Knee joint: important structures, common injury mechanisms and MR imaging

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Traditionally, when looking at the MRI of the knee one focuses at the anatomical structures of the knee joint in one’s preferred sequence, identifies and evaluates them, describes the abnormalities of any given structure and lists the changes in the conclusion.

There is also another possibility how to look at an injured knee join. We could try a biomechanical approach, taking into account the injury mechanism.

There is a number of stabilizing structures of the knee joint and to try to approach the injured knee in this way, we have to go through their anatomy and group them. We must be aware of specific tasks as every stabilizing structure is responsible for. It should be noted that one structure or a group of structures may act as a stabilizer in different directions depending on the movement direction in question.

It is also important to be familiar with common clinical signs as they may point to a particular mechanism of the injury.

And there is one more very important sign that can give us important hints on the injury mechanism - the bone bruise.

The aim of this lecture is to review the anatomy and function of the knee joint and its stabilizers as well as to describe the most common injury patterns of the joint pairing them with injuries to the stabilizers and other important structures of the knee.