

**NAME**

James B. Macon, M.D.

**NEUROLOGICAL SURGERY**

Future NeuroSpine, Inc.  
(dba **Framingham NeuroSpine**)

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Licensure: MA 40944, VA 0101056937

Certification: American Board of Neurological Surgery 1985

Specialization: Neurological Surgery

**EDUCATIONAL EXPERIENCE:**

Medical School: Harvard Medical School, Boston, MA  
1969-74  
Subspecialty-neurosciences  
M.D., Cum Laude

Harvard University Physiology Department  
1971-73  
Subspecialty-neurophysiology  
Graduate student and Instructor, Cell Biology

Scholarship: Fulbright Scholar  
1968-69  
College de France, Paris, France  
Neuropharmacology research

Undergraduate: Princeton University, Princeton, NJ  
1965-68  
AB Chemistry, Magna Cum Laude  
University Scholar, Phi Beta Kappa

## PROFESSIONAL EXPERIENCE:

- Practice:** Neurosurgical Solo Private Practice  
April 2003 - present **Framingham NeuroSpine**  
MetroWest Medical Center, Framingham, MA  
Newton-Wellesley Hospital, Newton, MA  
Milford Regional Medical Center, Milford, MA  
Cape Cod Hospital, Hyannis, MA
- Jan.1998 - Neurosurgical Solo Private Practice  
Feb.2003 **Fredericksburg Neurological Surgery, Inc.**  
Mary Washington Hospital, Fredericksburg, VA
- Jan.1991 - Neurosurgical Solo Private Practice  
Dec.1997 **James B. Macon, M.D., Medical Corporation**  
Eisenhower Med.Center, Rancho Mirage, CA  
Desert Hospital, Palm Springs, CA
- Jul 1982 – Neurosurgical Group Private Practice  
Dec. 1990 **Jelsma, Jelsma, Macon, and Lee, PSC**  
Audubon Regional Hospital, Louisville, KY
- Residency:**  
1977-82 Massachusetts General Hospital, Boston, MA  
Neurosurgery Residency
- Fellowship:**  
1975-77 National Institutes of Health, Bethesda, MD  
National Institute of Neurological  
Disorders and Stroke  
Clinical Associate in Neurophysiology
- Internship:**  
1974-75 Stanford University Medical Center, Palo Alto, CA  
Surgical Internship
- Awards:** New England Neurosurgical Society Resident  
Research Award 1980, 1981, 1982
- Memberships:** Fellow, American College of Surgeons (FACS)  
Massachusetts Medical Society  
New England Neurosurgical Society
- Offices:** Chief of Neurological Surgery  
Eisenhower Medical Center 1994-1996  
Mary Washington Hospital 1998-2003
- Guest Examiner ABNS Oral Board Exam 5/2002

**Research :** EMG and nerve conduction studies  
SEP monitoring and evoked potential studies  
Intra-operative spinal monitoring techniques  
Swivel Port access for minimally invasive spinal surgery  
Near eye displays (NED) for image-guided neurosurgery  
Value Formula for quantitative health care analysis

## **NEUROSURGICAL PROCEDURES:**

### **SPINAL SURGERY:**

- Minimally invasive microdiscectomy for cervical, thoracic and lumbar disc herniations
- Laminectomy and spinal decompression for stenosis, arthritic spurs and tumors
- Minimally invasive lumbar and cervical foraminotomy for foraminal stenosis and nerve root decompression
- Percutaneous discectomy for lumbar disc protrusion or contained herniation
- Laminectomy for microscopic resection of spinal tumors
- Anterior cervical discectomy, interbody fusion and plate fixation for disc herniation
- Cervical fixation and fusion for fractures and instability due to tumors or trauma
- Thoracic and lumbar fixation and fusion for fractures and instability due to tumors or trauma
- Minimally invasive transforaminal lumbar interbody fusion and pedicle fixation for instability or spondylolisthesis
- Microsurgery for peripheral nerve injury or tumors
- Kyphoplasty for vertebral compression fractures
- Interspinous process device insertion for stenosis
- Lumbar facet joint fixation and fusion for instability and pain
- SI joint fixation and fusion for instability and joint pain

### **PAIN MANAGEMENT:**

- Epidural and selective nerve root steroid and local anesthetic injections for radiculitis
- Facet steroid blocks and radiofrequency facet rhizotomy
- Insertion of spinal cord stimulating electrodes/ pulse generator
- Insertion of spinal pumps/catheters for administration of intrathecal narcotic analgesia
- Lumbar discography
- SI joint steroid blocks and radiofrequency rhizotomy

## **PRESENTATIONS:**

1. Macon, J.B. "Spinal Somatosensory Evoked Potentials" presented at annual meeting of the American Association of Neurological Surgeons, Boston, MA, 1981.
2. Macon, J.B. "Human Trigeminal Root Evoked Potentials During Differential Thermal and Chemical Trigeminal Rhizotomy" presented at the Third World Congress on Pain, Edinburgh, Scotland, 1981.
3. Macon, J.B. "Reversal of Fixed Hemiplegia due to Middle Cerebral Artery Occlusion by Delayed Superficial Temporal to Middle Cerebral Artery Bypass Graft" presented at the Seventh International Symposium on Revascularization for Stroke, Phoenix, Arizona, 1985.
4. Macon, J.B. "Subarachnoid Hemorrhage" presented at Humana Neuroscience Center of Excellence Annual Meeting, Louisville, KY, 1987.
5. Macon, J.B. "Results of Lumbar Disc Surgery vs Chymopapain Injection in a Private Practice Setting" presented at AANS Spinal Meeting, Phoenix, AZ, 1988.
6. Macon, J.B. "Lumbar Disc Surgery in Private Practice" presented at Humana Neuroscience Center of Excellence Annual Meeting, Louisville, KY, 1988.
7. Macon, J.B. "Pituitary Apoplexy: Diagnosis and Treatment" presented at the Lions' Eye Center, Louisville, KY, 1988.
8. Macon J.B. "Dependent Syringosubarachnoid Shunting for Holocord Syrinomyelia" presented at AANS Annual Meeting, Washington, D.C., 1989.
9. Macon, J.B. "The Value of MRI for Diagnosis of Neurosurgical Conditions" presented at Humana Neuroscience Center of Excellence Annual Meeting, Louisville, KY, 1989.
10. Macon, J.B. "Neurosurgical Aspects of Pain Management" presented at Humana Neuroscience Center of Excellence Annual Meeting, Louisville, KY, 1990.
11. Macon, J.B. "Surgical treatment of Anterior Thoracic Spinal Cord Compression by Metastatic Cancer With Transpedicular Decompression and Luque Rod Fixation and Fusion" presented at Annenburg Center, Rancho Mirage, CA, 1991.
12. Macon, J.B. "Neurosurgical Treatment of Chronic Pain: Ablative Techniques" presented at Desert Hospital Pain Management Conference, Palm Springs, CA, 1997 and Mary Washington Hospital, Fredericksburg, VA, 1999.
13. Macon, J.B. "Neurosurgical Management of Hemorrhagic Stroke" presented at Mary Washington Hospital, Fredericksburg, VA, 2000.
14. Macon, J.B. "Image-Guided Brain and Spine Surgery at MetroWest Medical Center" presented at MetroWest Medical Center, Boston, MA, 2004.

15. Macon, J.B. "New Techniques for Minimally Invasive Spine Fusion" presented at Milford Regional Medical Center, 2004.
16. Macon, J.B. "New Techniques for Minimally Invasive Spine Fusion" presented at MetroWest Medical Center, Boston, MA, 2004.
17. Macon, J.B. "Clinical Application of the MicroOptical Viewer with Image Guidance using the Radionics Omnisight Excel System: Pedicle Screw Fixation" presented at the Congress of Neurological Surgeons annual meeting, Boston, MA, 2005.
18. Macon, J.B. "Clinical Application of the MicroOptical Viewer with Image Guidance using the Radionics Omnisight Excel System: Brain Tumor Resection" presented at the Congress of Neurological Surgeons annual meeting, Boston, MA, 2005.
19. Macon, J.B. "Brain Tumor Resection with the Operating Microscope Facilitated by a Near Eye Display Device (NED Vision) and Image Guidance" presented at the annual meeting of American Association of Neurological Surgeons, San Francisco, CA, 2006.
20. Macon, J.B. "Clinical Application of a Near Eye Display Device (NED Vision) for Access of Intraoperative Digital Image Data from Multiple Input Sources" presented at annual meeting of American Association of Neurological Surgeons, San Francisco, CA, 2006.
21. Macon, J.B. "Swivel Port Access for Minimally Invasive Spine Surgery" presented at annual meeting of American Association of Neurological Surgeons, Washington, D.C., 2007.
22. Macon, J.B. "Algorithm for the Diagnosis and Minimally Invasive Treatment of Lumbar Radicular Pain due to Lateral Spine Pathology" presented at the American Association of Neurological Surgeons Spine Section meeting, Phoenix, AZ, 2009.
23. Macon, J.B. "A Quantitative Value Analysis Formula Designed for Comparison of Spine Interventions Based on Outcome, Success Rate and Cost Data" presented at the American Association of Neurological Surgeons Spine Section meeting, Orlando, FL, 2010.
24. Macon, J.B. "A Relative Value Calculator for Spine Procedures" presented at the annual meeting of the New England Neurosurgical Society, Chatham, MA, 2011
25. Macon, J.B. "A Relative Value Calculator for Pain Procedures" presented at the annual meeting of the American Academy of Pain Medicine, Palm Springs, CA, 2012
26. Macon, J.B. "Pain Procedure Valuation as a Competitive Strategy" presented at the Fourteenth World Congress on Pain, Milan, Italy, 2012.

## **PUBLICATIONS:**

1. Cottrell, G.A., Berry, M.D. and Macon, J.B., "Synapses of a giant serotonin neuron and a giant dopamine neuron: studies using antagonists". Neuropharmacology **13**: 431, 1974.
2. Cottrell, G.A., Macon, J.B., and Szezepaniak, A.C., "Glutamic acid mimicking of synaptic inhibition on the giant serotonin neurone of the snail". Br. J. Pharmacology **45**: 684, 1972.
3. Cottrell, G.A. and Macon, J.B., "Synaptic connection made by two symmetrically placed giant serotonin-containing neurons". J. Physiol.( London ) **236**: 435, 1974.
4. Hery, F., Pujol, J.F., Macon, J. and Glowinski, J., "Increased synthesis and utilization of serotonin in the central nervous system of the rat during paradoxical sleep deprivation". Brain Research **21**: 391, 1970.
5. Jelsma, L.J., Jelsma, R.K. and Macon, J.B., "Results of lumbar disc surgery vs chymopapain injection in a private practice setting". Neurosurgery **23**: 263, 1988.
6. Jones, T.H., Macon, J.B., Zervas, N.T. and Ames, A., "New approach to study of ischemia in central nervous system: in vivo studies of retina". Surgical Forum **31**: 482, 1980.
7. Macon, J.B., "Neuronal responses to amino acid iontophoresis in the deafferented spinal trigeminal nucleus". Exptl. Neurology **60**: 522, 1978.
8. Macon, J.B., "Deafferentation hyperactivity in the monkey spinal trigeminal nucleus: neuronal responses to amino acid iontophoresis". Brain Research **161**: 549, 1979.
9. Macon, J.B. and King, D.W., "Responses of somatosensory cortical neurons to inhibitory amino acids and synaptic inhibition during topical and iontophoretic application of epileptogenic agents". Electroenceph. Clin. Neurophysiol. **47**: 41, 1979.
10. Macon, J.B. and King, D.W., "Penicillin iontophoresis and the responses of somatosensory cortical neurons to amino acids". Electoenceph. Clin. Neurophysiol. **47**: 52, 1979.
11. Macon, J.B. and Poletti, C.E., "Conducted somatosensory evoked potentials during spinal surgery". J. Neurosurgery **57**: 344, 1982.
12. Macon, J.B. and Poletti, C.E., "Human trigeminal root evoked potentials during differential retrogasserian thermal and chemical rhizotomy". Pain **31**: 307-316, 1987.
13. Macon, J.B., Poletti, C.E. and Sweet, W.H., "Human trigeminal root evoked potentials during differential thermal and chemical rhizotomy". Surg. Forum **32**: 486, 1981.
14. Macon, J.B., Poletti, C.E., Sweet, W.H., Ojemann, R.G. and Zervas, N.T., "Conducted somatosensory evoked potentials II". J. Neurosurgery **57**: 354, 1982.

15. Macon, J.B., Poletti, C.E., Sweet, W.H. and Zervas, N.T., "Spinal conduction velocity measurement during laminectomy". Surgical Forum 31: 453, 1980.
16. Macon, J.B. and Rice, J.F., "Reversal of fixed hemiplegia due to middle cerebral artery occlusion by delayed superficial temporal to middle cerebral artery bypass graft". Cerebral Revascularization for Stroke , ed. Spetzler, R.F., Carter, L.P. Selman, W.R. Martin,N., Thieme-Stratton Inc., N.Y., p.470-474, 1985.
17. Macon, J.B., Sokoloff, L. and Glowinski, J., "Feedback control of rat brain 5-hydroxytryptamine synthesis". J. Neurochemistry 18: 323, 1971.
18. Sweet, W.H., Poletti, C.E. and Macon, J.B., "Treatment of trigeminal neuralgia and other facial pains by retrogasserian injection of glycerol". Neurosurgery 9:647, 1981.