

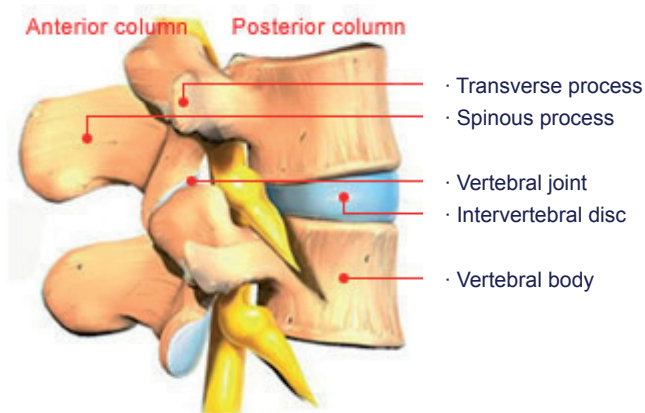
### What is spondylarthrosis?

The degenerative wearing down of the small intervertebral joints, also known as facet joints (articulationes intervertebrales), results in the arthrosis of the joint surfaces known as spondylarthrosis.

### How does spondylarthrosis occur?

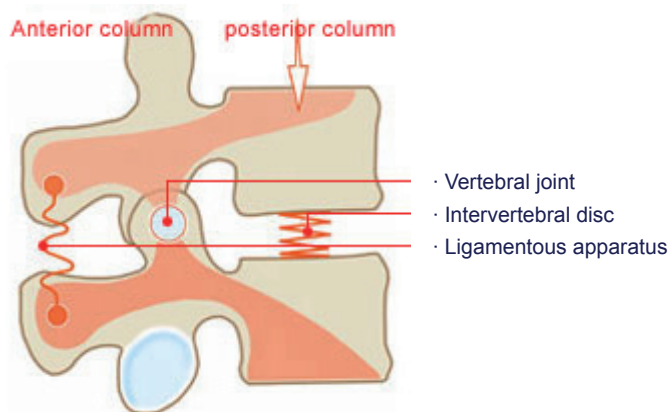
The mobile segment of the spinal column, its smallest functional unit, consists of an anterior column formed by two adjacent vertebral bodies, the intervertebral disc fused with the end plates of the vertebrae, and a posterior column formed by the transverse and spinous processes of the vertebrae with their ligamentous apparatus, the vertebral arches, and the short back muscles.

#### • Mobile segment of the spinal column



A functional balance is maintained between the intervertebral disc and ligamentous apparatus, where the paired vertebral joints function as the center of rotation between the anterior and posterior columns (discoligamentous stability).

#### • Discoligamentous stability

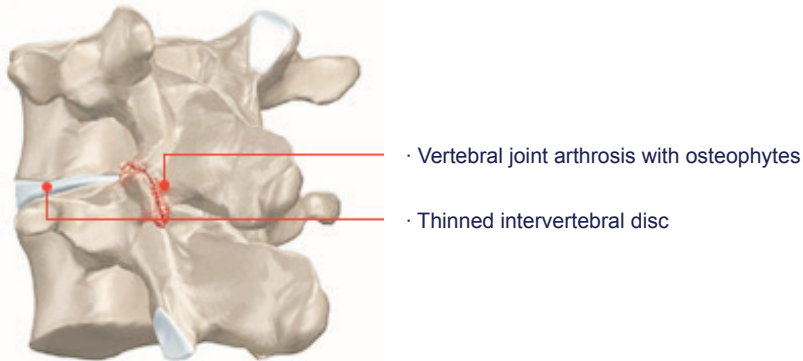


Degenerative changes in the intervertebral discs combined with a loss of height in the intervertebral disc space lead to significant static and mechanical changes in the mobile segment. The mobile segment becomes increasingly unstable and the kinetic forces acting upon the facet joints also change.

Secondary malpositioning and an overloading of the facet joints result, which in turn cause: the wearing down

of the joint surfaces, the development of arthrosis with a loss in height of the joint spaces, irritation of the joint capsules, and bony outgrowths (osteophytes) along the edges of the vertebral joints.

- Spondylarthrosis - Arthrosis of a facet joint



**In what sections of the spinal column does spondylarthrosis occur?**

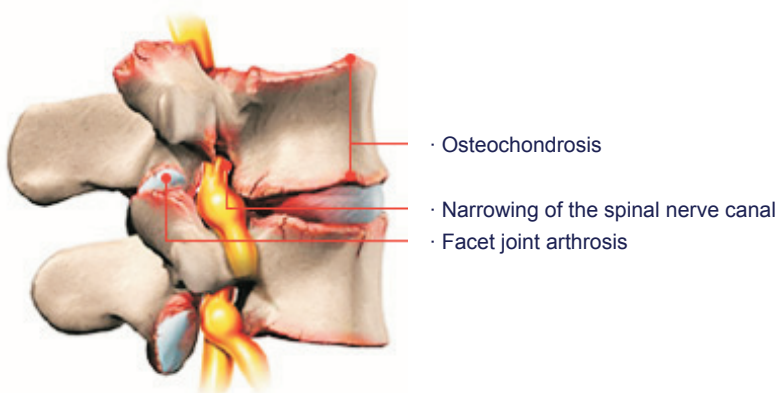
The wearing of the facet joints can occur in all spinal column segments, though a pronounced increase in frequency is observed in sections exposed to heavy mechanical loads, such as the lower cervical spine and the lumbar spine.

**What are the symptoms?**

Structural loosening within the mobile segment stretches the ligamentous apparatus, leading to myofascial pain in the affected segments caused by irritation of the ligament and muscle insertions. The resulting malposition and the arthrotic transformation of the articular surfaces cause painful restrictions in mobility and blockages of the facet joints.

The outgrowth of osteophytes can result in a narrowing of the space containing the spinal nerves and spinal cord (spinal canal stenosis), resulting in compression that can cause neurological symptoms. This is often accompanied by symptom is painful local muscle hardening in the muscles of the back.

- Spondylarthrosis, osteochondrosis - Structural loosening with a narrowing of the foramina intervertebralia



**How can it be treated?**

Pain can be treated with painkillers, physiotherapy and physical applications.

A facet block with computer tomographic monitoring can help reduce the pain by the targeted injections of painkillers, anti-inflammatory cortisone-based drugs, and local anesthetics into the facet joint.

Cryosurgical procedures can bring about improvement by cooling the structures.

Depending on the specific individual findings in a given case, major surgery may be indicated for existing segmental instabilities accompanied by the compression of neurological structures.

Potentially useful surgical methods include monosegmental and bisegmental decompression with fusion using TLIF (transforaminal lumbar interbody fusion) or ALIF (anterior lumbar interbody fusion) methods.