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# SCIENCE TODAY: FROM THEORY TO PRACTICE

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of the 8-nd International Academic Conference " Medical, psychological and educational support of a person in extreme climatic, ecological and social conditions", Kemer (Turkey), 30 April - 7 May, 2017

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This publication contains the materials that were present on the 8nd International Academic Conference «Medical, psychological and educational support of a person in extreme climatic, ecological and social conditions», Kemer (Turkey), 30 April - 7 May, 2017. On the collection pages discussed the psychological, pedagogical, medical, medico-psychological, social and pedagogical aspects of the issues and challenges relevant to modern society and human in the context of coping with problematic situations, as well as for the exchange of scientific achievements and practical experience, it is extremely important for the development of research strategies conservation of biological, psychological, moral and ethical potential of modern society.

The collection is intended for psychologists, physicians, physiologists, teachers, specialists of related professions, as well as may be of interest to anyone interested in the problems and achievements in the implementation of innovative technologies in medicine, psychology and education. .

All materials contained in the book, published in the author's version. The editors do not make adjustments in scientific articles. Responsibility for the information published in the materials on display, are the authors.

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17 years - residents of a major Russian industrial city on the example of Novosibirsk.

**Methods.** Study design - cross-sectional population surveys of representative samples of schoolchildren aged 14-17 of both sexes. In the period from 1989 to 2009 five screenings of pupils of secondary schools of Novosibirsk were performed. The survey program was unified for all screenings. Assessment of blood pressure levels in adolescents was conducted according to the criteria of the 4th report of the Working Group on the control of hypertension in children and adolescents (NHBPEP, USA, 2004), based on the percentile distribution of BP values according to sex, age and height.

**Results.** Analysis of the mean values of SBP and DBP trends during 1989-2009 in adolescents revealed a significant changes in some periods of the monitoring. The prevalence of hypertension among adolescents was in averaged 14% of boys and 10% in girls 14-17 years old. The highest prevalence of hypertension in adolescents of both sexes noted in 1989, the lowest - in 1994. Significant relationship between the levels of blood pressure and body mass index detected: among children with overweight percentage of persons with high blood pressure was recorded twice as likely as children with normal weight, both boys and girls ( $P < 0,001$ ).

**Conclusion.** Early detection of elevated BP levels in adolescents enables selection among them groups of risk for developing hypertension in adulthood for preventive interventions at the population and family levels.

**Keywords:** population, adolescents, hypertension, prevalence, trends



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## REHABILITATION OF PATIENTS WITH UNCOMPLICATED INJURIES OF THORACIC AND LUMBAR SPINE IN A SPECIALIZED MID-MOUNTAIN HOSPITAL

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**Summary:** The authors studied the characteristics of uncomplicated spinal injuries thoracic and lumbar localization, the indications for early treatment of complex restorative in the Mid-resort, the measures to prevent complications. Analyzed data from 135 patients aged 17 to 68 years (94 men and 41 women) who were treated in the Kyrgyz Institute of Spa and Rehabilitation for the period from 2008-2014 years. It shows more efficiency recovery.

**Keywords:** spinal injury, ligament-articular apparatus, neurological disorders, specialized mid-mountain hospital

Modern vertebral lesions are often a component of combined and multiple injuries, and their structure is dominated by severe fractures of the vertebrae, intervertebral discs and ligamentous-articular apparatus of vertebral connections. Approximately one in ten victims with spinal injuries have neurological disorders. The experience of local armed conflicts in recent times convincingly demonstrates the growth in the number of servicemen who received combat non-fire damage to the spine. Despite the relatively small share of this pathology in the structure of mechanical injuries (0.8-4.1%), the majority of the victims are disable and their ability to work is reduced. In severe injuries of the spine, the death and disability rates of the victims are quite high. Vertebral injuries are very often observed in the victims during natural and man-made disasters, in auto accidents and catatrams, as well as in certain categories of servicemen with specific specialties of military professional activity (for example, pilots and de-combatants) [1].

Currently, in our country and throughout the world there has been significant progress in the development of spinal surgery. It is associated with the introduction in practice of specialized medical institutions of modern highly informative diagnostic methods (computer and magnetic resonance tomography), as well as technically advanced and effective technologies of surgical treatment. The possibilities of anesthetic support have increased significantly, allowing complex and prolonged surgical interventions in the acute period of traumatic illness. The successes of surgical vertebrology are inextricably linked with the development and practical implementation of organizational principles for the provision of medical care to patients with trauma to the spine [2, 3].

#### **Purpose of the study.**

Analysis of the results of the complex rehabilitation of patients with uncomplicated injuries of the spine of the thoracic and lumbar localization in the conditions of an average sanatorium. **Material and methods.** We analyzed the results of examination and treatment of 135 patients (94 men and 41 women) with uncomplicated injuries of the spine of the thoracic and lumbar localization for the period 2008-2014, who were on the rehabilitation treatment in the Department of Orthopedics and Neuroortopedics Kyrgyz Scientific Research Institute of Balneology and Physiotherapy. The age of the patients ranged from 17 to 68 years. The age of the patients ranged from 17 to 68 years. Analysis of the age aspect revealed the prevalence of victims aged 21-39 years (43 patients) and 40-59 years (24 patients) both among male and female patients.

Table 1 - Distribution of patients by the mechanism of the received trauma

Mechanism of injury	of	Compression vertebral fracture	Displacement of the vertebra	Total

Accident collision) (car	10 (10,9%)	8 (18,6%)	18 (13,4%)
Accident (as a passenger)	17 (18,5%)	7 (16,3%)	24 (17,8%)
Falling from height	65 (70,6%)	28 (65,1%)	93 (68,8%)
Total:	92 (100%)	43 (100%)	135 (100%)

The data obtained by us (Table 1) showed that of the number of victims with a compression fracture (92 patients), patients who were injured as a result of a fall from a height of 65 (70.6%) prevailed, and then patients injured as a result of an accident As a passenger-17 (18.5%). The third place is occupied by patients injured as a result of road accidents, shot down by a motor vehicle 10 (10.9%). Among the injured with displacement of the vertebrae (43 patients), the first place was occupied by patients who were injured as a result of a fall from a height of 28 (65.1%), the second place was injured as a result of an accident, shot down by an 8- (18.6%) car, And third place, injured as a result of an accident as a passenger-7 (16.3%). All patients were examined in a comprehensive manner, including clinical examination, X-ray studies, magnetic resonance imaging and computed tomography.

The duration of stay of victims with uncomplicated injuries of the spine in trauma departments on average is from 30 to 60 days. In the future, they are recommended to be sent to inpatient or polyclinic rehabilitation treatment centers for the realization of the goals of full medical, domestic and professional rehabilitation. In these centers of recovery treatment, the victims should arrive after the formation of sufficiently strong postoperative scars and, as a rule, without external immobilization. A full course of restorative treatment usually involves physiotherapy (Table 2).

The intensity of the pain syndrome was assessed by VAS. All these parameters allowed us to note not only the final outcome and the dynamics of recovery, but also the subsequent persistence of the effect and improvement of the quality of life of patients.

Table 2 - Complex of rehabilitation measures

Procedure type	Number of patients	
	Abs.	%
Electrostimulation of the muscles of the back and lower limbs in order to improve blood circulation and activation of metabolic processes	122	90,3%
Paraffin applications on the affected area (in order to improve blood circulation, activation of metabolic processes, antispasmodic and analgesic action)	94	69,6%

Variable magnetic field on the affected area (improvement of microcirculation in tissues, reduction of edema and improvement of blood rheology)	128	94,8%
Calcium-phosphorus electrophoresis on the affected area (in order to accelerate the consolidation period for vertebral fractures in the absence of metal structures)	62	45,9%
Massage of affected areas	130	96,2%
Convalescent center	135	100%
Acupuncture	89	65,9%
Occupational therapy	14	10,3%
Drug therapy according to indications	58	42,9%
Paravertebral blockade with severe pain syndrome	30	22,2%

### Results and its discussion.

In the conditions of a specialized mid-mountain hospital patients who received a complex of rehabilitation measures with the inclusion of physiotherapy procedures noted the high effectiveness of treatment (Table 3). It is confirmed by the improvement in the clinical status and the functional status of patients with spinal cord injury without complications, improvement in general well-being and sleep, which led to Reduction of treatment time to 12-14 days.

Table 3 - Efficiency of rehabilitation

Groups of patients	Efficiency in points			
	Good Absol. %	satisfactory Absol. %	Unsatisfactory Absol. %	Total:
Main group	94 (69,6%)	22 (16,3%)	9 (6,7%)	135 (100%)
Control group	10 (50%) P<0,05	7 (35%) P<0,05	3 (15%) P<0,05	20 (100%)

When developing a plan and performing rehabilitation treatment measures in each specific case, it is necessary to take into account the following features of the Kyrgyz Scientific Research Institute of Balneology and Physiotherapy: the type of injury (open or closed), the level and number of damaged spinal segments and their character (stable, unstable), localization and degree of spinal cord injury, severity Extrinsic injuries and diseases, the period of traumatic disease, and the age and sex of patients.

An inalienable condition for the rehabilitation of Spinal cord injury is its continuity, that is, after the completion of the hospital stage of medical care, the victims should be sent to specialized sanatoriums, where rehabilitation measures

are carried out not only to restore impaired neuromuscular functions, but also to develop support and mobility of the trunk and extremities.

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## **APPLYING REFLEXIVE METHODOLOGY IN FORMING THE TEACHING COURSE OF OPERATIVE-SEARCHING ACTIVITY IN THE HIGHER EDUCATIONAL ESTABLISHMENT OF NON- JURIDICAL PROFILE**

Problems in organizing and regulating the legislative system point at the necessity of using new research instruments for their complex analysis, the results of which in a form of scientific and other special editions could be laid in the basis of perfecting methods of professional activities in the whole and teaching courses of juridical profile in particular. The distinct interest of representatives of "descriptive" humanitarian sciences, that are modifying their basis using investigation tools familiar to "exact" sciences, to the phenomenon of reflexion is especially obvious. The objective evolution of such sciences having strong empirical traditions implicitly presupposes both adequate reflexive thinking over principles functioning in them in a form of regularities as well as the possible task of transforming their original basis. Thus, the process of teaching juridical disciplines besides traditional methods of analysis of current juridical norms, their historical sources, etc. should apply all the possibilities that inter-disciplinary approach could offer, implementing scientific reflexion that widens and deepens the scope of future professionals.

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**КЛЮЧЕВЫЕ СЛОВА:**

**SPINAL INJURY, LIGAMENT-ARTICULAR APPARATUS, NEUROLOGICAL DISORDERS, SPECIALIZED MID-  
MOUNTAIN HOSPITAL**

**АННОТАЦИЯ:**

The authors studied the characteristics of uncomplicated spinal injuries thoracic and lumbar localization, the indications for early treatment of complex restorative in the Mid-resort, the measures to prevent complications. Analyzed data from 135 patients aged 17 to 68 years (94 men and 41 women) who were treated in the Kyrgyz Institute of Spa and Rehabilitation for the period from 2008-2014 years. It shows more efficiency recovery.

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