

The Benefits of Neurological Restoration



*By Flor de Paz
Photos: Prensa Latina*

The International Center for Neurological Restoration (CIREN) is unique in the world. Its scientific capability together with the developments achieved by the Cuban health and educational systems has made it possible for highly specialized institutions like this to emerge. Treatments are available for Canadians.

CIREN's uniqueness lies in taking the best of neurology, neurosurgery, internal medicine and pediatrics and putting them together with the creation of multidisciplinary teams," stated Doctor Emilio Villa Acosta, Executive Director of the Center. He explained that "in these multidisciplinary teams, the physicians, psychologists, speech disorder specialists, logopedicians, phoniatricians, physical culture specialists, and physiotherapists work together."

"Likewise," he pinpoints, "the institution benefits from the work carried out by biologists, physicists, chemists, mathematicians, and information and technology specialists, all of whom are required in the use of the state of the art technologies used in this facility."

The neurologists are in charge of the interdisciplinary team which develops the neural rehabilitation of the patient through a personalized program which covers a seven hour day working with the patient and three and a half hours on Saturdays.

Cerebral neuro-plasticity allows the human being to be able to recover lost functions. In order to do so, a systematic program is required with the use of medication, physical agents and a daily follow-up with the patient. CIREN's success lies in the combination of actions and has treated patients from 82 countries over the past 15 years.

As a cutting-edge institution in this field, the Center has developed encouraging research geared to pursuing better results than those achieved in the current



treatment of diseases such as Parkinson's and epilepsy.

"We can improve functional neurosurgery for movement disorders," adds Doctor Villa Acosta, "and universally, we were the first to treat the lesions of the sub-thalamus nucleus in the case of Parkinson's disease."

A Better Quality of Life for Patients Suffering From Paralysis

The study and treatment of side effects caused by lesions of the central nervous system is the objective pursued in the Clinic for Encephalic Static Lesions in Adults, one of CIREN's specialty programs. With ten years of experience, treatment has been provided to more than 800 patients with an improvement in the quality of life in over 70% of the cases. These results are a credit to the multidisciplinary team led by Doctor Eduardo Álvarez González, II Degree Specialist in Neurology.

"We treat neuromuscular, such as Multiple Sclerosis, and rachi-medullary diseases, generally caused by traumatismos," defines the expert who explains that "the most interesting trait of the latter is the loss of function of the nervous system underneath the area where the lesion occurs in the spine. When there is cervical damage, there is paralysis of the four extremities and when it is dorsal, it will only affect the legs."

"When a person is admitted into our clinic," he adds, "he has to undergo a week of check-ups and tests so that we can design a customized treatment program based on the neurological

restoration and our therapeutic strategy, which includes medication, biophysical stimulation, and psychological assistance, among other resources at hand."

"Our main objective is to improve the living standard of the patient so that the person may be able to talk and breathe better, to improve the strength of the arms and legs, to improve the balance of the body and correct the patient's upright position, and if possible to be able to walk again," stated Doctor Álvarez González.

Results in Treating Parkinson's

The Clinic for Movement Disorders and Neurodegenerative Diseases was one of the first research units developed at CIREN. In its three decades of work, it has treated more than 5,000 patients suffering from these disorders, around 3,000 suffering from Parkinson's disease and more than 600 with Alzheimer's.

"This work team has developed a program for the introduction and validation of therapeutic technologies and methods which comprise a combined action





lateral subthalamotomy, for Parkinson's disease.

"This technique consists of causing a lesion to the deep nucleus of the brain which is very much involved in the genesis of the symptoms and the complications of this disease. The procedure allows for the recovery of more than 50% of the patient's motor capacity with a lasting effect beyond five years."

The results of the therapy have been internationally acknowledged and according to Doctor Álvarez González, "it's the best option for treating advanced and complicated stages of Parkinson's disease."

Neuropediatric Clinic

The Neuropediatric Clinic was founded in 1989 for the diagnosis, evaluation and treatment of neurological disorders in children. It is comprised of a multi-disciplinary team of neurologists, nurses, pediatricians, therapists, and child psychiatrists, orthopedists, physical rehabilitation technicians, logopedicians, and experts in special education.

The Clinic covers a variety of health conditions, including "childhood static lesions – frequently caused by cerebral paralysis – epilepsy, involuntary movements, and rachi-medullary ailments related to prenatal pathologies and injuries caused

program in which the benefits of the pharmacological, rehabilitation and surgical approaches are mixed," says Doctor Lázaro Álvarez González, Specialist in Neurology and Head of the Clinic.

As to the pharmacological approach, the Doctor states that the institution has introduced into use all the existing drugs in the market for the treatment of Parkinson's, Alzheimer's, and involuntary movements in general, although, in this area, they already have a well defined strategy.

"By combining pharmacological schemes with specialized training programs, there is a better functional recovery for 30% to 40% of the patients and there are improvements in the neurological conditions higher than 20% in a four-week period," says Doctor Álvarez González.

This therapy is developed for in-patients since it is necessary to control a number of parameters while the treatment is ongoing in order to individualize it to the needs of the patient.

Another sphere where this clinic has vast experience is surgery. "Between 1993 and 2005, more than 500 patients suffering from movement disorders have been operated on in this institution. The majority of these patients suffered from Parkinson's disease, although other cases have also been operated on such as patients suffering from dystonia, tremors and other involuntary movements."

"We have introduced two international surgical techniques: Thalamotomy and

Palidotomy, both with very low incidences of complications. In the first case, we have had experience with around 100 patients who were operated on and now they have been indicated with suppression of refractory tremors. Palidotomy allows for the complete elimination of involuntary movements in more than 95% of the cases."

A group of specialists that form part of the Clinic for Movement Disorders has likewise been able to develop new surgical techniques, known as selective dorsal and





by firearms or automobile and swimming pool accidents," explains Doctor Carlos Maragoto Rizo, II Degree Specialist in Neurology and Head of the team.

Treatments are also provided for generalized development disorders such as autism and child hyperactivity.

"Our neurological restoration program is based on cerebral plasticity, seen much more in children. It is known that the most spectacular chemical elements that provide neuroplasticity are present up to 14 years of age," he points out.

"However," he adds, "while we set out guidelines for the child's recovery, the follow-up work carried out by the patient's family is vital for their improvement."

Doctor Maragoto Rizo explains that the first results start to appear after 8 to 12 weeks of hospitalization and the parents actively participate in this process.

Biological Restoration

Together with a neurological restoration program, CIREN also has the alternative of referring patients to the General Biological Restoration (REBIOGER) Clinic, aimed at healthy persons age 30 or over with risk factors for premature aging.

According to the explanations given by Doctor Roidel Alessandrini González, Specialist in Internal Medicine and Director of this Clinic, it is currently accepted that the aging process is a multi-factor process, where both genetic as well as environmental aspects intervene.

The latter plays a determining role since they represent 65% of the problem and,

among them, those related to standards of living are most important: the lack of physical exercise, obesity, hypertension, toxic habits, and cholesterol metabolic disorders.

Inadequate nutrition is also a set back, reflected in high intake of food with saturated fats and vitamin deficiencies and, above all, the lack of antioxidants.

Aging is a process that occurs at different rates in different systems of the body. For example, the nervous system is very sensitive and liable to suffer early and memory problems can start appearing as well as sleep disorders and irritability.

Another system that will witness the early process of aging is the skin. The skin deteriorates due to photo-aging processes caused by the action of the sun's ultra-violet rays and from environment contaminants.

"Bearing in mind these elements," explains Doctor Alessandrini González, "we design a REBIOGER program which has evaluation and treatment phases."

"In the first phase, when the person is admitted into our program, a complete study of the individual is done from the clinical viewpoint including medical appointments with internists, endocrinologists, psychologists, physiotherapists, and neurologists. Afterwards, a program is scheduled to correct all and any risk factors," stated the Doctor.

"A correct diet is the first action taken. It is outlined as part of the normal testing procedure of the patient along with the physical activities to be implemented. Likewise, the medication the patient has been using are re-adjusted and REBIOGER products with anti-oxidizing effects are recommended together with a physical training program aimed at correcting walking and balance. The use of ozone-therapy is suggested due to the beneficial effects in free radical removal, as well as magnetic-field therapy and other physical agents."

He concludes, "if necessary, the patient can continue with skin-cosmetic treatment and cosmetic surgery."



CIREN

International Center for Neurological Restoration
Avenida 25, between 158 & 160, Cubanacán, Havana
(53-7) 271-5044 / (53-7) 271-6844
www.ciren.cu