The aim of this study is isolation of chondrocytes from articular hyaline cartilage and their expansion in cell cultures for further transplantation in a cartilage defect.
Materials and methods: The study was performed on 9 New Zealand White rabbit 6 months old. Under sterile conditions, slices of hyaline cartilage were harvested from unbearing area of knee joint, followed by 0,25% tripsină-EDTA treatment for 30 min and 0,6% collagenase for 6 hours. The cells were cultivated in cell culture flasks by 10000 ±500 cell/cm^2 and incubated at 37 ° C with 5% CO2 in DMEM with 10% FBS. The cells were expanded in culture up to 21 days to a confluence of 80%. The cells was counted by a hemocytometer. The chondrocytes were stained with Safranin O and toluidine blue/fast green.
Results:
From approximately 50±10 mg of cartilage were isolated 4x10^5±5x10^4 cells. At staining chondrocytes with Safranin O, the nuclei were black, the cytoplasm gray-green and and cartilage, mucin were orange to red. At staining chondrocytes with toluidine blue/fast green, the nuclei appeared dark blue, the cartilage blue, deep purple and background green.
Conclusion
The method of chondrocytes isolation from hyaline cartilage is efficient and it was confirmed by *in vitro* cell staining with Safranin O and toluidine blue/fast green. Our further purpose is implantation in vitro of expanded chondrocytes on tridimensional scaffold and their transplantation in an osteochondral defect.
Keywords: chondrocyte, isolation, hyaline, cartilage

THE RESULTS OF DEMINERALIZATION OF BONE GRAFTS

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The aim: to develop a fast method of demineralization of cancelous and cortical bone grafts effectively in various sizes for use in restoring bone defects and implement this method in practice of Human Tissue Bank.
Materials and methods: for the study was used bovine bones (tibia and femur). The bones were cut with saws, excluding their heating, bones were deperiostated, washed under running water, dried and degreased. We obtained different shapes of the bones by cutting: circular shape, semilunar shape (used for control), plate and cubic shaped bones. Grafts were distributed into five groups according to the methods of demineralization, dimensions and type of bone. We got nine transplants - bone rings with Ø 4 cm and thickness 5 mm ± 2 mm, 3 specimens for demineralization in acid and 3 by electrolysis. Three grafts were cut by half to control. Each graft weighed 0.75g ± 5g. One plate-shaped (70x20 mm) and one cubic-shaped (1,5 cm2) grafts were demineralized by electrolysis from the start. The acid solution was changed over every 24 hours. The demineralization was determined by X-ray, by weighing-machine and by mechanical method.
Results: complete demineralization of the circular-shaped grafts through the electrolytic solution was obtained on the 4th day, and in the samples demineralized just only by acid solution the complete demineralization was obtained on the 7th day. The superficial demineralization of the plate-shaped cortical graft was obtained on the 3rd day, but final demineralization on the 7th day. Partial demineralization of cancelous cubic-shaped graft was obtained on the 2nd day, but total demineralization was obtained on the 5th day.
Conclusions: electrolysis is a method for accelerating the demineralization. The speed of demineralization depends on the dimensions, and type of bones. Cancelous bone demineralize faster than cortical one.
Keywords: decaltination, demineralization, bone graft

ARTHROSCOPIC TREATMENT OF DEGENERATIVE ARTHRITIS OF THE KNEE (LITERATURE REVIEW AND PROPER EXPERIENCE)

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Study goals: In this review described most important methods of arthroscopic treatment of degenerative arthritis of the knee, surgical technique, classifications, structure. And the results, such reported in a medical literature, as the proper results of our clinic.
Material and methods: At the base of investigated clinical, radio-logical and CT - several groups of knees after different methods of arthroscopic treatment, in dependence of disease study, age, and any another important factors, was any conclusions elected, that may be influence and follow for knee arthritis treatment.
Results: It was obtained optimal several algorithms of arthritis knee examinations, arthroscopic treatment and postoperative

conduction.
Conclusions: Exists not only one or two perfect methods of arthritis knee treatment. It depends of age, study, time of suffer, weight, cartilage condition and many another factors. The method of treatment need to be chosen in respect that.
Keywords: knee arthritis, arthroscopic treatment.

VERTEBROPLASTY - MINIMALLY INVASIVE TREATMENT FOR VERTEBRAL FRACTURES

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Background and purpose: Vertebral fracture is the most common complication of osteoporosis and sometimes also in osteolytic methastasis, active hemangiomas or multiple myelomas. We present the indications, technique, complications, etc.
Methods: Vertebroplasty is the percutaneous placement of polymethylmethacrylate (PMMA) into vertebral compression fractures for relief of pain, performed under fluoroscopic guidance while the exact mechanism of pain relief is unknown, it is believed that the delivery of the ciment into the fracture stabilizes the vertebral body, obtaining an analgesic effect.
Results: We present our experience of 14 years in percutaneous vertebroplasty (and kyphoplasty) with common indications, results, complications, new indications, tips and tricks, etc.
Conclusions: Vertebroplasty is an alternative to spinal surgery. In experienced centers, percuta-neous vertebroplasty is safe and effective in the treatment of patients with painful vertebral com-pression fractures.
Keywords: vertebroplasty, osteoporosis, vertebral pain, fracture.

MINIMALLY INVASIVE TREATMENTS FOR DISK HERNIA

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Background and purpose: Low back pain (LBP) is one of the common reasons for people to seek treatment from a physician, especially in modern society. We present the indications, technique, complications, etc. of the different minimally invasive interventions.
Methods: A multitude of therapies are available to treat disc herniation, ranging from conserva-tive methods (medication and physical therapy) to minimally invasive (chemonucleolysis, O_2-O_3 therapy, mechanical nucleoplasty, intradiscal electrothermal therapy, etc) and surgery.
Results: We present our experience of 10 years in minimally invasive interventions with common indications, results, complications, tips and tricks, etc.
Conclusions: Percutaneous disk interventions are an alternative therapy situated between medical treatment and spinal surgery. Patients selection is very important and lead to the successful of the intervention.
Keywords: nucleoplasty, IDET, ozone, lombar and cervical spine, intradiscal injection.

ARTHROSCOPIC ACL RECONSTRUCTION WITH HAMSTRING

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INTRODUCTION: Today, in clinical practice, methods of stabilizing operations arthroscopic ACL are widely used, and extensively described. According to most authors, positive outcomes (of such procedures) are being observed in 80-90% of