Patient referrals, transfers and consults are critically important, and we want to make it easy for referring providers and their staff. To refer your patient for a clinic appointment, call our Clinic Concierge at 855.312.4190.

Ochsner’s longstanding tradition of bringing physicians together to improve health outcomes continues today. Our goals are to work together with our referring providers to serve the needs of patients and to provide coordinated treatment through partnerships that put patients first. We have automated physician-to-physician patient care summaries for hospital encounters and enhanced the patient experience by giving patients the ability to schedule appointments online.

Close coordination and collaboration begin with transparency and access to the data you need to make informed decisions when advising your patients about care options. OchsnerOutcomes, a compilation of clinical data, represents only part of our efforts to better define the quality of Ochsner’s care and to share that information with you.

Trusted, independent organizations give the highest marks to Ochsner’s quality. Ochsner Medical Center was the only healthcare institution in Louisiana, Mississippi and Arkansas to receive national rankings in four adult specialties from U.S. News & World Report for 2017–2018. Ochsner Hospital for Children has been ranked among the top 50 children’s hospitals in the country for Cardiology and Heart Surgery in the 2017–2018 U.S. News & World Report Best Children’s Hospitals rankings, making it the only nationally ranked children’s hospital in Louisiana.

Additionally, CareChex® named Ochsner Medical Center, Ochsner Baptist and Ochsner Medical Center – West Bank Campus among the top 10% in the nation in Medical Excellence for 16 different specialties. Ochsner was also named #1 in the nation in Medical Excellence for Organ Transplants and, for the fifth year in a row, #1 in the nation in Medical Excellence and Patient Safety for Liver Transplant.

Ochsner is expanding its already robust research program with two new partnerships. The first, with TGen, brings early-phase cancer clinical trials to the region. The second, with TriNetX, an international data research network, will allow Ochsner clinicians to have the opportunity to provide new therapies to their patients sooner, as well as provide our researchers access to new tools with which to analyze data on our own patients and refine treatments.

Ochsner Multi-Organ Transplant Institute is one of 19 transplant hospitals in the United States to participate in the initial pilot phase of the Collaborative Innovation and Improvement Network (COIIN) project, a three-year study by the United Network for Organ Sharing (UNOS) intended to increase transplantation, with a particular focus on utilization of deceased donor kidneys.

Ochsner consistently earns the respect of independent evaluators. We do not rest on these achievements, but use them as a benchmark to continuously improve. We will continue to share the data you need to care for your patients, provide services you may not have in your community and develop the collaborative relationships essential to ensuring the best outcomes for every patient, every time.
Letter from the Chairmen

The Ochsner Neuroscience Institute earns national and regional recognition as a leader in providing referring physicians and patients with quality neuroscience services. Our multidisciplinary team offers the latest diagnostic and therapeutic options for adults and children in a variety of care settings and locations.

Neurological diseases are on the rise. In order to care for this complex population, we have created a comprehensive Neuroscience Institute. Ochsner integrates expert providers from a variety of specialties through centers and programs collaborating to provide patients with comprehensive, coordinated services throughout the continuum of care. We provide inpatient and outpatient neurological care in locations throughout greater New Orleans, the North Shore and Baton Rouge and in a broad range of subspecialties. Our multidisciplinary approach results in more effective and efficient care, leading to better patient outcomes.

The quality of the Ochsner Neuroscience Institute has been independently verified as being among the nation’s best. In 2017, U.S. News & World Report ranked Ochsner #24 in the Nation for Neurology and Neurosurgery. Healthgrades honors us as one of America’s 100 Best Hospitals for Stroke Care. It also recognizes us with its Excellence Awards for Neurosciences and Stroke Care. We also earned its Five-Star Awards for Treatment of Stroke. Finally, CareChex® ranks Ochsner as #4 in the Nation for Medical Excellence in Neurological Surgery.

We are finding new and innovative ways to bring this level of care to physicians and patients. Our fleet of medically equipped helicopters, fixed-wing aircraft and ground vehicles is available for emergency and critical care needs. It offers a flight team of physicians, critical care nurses and other specially trained neurosciences staff on call 24/7. Our unique telestroke program uses telemedicine to deliver nationally ranked care to patients in 42 hospitals across Louisiana and Mississippi and has cared for more than 7,500 telestroke patients.

Ochsner is committed to excellence in patient care and service to our referring providers. We look forward to working with you and hope you will find the results of our efforts herein useful.

In 2016, Ochsner transitioned from ICD 9 to 10 (International Statistical Classification of Diseases and Related Health Problems). The 10th edition allows for greater accuracy with the addition of more than 14,000 new diagnostic codes and sub-classifications. While this tool permits greater specificity, the additional classifications have resulted in outcomes metrics that may appear inconsistent from 2015 to 2016.

Wale Sulaiman, MD, PhD
System Chairman, Department of Neurosurgery

Richard Zweifler, MD
System Chairman, Department of Neurology
Neurological Health Issues on the Rise

- Head injury is the leading cause of death in young adults
- 1 in 6 people will have a stroke
- Stroke is the leading cause of adult disability
- 2.2M people in the U.S. suffer from epilepsy
- 10% of the population who have epilepsy will have a seizure
- 8 in 10 people will have a spine disease at some time
- 130M hospital & ER visits resulting from back pain
- Louisiana ranked #50 in brain health
- 64% increase in deaths from Alzheimer’s is expected in the next 5 years
- 6th leading cause of death in the U.S. is from Alzheimer’s
Neuroscience Accolades

- #4 for Medical Excellence in Neurological Surgery
- 100 Best Hospitals for Stroke Care Excellence Awards: Neurosciences Stroke Care
- 5 Star Awards: Neurosurgery Treatment of Stroke
- #24 for Neurology & Neurosurgery

Comprehensive Services Offered

- Comprehensive stroke center
- Level 4 epilepsy center
- Complex spine surgery
- Neuro-oncology/radiosurgery
- Neurocritical care
- Neurology
- Neuro-ophthalmology
- Pediatric neurosurgery
- Multiple sclerosis
- Neuromuscular
- Movement disorders
- Adult inpatient rehab
- Neurological rehabilitation
- Traumatic brain injury
- Concussion
- Telemedicine
- Second opinions
- Clinical trials
- International fellows
- General PM&R
- Psychiatry
- Back and spine care
- Primary stroke centers
- General neurology
- General neurosurgery
- Headache disorders
We apply the latest technology and focus on patient-centered care. Our multidisciplinary team of nationally recognized experts from neurology, neurosurgery, neurocritical care, neuroradiology, physical medicine and rehabilitation, as well as our team of excellent neuroscience nurses, provides state-of-the-art care to patients in a coordinated and efficient fashion. These experts are in one location for the convenience of patients and their families. Our team is your team – working to get patients better and back to doing what they love to do.

Neuroscience Institute Provider Growth
Ochsner Health System, 2016–2019 Estimated
In addition to the subspecialties you will read about, we also have expertise in the following areas:

The Ochsner Adult Neurology department has a comprehensive team of neurologists, neuropathologists, advanced practice providers, nurses and technicians who evaluate and manage a wide variety of neurological conditions in both inpatient and outpatient settings. We work in close collaboration with specialists in internal medicine, emergency medicine, radiology, psychiatry, physical medicine and neurosurgery.

Areas of Expertise:
- Weakness
- Pain in the extremities
- Numbness
- Seizure disorders

Ochsner’s Neuromuscular Program addresses both the diagnostic and therapeutic aspects of nerve and muscle disorders. Services are delivered by a collaborative team of physicians and other healthcare providers with expertise in neuromuscular disease.

Areas of Expertise:
- Peripheral neuropathy
- Muscular dystrophies
- Amyotrophic lateral sclerosis (ALS)
- Myasthenia gravis

The Memory Disorders Program is an interdisciplinary team approach under the direction of a cognitive and behavioral neurologist, with clinical care provided by a geriatric nurse practitioner, geriatric psychologist and a neuropsychiatrist. Neurology and psychiatry residents, postdoctoral fellows in behavioral neurology, geriatric psychiatry and geriatric medicine and medical students are an integral part of the clinic team.

Areas of Expertise:
- Memory loss
- Age-related cognitive changes
- Mild cognitive impairment
- Alzheimer’s disease
- Vascular cognitive impairment and vascular dementia
- Frontotemporal dementias, including behavioral subtypes, primary progressive aphasia, Pick’s disease and semantic dementia
- Cortical-subcortical dementias, including Lewy body disease and corticobasal degeneration
- Metabolic and genetic types of dementias of adult onset
- Mixed types of dementia and complex cognitive cases

Special Programs and Services:
- Expert care in the area of aging and dementia
- Early diagnosis and treatment
- Follow-up during disease progression
- Training program for physicians
- Research program in aging, dementia and stroke

Ochsner Rehabilitation specializes in neurological and musculoskeletal rehabilitation in both inpatient and outpatient settings. The Ochsner inpatient program is certified by the Commission on Accreditation of Rehabilitation Facilities (CARF) in general rehabilitation and has a specialty CARF certification in the area of stroke recovery.

Areas of Expertise:
- Gait disorders
- Spasticity management
- Stroke, spinal cord injury, neurological disease and head injury

Special Programs and Services:
- Acute and chronic stroke management
- OASIS (Ochsner Acute Stroke Intervention Service)
- Regional telemetry program for acute stroke care
- Stroke research
- Cerebrovascular imaging
- Endovascular therapies for acute ischemic stroke
- Received $3.87M Centers for Medicare and Medicaid Services (CMS) Innovation Grant for stroke care
- Stroke rehabilitation
- Stroke risk management
- Spasticity and baclofen pump management
- Wheelchair clinic
- Driving education
- Stroke recovery clinic
- Multiple sclerosis clinic
- ALS clinic
- Adult spina bifida clinic

First in Patient-Centered Quality Care
Ochsner Neuroscience Institute has developed several multidisciplinary patient-centered programs that cater to the needs of patients with neurological disorders. Our unique approach to patient care has resulted in some of the best patient outcomes in the region and has been recognized nationally and internationally.

First in Technology
The Ochsner Neuroscience Institute offers the latest diagnostic and therapeutic technologies for our patients with diseases of the brain, spinal cord, peripheral nerves or muscles, such as the following:
- Stereotactic Radiosurgery – A noninvasive, outpatient treatment for brain tumors that uses targeted high-powered X-ray techniques
- Positron Emission Tomography-Computed Tomography (PET/CT) – A premier imaging technology used to identify cancer, dementia and brain disorders
- Telestroke Network – A network of more than 40 facilities using the latest remote monitoring technology, bringing first-class care to stroke patients within the states of Louisiana and Mississippi
- Comprehensive Epilepsy Monitoring Unit – Accredited by the National Association of Epilepsy Centers (NAEC) as a Level IV Epilepsy Center
- Fetal Surgery – The first in the region to have a multidisciplinary team dedicated to fetal surgery. We provide in utero treatment options for treatment of certain congenital spinal diseases
Ochsner’s Neuroscience Institute is a destination center for patients throughout the region. Transfers into Ochsner Medical Center have more than doubled over the past five years.
Stroke Care

Ochsner’s Certified Comprehensive Stroke Center teams up neurologists, neurointensivists, neurosurgeons, interventional neuroradiologists and vascular surgeons to provide the highest level of care in managing a variety of ischemic and hemorrhagic stroke disorders in the acute, post-acute and rehabilitation settings. Our innovative Telestroke Network brings world-class care to stroke patients within the states of Louisiana and Mississippi, using the latest technology. Through our telestroke program, we treat more than 1,700 patients annually.

Areas of Expertise:
- Ruptured and unruptured cerebral aneurysms
- Ischemic stroke
- Transient ischemic attacks (TIAs)
- Cerebral vascular malformations
- Subarachnoid hemorrhage
- Spontaneous intracerebral hemorrhage
- Chronic cerebral ischemia
- Stroke rehabilitation
- Atherosclerosis
- Stroke risk management and prevention

CareConnect 360 treats more than 1,700 patients throughout our network of facilities and provides 48 services to more than 42 facilities throughout Louisiana and Mississippi and continues to grow.

To provide physicians with access to Ochsner specialists, we implemented the CareConnect 360 Stroke Program, which enables remote consultation through innovative video technology. This program is especially beneficial to communities without 24-hour access to stroke neurologists.
Program Growth and Development

2009–2011
- Primary Stroke Center Certification
- Ochsner Telestroke begins: 4 sites (2009), 12 sites (2011)
- Neurocritical Care Unit opens with 6 beds (2011)

2012–2013
- Comprehensive Stroke Center Certification (May 10, 2013)
- Telestroke Coordinator, Data Manager, Stroke Data Analyst
- Telestroke at 19 sites
- NCCU expands to 20 beds; Stroke Service and Unit

2014–2015
- Dedicated Neuroscience floor – Neuroscience Institute
- NCCU expands again to 34 beds
- Telestroke at 42 sites and growing

Awards and Recognitions

2009–2010
- Primary Stroke Center Certification
- American Stroke Association (ASA); Gold Award
- Healthgrades® Excellence Award
- Louisiana Emergency Response Network (LERN) Commission for Stroke

2011–2012
- Ochsner Innovation Award
- Healthgrades® 5 Star
- ASA Gold Plus Target Stroke
- #1 Stroke Program in LA
- U.S. News & World Report Top 50 Neuroscience Programs

2013–2015
- Comprehensive Stroke Center Certification
- Healthgrades® 5 Star
- ASA Gold Plus Target Stroke
- #1 Stroke Program in LA
- U.S. News & World Report Top 25 Neuroscience Programs

2010–2011
- Neurointerventional Fellowship
- CDC Grant
- U.S. Department of Agriculture (USDA) Grant

2012–2013
- CMS Innovations Grant
- DIAS 4 and Penumbra 3D Separator Trials
- Neurocritical care and Neurointerventional Fellowships

2014–2016
- ACGME-approved neurology residency program
- Multiple clinical trials including ATTACH II (completed enrollment), iCTUS, SOCRATES, MaRIS, DALI-P5, NAVIGATE-ESUS and RESPECT-ESUS
- Received ACGME approval for vascular neurology fellowship
- Multiple peer-reviewed manuscript presentations at national meetings

Educational and Research Development

2009–2011
- Primary Stroke Center Certification
- Ochsner Telestroke begins: 4 sites (2009), 12 sites (2011)
- Neurocritical Care Unit opens with 6 beds (2011)

2012–2013
- Comprehensive Stroke Center Certification (May 10, 2013)
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- NCCU expands to 20 beds; Stroke Service and Unit

2014–2015
- Dedicated Neuroscience floor – Neuroscience Institute
- NCCU expands again to 34 beds
- Telestroke at 42 sites and growing
Stroke Central encompasses the inpatient Comprehensive Stroke Care Program. The program provides a real-time, proactive approach to ensure the patient receives the best care with the best opportunity for recovery. All patients who present to Ochsner Medical Center New Orleans are eligible for this program. Stroke Mobile continues the program into the home. This portion of the program focuses on education, behavior and lifestyle modification to reduce the likelihood of another stroke. Patients who reside in Jefferson or St. Tammany Parish are eligible for this program.

On average, every 40 seconds someone in the United States has a stroke.

Nearly half of Ochsner’s stroke patients are discharged home to their families, allowing them to enjoy life in their most comfortable environment.

Stroke Disposition at Discharge
Ochsner Medical Center, 2016

- Home: 49%
- Rehab: 19%
- Nursing Home/SNF: 14%
- Expired: 9%
- LTAC: 4%
- Hospice/LOPA: 4%
- Other: 1%

Nearly half of Ochsner’s stroke patients are discharged home to their families, allowing them to enjoy life in their most comfortable environment.
Ischemic stroke occurs as a result of an obstruction within a blood vessel supplying blood to the brain. It accounts for 87 percent of all stroke cases. Hemorrhagic stroke accounts for about 13 percent of stroke cases. It results from a weakened vessel that ruptures and bleeds into the surrounding brain. The blood accumulates and compresses the surrounding brain tissue. The two types of hemorrhagic strokes are intracerebral (within the brain) hemorrhage or subarachnoid hemorrhage. Two types of weakened blood vessels usually cause hemorrhagic stroke: aneurysms and arteriovenous malformations (AVMs).

Ischemic stroke accounts for 87 percent of all stroke cases.
Ischemic Stroke Risk-Adjusted Mortality Index (RAMI)
Ochsner Medical Center, 2014–2016

Methodology and Source:
IBM Watson Health / Truven Care Discovery
Compare Group: Avg of All Hospitals Nationwide
Adult Hospital Inpatients Only

Ischemic Stroke Average Length of Stay (in Days)
Ochsner Medical Center, 2014–2016

Methodology and Source:
IBM Watson Health / Truven Care Discovery
Compare Group: Avg of All Hospitals Nationwide
Adult Hospital Inpatients Only

Ischemic Stroke Expected Complication Rate Index (ECRI)
Ochsner Medical Center, 2014–2016

Methodology and Source:
IBM Watson Health / Truven Care Discovery
Compare Group: Avg of All Hospitals Nationwide
Adult Hospital Inpatients Only
Hemorrhagic stroke accounts for about 13 percent of stroke cases.

Methodology and Source:
IBM Watson Health / Truven Care Discovery
Compare Group: Avg of All Hospitals Nationwide
Adult Hospital Inpatients Only

Hemorrhagic Stroke Case Volume
Ochsner Medical Center, 2014–2016

<table>
<thead>
<tr>
<th>Year</th>
<th>Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>208</td>
</tr>
<tr>
<td>2015</td>
<td>230</td>
</tr>
<tr>
<td>2016</td>
<td>280</td>
</tr>
</tbody>
</table>

Hemorrhagic Stroke Risk-Adjusted Mortality Index (RAMI)
Ochsner Medical Center, 2014–2016

<table>
<thead>
<tr>
<th>Year</th>
<th>RAMI</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>0.72</td>
</tr>
<tr>
<td>2015</td>
<td>0.79</td>
</tr>
<tr>
<td>2016</td>
<td>0.69</td>
</tr>
</tbody>
</table>

RAMI
National Average 0.72

Better
Hemorrhagic Stroke Expected Complication Rate Index (ECRI)
Ochsner Medical Center, 2014–2016

Methodology and Source:
IBM Watson Health / Truven Care Discovery
Compare Group: Avg of All Hospitals Nationwide
Adult Hospital Inpatients Only

Hemorrhagic Stroke Average Length of Stay (in Days)
Ochsner Medical Center, 2014–2016

Methodology and Source:
IBM Watson Health / Truven Care Discovery
Compare Group: Avg of All Hospitals Nationwide
Adult Hospital Inpatients Only
Ochsner’s tPA administration rate has averaged 13.4 percent from 2009 to 2015. This rate far exceeds the national average of 3.4 to 5.2 percent, reported in 2011.
Mechanical thrombectomy for acute ischemic stroke is a minimally invasive procedure in which the clot responsible for the stroke is removed from the arteries of the brain. This procedure is performed by highly specialized physicians and can be safely performed only on patients who meet certain criteria. A thrombectomy allows for reestablishment of blood flow to brain tissue in order to minimize the damage of the stroke.

Thrombectomy Volume
Ochsner Medical Center, 2014–2016

<table>
<thead>
<tr>
<th>Year</th>
<th>Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>48</td>
</tr>
<tr>
<td>2015</td>
<td>72</td>
</tr>
<tr>
<td>2016</td>
<td>94</td>
</tr>
</tbody>
</table>
The modified Rankin Scale (mRS) is a commonly used scale for measuring the degree of disability or dependence in the daily activities of people who have suffered a stroke or other causes of neurological disability. It has become the most widely used clinical outcome measure for stroke clinical trials. The scale runs from 0 to 6, with 0 representing no symptoms and 6 representing death.

High blood pressure is the leading cause of stroke and the most important controllable risk factor for stroke. Approximately 77 percent of people who have a stroke have a blood pressure greater than 140/90 mmHg (Heart Disease and Stroke Statistics, 2014). The American Heart Association recommends a blood pressure of less than 140 mmHg systolic and less than 90 mmHg diastolic (Guidelines for the Prevention of Stroke in Patients with Stroke and TIA).
The national average of tPA utilization for acute ischemic stroke is approximately 12% (Genentech, Inc.). The original National Institute of Neurological Disorders and Stroke (NINDS) tPA study reported that patients who received tPA within 3 hours after onset of symptoms were at least 30 percent more likely to have minimal or no disability at 3 months than those who received placebo. The ECASS III study, which looked at tPA use in the 3- to 4.5-hour window, showed a favorable outcome of 28 percent of patients returning to an independent lifestyle with tPA versus with placebo (Thrombolysis with Alteplase 3 to 4.5 hours after Acute Ischemic Stroke). Recombinant tissue-type plasminogen activator (rtPA) is the only approved therapy for acute ischemic stroke (AIS). Ochsner’s stroke treatment team has seen positive outcomes, with only one tPA-related complication out of 40 cases in 2015. The utilization of tPA continues to increase annually.

### Telestroke Total Volume vs. tPA Administered
Ochsner Medical Center, 2009–2016

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Volume</th>
<th>tPA Given</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>33</td>
<td>4</td>
</tr>
<tr>
<td>2010</td>
<td>283</td>
<td>28</td>
</tr>
<tr>
<td>2011</td>
<td>648</td>
<td>67</td>
</tr>
<tr>
<td>2012</td>
<td>843</td>
<td>119</td>
</tr>
<tr>
<td>2013</td>
<td>558</td>
<td>163</td>
</tr>
<tr>
<td>2014</td>
<td>1,267</td>
<td>190</td>
</tr>
<tr>
<td>2015</td>
<td>1,811</td>
<td>217</td>
</tr>
<tr>
<td>2016</td>
<td>1,730</td>
<td>257</td>
</tr>
</tbody>
</table>


### Telesstroke Diagnoses Volume
CareConnect 360, 2016

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<tr>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Ischemic Stroke</td>
<td>889</td>
<td>520</td>
<td>58</td>
<td>234</td>
<td>29</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Patients who receive tPA within 3 hours of onset of stroke symptoms are more likely to have a favorable outcome.
Neurosurgical Care

Ochsner’s Neurosurgery department has grown to 10 surgeons. Our care team, made up of nurses, residents, physician assistants and surgeons, has provided quality surgical outcomes in cranial and spinal cases.

Neuroscience Surgical Volume by Year
All Ages, Outpatient and Inpatient
Ochsner Medical Center, 2013–2016

Outpatient
Inpatient

2013 2014 2015 2016
201 345 360 345
839 866 934 1,112
Neurosurgery Adult (Age 22 or Older)
Cranial Subgroup Risk-Adjusted Mortality Index (RAMI)
Ochsner Medical Center, 2014–2016

Methodology and Source:
IBM Watson Health / Truven Care Discovery
Compare Group: Avg of All Hospitals Nationwide
Adult Hospital Inpatients Only

RAMI
National Average

2016 2015 2014
0.73 0.51 0.52

Neurosurgery Adult (Age 22 or Older)
Cranial Subgroup Average Length of Stay (in Days)
Ochsner Medical Center, 2014–2016

Methodology and Source:
IBM Watson Health / Truven Care Discovery
Compare Group: Avg of All Hospitals Nationwide
Adult Hospital Inpatients Only

ECRI
National Average

2016 2015 2014
0.57 0.38 0.38

Neurosurgery Adult (Age 22 or Older)
Cranial Subgroup Expected Complication Rate Index (ECRI)
Ochsner Medical Center, 2014–2016

Methodology and Source:
IBM Watson Health / Truven Care Discovery
Compare Group: Avg of All Hospitals Nationwide
Adult Hospital Inpatients Only

ECRI
National Average

2016 2015 2014
10.7 7.5 8.0

Ochsner Average
National Average

2016 2015 2014
9.8 7.4 7.4

Methodology and Source:
IBM Watson Health / Truven Care Discovery
Compare Group: Avg of All Hospitals Nationwide
Adult Hospital Inpatients Only
Neurosurgery Adult (Age 22 or Older)
Spinal Subgroup Risk-Adjusted Mortality Index (RAMI)
Ochsner Medical Center, 2014–2016

Methodology and Source:
IBM Watson Health / Truven Care Discovery
Compare Group: Avg of All Hospitals Nationwide
Adult Hospital Inpatients Only

RAMI
National Average

2014 2015 2016
0.95 0.94 1.03

Neurosurgery Adult (Age 22 or Older)
Spinal Subgroup Average Length of Stay (in Days)
Ochsner Medical Center, 2014–2016

Methodology and Source:
IBM Watson Health / Truven Care Discovery
Compare Group: Avg of All Hospitals Nationwide
Adult Hospital Inpatients Only

Average Length of Stay
National Average

2014 2015 2016
6.4 5.4 5.7
4.0 3.9 4.5
5.6 4.0 5.7

Neurosurgery Adult (Age 22 or Older)
Spinal Subgroup Expected Complication Rate Index (ECRI)
Ochsner Medical Center, 2014–2016

Methodology and Source:
IBM Watson Health / Truven Care Discovery
Compare Group: Avg of All Hospitals Nationwide
Adult Hospital Inpatients Only

ECRI
National Average

2014 2015 2016
0.69 0.86 0.54

Neurosurgery Adult (Age 22 or Older)
Spinal Subgroup Case Volume
Ochsner Medical Center, 2014–2016

Methodology and Source:
IBM Watson Health / Truven Care Discovery
Compare Group: Avg of All Hospitals Nationwide
Adult Hospital Inpatients Only

Case Volume
National Average

2014 2015 2016
531 476 549

Methodology and Source:
IBM Watson Health / Truven Care Discovery
Compare Group: Avg of All Hospitals Nationwide
Adult Hospital Inpatients Only

Neurosurgery Adult (Age 22 or Older)
Spinal Subgroup Risk-Adjusted Mortality Index (RAMI)
Ochsner Medical Center, 2014–2016
Neuro-oncology Care

Brain and Spinal Tumors Program
The Brain and Spinal Tumors Program at Ochsner provides patients with comprehensive, multidisciplinary care and the convenience of fast-track appointments. Our surgeons are trained in the surgical and nonsurgical treatment of brain and spinal tumors.

Treatment Modalities/Surgical Intervention
Our comprehensive team of board-certified, fellowship-trained neurosurgeons, plastic surgeons and otolaryngologists are experts in skull base tumor resection and the treatment of skull base tumors. We use the most advanced technologies, such as intraoperative navigation systems and brain mapping, to aid in the safe, maximal resection of tumors, while reducing postoperative deficits. We apply minimally invasive surgical techniques to treat patients with spinal tumors and cancer.

Radiosurgery
Our neurosurgeons eradicate tumors using radiosurgery, a sophisticated noninvasive treatment modality. Our surgeons are among the Gulf South region’s most experienced in treating tumors using this technology. They are also experienced in using Gamma Knife as well as linear accelerator-based technologies.

Medical Management
Treatment planning and adjuvant care for brain tumors are managed by a multidisciplinary team consisting of a neurosurgeon, oncologist, neuroendocrinologist and radiation oncologist (in many cases). This approach gives patients access to the most up-to-date, comprehensive care.
Radiosurgery Program

Stereotactic radiosurgery, also known as stereotactic radiotherapy, is a noninvasive procedure that includes the precise delivery of high-dose radiation to a small field of treatment but with a very small-dose delivery to surrounding areas.

This noninvasive treatment often allows patients to go home the same day as the procedure. Radiosurgery can be used to treat conditions such as benign and malignant brain tumors, arteriovenous malformations of the brain and trigeminal neuralgia or tic douloureux. Brain metastasis is the fastest growing sector of tumors in patients with tumors. Patients are living longer with primary diseases and are therefore experiencing more metastases. Radiosurgery is an ideal treatment option for many of these patients.

Gamma Knife Distribution of Radiosurgery Cases
Ochsner Medical Center, 2016

Pituitary Disorders

The Ochsner Center for Pituitary Disorders is a multidisciplinary center designed to provide comprehensive care to all patients with newly diagnosed and preexisting pituitary disorders.

Our program is built upon a strong foundation of recognized excellence in neurosurgical and neuroendocrine care and research. We have assembled a team of dynamic physicians, all recognized experts and current leaders in their respective fields, who have considerable experience in the evaluation and management of patients with diseases of the pituitary gland and hypothalamus.

Almost all pituitary tumors are benign (noncancerous) glandular tumors called pituitary adenomas. These tumors are considered benign because they do not spread to other parts of the body, like cancers can do. Still, even benign pituitary tumors can cause significant health problems because of their location near the brain and because many of them secrete excess hormones. Pituitary cancers (called pituitary carcinomas) are very rare.

Our program is built upon a strong foundation of recognized excellence in neurosurgical and neuroendocrine care and research.
Epilepsy Program

Ochsner’s Epilepsy Program hosts an outstanding group of experienced epileptologists and neurosurgeons who provide the most modern and innovative medical and surgical care for the evaluation and treatment of patients with epilepsy and seizure disorders. Ochsner is the only facility in the state with a comprehensive epilepsy monitoring unit (EMU) where patients with complex seizure disorders can be diagnosed and managed.

Epilepsy Growth in Long-Term Monitoring
Ochsner Medical Center, 2013–2016

Long-term monitoring is continuous, combined EEG and video recording of patients for hours to days.
Neurocritical Care Unit

Patients with acute neurological and neurosurgical injury who require critical care are treated by our specially trained and board-certified multidisciplinary team. Our neurocritical care unit offers the only high volume tertiary referral center in the state for patients with neurocritical care needs. Complex patients may be covered through the regional referral center to include neurosurgical and neurological cases. With outcomes recognized nationally as the best in the region, Ochsner’s neurocritical care unit is ready 24 hours a day to care for patients. This unit is currently equipped with 34 beds and has more than 1,800 admissions per year.

National Securities Clearing Corporation (NSCC) – Overall YTD 2016
- Hand Hygiene: 85%
- Isolation Compliance: 80%

Catheter-Associated Urinary Tract Infection (CAUTI) Rate: 1.80
- National Healthcare Safety Network (NHSN) CAUTI Percentile: 25th
- NHSN Foley Utilization Percentile: 25th
- CAUTI Bundle Compliance: 36%

Central Line-Associated Bloodstream Infection (CLABSI) Rate: 0.59
- NHSN CLABSI Percentile: 25th
- NHSN CL Utilization Percentile: 50th
- CLABSI Bundle Compliance: 42%
- Blood Culture Contamination Rates: 5.07%

Ventilator-Associated Pneumonia (VAP) Rate: 0.00
- NHSN VAP Percentile: 10th
- Vent Utilization: 0.99
- NHSN Vent Utilization Percentile: 90th
- VAP Bundle Compliance: 98%
Physical Medicine and Rehabilitation

Ochsner’s Physical Medicine and Rehabilitation Program is seeing continued annual growth, serving patients from all over Louisiana and Mississippi.

28-Bed Inpatient Facility
- Commission on Accreditation of Rehabilitation Facilities certified
- CARF Stroke Specialty Accreditation

Dedicated Specialty Clinics
- Spasticity Clinic
- Stroke Recovery Clinic
- Wheelchair Clinic
- Multiple Sclerosis Clinic (Multidisciplinary with Neurology)
- ALS Clinic (Multidisciplinary with Neurology)
- Amputee Clinic (Prosthetic & Orthotics)
- Adult Spina Bifida Clinic (Multidisciplinary with Urology and Neurosurgery)

Intrathecal Baclofen Pump Patient Totals*

<table>
<thead>
<tr>
<th>Year</th>
<th>New Patients</th>
<th>Follow-Up Patients</th>
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<td>746</td>
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<tr>
<td>2016</td>
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Pediatric Rehabilitation Volume
Ochsner Medical Center, 2015–2016

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<tr>
<th>Year</th>
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<th>Follow-Up Patients</th>
</tr>
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<tbody>
<tr>
<td>2014</td>
<td>29</td>
<td>2014</td>
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<tr>
<td>2015</td>
<td>36</td>
<td>2015</td>
</tr>
<tr>
<td>2016</td>
<td>36</td>
<td>2016</td>
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</tbody>
</table>

A baclofen pump delivers the drug Lioresal® Intrathecal (baclofen injection) for ITB TherapySM, a treatment for severe spasticity. People who suffer from severe spasticity resulting from cerebral palsy, multiple sclerosis, stroke, brain injury or spinal cord injury may be candidates for ITB Therapy. Patients may be considered for ITB Therapy if oral baclofen has not controlled their spasticity or has resulted in serious side effects.

Plans are in place to open a 60-bed acute rehabilitation unit on Jefferson Highway in 2018. This facility will offer a regional referral center, along with specialized rehab programs for the treatment of stroke, traumatic brain injury, spinal cord injury, amputations and cardiac and orthopedic conditions. As a Center of Excellence for Stroke, Brain and Spinal Cord Injury, this unit will be able to care for higher acuity patients and will bring a whole new level of inpatient rehabilitation care to New Orleans and the surrounding Southeast Louisiana region.
Concussion

A concussion is a traumatic injury to the brain that affects how the brain functions. Early diagnosis and correct treatment are important to recovery and return to play.

Children and adolescents are particularly sensitive to the effects of concussion, which, if not managed properly, can lead to prolonged time away from sports and school—or even long-term problems.

Ochsner Health System is dedicated to enhancing athletes’ health on and off the field by helping to educate athletes, families and coaches about concussion and concussion management.

Children, adolescents and adults are all at risk for concussion, with common causes including sports, recreational activities, falls and motor vehicle collisions. Emergency department visits for concussions in children and adolescents ages 8 to 13 years old has doubled, and concussions have risen 200 percent among teens ages 14 to 19 in the last decade, according to the American Academy of Pediatrics.

Football is the most common sport with CONCUSSION RISK FOR MALES.

Soccer is the most common sport with CONCUSSION RISK FOR FEMALES.

Youths who have already had a concussion are at higher risk for subsequent ones.

Children, adolescents and adults are all at risk for concussion, with common causes including sports, recreational activities, falls and motor vehicle collisions. Emergency department visits for concussions in children and adolescents ages 8 to 13 years old has doubled, and concussions have risen 200 percent among teens ages 14 to 19 in the last decade, according to the American Academy of Pediatrics.

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While loss of consciousness is associated with FEWER THAN 20% OF CONCUSSIONS, a loss of consciousness or loss of memory after a head injury implies that a concussion has occurred.

Soccer is the most common sport with CONCUSSION RISK FOR FEMALES.

*Sources: The Sports Concussion Institute, Institute of Medicine and National Research Council, Centers for Disease Control and Prevention.*
About the Ochsner Concussion Management Program

The Ochsner Concussion Management Program partners with more than 40 high schools, colleges and recreational sports leagues across the state, working with over 5,000 student-athletes to provide baseline ImPACT testing and continued care. The program focuses on fast diagnosis and the most effective treatment to get athletes back on the playing field as quickly and safely as possible. Individualized treatment is designed to:

- Lessen recovery time
- Lower the risk of persistent, long-term neurocognitive deficits
- Prevent potential catastrophic events such as second impact syndrome
- Reduce the risk of repeat concussion
- Recognize and treat persisting concussion symptoms requiring more than just rest to resolve

This program is the first and largest of its kind in the Gulf South and features:

- Patient assessment by board-certified physicians, each with specialized training in the field of concussion management
- Multifaceted evaluation, including neurological, neurocognitive and balance examinations
- Focused evaluation of memory, processing speed and other related functions
- Prompt development of an individualized medical treatment plan
- Support services, including serial assessment, concussion education, counseling, return-to-play surveillance and cognitive therapy
- Referrals, when necessary, to our extensive network of pediatric and adult specialists and ancillary medical professionals
- Physicians that have all completed fellowship training in Sports Medicine, Sports Neurology or Traumatic Brain Injury

Concussion Symptoms:

- Physical: headache, dizziness, nausea/vomiting
- Cognitive: confusion, mental fogging, poor memory
- Emotional: irritability, sadness, nervousness
- Sleep: insomnia, fatigue, drowsiness

Concussion Patient Volume
Ochsner Medical Center, 2015–2016

Baseline ImPACT Test Volume
Ochsner Medical Center, 2015–2016
The Back and Spine Center

The Ochsner Back and Spine Center provides the most comprehensive and specialized care and relief to patients suffering from any type of spine or back pain or discomfort. At the center, we are able to care for patients ranging from pediatric to elderly.

Each patient receives a customized treatment approach designed to address their specific condition. Patients have access to medical experts from different disciplines, including neurosurgery, orthopedic, interventional pain management, physical medicine and rehabilitation and psychiatry. We offer the most sophisticated minimally invasive spine surgery techniques to treat a whole spectrum of spine diseases. These techniques offer the best treatment benefits for patients with shorter hospital stays, less blood loss and less postoperative pain. The Back and Spine Center also offers patients the convenience of same-day appointments.

The Ochsner Healthy Back Rehabilitation Program is a patient-focused, nonsurgical rehab program to treat patients with back pain. These treatments improve patient outcomes, as demonstrated in the following pages. The Visual Analog Scale (VAS), Oswestry Disability Index (ODI), Neck Disability Index (NDI) and Australian Quality of Life (AQoL) assessments are patient-reported measurements of pain and quality of life/disability ratings. A lower score (for VAS, ODI & NDI) represents better quality of life or an improvement when compared to previous quality of life. A higher score for AQoL represents an improvement.

Back and Spine: Healthy Back Clinic
- Comprehensive multidisciplinary spine clinic
- Physical therapy for chronic neck and low back pain with active resistance exercise, health coaching and progression to wellness program
- Encourages collaboration between pain management, PMR, neurosurgery and orthopedic spine surgery
- Subjective and objective outcomes collected

Our minimally invasive surgical techniques get patients back to doing what they love.
All these patient measures show improvement at the 3-month mark. Pain level, ODI and NDI all go down, while Patient-Centered Outcomes and AQoL-4D go up.

All these patient measures show improvement at the 6-month mark. Pain level, ODI and NDI all go down, while Patient-Centered Outcomes and AQoL-4D go up.

The incidence and prevalence of back and spine problems are increasing in the population, with 80 percent prone to have back pain during their lifetime. When surgery is needed, we specialize in innovative, effective and minimally invasive surgical techniques.
## Average Oswestry Disability Index (ODI)

<table>
<thead>
<tr>
<th></th>
<th>Preoperative</th>
<th>6 Weeks</th>
<th>6 Months</th>
<th>1 Year +</th>
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<td>27.9</td>
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<td>Mini-Open</td>
<td>51.4</td>
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<td>38.6</td>
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## Average Visual Analog Scale (VAS)

<table>
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<th>6 Weeks</th>
<th>6 Months</th>
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<tr>
<td>Open</td>
<td>5.5</td>
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<td>Mini-Open</td>
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**Thoracolumbar Spine Surgeries: Open vs. Mini Open Corpectomy**

We use minimally invasive surgical techniques even in patients with complex spine problems such as spine fracture, infection and tumor, and our technique significantly improves pain and quality of life when compared to conventional open surgical techniques.
Surgery for Degenerative Spine Diseases: Lumbar Spinal Stenosis, Disc Herniation and Spondylosis

**Spinal Stenosis Average Visual Analog Scale (VAS)**
Ochsner Medical Center, 2016

- Preoperative: 6.0
- 6 Weeks: 3.7
- 6 Months: 4.4
- 1 Year +: 3.8

**Spinal Stenosis Average Oswestry Disability Index (ODI)**
Ochsner Medical Center, 2016

- Preoperative: 47.5
- 6 Weeks: 34.2
- 6 Months: 31.0
- 1 Year +: 33.9

**Spondylolisthesis Average Visual Analog Scale (VAS)**
Ochsner Medical Center, 2016

- Preoperative: 7.0
- 6 Weeks: 3.6
- 6 Months: 3.4
- 1 Year +: 3.0

**Spondylolisthesis Average Oswestry Disability Index (ODI)**
Ochsner Medical Center, 2016

- Preoperative: 56.6
- 6 Weeks: 38.6
- 6 Months: 30.6
- 1 Year +: 26.9
Microdiscectomy Average Oswestry Disability Index (ODI)
Ochsner Medical Center, 2016

5.4
3.1
2.4
1.6
Preoperative 6 Weeks 6 Months 1 Year +

Microdiscectomy Average Visual Analog Scale (VAS)
Ochsner Medical Center, 2016

30.5
21.3
24.0
62.8
Preoperative 6 Weeks 6 Months 1 Year +

Anterior Cervical Discectomy and Fusion Average Neck Disability Index (NDI)
Ochsner Medical Center, 2016

4.1
4.1
4.2
6.3
Preoperative 6 Weeks 6 Months 1 Year +

Anterior Cervical Discectomy and Fusion Average Visual Analog Scale (VAS)
Ochsner Medical Center, 2016

44.9
39.0
28.8
33.4
Preoperative 6 Weeks 6 Months 1 Year +

Surgery for Degenerative Spine Diseases: Cervical
Our patients experience an improvement in their pain levels and quality of life even after undergoing very intricate and complex spine surgery, such as C1-C2 fusions, at the 1+ year postoperative point.
Movement Disorders

The neurological subspecialty of movement disorders addresses abnormalities in normal human movement. Symptoms of a movement disorder can be walking difficulties, tremor, jerking, “dance-like” movements or slowing of normal movement. While some movement disorders are identified by diagnostic tests, many are diagnosed by physical exam alone. Our team of neurologists and neurosurgeons applies state-of-the-art treatment modalities including deep brain stimulation (DBS) surgeries to help improve patients’ symptoms and quality of life.

Specific Diseases and Syndromes Treated in this Clinic:

- Parkinson’s disease (PD) and secondary Parkinsonism – degenerative disorder
- Normal pressure hydrocephalus – too much fluid in the brain
- Essential tremor (ET) – involuntary shaking of an arm, chin or leg either in motion or at rest
- Torticollis – abnormal, asymmetrical head or neck position
- Tourette syndrome – repetitive, involuntary movements and vocalizations
- Huntington’s disease – neurodegenerative genetic disorder
- Gait disturbance or imbalance problems
- Friedreich’s ataxia – difficulty walking or maintaining balance
- Spasticity – stiffness and involuntary muscle spasms
- Dystonia – a sudden jerk-like movement of a muscle or muscle group

Special Programs and Services:

- Botulinum toxin therapy for spasticity, dystonia and blepharospasm
- Deep brain stimulation for Parkinson disease, essential tremor and dystonia
- Lumbar puncture and gait evaluations for suspected normal pressure hydrocephalus
- Information and referral center for the American Parkinson Disease Association
- Duopa therapy

This man with Parkinson’s disease is being treated with the latest Duopa™ therapy. The pump shown can deliver continuous dopamine through a tube to the patient. The Ochsner Neuroscience Institute’s Movement Disorders Program is the leading program in the Gulf South to provide Duopa therapy for advanced Parkinson’s disease. Led by Dr. David Houghton and Dr. Georgia Lea, this therapy can dramatically control trembling, frozen movements and balance impairment associated with this chronic condition affecting almost a million Americans.
Pediatric Neurosurgery Program

Our program offers multidisciplinary and comprehensive neurosurgical care for children of all ages, as well as adults with congenital processes. We treat hydrocephalus, brain tumors, congenital malformations, cerebral palsy and all forms of pediatric brain and spinal disorders.

Our top pediatric neurosurgeons provide:

• Expertise in performing cranial endoscopy, minimally invasive cranial procedures, complex shunts, oncology and Chiari malformation evaluation
• Cranial disease treatment for hydrocephalus, tumors, craniofacial defects/craniosynostosis, Chiari malformations, seizure disorders, cranial cysts and congenital cranial or brain defects
• Expertise in diagnosing spinal occipital/cervical pathologies, tumors and congenital defects

• Spinal disease treatment for tumors, cervical instability due to Down syndrome, spinal dysraphism, myelomeningocele, lipomeningocele, fatty flum terminale, tethered cord, cerebral palsy spasticity and sports-related spinal injuries

We offer the only multidisciplinary fetal surgery team in the Gulf South. In 2011, Ochsner’s pediatric neurosurgeon assisted the Maternal Fetal Medicine division with our first in utero fetal myelomeningocele correction.

We offer several pediatric multidisciplinary clinics, such as the spina bifida clinic and the craniofacial clinic. These specialized care teams provide improved outcomes for children with complex congenital diseases.

Myelomeningocele (spina bifida) is the most common form of congenital central nervous system defect that is compatible with life. Most spina bifida patients have significant problems with walking and bowel and bladder function. They require permanent cerebrospinal fluid diversion with shunting and have a significant chance of complications from hindbrain herniation (Chiari II malformation). The advent of intrauterine surgery has provided new opportunities to better address this lifelong debilitating disease.

At Ochsner, we have assembled a fetal surgery team with the active participation of pediatric neurosurgery, maternal fetal medicine, pediatric surgery, obstetric anesthesia, pediatric cardiology and pediatrics. After more than a year of preparation, the first fetal surgery in the southeast region was performed on December 3, 2012. We have completed 14 surgeries to date with positive outcomes and without intraoperative complications.

Our team includes:

• Pediatric Neurosurgery
• Maternal Fetal Medicine/ OB-GYN
• Plastic Surgery
• Pediatric Cardiology
• OB Anesthesia
• NICU

Annual Pediatric Neurosurgical Volume
Ochsner Medical Center, 2014–2016

<table>
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<th>Year</th>
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<tr>
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<td>118</td>
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<tr>
<td>2015</td>
<td>117</td>
</tr>
<tr>
<td>2016</td>
<td>112</td>
</tr>
</tbody>
</table>
Headache Disorders Program

At the Comprehensive Headache Center, we recognize that headaches, along with several other associated symptoms like nausea, dizziness and fatigue, can be extremely disabling. In fact, migraine is the seventh most common cause of disability globally. Thirty-six million Americans, about 12 percent of the population, suffer from migraine headaches. To fulfill this need, the Comprehensive Headache Center, which comprises nationally recognized experts, was launched in 2014. We diagnose and treat primary and secondary causes of complex head and neck pains.

Advanced and Innovative Therapies Offered at the Comprehensive Headache Center:

- Botox® (Botulinum toxin A)
- Peripheral nerve block and trigger point injections
- Sphenopalatine ganglion block
- Trigeminal nerve block
- Intranasal lidocaine therapy
- Cryoanalgiesia
- DHE (dihydroergotamine) infusion
- Transcutaneous electrical stimulation
- Intracranial pressure monitoring and treatment trials
- Vitamin replacement therapy

The headache Fast Track Program is an exclusive program that allows patients to receive rapid intravenous therapies for an acute headache without the need of an emergency department. This reduces emergency department wait time, cost and inconvenience. Most importantly, this program is driven by personalized medicine, allowing maximum effectiveness specific to each individual patient.

Robert Jones | Migraine Patient

Robert Jones sought treatment for migraine headaches that had become continuous rather than episodic. By the time he began treatment with Dr. Fawad Khan, his disability level was well over 50 percent and for many activities approached 100 percent. Dr. Khan was creative in applying techniques from other neurological issues to diagnose and treat Mr. Jones. If it were not for Dr. Khan, Mr. Jones’ papillary thyroid cancer would have gone undetected and perhaps have become a more serious issue. In addition, Mr. Jones would not be aware of the severe arthritis in his neck and the complications it was causing. Today, Mr. Jones’ disability levels are well below 50 percent and most days he “feels pretty normal.”
Multiple Sclerosis Program

The Ochsner Multiple Sclerosis (MS) Program combines state-of-the-art therapeutics, including the latest infusion therapies, for individuals with MS. It consists of coordinated and comprehensive care for patients and their families, including the management of all symptoms associated with MS. The program focuses on patient wellness, such as routine counseling on vitamin supplementation, diet, exercise and stress reduction. We participate in translating leading-edge research into better treatments for patients with MS.

Areas of Expertise:
• Multiple sclerosis
• Neuromyelitis optica
• Optic neuritis
• Neuroimmunological disorders
• Spasticity

Special Programs and Services:
• MS wellness and education
• Advanced MS management
• Intrathecal baclofen therapy for spasticity
• Botulinum toxin therapy for spasticity
• Information and referral center for Multiple Sclerosis Education and Resource Center

Research:
• Participating in four industry-sponsored clinical trials and one investigator-initiated clinical trial in collaboration with the University of Queensland

Other Highlights:
• Comprehensive model of care
• All advanced immunotherapies and treatment of all symptoms associated with MS
• Focus on wellness
• Mental health services provided within our own clinic
• MS yoga class at Elmwood Fitness Center
• More than 1,100 patients cared for by the MS clinic in 2016
• Patients travel to Ochsner from all over the Gulf South (northern and western LA and AL)

Certification:
Certified by the National Multiple Sclerosis Society as a Partner in MS Care, Comprehensive Care Center
Memory Disorders Program

The Memory Disorders Program is an interdisciplinary team approach under the direction of a cognitive and behavioral neurologist, with clinical care provided by a geriatric nurse practitioner, geriatric psychologist and a neuropsychiatrist. Neurology and psychiatry residents, postdoctoral fellows in behavioral neurology, geriatric psychiatry and geriatric medicine and medical students are an integral part of the clinic team.

Areas of Expertise:
- Memory loss
- Age-related cognitive changes
- Mild cognitive impairment
- Alzheimer’s disease
- Vascular cognitive impairment and vascular dementia
- Frontotemporal dementias, including behavioral subtypes, primary progressive aphasia, Pick’s disease and semantic dementia
- Cortical-subcortical dementias, including Lewy body disease and corticobasal degeneration
- Metabolic and genetic types of dementias of adult onset
- Mixed types of dementia and complex cognitive cases

Special Programs and Services:
- Expert care in the areas of aging and dementia
- Early diagnosis and treatment
- Follow-up during disease progression
- Training program for physicians
- Research program in aging, dementia and stroke
### Research

**Active Studies 2016**

<table>
<thead>
<tr>
<th>IRB#</th>
<th>Study Title</th>
<th>Principal Investigator/ Co-Investigator</th>
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<tbody>
<tr>
<td>2013.085.A</td>
<td>Increased intracranial pressure in children with cerebral palsy: implications for baclofen pump placement and associated complications</td>
<td>Bui</td>
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<tr>
<td>2013.110.C</td>
<td>A Pilot Study of Microparticles and Gene Expression in Patients with Cerebrovascular Diseases</td>
<td>Iwuchukwu</td>
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<tr>
<td>2013.157.A</td>
<td>Association between MTHFR mutation and Leukoencephalopathy on Brain MRI</td>
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<td>2013.188.A</td>
<td>Minimally Invasive DLIF: outcome studies</td>
<td>Sulaiman</td>
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<td>2013.196.B</td>
<td>Intraoperative neurophysiological monitoring for minimally invasive one and two level transforaminal lumbar interbody fusion: A retrospective review of its need and outcomes at a single institution</td>
<td>Sulaiman</td>
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<td>2013.201.A</td>
<td>Efficacy of radiosurgery as part of a multimodal treatment protocol for central nervous system pathologies.</td>
<td>Ware</td>
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<td>2013.225.A</td>
<td>Minimally Invasive DLIF versus TLIF: Outcome studies</td>
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<td>2013.283.A</td>
<td>Outcomes of lumbar spinal surgery in patients over 65 years old</td>
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<td>2014.001.A</td>
<td>Central Nervous System (CNS) Molecular Characterization and Chemotherapeutic Susceptibility</td>
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<td>2014.016.A</td>
<td>Functional outcome and cost-utility analysis of minimally invasive thoracolumbar corpectomy versus conventional open corpectomy</td>
<td>Sulaiman</td>
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</table>
2015.232.A Quality Improvement and Practice Based Research in Neurology Using the EMR Larriviere

2015.237.B A double-blind, randomized, placebo-controlled, parallel-group, multicenter study to evaluate the efficacy and safety of lacosamide as adjunctive therapy for uncontrolled primary generalized tonic-clonic seizures in subjects with idiopathic generalized epilepsy Ramsay


2015.253.C An open-label, multicenter extension study to evaluate the long-term safety and efficacy of lacosamide as adjunctive therapy for uncontrolled primary generalized tonic-clonic seizures in subjects with idiopathic generalized epilepsy Ramsay

2015.258.A Admission leucocyte count as a predictor of outcomes in patients with intracerebral hemorrhage Iwuchukwu

2015.295.B An extension study to evaluate the long-term safety, tolerability and efficacy of dalfampridine extended-release tablets for the treatment of chronic post-ischemic stroke walking deficits in subjects who participated in the dalf-ps-1016 study (milestonesm) Zweifler

2016.025.A Activation procedures in the Epilepsy Monitoring Unit (EMU) Khan


2016.088.A The Upper Motor Neuron Disease (UMND) Registry Larriviere

2016.090.C An exploration of the incidence of lymphopenia associated with dimethyl fumarate use in MS patients Bagert

2016.109.C aminocaproic acid for tPA reversal study Iwuchukwu

2016.113.B An open-label study to evaluate the effectiveness and safety of ocrelizumab in patients with relapsing remitting multiple sclerosis who have had a suboptimal response to an adequate course of disease-modifying treatment Bagert


2016.183.C A randomized, double-blind, placebo-controlled trial of urate-elevating insine treatment to slow clinical decline in early Parkinson’s disease Houghton

2016.200.B Vigilant Observation of Glade® Wafer Implant (VIGILANT) Registry: A Multicenter, Observational Registry to Collect Information on the Safety and Effectiveness of Glade® Wafer(Carmustine Implant) Used in Usual Medical Practice Ware

2016.242.C The Upper Motor Neuron Disease (UMND) Registry Larriviere

2016.244.C An Open-label, Randomized 12 Week Study Comparing Efficacy of Levodopa-Carbidopa Intestinal Gel/Carbidopa-Levodopa Enteral Suspension and Optimized Medical Treatment on Dyskinesia in Subjects with Advanced Parkinson’s Disease (DYSCOVER) Jennings


2016.261.B Identifying characteristics of synovial cysts that predispose them to become symptomatic and in need of surgical intervention or neurointerventional drainage Sulaiman


2016.304.C Diagnostic accuracy and clinical outcomes of a Louisiana-based telestroke network Zweifler

2016.329.C Comparing clinical variables between Conversion Disorder and Ischemic Stroke in a Louisiana-based telestroke network to determine predictors for Conversion Disorder Zweifler

2016.349.A A pilot study of microRNA expression in patients with cerebral microbleeds Adil

2016.351.A An Open-Label, Multicenter Study with an Extension Phase to Evaluate the Safety, Tolerability, and Exposure-Efficacy Relationship of Perampanel Oral Suspension when Administered as an Adjunctive Therapy in Pediatric Subjects (Age 4 to less than 12 years) with Inadequately Controlled Partial-Onset Seizures or Primary Generalized Tonic-Clonic Seizures Ramsay
2016.366.A  A Multicenter, Double-Blind, Randomized, Placebo-Controlled Trial With an Open-Label Extension Phase of Perampanel as Adjunctive Treatment in Subjects at Least 2 years of Age With Inadequately Controlled Seizures Associated With Lennox-Gastaut Syndrome

Ramsey

2016.376.B  The relationship between the bispectral index (bis) and the (gcs) scores in pre- and post- rr patients admitted to neuro critical care unit: a prospective observational study

Sabharwal

2016.455.C  METIS: Pivotal, open-label, randomized study of radiosurgery with or without Tumor Treating Fields (TTFields) for 1-10 brain metastases from non-small cell lung cancer (NSCLC).

Ware

2016.475.B  Retrospective chart review on patients evaluated in the Epilepsy Monitoring Unit and patients on video Electroencephalography (VEEG) monitoring in the hospital

Khan

Publications 2016


### Neurosurgery Care Team

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wale A.R. Sulaiman, MD</td>
<td>System Chair, Back and Spine Center</td>
</tr>
<tr>
<td>Erin L. Bros, MD</td>
<td>General &amp; Functional Neurosurgery</td>
</tr>
<tr>
<td>Ilias Caralopoulos, MD</td>
<td>General Neurosurgery &amp; Spine</td>
</tr>
<tr>
<td>Daniel Denis, MD</td>
<td>General Neurosurgery &amp; Spine</td>
</tr>
<tr>
<td>Ilias Caralopoulos, MD</td>
<td>General Neurosurgery &amp; Spine</td>
</tr>
<tr>
<td>Cuong J. Bui, MD</td>
<td>Adult &amp; Pediatric Neurosurgery</td>
</tr>
<tr>
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<tr>
<td>Cuong J. Bui, MD</td>
<td>Adult &amp; Pediatric Neurosurgery</td>
</tr>
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### Neurology Care Team

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<thead>
<tr>
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<th>Position</th>
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</thead>
<tbody>
<tr>
<td>Richard Zitter, MD</td>
<td>System Chair, Neurology</td>
</tr>
<tr>
<td>Jacqueline Carter, MD</td>
<td>Director, Comprehensive MS Center</td>
</tr>
<tr>
<td>Terence D’Souza, MD</td>
<td>Director, Comprehensive MS Center</td>
</tr>
<tr>
<td>Robin Davis, MD</td>
<td>Director, Comprehensive MS Center</td>
</tr>
<tr>
<td>Ezra Elkhayam, MD</td>
<td>Director, Comprehensive MS Center</td>
</tr>
<tr>
<td>Kenneth Gaddis, MD</td>
<td>Director, Comprehensive MS Center</td>
</tr>
<tr>
<td>Kenneth Gaines, MD</td>
<td>Director, Comprehensive MS Center</td>
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<tr>
<td>Neil Billaud, MD</td>
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<tr>
<td>Jennifer Eichhorn, MD</td>
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<td>Jennifer Eichhorn, MD</td>
<td>Director, Comprehensive MS Center</td>
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### Vascular Neurology and Neuro-oncology

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Neil Billaud, MD</td>
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### Vascular & Interventional Neurology

<table>
<thead>
<tr>
<th>Name</th>
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<tbody>
<tr>
<td>Michael Wilensky, MD</td>
<td>Director, Comprehensive MS Center</td>
</tr>
<tr>
<td>Amanda Dargle, PA-C</td>
<td>Director, Comprehensive MS Center</td>
</tr>
<tr>
<td>Amanda Durren, PA-C</td>
<td>Director, Comprehensive MS Center</td>
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### Headache

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<tr>
<th>Name</th>
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<tbody>
<tr>
<td>Sadie Chotto, PA-C</td>
<td>Director, Comprehensive Headache Program</td>
</tr>
<tr>
<td>Leslie Hightower, MD</td>
<td>Director, Comprehensive Headache Program</td>
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</tbody>
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### Medical Director, Telemedicine Program

<table>
<thead>
<tr>
<th>Name</th>
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<tbody>
<tr>
<td>Jamie Huddleston, MD</td>
<td>Medical Director, Telemedicine Program</td>
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</tbody>
</table>

### Director, Comprehensive Stroke Center

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Michael Wilensky, MD</td>
<td>Director, Comprehensive Stroke Center</td>
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</table>

### Movement Disorders and Vascular

<table>
<thead>
<tr>
<th>Name</th>
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<tbody>
<tr>
<td>R. John Sawyer, PsyD</td>
<td>Movement Disorders and Vascular</td>
</tr>
<tr>
<td>Joseph Tarsia, MD</td>
<td>Movement Disorders and Vascular</td>
</tr>
</tbody>
</table>

### Movement Disorders

<table>
<thead>
<tr>
<th>Name</th>
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<tbody>
<tr>
<td>Colin Van Hook, MD</td>
<td>Movement Disorders and Vascular</td>
</tr>
<tr>
<td>Sidney Jackler, PA-C</td>
<td>Movement Disorders and Vascular</td>
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</table>

### Headache, Stroke, and General Neurology

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### Movement Disorders Specialist

<table>
<thead>
<tr>
<th>Name</th>
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<tbody>
<tr>
<td>Uma Menon, MD</td>
<td>Movement Disorders Specialist</td>
</tr>
<tr>
<td>Brian Moskau, PsyD</td>
<td>Movement Disorders Specialist</td>
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### Clinical Social Worker

<table>
<thead>
<tr>
<th>Name</th>
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<tbody>
<tr>
<td>Amber Peskin, CNS</td>
<td>Clinical Social Worker</td>
</tr>
</tbody>
</table>

### Physical Medicine & Rehabilitation Care Team

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
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<tbody>
<tr>
<td>Aaron M. Karlin, MD</td>
<td>System Chair, PM&amp;R</td>
</tr>
<tr>
<td>Nicholas Goyeneche, MD</td>
<td>System Chair, PM&amp;R</td>
</tr>
<tr>
<td>Mahmoud Sarmini, MD</td>
<td>Medical Director, Inpatient Rehabilitation</td>
</tr>
<tr>
<td>Michael Saucier, MD</td>
<td>Medical Director, Inpatient Rehabilitation</td>
</tr>
</tbody>
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For patient referral and transfer information, please see page 96.
About Ochsner Health System

Ochsner Health System is Louisiana’s largest non-profit, academic healthcare system. Driven by a mission to Serve, Heal, Lead, Educate and Innovate, coordinated clinical and hospital patient care is provided across the region by Ochsner’s 29 owned, managed and affiliated hospitals and more than 80 health centers and urgent care centers. Ochsner is the only Louisiana hospital recognized by U.S. News & World Report as a “Best Hospital” across four specialty categories caring for patients from all 50 states and more than 80 countries worldwide each year. Ochsner employs more than 18,000 employees and over 1,100 physicians in over 90 medical specialties and subspecialties, and conducts more than 600 clinical research studies. Ochsner Health System is proud to be a tobacco-free environment. For more information, please visit ochsner.org and follow us on Twitter and Facebook.

Visit us online at ochsner.org

Patient referrals, transfers and consults are critically important. We make it easy for referring providers and their staff. To refer your patient for a clinic appointment, call our Clinic Concierge at 855.312.4190. To initiate a transfer to any Ochsner hospital, call our Regional Referral Center, staffed 24/7 by clinicians, at 855.OHS.LINK (647.5465).

For patients needing to schedule their own appointments, please call 866.OCHSNER (624.7637).