Brain Awareness Week

LSUMC Neuroscience Center of Excellence

March 17–23, 1997

Welcome to Brain Awareness Week

Alzheimer's Disease, stroke, mental depression, Parkinson's Disease, blindness, retinal degenerations, epilepsy, dyslexias, attention deficit disorder, and attention deficit hyperactivity disorder. . . each one of us probably knows someone who has been affected by one of these diseases. Neuroscience is the field of medical research that will one day find ways to prevent or cure them.

For the second consecutive year, the Society for Neuroscience and the Dana Alliance for Brain Initiatives have declared Brain Awareness Week—March 17th-23rd—to bring attention to the need for more in-depth and far reaching brain research to confront diseases that limit, cripple and even kill their victims. During Brain Awareness Week and throughout March and April, the LSUMC Neuroscience Center will join forces with other research institutes across the nation to publicize the many advances which have been made in the neurosciences. The week will also accentuate the challenges which still lie before us.

As part of a community outreach program designed to interface with the communities it serves, the LSUMC Neuroscience Center is offering public talks in New Orleans, Baton Rouge and Lafayette which will focus on the controversial topic of Attention Deficit Disorders and prescribed treatments such as ritalin. Speakers will include LSUMC Neuroscience Center and community experts in the field. In addition, LSUMC Neuroscience Center faculty will make special presentations about brain research to area schools in New Orleans, Baton Rouge and Lafayette.

As Brain Awareness Week unfolds, the LSUMC Neuroscience Center will be moving into 38,000 square feet of new research space to expand its work in the fight against devastating neurological diseases. New faculty are being recruited to develop additional research programs in the basic neurosciences which will offer hope for new, innovative treatments for a myriad of conditions.

Shrouded in mystery, the brain is our most complex organ. And while we're proud of the progress we've made in the last decade in understanding the human nervous system, we've much to learn. Research provides hope. And our hope is that Brain Awareness Week will help you to understand how far we've come and how far we've yet to go.

Thank you for your support!

Sincerely,

Nicolas G. Bazan, M.D., Ph.D.
Villere and Boyd Professor
Director
LSUMC Neuroscience Center of Excellence

Mervin L. Trail, M.D.
Chancellor
LSU Medical Center

Public Talks on Attention Deficit Disorders

Nicolas G. Bazan, M.D., Ph.D.
and Jane Fell Greene, Ph.D., Co-Chairpersons

Ann H. Tilton, M.D.

received her medical degree from the University of Texas Medical Branch, Glaveston, TX. She completed her pediatrics and neurology residency at the University of Texas, Dallas, where she later joined the faculty and was involved in clinics for children with learning disabilities and attention deficit disorder. Dr. Tilton is currently Associate Professor of Neurology and Pediatrics and acting Director of Child Neurology at LSUMC, and is Co-Director of the Rehabilitation Center at Children's Hospital.

What is ADHD/ADD?

The terms attention deficit hyperactivity disorder and attention deficit disorder (ADHD/ADD) refer to the most common behavioral disorder of childhood. The defining features of ADHD/ADD are short attention span, impulsivity, and hyperactivity. What we now call ADHD/ADD has gone by numerous other names over the years, including most recently, minimal brain damage, minimal brain dysfunction, and hyperactivity.

How big of a problem is ADHD/ADD? At least 3%-5% of all children are affected; however, the true rates in adolescents and adults are unknown. More boys than girls are affected, and the disorder is often familial.

The diagnosis of ADHD/ADD is a clinical one, hinging on the observation of inattention, impulsivity, and poorly regulated motor activity. Age of onset, persistence, and involvement of multiple spheres of psychosocial functioning are important in making the diagnosis, and in differentiating ADHD/ADD from variations in personality, poor motivation, learning disabilities, small seizures, and other conditions that may resemble ADHD/ADD.

So far, no single cause for ADHD/ADD has been established, and it may represent a complex interaction of inherited and acquired factors (such as prenatal exposure to drugs or alcohol, head injury, or thyroid imbalance).

So far, no single treatment has been effective, and some treatments, such as restricted diets, biofeedback, megavitamins, and chiropractic adjustments, have been shown scientifically to be ineffective.

Carmela L. Tardo, M.D.

is a New Orleans native who received her medical education at Tulane, pediatric training at Johns Hopkins Hospital and the University of California at San Francisco, and neurology training at the New York Neurological Institute. For 19 years, she was the section head of Child Neurology/Child Development at the Ochsner Clinic. In 1994, she joined the Department of Neurology at LSUMC and is currently the medical director of the Children's Hospital Epilepsy Center.

ADD/ADHD in the Decade of the Brain

It is generally accepted that persons with ADHD/ADD have some type of brain dysfunction, although so far the responsible brain structures or chemicals have not been identified. Research studies with magnetic resonance imaging (MRI), positron emission tomography (PET), and computer-analyzed

electroencephalography (EEG) show differences in brain structure, metabolism, and bioelectric rhythms in cases of ADHD/ADD. Why do such differences occur? Current research implicates problems with neurotransmitters, the chemical messengers between brain cells, and their receptor sites. Diverse genetic and environmental factors may prevent brain cells from making their proper connections and may affect the normal development of brain receptors, leading to ADHD/ADD.

Research at the chemical or molecular level should also improve treatment options in ADHD/ADD. For 50 years medications have been used to treat the symptoms of ADHD/ADD. Drugs classified as stimulants, including methylphenidate (Ritalin), dextroamphetamine (Dexedrine) and pemoline (Cylert) are the most effective, and are considered safe. Other medications, such as antidepressants and some new generation drugs, may be helpful if the stimulants do not work or if ADHD/ADD is associated with other behavioral problems. Medicine alone is rarely the whole answer. The most effective management of ADHD/ADD combines drug treatment with appropriate educational and psychosocial interventions.

Raga Malaty, M.D., Ph.D.

is a child and adolescent psychiatrist and Assistant Professor of Psychiatry at the LSU Medical Center in New Orleans. Her clinical sub-specialty is in the area of developmental disabilities, and she is Medical Director of the LSUMC Developmental Neuropsychiatry program at East Lake Hospital in New Orleans. Dr. Malaty's practice focuses on areas such as learning disabilities, mental retardation, autism, and other developmental disabilities. Her research interests have been in the area of neuroimmune mechanisms and the relationship between the brain and the immune system for which she has had a grant from the National Institutes of Health.

Attention Deficit Disorder/Hyperactivity Disorder: Psychosocial and Community Intervention

Attention deficit hyperactivity disorder (ADHD) is one of the most common and important disorders for the development of the person that the child and adolescent psychiatrist sees in daily practice. It is a persistent problem that may change its characteristics as the child develops from preschool through adult life. Untreated, it predisposes a child to psychiatric and social abnormalities which can persist through life.

The complexity in diagnosing this condition is further complicated by the layering of other psychiatric problems which can manifest throughout development. Thus, there is a need for a multi-disciplinary team approach to helping these individuals. A medical, psychological, and social approach to treatment requires collaborations between professionals and the members of the child's social environment such as family and teachers. An integral part in treating these conditions is educating families, school personnel, and working with them to restructure the individual's environment.

These children often have difficulty in picking up social cues, and this results in poor interpersonal relationships. Social skills training is one form of treatment that prevents these problems as well as helping to prevent additional difficulties with anxiety and depression. The objective is to improve interactions between the child, his peers, family siblings, teachers, and other individuals who are significant in the child's life. Hopefully, implementing these measures will prevent further stigmatization of the child and increase the chances for a productive life.

Larry A. Carver, M.D.

is an Associate Professor in the Departments of Psychiatry and Neuroscience at Louisiana State University Medical Center in New Orleans. He is a co-director of the Neuroscience Center Brain Tissue Bank and Research Laboratory. Dr. Carver received a B.A. degree in Psychology and Education from Southwestern College, an S.T.B. degree in Philosophy and Theology from Boston University, and his M.D. degree from the University of Kansas, School of Medicine. He completed residency training in Psychiatry at the Karl Menninger School of Psychiatry. Dr. Carver's research interests are in Schizophrenia, Adult Attention Deficit Disorders, and Post Traumatic Stress Disorders.

Adult Attention Deficit Disorder (ADD)/Attention Deficit Hyperactivity Disorder (ADHD)

"Adult Attention Deficit Disorder, does it exist?" The Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) does not list Adult ADD as a separate illness with its own diagnostic criteria. Yet, it is estimated that approximately 0.3% of all adults suffer from ADD.

Most adults who suffer from ADD appear to have been afflicted with this problem since childhood. Depending upon the studies, anywhere from 3% to 20% of the children with ADD will carry their symptoms with them into adulthood. In adults, these symptoms are: difficulty in concentrating, hyperactive behavior, anxiety, and rapid thoughts (flight of ideas). Like children, adults with ADD may have difficulty at work, college, or at home. They may also have non-specific abnormalities and EEG's, may have PET scans that show decreased blood flow to the frontal lobe of the brain, and may respond to medication (stimulants) which reduce the availability of catecholamines (dopamine and norepinephrine) to the brain. Unlike children, however, adults with ADD are sometimes very successful and sometimes respond to medication (neuroleptics) that increase the availability of catecholamines in the brain.

LSUMC Neuroscience Center

Existing Programs

Ernest C. and Yvette C. Villere Program for the Study of Retinal Degeneration

Research focused on the metabolism and function of the retina in order to identify the alterations that lead to retinal degenerations such as Retinitis Pigmentosa.

Research Projects in the Neurobiology of Disease

Particularly in the prevention, protection, and repair of brain damage.

Ph.D. in Neuroscience

Trains our future neuroscientists and attracts over 500 inquiries from around the world annually.

Summer Undergraduate Neuroscience (SUN) Program

Brings college undergraduate and high school students into research labs to expose them to the medical sciences and encourage their interest in scientific research careers, hopefully to be pursued here in Louisiana.

Brain Bank

Obtains, inventories and distributes human brain tissue to scientists and clinicians dedicated to neuroscience research.

Annual Scientific Retreats

Allows LSUMC Neuroscience Center scientists to share research findings with colleagues from a broad cross- section of disciplines.

Incentive Grants Program

Provides young, promising scientists with support on grantsmanship issues and with modest grants on which they can build larger research programs.

Distinguished Lecturers Program

Attracts scientists from around the world to speak to New Orleans' area neuroscientists about their research.

Seminar Series

An ongoing interdisciplinary educational approach for faculty, graduate students and medical students.

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