Electromyography is performed with either concentric needle electrodes or surface electrodes, strictly depending on indications, working diagnosis and duration of symptoms. Rarely required tests from the field of neuromuscular diseases – Tetany-test, Repetitive stimulation, Single-fibre electromyography, Tremor frequency analysis and Muscle activation sequence in involuntary movements. Multimodality testing of cortical evoked potentials, increases the probability of confirming the diagnosis of multiple sclerosis and other demyelinating diseases. Readily available neuroradiologic workup in the frame of our Neuroradiologic service. All tests are performed with state of the art equipment of the latest generation, but there are 25 years of clinical experience behind us.

Our medical staff will spend time with you to understand your condition and recommend a treatment program that can help reduce or eliminate the source of the problem.

Neurologists at St. Catherine Hospital are part of an integrated, multidisciplinary team of doctors and health care professionals who provide individualized care for each patient.
Neurology has long been considered a science capable of diagnosing everything, but unable to treat anything. Nowadays, the situation has significantly changed. Diagnostic possibilities have advanced even further, subjective evaluation has been widely replaced with objective measuring, and therapeutic possibilities have grown significantly during the last decade. New methods of treatment were introduced, ranging from thrombolysis in the treatment of stroke to oral medicaments for multiple sclerosis. Collaboration with neurosurgeons has also reached some new dimensions. That made neurological diagnostics even more important, because almost anything can be treated if diagnosed in time. That is why we need the equipment that will enable us to:

- record a high-quality bioelectrical signal, with no outside interferences
- receive it in real time, with a big enough temporal and spatial resolution
- objectivisation and quantification of the changes observed
- comparison with normal values

The diagnostic equipment of our neurophysiological laboratory provides us with all of these things. At our disposal, we have the equipment for comprehensive functional diagnostics of both the peripheral and central nervous systems, including the brain, spinal cord, peripheral nerves and muscles. Our equipment also provides us with the possibility to document the findings as pictures and video-sequences. Our staff is educated to perform a large spectrum of neurophysiological tests, including rarely used methods, such as neuromuscular junction testing, application of Botox with electromyographic monitoring and the ever more popular cognitive evoked potentials.

For electromyography (EMNG) and cortical evoked potentials (EP – AEP, BAER, VEP, ERP, P300) testing, we use the Nicolet EDX equipment with Synergy software. The machine is equipped with two electrical stimulators, headphones for auditory stimulation and a LED monitor or goggles for visual stimulation.

Electromyography is a test primarily used for distinguishing neurogenic from myopathic weaknesses and atrophy, establishing the diagnosis of nerve root, peripheral nerve, muscle and/neuromuscular junction lesions and diseases. The most frequent reasons for referring patients to undergo this test are sciatica (lumboischialgia), whiplash injuries, carpal tunnel syndrome and various polyneuropathies. The less frequent working diagnoses are muscular dystrophies, polyradiculoneuritis, myasthenia gravis, dystonia and tremor.

The bioelectrical activity in muscles is registered via concentric needle or surface electrodes, maximal motor and sensory nerve conduction velocities are measured, and analyses of reflex activity on the face (Blink reflex) and ex- tremities (F-wave, H-reflex) are also performed. Using the same software, but multiple registration channels, the frequency of tremor and the sequence of activation in dystonic and other involuntary movements are analyzed. From this group of tests, directed to the neuromuscular system, we also routinely perform repetitive stimulation, tetany-test and single-fiber electromyography.

Our St. Catherine’s neurological team
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