



St. Catherine's offers a complete service to their patients, starting from a neurosurgical / neurological examination, neurophysiological diagnosis (EMNG), neuroradiological diagnostics, to the treatment that can, depending on the diagnosis, be conservative (physical therapy) or neurosurgical. All the available treatments mentioned above make St. Catherine's Specialty Hospital unique throughout the region.

St. Catherine's neurosurgical team provides an objective view of the patient's medical issues, and aims to set proper indications for patient-based treatment (patient history, as well as detailed conversation), neurological examination, analysis of neurophysiological and neuroradiological examinations and finally choosing the right treatment method.

By combining all the mentioned procedures, desired results in treating the patient in the postoperative care without complications and optimal recovery results are inevitable.

St. Catherine's Specialty Hospital for orthopedics, surgery, internal medicine, neurology and physical medicine and rehabilitation is a European center of excellence with state-of-the-art diagnostics, therapy and rehabilitation infrastructure. The hospital is a member of the prestigious family of The Leading Hospitals of The World.



### Opening hours

Zabok: Monday to Saturday  
8 am - 8 pm

Zagreb: Monday to Saturday  
8 am - 8 pm



**365**  
days of excellence

# CENTER FOR SPINE HEALTH

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## HERNIATED INTERVERTEBRAL DISC

Intervertebral disk degeneration is the process where the disc ages due to different kinds of microtrauma and body injuries throughout life. A modern, fast-paced way of life, which includes working in an office and going for frequent travels, also brings an increased burden on our spine, and it occurs increasingly more in a young, working-age population nowadays.

The underlying cause of this health problem is the weakening of the outer layer of the spinal disc (annulus fibrosus) and the subsequent projection of the spinal cord into the spinal canal, which puts pressure on the nervous elements, especially on the nerve roots, causing intense pain.

If the pain lasts even after 4-6 weeks of conservative treatment (analgesics, physical therapy), neuroradiological diagnosis (MRI) needs to be done, and in the case of a hernia of the intervertebral disk that affects the nerve root, surgical treatment is needed/ required / could be needed.

St. Catherine's neurosurgical team is fully professionally educated and applies all available high quality equipment (operating microscope, tubular retractor system, and endoscopy) . All these, so called standard operations of the intervertebral disc hernia are done in our hospital with minimally invasive techniques.

### Advantages of minimally invasive methods:

- **completely preserving the integrity of anatomical structures**
- **minimum skin incision, leaving "the lightest mark" possible**
- **allowing, in some cases, surgeries under local, spinal anesthesia, which reduces surgery risks for the patient and any postoperative complications**
- **makes all forms of disk hernia operations possible**
- **postoperative hospital stay is reduced to only 2-3 days**
- **minimum blood loss, which is especially important for older patients, especially those with cardiorespiratory diseases, and, consequently, it reduces scar tissue formation**
- **patients are quicker able to undergo physical rehabilitation and return to everyday life activities**
- **reduced treatment costs**

The minimally invasive treatment methods of herniated disk of the lower spine are done at St. Catherine's Specialty Hospital, and the most commonly used methods are: PLDD (percutaneous laser disc decompression), tubular retractor system and SED (selective endoscopic discectomy).

An individualized approach to each patient in a specialized spinal pain treatment clinic gives a comprehensive diagnosis of acute and chronic pain of all spine segments.

Neuroradiological diagnosis and / or minimal invasive diagnostic intervention (diagnostic vertebral intervention) is also included if necessary.

In case that conservative spine treatment and minimally invasive vertebral intervention (MiVi) have not managed to help in treating the spine, our specialists will recommend surgery. Spinal surgeons in our hospital have many years of experience in operating in cases of spinal diseases and will advise you if surgery is really necessary.

We perform surgical operations on all segments of the spine in our modern equipped operating rooms with the help of microscopes, while using high quality implants of the world's leading manufacturers. We also guarantee complete safety with our specially trained medical staff.

After surgery, patients stay in the ward for one to several days depending on the type of surgery and are under constant medical control. Even on the first day after surgery, an individually adapted physical therapy program is initiated, which speeds up the overall rehabilitation process.



**Today, St. Catherine's Specialty Hospital offers a complete care in degenerative spinal diseases treatment to their patients, ranging from Guarantee invasive procedures to more complex surgical procedures such as spinal fusion procedures.**

Minimally invasive procedures for degenerative spinal diseases treatment are: Epidural Steroid Infiltration (ESI), hernia surgery of the weak intervertebral disk using the operating microscope (microdiscectomy), using surgical retraction of the operating microscope (MetrX method), lateral and central spinal canal stenosis (interlaminectomy, hemilaminectomy, Young's laminoplasty, laminectomy), and dysplasia (lumbar spine) surgery, the unstable segment of the lower spine, which is also known as a so-called "Failed back surgery syndrome" which is done using fusion operative techniques.

The hospital is a member of "The Leading Hospitals of the World", making the exclusive list of European health institutions to which this prestigious title has been awarded. The title is awarded to hospitals for their excellence in various fields of work, primarily for the quality of service delivered, quality of staff, etc. Our quality has been recognized from abroad as well, and today we also treat in our hospital, alongside Croatian patients, those from the United States, Canada, Ireland, France, Iraq, Libya, Slovenia, BiH, Germany, etc.

### Our St. Catherine's medical team:

Professor **Krešimir Rotim**, M.D. PhD, neurosurgeon  
Dr. **Tomislav Sajko**, M.D. PhD, neurosurgeon  
Dr. **Darko Perović**, M.D. PhD, general surgeon