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Surgical treatment of the spine

Of the spine surgeries, we mostly perform spondylolisthesis, i.e. vertebral slippage surgeries, on both one and several vertebrae.

In addition, the daily activities of our surgeons include the surgical treatment of disc diseases and spinal stenosis, the treatment of intervertebral disc wear and tear and the surgical treatment of various traumas.

In the case of **prolapse of the intervertebral disc**, part of the disc moves into the nerve canal and can cause pressure on the nerve roots. In this case, in addition to acute lower back pain, the patient experiences pain in the leg. The pain occurs suddenly and the patient may experience numbness, cramps, a ‘dead-leg’ feeling and weakness in the leg – the vernacular term would be sciatica or radiculitis.

In the case of surgical treatment, the goal is to remove the herniated disc piece and relieve pressure on the spinal cord or nerve roots.

Rarely, a displaced disc fragment in the nerve canal can cause compression syndrome of all nerve roots, or cauda equina syndrome. In this case, skin sensation disorders also occur between the legs, and the control of the bladder and bowel may be disturbed.

SIn this condition, immediate surgical intervention and releasing of the nerve root is necessary to prevent permanent damage from developing.

Symptoms of **disc wear disease** include lower back pain that worsens with physical exercise and quick tiredness of spinal muscles. This disease often occurs in young people, for whom it can cause very severe lower back pain.

Treatment for wear-and-tear disc disease is mainly non-surgical, including rehabilitation and pain management therapy with medications. This treatment is effective in most patients. In individual cases, the disease is treated surgically – the worn disc is replaced.

In spinal stenosis, the diameter of the spinal canal has become critically small and causes stenosis of the nerve roots. This is usually caused by age-related changes in the spine, where joints deformed by the wear and tear process press on the nerve roots.

The person has pain in the lumbar region, numbness and pins and needles in the legs when walking. In order to move forwards, a person must bend forwards or stop walking to relieve their complaints.

If the complaints are not alleviated by rehabilitation or pain management therapy, surgical widening of the spinal canal is possible. If the changes are extensive, screws and rods are used to support the spine.

In the case of **spondylolisthesis**, the vertebral bodies are not aligned and are displaced relative to each other. The reason is changes in the posterior elements of the vertebral body, which are congenital or caused by the so-called wear and tear processes, due to which the vertebrae become unstable and move out of place. In older people, the intervertebral disc is also affected by changes. Sometimes multiple vertebrae can dislocate.

Stress fractures of the posterior elements or spondylolysis due to overload often occur in young people. If it is given time to heal, joint displacement may not occur. The problem occurs more often in young athletes.

Complaints include back pain that worsens with exercise and when changing body position. In addition, pain radiating to the legs, numbness and muscle weakness may occur.

The goal of surgical treatment is to stabilise the spine (with screws and metal rods). In addition, the individual position of the spine is restored and the spinal canal is widened from critical stenoses. If possible, a minimally invasive method is used to achieve this.

Spine injuries occur most often as a result of traffic accidents and falls from a height.

The symptoms primarily include pain in the injured area, pain radiating to the arms or legs, numbness and pins and needles. If the spinal cord is injured, there may be partial or complete paralysis of the lower body or all limbs, sensory disorders and bladder and rectal dysfunction.

Treatment tactics for spinal trauma depend on the severity of the trauma. If it is a stable fracture, conservative treatment is sufficient. Conservative treatment methods include reduction in load bearing, pain management therapy, corset treatment and timely rehabilitation.

If the trauma is accompanied by instability of the spine or worsening paralysis, it is absolutely necessary to apply surgical treatment.

In cases requiring surgical treatment, the spine is stabilised and fixated with screws and rods. Sometimes it is necessary to replace the broken vertebra with an artificial vertebra. Today, in most cases, it is possible to use a minimally invasive or tissue-sparing surgical method.