implantların (Kanüllü vida, DHS) temel görevi kırık reduksiyonu sonrası dayanıklı ve stabil fiksasiyonu sağlamakdır. Femur boyun kırıkları osteosintezi için tavsiyye olunan yeni delikli implant modelinde amaç daha stabil fiksasiya ile yanaşı kırık bölgesinde oluşan biyolojik kaynamaya etki etmekdir. Femur boyun kırıkları için kullanılan implantların stabilliyinin hesablanması canlı insanda (in vivo) çok zordur. Bu amaçla çalışmamızda sonlu elemanlar analizi (SEA) kullanılmakdadır. Çalışmada yeni implantın delikli ve deliksiz modelleri SEA yöntemini içeren özel bilgisayar yazılımı ile incelenmiş olup, modellere farklı açılarda uygulanan sabit küvvetin oluşturduğu gerilim ve deformasyon belirlenmiş ve karşılaştırılmıştır.

Yöntem: Dijital olarak femur geometrisi birebir alınarag referans 3D femur modeli hazırlandı. Bu modele uygulanan küvvetler sonrası gerilme ve deformasyon dağılımları SEA yöntemini içeren ANSYS yazılımı ile belirlenmistir. Bunun için modelimizde literatürde tanımlanan yük değerleri kullanıldı. Spongioz kemik için UTS (Ultimate Tensile Stres) değeri 20 MPA, kortikal kemik için 150 MPA olarak belirtildi. Pauwel sınıflandırılmasına uygun olarak 300, 500 ve 700 açılara yakın 3 farklı tipde femur boyun kırığı oluşduruldu (tip 1, tip 2 ve tip 3). Yeni implantın deliksiz ve delikli modellerinin her üç tip kırıklarda gösterdiyi mekanik davranışlar (gerilim ve deformasyon) araşdırıldı. Tüm analizlerde dikey doğrultuda 4000 N kuvvet uygulanmıştı.

Bulgular: Bütün model ve tiplerde maksimum Von Mises gerilmesi kırık bölgesine sınır olan implant alanlarında oluşmuşdu. Model 1'de (deliksiz implant) maksimum Von Mises gerilme değeri kırık tipinin sırasına göre 210.637 MPa, 278.53 MPA ve 285.339 MPa hesablanmışdı. Model 2'de ise sırasıyla 209.821 MPa, 300.996 MPa ve 1059 MPA

hesablanmışdı. SEA'nde kırık tipleri artdıkca her iki modelde maksimum gerilme değeri artış gösterir. Delikli modelin kırık tiplerine göre analizlerinde diger modelden farklı olaraq kortikal kemiğin maksimum Von Mises gerilme değeri daha az hesablanmışdı.

Çıkarımlar: Sonuçlara göre implantlarda mevcud olan delikler, uygulanan basınç ve gerilimin tüm implant boyunca homogen paylaşmasını ve deliklerin mevcudiyeti ise bir dalgakıran görevini temin ederek, kemiğe uygulanan basınçı azaltmaktadır. Bu da implant dayanıklılığının artmasının ve kemik tahribatının minimize etmesinin bir göstergesidir.

#### S-12 Femur proksimal iyi huylu tümor ve tümöre benzer lezyonlarının rekonstrüktif cerrahi tedavisi

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Amaç: Kemik lezyonlarına ait yeterli ulusal ve uluslararası çalışmaların yapılmasına rağmen femur proksimal lokalizasyonlu lezyonların tanı ve tedavisine yönelik yayınlar pek fazla değil. Dünya Sağlık Örgütü'ne göre femur proksimal (boyun, trokanterik, subtrokanterik) lokalizasyonlu iyi huylu tümor ve tümöre benzer lezyonlar 8-14%, Dahlin'e - 8,6%, Şpilevski İ.E. ve ark. göre -19% hallerde karşılaşmaktadır. Proksimal femur spesefik ve non-spesefik inflamatuar hastalıkların, tümör ve tümöre benzer lezyonların ve displazilerin bulunduğu bir anatomik bölgedir. Bu bölge alt ekstremitenin kas-iskelet sisteminin fonksiyonunda önemli bir rol oynar ve bu yüzden tedavinin temel yönü koruyucu-kurtarma girisimler yönünde olmalıdır. Femur proksimal 1 / 3'de kalın kas tabakasının olması klinik belirtilerin hastalığın geç evrelerinde tespit olmasına neden olmaktadır ve erken tanıyı geciktirmektedir, bu da tedaviyi zorlaştırarak sonuçları olumsuz etkilemektedir. Böylece geniş bir literatür taraması ve kişisel deneyimimiz gösteriyor ki, femur proksimal tümör ve displazilerin erken teşhis, uygun cerrahi tedavisi, rezeksiyon sonrası oluşan defektlerin rekonstrüksiyonu, aynı zamanda kısalık ve deformitelerin giderilmesi oldukça zor, pek öyrenilmemiş bir sorundur. Araştırmanın amacı: femur proksimal bölümünün iyi huylu tümör ve displazilerin çeşitli tetkikler sonucunda teşhisi netleştirerek uygun tedavi taktiğini belirlemekdir.

Yöntem: Enstitümüzün kemik patolojisi bölümünde 113 olgu yukarıdaki teşhislerle tedavi olmuştur. Hastalardan 40 olgu kadın (ortalama yaş 30) ve 73 olgu erkek (ortalama yaş 18) idi. Yapılan tetkiklerden sonra aşağıdaki tanılar tespit edilmiştir: iyi huylu tümörler - 63; tümöre benzer lezyonlar - 29; inflamatuar hastalıklar - 7; metastatik lezyonlar -9. Patohistoloji inceleme 91 hastada yapılmıştır: 37 operasyon öncesi (trepan biyopsisi 28, açık-14) ve 41 ameliyat sonrası materyal incelenmiştir. Yapılan tetkikler sonucunda tanı ve lokalizasyona uygun olarak cerrahi taktik seçilmiştir: çeşitli rezeksiyonlar - 115; eklem ucunun rezeksiyonu artroplasti ile - 4; kompressiyon-distraksiyon osteogenezi, kortikotomi ile - 4. Postrezeksiyon defekt 75 hastada keramik hidroksiapatit; 11 hastada keramik hidroksiapatit + allogreftleme; 10 olguda allogreftleme; 7 olguda otogreftleme; 2 olguda ise kemik çimentosu kullanılmıştır. 10 hastada patolojik kırık ve ya coxa vara sırasında metal plaklar kullanılmıştır.

**Bulgular:** Cerrahi tedavi uygulanmış hastalarda 94,2% iyi ve orta, 5,8% kötü sonuclar- nüks ve femur bası avasküler nekrozu saptanmıştır.

Çıkarımlar: Sonuç olarak, femur proksimal lokalizasyonlu iyi huylu tümör ve tümöre benzer lezyonlar birçok değişik şekilde ortaya çıkmaktadır, özellikle çocuklarda erken teşhisin koyulması zorluklar çıkarıyor ve bu yüzden böyle hastaların ihtisaslaşmış kurumlarda tedavi almaları uygundur. Çok önemli bir konu lezyonun kötü veya iyi huylu olmasını ayırt etmektir. Yanlış teşhisle yetersiz tedavinin yapılması ciddi hasara yol açmaktadır.

#### S-13 Femur proksimal Pilon kırıklarının Ilizarov yöntemi ile tedavi sonuclarımız

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Amaç: Bu çalışmada amac pilon kırıkları ile İlizarov yöntemi ile tedavi etdiğimiz hastaların orta dönem sonuçlarını araştırmak idi.

Yöntem: Çalışmamıza 2010-2014 yılları arasında hastanemizde Pilon kırıkları ile tedavi edilmiş 43 hastadan son kontrole gelen 41 hasta dahil edildi. Kırıkların diaqnozu AO sınıflamasına göre yapılmıştır. Tip A1 kırık - 2, A2 – 2, A3 – 2, B1 – 6, B2 – 5, B3 – 7, C1 – 4, C2 – 7, C3 – 8 hastada kayd edilmiştir. Hastaların orta yaşları 45,3 idi. 33-ü erkek, 10-u kadın idi. Kırıkların 80% yüksek enerjili travma sonucunda alınmıştır (trafik, yükseklikten düşme). 9 (20%) hastada açık kırık vardı. Hastalar İlizarov yöntemi ile ameliyyat edilmişler. Ameliyyat orta hesabla travmadan 2 gün (1-4 gün) sonra yapılmıştır.

**Bulgular:** Ameliyyat sonrası hastalar orta hesabla 3,6 il sonra müayine edilmişdiler. İlizarov metodu ile tedavi edilmiş Pilon kırıkları ile 41 hastadan 65%-de (27 hasta) iyi ve çok iyi sonuç elde edilmiştir. Hastaların 14 (35%) orta ve kötü sonuc elde edilmiştir.

Çıkarımlar: İyi ve çok iyi sonuclar tüm Tip A (1,2,3) kırıklarında kayd edilmiştir. Tip B kırıklarından B1 veB2 qrupların tümünde, Tip B3 –de ise 3 hastada orta ve iyi sonuclar elde edilmiştir. Hastaların hiç birinde ayak bilegi artrodezi yapılmadı.

#### S-14 Asetabulumun arka duvar kırıklarının cerrahi tedavi sonunçlarımız

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Amaç: Bu çalışmada amac asetabulum kinklarında cerrahi tedavi etdiğimiz hastaların orta dönem sonuçlarının literatür ile karşılaştırdık.

Yöntem: Çalışmaya 2006-2014 yılları arasında

hastanemizde yüksek enerjili travma veya hündürlükden düşme sonrası asetabulum arka duvarı kırığı gelişen 83 hasta dahil edildi. Kırıkların sınıflaması Judet ve Letournel sınıflamasına göre yapıldı.Ortalama takip süresi 7,5 yıldı. Bütün hastalarda Kocher-Langenbeck yaklaşımı kullanılmıştır. Klinik değerlendirm için Merle d'Aubigne şkalası, radiolojik değerlendirme için Matta sistemi kullanıldı. Cerrahi uygulanan hastalara postoperatif dönemde erken haraket ve 3 ayından sonra yükvermeye başlanıldı.

Bulgular: Kırıkların 57'si (%68,6) arka duvar, 15'i (%18,1) arka kolon, 11'i (%13,3) posterior duvar +posterior kolon kırığından oluşmaktaydı. Cerrahi tedavi edilen hastaların %79'unda klinik olarak orta, iyi ve çok iyi sonuç elde edilerken %81'inde radiolojik olarak orta, iyi ve çok iyi sonuç saptandı. Tedavi olan 4 hastada preooperatif kırıklıçıkığa bağlı olarak femur başı avasküler nekrozu ve 3 hastada heteretrofik ossifikasyon gelişti. Nörovasküler defisit görülmedi.

Çıkarımlar: Asetabulum kırıklarında başarılı klinik sonuçun ancak anatomik eklem rekonstruksiyonun elde edimesi ile mümkün olduğu görüldü.

#### S-15 Application crosssection correction (translational) forces in operative treatment of scoliosis

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There are analyzing results of 76 scoliosis patients surgical treatment by system which was worked out by author and introduced in Azerbaijan Republic (JSS- Jalilov Spinal System). The basis correction effect is made by moving-translation of vertebras of the basic arch of a scoliosis to a median axis of a trunk. Endocorrectors are effective for treatment of 75-80° limited deformation and they are correcting 35-45° of deformation.

Physical and mathematical modeling of a situation Jalilov endocorrector - the bent backbone for calculation of vectors of forces arising thus corrective scoliosis arch has shown that application of the cross-section-directed forces leads to simultaneous longitudinal and cross-section correction of the bent backbone. Applied by us endocorrector with enough simple and little traumatic technology of installation, actually brings to nothing possibility of mechanical damage of neurovascular elements of a spine column and a spinal cord, keep physiological saggital plane contour. Endocorrectors are effective in rigid scoliosis treatment and considerably reduce the lossing of correction. System pre - and postoperation treatment give the possibility to keep biggest part of received correction of curvature. The analysis of results of treatment shows that the design possesses high correction and fixing properties - loss of correction doesn't exceed on the average 8-10° from originally reached. In scoliosis with 75-80° and higher curves authors made a multilevel correction.

## S-16 Some aspects of patogenezis and treatment syndrome "low back pain"

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Analysis of the main causes of back pain according to clinical and neurological and instrumental examination and results of conservative and surgical treatment of patients in the department of orthopedics of adults Azerbaijan Scientific-Research Institute of Traumatology and Orthopedics. The study presents data on hospital examination and treatment of 405 patients suffering of acute low back pain. 247 of them have revealed changes in bone mineral density of the vertebrae on the type of osteopenia and osteoporosis. The majority of patients had bulging disc detected during MRI and CT examinations. 340 people have managed to eliminate pain by conservative orthopedic treatment. In 65 patients due to the inefficiency of the conservative-orthopedic treatment, the surgery operation performed. The situations requiring different solutions were noted:

- Monolateral pain with a large protrusion of one disc and minor protrusions of adjacent disks:
- Bilateral pain caused by large protrusions of 2 adjacent disks and instability or major segments of the protrusion of the 1st disc and moderate protrusion of adjacent disk involved in the creation of the clinical picture of bilateral pain. In each of these situations, the intervention performed to ensure ventral and dorsal decompression of spinal canal elements and the elimination of spinal instability. Back pain is a multifactorial phenomenon, and therefore the detection at MRI, CT studies of disc prolapse should not serve as a basis for making a hasty decision about surgical treatment. In most cases, conservative orthopedic treatment has a positive effect. In this case, the basis of the treatment should make use of orthopedic aids in prolonged immobilization and unloading of the spine, as well as measures to normalize bone mineral density. Surgical treatment should be undertaken only after failure of orthopedic treatment, followed by a continuation of conservative measures to normalize the mineral density of bone structures.

#### S-17 Morbidity of Scoliosis in Kazakhstan

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Introdution: According to different authors world scoliosis rate comprises 0.15%-15.3% According to Weinstein S.L. (1991) the prevalence of scoliosis is constant in the world.

**Objective:** To determine the rate of morbidity of scoliosis in the Republic of Kazakhstan and compare the prevalence of scoliosis in Kazakhstan with the literary data.

**Methods:** The number of patients with scoliosis was defined in Kazakhstan for 2004-2011 according to No. 12-ZDRAV form of the RK "Report on

diseases of patients living in area of general health organization". The factors of prevalence of scoliosis have been defined in Kazakhstan.

Results: The average annual rate of prevalence of scoliosis was 265.0±13.30/0000 (95% Confidence interval (CI) = 238.9-291.20/0000) among population of the Republic of Kazakhstan for 2004-2011. Herewith, for research period the prevalence rate of scoliosis among children was 489.3±15.3 0/0000 (95% CI=459.4-519.30/0000), among adolescents was 1622.8±79.10/0000 (95% CI=1467.8-1777.80/0000), among adults was 70.7±5.5 (95% CI=60.0-81.40/0000). The prevalence of scoliosis tends to decrease among the total population, while the average annual decrease rate pointed (T=-5.3%). Similar case was observed among adolescents (T=-5.3%) and adults (T=-8.8%). Prevalence of scoliosis tended to insignificant increase (T=+0.04%) among children during research period.

Conclusions: Thus the literary data of prevalence of scoliosis from 0.15% to 15.3%, with almost two orders of magnitude difference from each other is explained by examination of different age groups. Among the population of Kazakhstan for 2004-2011 scoliosis was found at 0.29% - 0.23% of the population, and among children (up to 14 years inclusive) - at 0.52%-0.45%, among adolescents (15-17 years) - at 1.75% - 1.38%, among adults (18 years and older) - at 0.08%-0.06%. Prevalence of scoliosis among the population of Kazakhstan is constant enough, and changes of prevalence rate are connected with defects of statistical recording of patients with scoliosis.

## S-18 Fast-progressive spine deformation in the structure of idiopathic scollosis

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**Introduction:** Discussion about terms and indications of surgical treatment of scoliosis is still going on in the scientific literature.

**Objective:** To specify indications for surgical treatment of progressive form of idiopathic scoliosis.

Materials and methods: Material presents analyses of spondylogram of 150 patients with idiopathic scoliosis and results of surgical treatment with plate endocorrector Medilar (Russia) – 50 patients, and correction of scoliotic spine deformation with rod endocorrector Moss-Myami (DePuy) – 50 patients, ChM (Poland) – 25 patients, Medtronic (USA) – 25 patients.

Results and discussion: X-ray of patients, with dynamic development of scoliosis confirmed by X-ray, has defined average progressive degree with the increase of years and percentage of patients with different forms of progressive idiopathic scoliosis.

At the age of 6-9, slow-progressive form of scoliosis was noted in 79.4% of cases, fast-progressive form of scoliosis with average 14,4° per year was observed in 20.6% of cases.

At the age of 10-14 years, the number of cases of rapidly progressive form of scoliosis increased to

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40.5 %, average 21,6 ° per year, and slow-progressive form of scoliosis was in 59.5% of cases.

Teenagers aged 15-17 years and patients older than 18 years had slow-progressive form of scoliosis, which was 66.7% of cases with 8,3° per year. Fast-progressive scoliosis was observed in 33.3% of cases with 19,8° per year.

Conclusions: Patients of same age group have different forms of progression of idiopathic scoliosis. The greatest number of cases of rapid progression of scoliosis observed in a period of intense growth in the length of spine. Rapidly form of idiopathic scoliosis (more than 10 ° per year) is an indication for surgical treatment in scoliosis of 2-3 grades.

## S-19 Minimally invasive technology for static deformation of the foot

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Recently, percutaneous minimally invasive treatment of feet deformity, which is known as technology "MIS", have become much more popular.

Materials and methods: Percutaneous minimally invasive technique is carried out from the mini incision 3-5 mm in lower-medial corner of the first metatarsal head, which produces economical medial eczostosectomy of head by M1 Ad micro mill. From the same access subcapital linear osteotomy of the first metatarsal bone is made by microfoam,

followed by lateral displacement of the head and screw fixation Hebert, which is performed via a rear puncture the skin. The speaker on the medial surface of the proximal fragment of the M1 after the transposition of the head is laterally removed by microfoam. Through the separate incision in the medial projection of the base of proximal phalanx produce Akin by microfoam. Remediation and closure of the wound 2-3 interrupted sutures.

The day after surgery, the patient is activated and goes to a special orthopedic shoes Baruk period of 1.5 months.

**Results and discussions:** All patients were satisfied by cosmetic and functional side of the postoperative outcome, as well as a period of rehabilitation.

In summary, we can say that minimally invasive percutaneous surgery of the foot can be safely introduced into routine practice of orthopedics. In case of severe deformities there can be combine open and closed access, which in any case reduce the aggressiveness of the operation.

### S-20 Surgical treatment of acetabulum fractures.

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Acetabulum fractures make up 3% of all injuries. Fractures of acetabulum in 79% of cases occur in conjunction with other injuries which aggravate the

general condition of the patients.

**Objective:** Evaluation of the results of operative treatment of acetabulum fractures.

Methods: We have studied the results of examination and treatment of 44 patients with fractures of acetabulum from 2007 to 2014. There were 19 (43,2%) women, and 25 (56,8%) men. The patient's age was from 19 to 63. The mechanisms of injury were motor vehicle accidents, falls from heights. Acetabulum fractures classified according to AO - Letournel [3].

Fractures of acetabulum of type A encountered in 15 cases (34%), type B - 23 cases (52.3%), and type C in 6 cases (13.7%). Open reduction with internal fixation of acetabulum with Kocher-Langenbeck approach made in 24 cases, ilioinguinal approach - 16 cases, there were 2 cases from two approaches (Kocher-Langenbeck and ilioinguinal). The evaluation of results of treatment was conducted by Harris scale

Conclusions: Comparison X-ray and examinations were made on the next day, after 1, 3, 6, 12 months after surgery. On a scale of Harris poor results obtained in 12 patients (27.3%), the rest received satisfactory, good and excellent results.

**Conclusions:** Through the surgical treatment the number of bad results managed to reduce.

