# РОЗДІЛ 1
# ІННОВАЦІЙНІ ТЕХНОЛОГІЇ ФІЗИЧНОЇ ТЕРАПІЇ ТА ЕРГОТЕРАПІЇ

Noé Girardet
*Strasbourg University (Université de Strasbourg), France*
Sebastian Lajos, Master of Political Science
*Vrije Universiteit Brussel, Belgium*
Viktoriia Horoshko, Candidate of Medical Sciences
*National University «Yuri Kondratyuk Poltava Polytechnic», Ukraine*

## OSTEOCHONDROSIS OF THE SPINE AND ITS COMPLICATIONS

**Introduction:** The high prevalence of deforming dorsopathies (according to the modern classification of diseases, these include osteochondrosis) today urgently requires the development of a system of preventive measures that could, on the one hand, prevent the development of clinically pronounced forms of the disease in predisposed persons to them, and on the other hand, to mitigate their course and prevent possible complications

*Keywords:* osteochondrosis; osteochondrosis syndromes; vertebral motor segments; protrusion.

To correctly understand this situation, it is necessary to take into account the following: the course of spinal osteochondrosis can be conditionally divided into two stages of development: the first can be called predominantly morphological, at this stage degenerative-dystrophic processes and corresponding pathological transformations in the tissues of the spine arise and gain strength : first the intervertebral disc is damaged, then the bodies of adjacent vertebrae, ligaments, muscles, blood vessels, etc. This stage in the vast majority of cases occurs with virtually no clinical manifestations and is considered clinically insignificant. At the second stage (it can be called predominantly clinical), pronounced clinical manifestations occur - osteochondrosis syndromes [3, 5].

The most significant structural changes that contribute to an increase in the strength of the vertebral motor segments begin in the pubertal period. The evolutionary reconstructive processes occurring in them, which we consider it possible to call spinal osteochondrosis, are characterized by changes in the structure of the cartilaginous tissue of the vertebral motor segments. At the same time, it is generally accepted that the reparative function of hyaline plates of intervertebral discs increases [1]. This contributes to the gradual compaction of their tissue, leading to a decrease in height and a slight increase in diameter. As a result, the protrusion of the edges of the intervertebral discs, or more precisely, the outer edges of the fibrous ring, increases beyond the boundaries of the adjacent vertebral bodies. At the same time, the hyaline plates of the intervertebral discs, covering the bony endplates of the vertebrae, gradually penetrate into the borders of the vertebral bodies adjacent to them [4].

Osteochondrosis of the spine is characterized by a certain reconstruction of the vertebral motor segments. It is a natural, inherited evolutionary process that has a latent

course, in the vast majority of cases not accompanied by clinical manifestations. It is logical to believe that the reconstructive process, which we conventionally call spinal osteochondrosis, is not a disease in itself. Rather, this is a continuation of the tendency that arose among the distant ancestors of modern man to adapt the musculoskeletal system to upright walking. It is characterized primarily by a reorganization of the state of the «support points» of the vertebral motor segments (intervertebral discs and paired facet joints). The process of their reconstruction is implemented according to a specific program and is aimed at strengthening the spine due to some limitation of its mobility (flexibility) and is manifested by the gradual replacement of the nucleus pulposus of the intervertebral disc with denser fibrocartilaginous tissue. The implementation of such structural changes in most cases occurs without significant clinical manifestations and signs of a persistent decrease in the quality of life [2, 3].

So, from our point of view, spinal osteochondrosis is not a pathological, but a physiological, adaptive, evolutionary process, which manifests itself in all vertebral motor segments. Its development, depending on many circumstances, at different levels of the spine occurs with individual characteristics. One way or another, changes occur in each vertebral motion segment, which are a natural, physiological evolutionary process that increases the spine's tolerance of physical loads that increase with age, caused by an increase in body weight, heavy lifting, and static muscle tension. Excessive loads on the spine for a given individual (heavy lifting, injuries, including multiple microtraumas, sudden movements, etc.) can disrupt the natural reconstructive process and cause complications that should be considered as pathological conditions, diseases requiring appropriate therapeutic measures.

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