

## **RADIOLOGICAL DIAGNOSIS OF ACROMIO-CLAVICULAR INJURIES**

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**Introduction:** According to the literature, acromio-clavicular injuries represent a problem in the contemporary traumatology because of the possible complications. Radiological diagnosis of acromio-clavicular injuries is important for deciding upon the optimal method of treatment. In acromio-clavicular joint (ACJ) research, by routine radiography of the shoulder, small fractures certainly can not be viewed. It should be viewed simultaneously both ACJ, with a cephalic tilt image from 10° to 15°, especially in the small joint suspected fractures. As with other musculoskeletal injuries, ACJ trauma is not sufficient to perform only single plane radiography. Thus, in suspected ACJ dislocations, radiographs should be performed in an axillary lateral view of both shoulders. This image allows assessing the posterior displacement of clavicle and small fractures. Bossart reports the need of stress radiographic examination, with weights suspended from each arm of the patient.

**Material and methods:** The retrospective study was conducted on 83 patients, treated surgically in the Republican Hospital of Traumatology, department No1, between the years 2000-2011. The Rockwood's classification (1987) and imaging examinations were performed to assess the type of ACJ trauma.

**Discussions:** The distribution of patients by gender was as follows: 79 men and 4 women. Type 3 of lesions were determined in 53 patients, type 4 for was established in 25 cases and the type 5 – in 5 cases. All patients were examined by standard antero-posterior imaging, bilaterally. Rg 10° tilt tube. In 37 cases an axial image was used. Stress radiographs, with 8 kg weights hanging arm, was performed in 3 patients. ACJ angle of 10°-20° was appreciated in 14 patients, 30°-40° - in 27 cases and 50° - in 42 patients. During the research, it was noted that the greater the acromio-clavicular angle the more advanced the degree of dislocation was. Coraco-clavicular distance exceeded the normal range by 50-60%.

**Conclusions:** In order to evaluate the acromio-clavicular injuries it is necessary to examine bilaterally ACJ, using multiple imaging modalities.

**Keywords:** acromio-clavicular injuries, acromio-clavicular joint, radiological diagnosis.

## **SCHOOL SPINAL SCREENING IN MOLDOVA: FIRST STEPS**

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**Introduction:** Scoliosis presents a great problem for orthopedists in most countries. It is widespread in children and adolescents, and ranges from 1,3-3 to 27,6% of them. Surgical treatment is carried out too late, when the deformation of the spine becomes extremely severe. The risk of surgical intervention in such cases is too high. To solve this problem, many countries develop the scoliosis screening programs. Screening for scoliosis has been practiced worldwide for many years and has provided valuable knowledge about prevalence, aetiology and the natural history of idiopathic scoliosis. School screening for scoliosis beyond its scope of early identification of spine deformities has contributed to the field of research for aetiology of idiopathic scoliosis. Early diagnosis allows for bracing that is reported to be effective by numerous outcome studies. Unfortunately, we have not such a program in the Republic of Moldova. As a

result, a lot of young patients come to our clinic with severe spine deformities which can be treated only by surgical intervention.

**Methods:** A primary orthopedic examination was performed of 1398 pupils, aged from 7 to 18: 728 girls (52,07%) and 670 boys (47,93%). The screening procedure combined the visual inspection of the trunk in 6 positions, including the Adam Forward Bending Test and the scoliometer measurement of angle of trunk rotation (ATR). Seven degrees of ATR was chosen as cut-off point for referral to radiography.

**Results:** Fifty seven (4,07%) pupils were found positive on both standing, forward bending test and scoliometer measurements  $> 7^\circ$ . There were 41 (71,93%) girls and 16 (28,07%) boys. Fifty four (3,86%) were confirmed with spine deformity on standing radiographs, from which 39 (72,22%) girls and 15 (27,78%) boys. 2 girls and 1 boy had normal spine curvatures on X-ray examination (false positive). Individual treatment program are to be elaborated for each patient.

**Conclusions:** School spinal screening programs are used in many countries around the world for early diagnosis of spinal deformities, they establishing this pathology at the beginning when physical exercises and brace therapy are helpful; reduces the necessity of surgical treatment. In spite of intensive development of many instrumental methods for orthopedic examination the main method is the physical one with scoliometry. We have just begun this difficult work and hope to cover the entire young population of the Republic of Moldova.

**Keywords:** spinal screening, scoliosis, orthopedic examination.

## SURGICAL TREATMENT OF THE INTRA-ARTICULAR FRACTURES OF THE DISTAL FEMUR, TYPE C (AO)

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**Introduction:** Distal femoral fractures occur usually in two patient populations: young people, especially young men, after high-energy trauma, and elderly persons, especially elderly women, after low-energy injuries. In the older group, most of the injuries occur after moderate trauma such as a fall on a flexed knee. In the younger group, distal femoral fractures occur after high-energy trauma. These fractures are often open, comminuted, and most probably the result of direct application of load to a flexed knee. Most are caused by vehicle accidents, including motorcycle accidents, but they can also result from industrial accidents or falls from heights. Most of these patients are younger than 35 years, with a definite male preponderance. Surprisingly, the degree of comminution in the supracondylar region is often equivalent in both these groups. However, younger patients experiencing high-energy trauma have a greater incidence of additional intra-articular disruption or segmental or more proximal shaft comminution.

**Material and methods:** During 2010-2011 in NSPCEM were treated surgically 66 patients with distal femoral fractures, 31 patients with intra-articular fractures (AO type C1-2, C2-19, C3-11); 19 were men and 12 women, aged 17-81 years. Mechanisms of injury were vehicle accidents – 19 cases, accidents at work – 2 cases, catatrauma – 1 case and, habitual trauma – 9 cases. Principles of minimally invasive osteosynthesis of distal femur were used in 1 patient, TARPO procedure – in 7 patients, retrorail – in 4 cases, the Ilizarov apparatus – in 1 case, plate osteosynthesis through a lateral approach – in 19 cases. All patients were operated in supine position. Indirect reduction of the fragments (in case of minimally invasive osteosynthesis, TARPO and retrorail) was performed by applying a roll under the knee, that permitted a flexion at  $60^\circ$  and on orthopedic table, using skeletal traction system through tibial tuberosity with idling leg.