

## *Curriculum Vitae*

### **FRASER CUMMINS HENDERSON SR., M.D.**

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#### ***EDUCATION***

**Bachelor of Arts**, University of Virginia, May 1978

**Doctor of Medicine**, University of Virginia, May 1982

**Internship (PGY 1)**, General Surgery, Naval Regional Medical Center, Portsmouth, Virginia  
1982-1983

**Residency (PGY 2-5)** under Phanor Perot Jr., M.D., PhD.

Department of Neurosurgery, Medical University of South Carolina, Charleston, South  
Carolina 1984-1988

**Chief Resident (PGY 6)** under Phanor Perot Jr., M.D., PhD.

Department of Neurosurgery, Medical University of South Carolina, Charleston, South  
Carolina 1988-1989

**Fellowship, International Spine Fellow**, under Professor Alan Crockard FRCS, Department  
of Surgical Neurology, The National Hospitals for Neurology and Neurosurgery, Queen  
Square, London, Great Britain, 1992

#### ***BOARD CERTIFICATION***

**National Board of Medical Examiners:**

Part I (1980)

Part II (1982)

Part III (1983)

**American Board of Neurological Surgery:**

Part 1: Written exam in 2<sup>nd</sup> year of residency 1986

Part 2: Oral board exam (after fellowship) 1993

#### ***MEDICAL LICENSURE***

1984-2016	South Carolina Medical License
1993-1995	Commonwealth of Pennsylvania Medical License (not renewed)
1994 -2011	District of Columbia Medical License (not renewed)
1995 -2020	Virginia Medical License
1996 -2020	State of Maryland Medical License

## ***PRACTICE LOCATIONS***

Georgetown University Hospital, Washington D.C. 1994-2010

Doctor's Community Hospital, MD 2008 - Present

Shady Grove Adventist, MD 2012 -Present

Holy Cross Hospital, Silver Spring,MD 2015 - Present

Greater Baltimore Medical Center, Baltimore, MD 2015 - Present

## ***HONORS AND AWARDS***

1971	Commonwealth University Scholarship, Sydney, Australia,
1983	Navy Commendation Medal
1983	Meritorious Unit Commendation
1983	Navy Unit Citation
1983	Navy Expeditionary Medal
1991	Fleet Marine Force Service Medal
1991	National Defense Service Medal
1991	Kuwait Liberation Medal
1991	South West Asia Service Medal
1983 & 1991	Sea Service Deployment Ribbons
1998	Certificate of Excellence, Symposium Neuroradiologicum XVI, Phila. PA,May 15-17, 1998, for "Association of Lumbar Synovial Cysts with Facet Effusion", Schellinger D, W, Henderson F.
2008	Top Surgeons 2008, Consumers Research Council America
1998-2006	Washington Top Doctors
2001-2010	Best Doctors in America
2004-2008	Top Physicians, Consumers Research Council of America
1996-2004	US News and World Report—Best Departments in USA
2008	Top Doctors for 2008, Nichols Institute
2003	Best Abstract, CyberKnife Users' Meeting (Spine Session), November 2003, Napa, CA, for "CyberKnife Radiosurgery of Chordomas", Sharma, M, Gagnon, GJ, Henderson FC. 2003
2005	Best Abstract, Worldwide CyberKnife Users' Meeting (Spine Session) January 28, 2005, Ritz Carlton Hotel, Half Moon Bay, CA for "CyberKnife Radiosurgery in Previously Irradiated Spines", Gagnon GJ, McRae D, Henderson FC. 2005
2006	Best Abstract, Worldwide CyberKnife Users' Meeting (CNS Session), January 25, 2006, Carlsbad, CA for "Robotic Stereotactic Irradiation of Spinal Chordomas and Chondrosarcomas—A Case for Dose Escalation", Gagnon GJ, Harter KW, Henderson FC.
2008	Mayfield Neurosurgical Research Award, AANS/CNS Joint Section for Spine and Peripheral Nerve, Orlando FLA
2010	Chiari Syringomyelia Foundation Award for Distinguished Service
2011	RISES Doctor of the year, Shady Grove Hospital MD
2012	Castle and Connally: TopDoctor, Neurosurgery 2012,
2012	Expert:National Organization Rare Disorders Physician

2012	Recognition of Service, ILC, Canadian Rare Diseases 2012
2012	Leading Physician 2012, Int.Assoc.Health Care Professionals
2013	Patients Choice Award
2013	Peer Reviewed Physician's, Patients Choice Award
2014	Castle Connally's Top Doctor for 10 Year
2015	Nominated, Schwartz National Compassionate Caregiver Award

### ***PREVIOUS PROFESSIONAL POSITIONS***

1973-1974	Manager, Bullo River Cattle Station, Northern Territory, Australia
1983-1984	Task Force Medical Officer, Ship's Medical Officer, USS Iwo Jima (LPH 2), Multi-National Peace Keeping Force, Beirut, Lebanon 1983-1984
1989-1990	Instructor, Department of Neurosurgery, Medical University of South Carolina, Charleston, South Carolina
1989-1990	Chief of Neurosurgery, Department of Surgery, Veterans Hospital, Charleston, South Carolina
1990-1994	Director of Spine, Department of Neurosurgery, National Naval Medical Center, Bethesda, Maryland
1993-1996	Assistant Professor, Department of Surgery, Uniformed Services, University of Health Sciences, Bethesda Naval Hospital, Bethesda, Maryland
1994-2008	Director Neurosurgery of the Spine and Craniocervical Junction, Georgetown University Medical Center, Washington, D.C.
1995-2008	Director of Spine Tumor Center, Georgetown University Medical Center, Washington, D.C.
1996 - 2008	Medical Director, Neurosurgical Intensive Care and Step-down Units, Georgetown University Hospital, Washington, D.C.
2000-2005	Associate Professor of Neurosurgery, Georgetown University Hospital, Washington, D.C.
2002-2008	Co-Director, Cyberknife Radiosurgery, Georgetown University
2004-2008	Co-Director, Division Neuro-Oncology and Childhood Cancer, Lombardi Cancer Center, Georgetown University Hospital, Washington, D.C.
2005-2008	Professor of Neurosurgery, (scholar tract) Georgetown University
2005-2008	Associate Professor of Radiation Medicine, GUH
2008 -2009	Professor, Department of Radiology, Imaging Science and Information Systems, Georgetown University
2008 - Present	Director , Metropolitan Neurosurgery Group
2009 - Present	Director, Greater Metropolitan Wash. Chiari Foundation
2010 - Present	Director Neurosurgery, Doctor's Community Hospital, MD
2010- present	Staff neurosurgeon, Adventist Hospital, Shady Grove, MD
2011 - Present	Cure Foundation, Director of Neuroscience
2012 - 2018	Executive Board Member, Chiari Syringomyelia Foundation
2018-present	Science and Education Board Member, CSF

2012- 2017	Canadian ILC Medical Advisory Board Members
2013- Present	Executive Board member, Coalition Against Pediatric Pain
2013 - Present	Murray Williams Mastocytosis Foundation , Advisory Board Member
2014- 17	Executive Board Member, Ehlers Danlos Society
2017- present	Medical Board, Ehlers Danlos Society

## ***MILITARY SERVICE***

1975	United States Marine Corps, Officer Training, Camp Upshur Quantico, Virginia
1975-1977	United States Marine Corps, Reserve Platoon Leaders Class
1979-1982	United States Navy, Ensign, University of Virginia, Charlottesville, Virginia
1982-1987	Lieutenant, Medical Corps
1983-1984	Ship's Medical Officer, USS Iwo Jima (LPH-2)
1983	Task Force Medical Officer, Multi National Peace Keeping Force, Beirut, Lebanon
1987	Lieutenant Commander
1990-1991	Brigade Neurosurgeon, Fourth Marine Expeditionary Brigade, 2nd Marine Division, Desert Shield/Desert Storm Campaigns, Persian Gulf War
1993	Commander, USNR
1990-1994	Bethesda Naval Hospital, Bethesda, Maryland

## ***PROFESSIONAL SOCIETIES***

1985-1990	Charleston Medical Society
1991 - Present	Cushing Society
1991 - Present	Washington Academy of Neurosurgeons
1991 - Present	AANS/CNS Spine Peripheral Nerves
1994 - Present	AANS
1997 - Present	AANS/CNS Trauma and Critical Care
2003 - Present	Cyberknife Society
2006 - Present	AANS Tumor Section
2009 - Present	Med Chi Maryland Medical Association
2009 - Present	Clinical Pathology Society of Washington
2009 - Present	Chiari Syringomyelia Foundation
2013 - Present	CSF International Chiari and Related Disorders Data Bank Committee
2014 - Present	Ehlers Danlos Society,

## ***MEMBERSHIPS***

2002 - Present	Society of the Cincinnati, Maryland
1979 - Present	Aztec Society
1981 - Present	Jefferson Society, University of Virginia
1982 - Present	Raven Society, University of Virginia
1999 - Present	The Metropolitan Club, Washington
2005 - Present	Vansville Farmers Club
2007 - Present	Farmington Country Club
2001 - Present	Marlborough Hunt Club
2010 - Present	The Georgetown Assembly
2017- present	The Order of St. John

### ***TEACHING ACTIVITIES***

1994-2002	Director Medical Student Education—Rated A in teaching
1994-2004	Monthly Medical Student Core Lectures
1994-2008	Grand Rounds—Neurology, Neurosurgery, Bi-Annual Lectures
1994-2008	Director Neurosurgical Elective Education
1994-2008	Director Brain and Spine Acute Care
1995-2000	Co-Director, International “Hands-On” Spine Conference Uniformed Services Health Science University, Bethesda, MD
2001-2004	Neuro Oncology Tumor Board
2003	Conference Chairman, “International Symposium for Extracranial Radiosurgery”, Washington, DC
2003	Conference Chairman, “Spinal Surgery: New Innovation and Frontiers”, Baltimore, MD
2003-2004	PhD Dissertation Committee, Zegang Dong
2005	Lombardi Research and Oncology Grand Rounds, “New Strategies for Treatment of Spinal Neoplasms with Cyberknife Stereotactic Radiosurgery”, Georgetown University Hospital
2007	Visiting Professor: UCLA, Los Angeles, CA
2008	Visiting Professor: MUSC, Charleston, SC
2009	Visiting Professor: The Cleveland Clinic, Cleveland, OH
2010	Visiting Professor, Duke University
2009-2011	Greater Metropolitan Washington CSF Chapter, lecture
2010-2018	Invited speaker, Ehlers Danlos National Conference
2011	Honored Guest Speaker, National Conquer Chiari, VA
2011	Chairman, Chiari/EDS Colloquium, D.C.
2013	The Coalition Against Pediatric Pain, Speaker, August 2013
2013	Chair, CSF Colloquium on Craniocervical Hypermobility
2013	Visiting Professor, Drexel University, Pa
2014	Visiting Professor, Medical University South Carolina, SC
2014	Invited Speaker, EDNF National meeting, Houston, TX
2014	Invited Speaker, Chiari March
2015-17	Weekly Nursing lecture series, Doctors Hospital
2015	CSF Annual Meeting, AANS, Washington D.C.
2015	The Hypermobility Conference, London University College

2015	Complex Spine Conference, National Hospital for Neurology and Neurosurgery, Queen Square, London ,Great Britain
2015	British Ehlers Danlos Syndrome, Annual Conference, Boreham Wood, Great Britain, June 13 th, 2015
2016	Chairman, Neurology Section, EDS International Meeting, New York
2016	Visiting Professor, Methodist Hospital, Houston, Texas
2018	USUHS Bethesda, MD, Medical Lectures

## ***PUBLIC SERVICE***

1983	Henderson, F.C., “Lessons Learned from the Terrorist Bombing of the BLT in Beirut, Lebanon, October 23, 1983” Situation Report, USN.
1990	Henderson, F.C., “Preparation and Handling of Mass Casualties” Lecture, Televised presentation for all embarked USN personnel, 2nd FSSG, 4th Marine Expeditionary Brigade/2nd Marine Division, Persian Gulf
2003-2004	Guest Editor: Seminars in Spine Surgery, “Stretch Myelopathies”
2003-2008	Founder, Director: Neuroscience Hope Fund (travel, meals and accommodation for indigent patients)
2005-2006	Guest Editor: “Cystic Lesions of the Spine”
2004	Guest Editor: Medical Science Monitor Journal
2006	Guest Editor: Neurosurgery Journal
2006	Guest Editor: Spinal Cord Journal
2006	Medical Advisor: Spinal Cord Tumor Association
	Clinical Advisory Board: Accuray, Sunnydale,CA
	Clinical Advisory Board: National Functional Genomics Center, Moffitt Cancer Center, FL
2008	Society of Cincinnati, Committee for Charitable Gifts and Education
2009 - Present	Director, Greater Washington Metropolitan Chiari Syringomyelia Foundation
2010-18	Host, International CSF “Night of Light Childrens Gala
2011 - Present	Guest Editor, Science Journal
2011	Speaker, Society of Cincinnati, The Battle of Brandywine
2011-14	Conquer Chiari, Invited Speaker, Frederick, Md
2012 - Present	Guest Editor, Journal Case ReportsNeurological Medicine
2012 - Present	Guest Editor, The Spine Journal
2018	Chairman, ad hoc Committee to define the Common Data Elements for tethered cord syndrome, in conj. with NIH/NINDS,EDS/CSF

## ***TELEVISION /PRESS APPEARANCES***

1991	CNN, Neurosurgical Treatment of Troops in the Gulf War
1996	Lumbar disc surgery
2001	NBC Local News, Head trauma and importance of helmets
2005	CNN Health: Documentary re invention Telescopic Spacer
2008	NBC Nightly News, re Senator E. Kennedy (Treatment of Glioblastoma) (6/3/2008)
2008	MSNBC, three segments re Senator Kennedy (6/3/2008)
2008	Turkish-American TV Hour guest, discussion CyberKnife (6/2008)
2011	CBS News, Richmond, VA, Ehlers Danlos Syndrome
2014	Washington Post, Health and Science , 3/11/ 14 “Stretched to the Limit : Spinal Surgery allows patient to walk again”.

## **PUBLICATIONS**

1. Rozich, J.; Holley, H.P.; Henderson, F.C.; Gardner, J.; Nelson, A., “*Cauda Equina Syndrome Secondary to Disseminated Zygomycosis*”, JAMA 260-24:3638-3640, 1988.
2. Henderson, F.C.; Stevens, J.M.; Crockard, A.C., “*Spinal Cord Edema Due to Venous Stasis*”, Neuroradiology 35(4) 312-315, 1992.
3. Henderson, F.C.; Geddes, J.F.; Crockard, H.A., “*Neuropathology of the Brainstem and Spinal Cord in End Stage Rheumatoid Arthritis: Implications for Treatment*”, Annals of Rheumatology 52:629-637, 1993. (Extended Report)
4. Howard, R.S.; Henderson, F.C.; Hirsch, N.P.; Stevens, J.M.; Kendal, B.E.; Crockard, H.A., “*Respiratory Abnormalities Due to Craniocervical Junction Compression in Rheumatoid Disease*”, Annals of Rheumatic Diseases, 53:134-136, 1994.
5. Feigenbaum, F.; Sulmasy, D.P.; Pellegrino, E.D.; Henderson, F.C., “*Spondyloptotic Fracture of the Cervical Spine in a Pregnant, Anemic Jehovah’s Witness: Technical and Ethical Considerations*”, J Neurosurgery 87: 458-463, 1997.
6. Sheikh, S.; Henderson, F.C.; Gomes, M.; Montgomery, E., “*Intravascular Fasciitis Clinically Mimicking an Axillary Peripheral Nerve Sheath Tumor; Case Report and Discussion of the Literature.*” VASC ENDOVASCULAR SURG 33: 439-446, July/August 1999
7. Maher, C.O.; Henderson, F.C., “*Lateral Exit-Zone Stenosis and Lumbar Radiculopathy.*” Journal of Neurosurgery (Spine 1) 90:52-58, 1999.
8. Schellinger, D.; Lin, C.S.; Fertikh, D.; Lee, J.S.; Lauerman, W.C.; Henderson, F.C.; Davis, B., “*Normal Lumbar Vertebrae: Anatomic, Age, and Sex Variance in Subjects at Proton MR Spectroscopy – Initial Experience 1.*” Radiology 215:910-916, 2000.

9. Hum, B.A.; Feigenbaum, F.; Cleary, K.R.; Henderson, F.C., "*Intraoperative Computed Tomography for Complex Craniocervical Operations and Spinal Tumor Resections.*" J Neurosurgery 47: 374-381, 2000.
10. Voyadzis, J.M.; Bhargava, P.; Henderson, F.C., "*Tarlov Cysts: A Study with Review of the Literature.*" Journal of Neurosurgery (Spine 1) 95:25-32, 2001.
11. Coumans, J.C.E.; Marchek, C. P.; Henderson, F.C., "*Use of the Telescopic Plate Spacer in Treatment of Cervical and Cervicothoracic Spine Tumors*" Journal of Neurosurgery 51: 417-426, 2002.
12. Sandhu, F.A.; Pait, T.G.; Benzel, E.C.; Henderson, F.C., "*Occipito-Cervical Fusion and Stabilization with the Inside-Outside Technique in Patients with Rheumatoid Arthritis*" Spine 41:414-419, 2003.
13. Kim, D.H.; Vaccaro, A.R.; Henderson, F.C.; Benzel, E.C., "*Molecular Biology of Cervical Myelopathy and Spinal Cord Injury: Role of Oligodendrocyte Apoptosis*" The Spine Journal, Vol. 3, Issue 6: 510-519, November-December 2003.
14. Gwinn, R.; Henderson, F.C., "*Transdural Herniation of the Thoracic Spinal Cord: Untethering Through A Postero-lateral Trans-pedicular Approach*" Journal of Neurosurgery (Spine 10) 2: 223-227, 2004.
15. Degen, J.W.; Gagnon, G.J.; Voyadzis, J-M.; McCrae, D.A.; Lunsden, M.; Dieterich, S.; Molzahn, I.; Henderson, F.C., "*Cyberknife Stereotactic Radiosurgical Treatment of Spinal Tumors for Pain Control and Quality of Life*" Journal of Neurosurgery (Spine2), 540-549, 2005
16. Henderson, F.C.; Geddes, J.F.; Vaccaro, A.R.; Woodard, E.; Berry, K.J.; Benzel, E.C., "*Stretch- Associated Injury in Cervical Spondylotic Myelopathy: New Concept and Review*" Neurosurgery 56, pp 1101-1113, May 2005.
17. Feigenbaum, F, Henderson, F.C. "*Giant Sacral Meningeal Diverticula: Surgical Indications of the Thecal Tip Sign.*". Journal Neurosurg Spine, 5 443-446,2006.
18. McRae, D.A., Lundsten, M., Dieterich, S., Gagnon, G.J., Henderson, F.C. "*Early Experiences with Fiducial Tracking for Spinal Treatments with the CyperKnife.*" Medical Physics 29(8) Aug.2002
19. Makuria, A.T., Henderson, F.C., Rushing, E.J., Hartmann, D.P., Azumi, N., Ozdemirli. "*Oligodendroglioma with Neurocytic Differentiation Versus Atypical Extra-ventricular Neurocytoma: A Case Report of Unusual Pathological Findings of a Spinal Cord Tumor*". J Neuroonc Oct 13, 2006.



20. Gagnon, G.J., Henderson, F.C., Gehan, E.A., Sanford, D., Collins, B.T., Moulds, J.C., Dritschilo, A. “*CyberKnife Radiosurgery for Breast Cancer Spine Metastases: A Matched-Pair Analysis.*” *Cancer* 2007 Oct 15; 110(8):1796-1802
21. [Gagnon GJ](#), [Nasr NM](#), [Liao JJ](#), [Molzahn I](#), [Marsh D](#), [McRae D](#), [Henderson FC Sr](#). Treatment of spinal tumors using cyberknife fractionated stereotactic radiosurgery: pain and quality-of-life assessment after treatment in 200 patients. [Neurosurgery](#). 2009 Feb;64(2):297-306; discussion 306-7.
22. Henderson, F.C., McCool, K., Seigle, J., Jean, W., Gagnon, G. “*Treatment of Chordomas with CyberKnife: Georgetown University Experience and Treatment Recommendations*”. February, *Neurosurgery* 2009.
23. Henderson, F.C., McCool, J.K., Gagnon, G. “*Treatment of Chordomas with CyberKnife: NSGY 64(2) A1-A11*”, 2009
24. Touny, L., Henderson, F.C., Djakiew, D. “*Biochanin A Reduces Drug-Induced p75NTR Expression and Enhances Cell Survival: A New In Vitro Assay for Screening Inhibitors of p75NTR Expression*”, *Rejuvenation Research*( 13.5): 527-537, 2010
25. Henderson FC, Wilson WA , Berry J, Vaccaro A, Benzel E: “*Deformative stress associated with an Abnormal Clivo-axial angle: a finite element analysis*: *Surgical Neurology International*, July 2010
26. Heron, D.E., Stone, B., Burton, S., Gerszten, P.C., Dong, X., Gagnon, G.J., Quinn, A., Henderson, F.C. “*Single Versus Multi-session CyberKnife® Radiosurgery for Spine Metastases*—*Surgical Neurology International*, 2012
27. Chadi Tannoury, Jeffrey Rihn, William Wilson IV , Fraser Henderson Sr. , Alexander Vaccaro. *Clinical and Finite Element Analysis of Acute Whiplash*. *The Open Spine Journal*, Vol.3, 27-37, 2011
28. Dwight E.Heron, Malolan S.Rajagopalan, Brandon Stone, Steven Burton, Peter C.Gerszten, Xinxin Dong, Gregory J.Gagnon, Annette Quinn, Fraser Henderson. *Single-session and multisession CyberKnife radiosurgery for spine metastases - University of Pittsburgh and Georgetown University experience* . *Journal of Neurosurgery: Spine* 17: 11-18, 2012
29. Henderson, F. C.Sr., *Cranio-cervical Instability in Patients with Hypermobility Connective Disorders*. *Journal of Spine*, 2016. 05(02). doi:10.4172/2165-7939.1000299
30. Henderson FC, Sr., Henderson FC, Jr. *Diagnosis of Atlantoaxial Instability Requires Clinical Suspicion to Drive the Radiological Investigation*. *Journal of Spine*, Volume 6, Issue 2. Published April 2017.

31. Henderson, F. C. Sr., Henderson, F. C. Jr., Wilson, W. A., Mark, A. S., & Koby, M. (2017). *Utility of the clivo-axial angle in assessing brainstem deformity: pilot study and literature review*. Neurosurgical Review. doi:10.1007/s10143-017-0830-3
32. Henderson, F. C., Austin, C., Benzel, E., Bolognese, P., Ellenbogen, R., Francomano, C., Voermans, N. C. *Neurological and spinal Manifestationss of the Ehlers-Danlos syndromes*. American Journal of Medical Genetics Part C: Seminars in Medical Genetics, 2017. 175(1), 195-211. doi:10.1002/ajmg.c.31549
33. Henderson, F. C. Sr., Francomano C., Koby, M., Tuchman K., Adcock J. (In Preparation). *Cervical Medullary Syndrome secondary to Craniocervical Instability and Ventral Brainstem Compression in Hereditary Hypermobility Connective Tissue Disorders: 2 and 5 year follow up after Cervical Reduction, Fusion and Stabilization*.

## **BOOK CHAPTERS**

1. Henderson, F.C. “*Treatment of Soft Cervical Disc Herniation*.” Controversies in Neurosurgery, Al-Mefty, O.; Oritano, T.C.; Harkey, H.L., (eds.): Thieme Medical Publishers, Inc., 1996; pp 226-239.
2. Feigenbaum, F., Henderson, F.C. “*Cervical Graft Options*.” Textbook of Neurological Surgery, Batjer, H.H.; Loftus, C.M., (eds.): Lippincott-Raven Publishers, 1998.
3. Sekula, Jr., R.F.; Sandhu, F.A., Oliverio, P.J.; Henderson, F.C., “*Intramedullary Tumors of the Cord*.” Seminars in Spine Surgery, Wiesel, S.W.; Lauerma, W.C., (eds.): W.B. Saunders Company, 2000.
4. Coumans, J.C.E., Marchek, C.P., Henderson, F.C. “*TPS Devices for Treatment of Vertebral Tumors and Pathological Compression Fractures*.” An, Y.H., (ed.): Internal Fixation in Osteoporosis, Thieme Medical Publishers, Inc., New York. (expect publication 2002).
5. Sharma, M., Henderson, F.C. “*Vascular Malformation of the Spine and Spinal Cord*” (eds.): Lippincott, New York, 2003.
6. Feigenbaum, F., Henderson, F.C. “*Expansile Laminoplasty*” Seminars in Spine Surgery, Wiesel, S.W.; Shering, S., (eds.): W.B. Saunders Company, Philadelphia, Pennsylvania, 2003.
7. Henderson, F.C., Benzel, E.C., Kim, D.H., Vacarro, A.R. “*Pathophysiology of Cervical Myelopathy: Biomechanical Concepts*”. Spine Surgery, 1st Edition, Benzel, E. (ed.): Elsevier, Philadelphia, Pennsylvania, pp 160-168, 2003
8. Voyadzis, J-M., Henderson, F.C., “*Tarlov Cysts*.” Spine Surgery, 1st Edition, Benzel, E. (ed.): Elsevier, Philadelphia, Pennsylvania, pp 1124-113, 2003.

9. Couman, J.C.E., Marchek, C.P., Henderson, F.C. “*TPS Devices for Treatment of Vertebral Tumors and Pathological Compression Fractures.*” An, Y.H., (ed.): Internal Fixation in Osteoporosis, Thieme Medical Publishers, Inc., New York 2003.
10. Kim, D.H., Vaccaro, A.R., Henderson, F.C., Benzel, E.C. “*Molecular Biology of Cervical Myelopathy and Spinal Cord Injury: Role of Oligodendrocyte Apoptosis*” The Spine Journal, Volume 3, Issue 6: 510-519, November-December 2003.
11. Henderson, F.C. “*Stretch Related Injury of the Spinal Cord*” Seminars in Spine Surgery, Henderson, F.C., (ed.): W.B. Saunders Company, December 2004
12. Henderson, F.C., Benzel, E.C., Kim, D.H., Vaccaro, A.R. “*Pathophysiology of Cervical Myelopathy: Biomechanical Concepts*” Spine Surgery, 1st Edition, Benzel, E., (Ed): Elsevier, Philadelphia, Pennsylvania, pp 160-168, 2004.
13. Voyadzis, J-M., Henderson, F.C., “*Deformity Correction, Fusion and Stabilization of Cervical and Upper Thoracic Spine with the Telescopic Plate Spacer (TPS-C)*” Kim, D.H.; Vaccaro, A.R.; Fessler, R.G., (eds.): Surgical Techniques in Spinal Instrumentation, Thieme, New York, New York, 2004.
14. Kim, D.H., Vaccaro, A.R., Henderson, F.C., Benzel, E.C. “*Neural Injury at the Molecular Level*” Spine Surgery, 1st Edition, Benzel, E., (ed): Elsevier, Philadelphia, Pennsylvania, pp 100-109, 2004.
15. Gagnon, G.J., Henderson, F.C., McCrae, D. “*The Rationale for Staged Radiosurgery*” in “Cyberknife Radiosurgery: A Practical Guide.” Heilbrun, P. (Pd), April 2005.
16. Sharma, M., Henderson, F.C. “*Whiplash Syndrome, An Overview.*” Seminars in Spine Surgery, Henderson, F.C., (ed.): W.B. Saunders Company, 2005.
17. Henderson, F.C., Gagnon, G.J., McCrae, D. “*Cyberknife Radiosurgery for Spinal Tumors with Emphasis on Tumor Biology and Treatment Technique*” Pioneering Techniques with Robotic Radiosurgery, Volume 1, Moulds, R.F., (ed): Cyberknife Society 2005.
18. Gagnon, G.J., Henderson, F.C., McCrae, D. “*Radiosurgery in Previously Irradiated Spines*” Pioneering Techniques with Robotic Radiosurgery, Volume 1, Moulds, R.F., (ed): Cyberknife Society 2005.
19. Kalmar, A., McCrae, D., Henderson, F.C. “*Anesthesia Technique in Stereotactic Radiosurgery of the Spine with Cyberknife*” in “Cyberknife Radiosurgery: A Practical Guide.” Heilbrun, P. (Pd), August 2005.
20. Henderson, F.C., Gagnon, G.J., McCrae, D.A. “*Cyberknife Radiosurgery for Spinal Tumors with Emphasis on Tumor Biology and Treatment Technique.*” Chapter in Pioneering Techniques in Robotic Radiosurgery Volume 1. Editor-in-Chief: R.F. Mould. CyberKnife Society Press pp 147-160, 2005.

21. Gagnon, G.J., Henderson, F.C., McRae, D.A. “*CyberKnife Radiosurgery of the Spine*”. In *CyberKnife Radiosurgery, a Practical Guide*. 2005.
22. Wiesel, S.W., Boden, S.D., Henderson, F.C., Kalhorn, C.G. “*Stretch Myelopathy Syndromes*” *Seminars in Spine Surgery*, Volume 17, NO 1, March 2005.
23. Gagnon, G.J., Henderson, F.C. “*CyberKnife Stereotactic Radiosurgery: Rationale for Staged Treatment*”. Chapter in *CyberKnife Radiosurgery Practical Guide 2*. Editor Peter Heilbrun, M.D. The CyberKnife Society pp 1-8, 2006.
24. Gagnon, G.J., McRae, D., Henderson, F.C. “*CyberKnife Radiosurgery of the Spine: The First Two Years Experience at Georgetown University Hospital*.” Chapter in *CyberKnife Radiosurgery Practical Guide 2*. Editor Peter Heilbrun, M.D. The CyberKnife Society. pp 69-86. 2006
25. Gagnon, G., Henderson, F.C.: “*Clinical Outcomes of Pain and Quality of Life after CyberKnife Radiosurgery*.” In *Spine Radiosurgery*, Chapter 10, P. Gerszten, S.Ryu Eds, 2008.
26. Henderson, F.C., Nasr, N., Gagnon, G.: “*Stereotactic, Robotic, Radiosurgery of Tumors of the Spine*”, in “*Textbook of Stereotactic and Functional Neurosurgery*”, Lozano, Gildenberg, Tasker Eds, Springer –Verlag, Heidelberg, Germany, 2008
29. Henderson, F.C. Sr., McCool, J.K., Seigle, J., Gagnon, G.J.: *Treatment of Chordomas by Stereotactic Radiosurgery with Linear Accelerator: Comparison with other modes of Radiosurgery*. Functional Stereotactic Radiosurgery, 2010
30. Henderson, F.C., Wilson, W., Benzel, E.C., Kim, D.H., Vaccaro, A.R. “*Pathophysiology of Cervical Myelopathy: Biomechanical Concepts*”. *Spine Surgery*, 2nd Edition, Benzel, E. (ed.): Elsevier, Philadelphia, Pennsylvania, 2011
31. Feigenbaum F., Henderson, F.C., “*Tarlov Cysts*.” *Spine Surgery*, 2nd Edition, Benzel, E. (ed.): Elsevier, Philadelphia, Pennsylvania, , 2011.
32. Kim, D.H., Vaccaro, A.R., Henderson, F.C., Benzel, E.C. “*Neural Injury at the Molecular Level*” *Spine Surgery*, 2<sup>nd</sup> Edition, Benzel, E., (ed): Elsevier, Philadelphia, Pennsylvania, pp100-109, 2011.
33. Henderson, F.C. *Craniocervical Flexion Deformity in Hypermobility Syndrome: Diagnosis, treatment and Two Year Follow up in 20 Consecutive Patients with EDS*, in “*Basilar Impression and Craniocervical Instability*” , CSF Colloquium Proceedings, October 19th, 2013.

34. Pathophysiology of Cervical Myelopathy: Biomechanics and Deformative Stress. Fraser C. Henderson Sr, Edward C. Benzel, Fraser C. Henderson Jr. Chapter 10 .
35. Tarlov Cysts :Management and Pathophysiology. Frank Feigenbaum, Fraser C. Henderson Sr, Fraser C. Henderson Jr. In: *Spine Surgery: techniques, complication avoidance, and management*. Vol 2. 4th ed. Elsevier Churchill Livingstone; 2015. Chapter 115
36. Craniocervical Flexion Deformity in Hypermobility Syndrome, in *Basilar Impression and Craniocervical Instability*, Batzdorf, U, Benzel EC, Henderson FC eds, 2014 ,Chapter 11
37. Dysautonomia, *Is There a Relationship to Basilar Impression and Craniocervical Instability? Mechanisms and Pathophysiology of Headache in a Population of Patients with Chiari Malformation and Hypermobility Connective Tissue Disorders, CSF Colloquim*. Batzdorf, U, Henderson FC eds 2015

## **INVENTIONS**

1. Fusion Stabilization Chamber. Henderson et al:  
U.S. Patent # 5,405,391A; 1993  
Japanese Patent # 3236938;Canadian Patent # 2,155,726  
German Patent # 44 91 034;British Patent # 2,290,716; 1997
2. Radiosurgery Methods that Utilize Stereotactic Methods to Precisely Deliver High Dosage of Radiation Especially to the Spine.Henderson, et al:  
U.S. Patent # 6,665,555  
Date of Issue 12/16/2003
3. The Wedge, disc fusion device. Henderson et al:  
U.S. Patent # 6,066,175  
Date of Issue 5/23/2000
4. Computer Simulation Model For Human Central Nervous System.Henderson et al:  
U.S. Patent # 6,980,922 B2  
Date of Issue 12/27/2005
6. Triple Screw, Aparatus for Craniospinal Fixation: Henderson FC  
US Patent # 8,043,342  
Date of Issue 10/25/2011
7. Trabecular Mesh Stabilization System for Mitigation of Biomechanical Neuraxial Stress.  
Henderson FC, Newman JW  
US Patent # 8,187,302

Date of issue 5/29/2012

8. Craniospinal Fusion Method and Apparatus: Henderson FC  
US Patent # 8,083,743  
Date of Issue 12/27/2011
9. Craniospinal Fusion Methodology. Henderson et al:  
Provisional US Patent Application # 8043342  
Date of Issue 10/25/2011
10. Posterior Element vertebral Attachment Device. Henderson FC, Newman JW:  
US Patent Application #8403965  
Date of Issue 01/29/2007
11. Theory, method and Device for Determination of Abnormal Brainstem stress and subsequent neurological deficit. Henderson:  
U.S. patent application #8858470 B2  
Date of Issue 01/29/2007
14. Mathematical Relationship of Strain, Neurological Dysfunction and Abnormal Behavior Resulting from Neurological Dysfunction of the Brainstem: Henderson FC, Newman JW:  
U.S. Patent # 8556939  
Date of Issue 01/08/2008
15. Craniospinal Fusion Method and Apparatus: Henderson FC  
US Patent # 8,182,511  
Date of Issue 5/29/2012

## ***RESEARCH***

### ***Funded:***

#### **P75 Neurotrophin Receptor Proteomics**

Role/Time Commitment: PI, no salary charged to grant  
Funding Agency: U.S. Army, W81XWH-07-1-0366  
Contact: Ken Curley, Telemedicine and Advanced Technology Research Center (TATRC)  
Fort Detrick, MD 21702  
Performance Period: 1 May 2007 - 30 Apr 2008  
Level of Funding: \$926,000  
Specific Aims: Study p75 expression after stretch related spinal cord injury (SCI) based on archived tissue sections and cultured cells from injured rat spinal cords.  
Studies of high-energy shock wave (HESW) cavitation injury and up-regulation of p75<sup>NTR</sup> expression.  
Testing response of administering varying concentrations of aryl propionic acid analogs in treatment of central nervous system (CNS) injury and cancer cells

Identification of potential lead compounds for regulation of p75<sup>NTR</sup> expression.

#### **SCOSIA (Spinal Cord Stress Injury Assessment) System**

Role/Time Commitment: PI, no salary charged to grant  
Funding Agency: U.S. Army, W81XWH-07-1-0386  
Contact: A.J. Petrore  
United States Army Medical Acquisition Activity (USAMRAA)  
Fort Detrick, MD 21702-5014  
Performance Period: 21 May 2007 - 20 June 2008 (Research Ends 20 May 2008)  
Level of Funding: \$200,000  
Specific Aims: Develop a digital interface for the Spinal Cord Stress Injury Assessment (SCOSIA) system and integrate with finite element analysis and clinical database.  
Develop improved graphical user interface and speed up computer model  
Collect clinical image data, apply finite element analysis, and conduct a statistical study of chronic (non-kinetic) injuries.

#### **Up-Regulation of the P75 Nerve Growth Factor Receptor in Response to Extracorporeal Perturbatory Influences with High Energy Shock Waves and Stereotactic Irradiation in an Ependymoma Cell Line**

Role/Time Commitment: PI, no salary charged to grant  
Funding Agency: Medispec Corporation  
Contact: Ms. Skinner, 301 944 1575  
Performance Period: 2005-2007  
Level of Funding: \$175,000  
Specific Aims: The goal of this study is to demonstrate upregulation of expression of a membrane glycoprotein (p75) by application of focused beams of energy (shock waves). We believe that “stressing” cell membranes at certain frequencies may provoke reproducible changes in cell physiology.

#### **Cyberknife Stereotactic Radiosurgery for use in Spinal Tumors**

Role/Time Commitment: PI, no salary charged to grant  
Funding Agency: Accuray Corporation  
Contact: Omar Dawood 408 789 4457  
Performance Period: 2002-2007  
Level of Funding: \$80,000  
Specific Aims: To demonstrate improved survival, pain, and quality of life after stereotactic irradiation

#### **Retrospective Matched Pair Analysis of Stereotactic versus Conventional External BEAM Irradiation for Treatment of Breast Cancer of the Spine.**

Role: Co P.I., No salary  
Funding : Accuray Corporation  
Contact : Omar Dawood 408 789 4457  
Performance Period: 2006-7.

Goal: Comparison of single fraction versus multi-fractionation in treatment of spinal tumors with the CyberKnife SRS.

**A Phase I/II Study of VEGF inhibitors in combination with CyberKnife radiosurgery for Patients with Malignant Brain and Spine Lesions**

Role/Time Commitment: Co-PI, no salary charged to grant  
Funding Agency: Accuray Corporation/ Pfizer  
Contact: Omar Dawood 408 789 4457  
Performance Period: 2008-09 Level of Funding: \$98,000  
Specific Aims: To demonstrate safety and efficacy of Axitinib with CyberKnife

**p75 Neurotrophin Receptor Proteomics: Assay for Development of a drug for Glioblastoma Multiforme**

Role: P.I.: No salary charged to grant.  
Contact: Ken Curley: [curley@tatrc.org](mailto:curley@tatrc.org), USAMRMC  
Proposal Number 06122005  
Award Number W81XWH-07-1-0366  
Level of funding : \$70,000.  
Performance Period: September 2008-2009  
Specific Aims: Development of assays to drug specificity for the ligand receptor

**Retrospective Comparison of Single Versus Multi-session Fractionation on the Outcomes of Spinal Radiosurgery for Metastatic Lesions. To retrospectively compare outcomes of Single fraction spinal radiosurgery with the outcomes of multi-session (fractionated) radiosurgery in metastatic spine tumors.**

Role: PI  
Funding Agency : Accuray, Inc.  
Contact: Katherine Striedinger M.D, PhD  
CNS/Spine Clinical Program Manager; mobile phone: (408) 4311052  
Accuray, Inc, 1315 Chesapeake Terrace, Sunnyvale, CA 94098  
Performance Period: Sept 2008-2009

**P75 Neurotrophin Receptor is a rational drug target for malignant glioma: Development of a drug to block malignant invasiveness of GBM . Animal models to test the lead drug candidates. In conjunction with Peter Forsythe (P.I.), University of Calgary, Canada.**

Role: Co-investigator  
Funding Agency: Ivy Foundation.  
Grant admin: Shelagh Hooton (403)220 6063  
Level of funding: \$1,277,005:  
Performance period: October 2008-2011

**Spinal Cord Injury and Regeneration in the Rat Model.**

Role: P.I.  
Funding: Medical University of South Carolina, 1988-9  
Level of Funding: \$2,000



Specific Aims: Prospective Randomized study of 110 laminectomized rats s/p spinal cord injury by the drop Allen Technique, followed neurobehaviorally for 6 months.

### **Unfunded University IRB approved Research**

#### **Telescopic Plate Spacer(TPS) Spinal System for use Patients with Metastatic Spine Disease Following Vertebrectomy/Corpectomy (99-217)**

Role: P.I.  
Performance period: 1999-2005  
Specific Aim: To demonstrate the safety and efficacy of the use of the TPS in the Spine, following corpectomy for cancer; to survey pain and quality of Life after cancer surgery.

#### **Tarlov Cyst Syndrome: Retrospective Study of Neurological Assessment, Pain and Quality of Life after Sacral Laminectomized and Resection of Tarlov Cysts, GUH .**

Role: P.I.  
Performance Period 2000-2007  
Specific Aim: To assess preoperative Clinical Characteristics of Syndrome and outcomes after outcomes after surgical resection of Lesions

### **ORAL PRESENTATIONS AND INVITED LECTURES**

1. Henderson, F.C.; Gudeman, S.K.; Perot, P., “*CT Diagnosis of Subdural Effusions in Infants with H Flu Meningitis*” AANS/CNS Section of Pediatric Neurological Surgery, Pittsburgh, PA, USA, 1986.
2. Henderson, F.C.; Gudeman, S.K.; Perot, P., “*CT Diagnosis of Subdural Effusions in Infants with H Flu Meningitis*” AANS/CNS Section of Pediatric Neurological Surgery, Pittsburgh, PA, USA, 1986.
3. Sullivan, K.L.; Hong, C.C.; Henderson, F.C., “*Post-Operative Care and Management Program for Rats with Spinal Cord Injuries*” AALAS, 1988.
4. Hogan, K.; White, R.; Gudeman, S.K.; Henderson, F.C., “*Serum and Cerebrospinal Fluid Concentrations of Cefotaxime and Desacetylcefotaxime in Patients with CSF Shunt Infections*” American Society for Clinical Pharmacology and Therapeutics, 1989.
5. Hogan, K.; White, R.; Gudeman, S.K.; Henderson, F.C., “*Vancomycin Pharmacokinetic and Pharmacodynamic Parameters in Patients Cerebral Fluid Shunt Infections*” American Society for Clinical Pharmacology and Therapeutics, 1989.

6. Rogers, M.; Henderson, F.C.; Crockard, H.A., "*Atlanto-Axial Rotary Dislocation-Open Reduction using the Extreme Lateral Approach*" CSRS, European Section, Athens, Greece, 1992.
7. Calder, I.F.; Henderson, F.C.; Crockard, H.A., "*Airway Management in End Stage Rheumatoid Arthritis*" CSRS, European Section, Athens, Greece, 1992.
8. Henderson, F.C.; Geddes, J.F.; Stevens, J.; Crockard, H.A., "*Histopathological Changes in the Cervical Cord and Brainstem in End-stage Rheumatoid Arthritis*" CNS, Washington, D.C., USA, 1992.
9. Howard, R.S.; Hirsch, N.P.; Henderson, F.C.; Crockard, H.A., "*Respiratory Abnormalities Due to Atlanto-Axial Dislocation*" Assoc. British Neurologists & Danish Neurological Society, Amsterdam, 1992.
10. Stevens, J.M.; Henderson, F.C.; Crockard, H.A., "*Vertical Axial Subluxation in Rheumatoid Arthritis*" British Neuroradiological Society, London, Great Britain, 1992.
11. Henderson, F.C.; Geddes, J.F.; Crockard, H.A., "*Neuraxial Neuropathology in Rheumatoid Arthritis*" AANS/CNS Spine Section, Tucson, Arizona, USA, 1993.
12. Henderson, F.C.; Geddes, J.F.; Crockard, H.A.; Stevens, J.W., "*Neuraxial Pathology in End Stage Rheumatoid Arthritis*" ACR, Washington, D.C., USA, 1993.
13. Viola, J.J.; Harter, W.K.; Henderson, F.C., "*Afterloading Interstitial Brachytherapy for Recurrent Metastatic and Primary Tumors of the Spine and Sacrum*" AANS/CNS Section on Spine, 1995.
14. Levy, L.M.; Henderson, F.C., "*Evaluation of Different and Unusual Causes of Spinal Cord Tethering Using Cord Motion Evaluation with MRI*" NASS, Washington, D.C., USA, 1995.
15. Levy, L.M.; Henderson, F.C., "*MRI of Cervical Canal and Foramen Magnum Stenosis: Role of Cord Motion and CSF Flow Studies*" NASS, Washington, D.C., USA, 1995.
16. Levy, L.M.; Henderson, F.C., "*Acquired and Non-Myelodysplastic Spinal Cord Tethering: MRI Evaluation*" AANR, 1996.
17. Levy, L.M.; Kattah, J.; Henderson, F.C., "*Paradoxical Brainstem and Cord Motion in Non-Communication Hydrocephalus*" AANR, Washington, D.C., USA, 1996.
18. Bhatnagar, A.; Rehm, P.K.; Henderson, F.C.; Ellmer, T.E.; Davis, B.T.; Feigenbaum, F., "*Bone SPECT in Evaluation of Patients with Spinal Fusion*" Society Nuclear Medicine, Rockville, Maryland, USA, 1996.

19. Moquin, R.; Henderson, F.C., "*Endoscopy in Syringomyelia*" AANS, Denver, Colorado, USA, 1997.
20. Schellinger, D.; Lin, C.S.; Fertikh, D.; Davis, B.T.; Lauerman, W.C.; Henderson, F.C., "*Multi-Voxel Proton Magnetic Resonance Spectroscopy of Lumbar Vertebrae in Normal Subjects: Anatomic, Age and Gender Variance*" ASNR, 1998.
21. Schellinger D, Fertikh D, Lauerman W, Henderson FC: "*Association of Lumbar Synovial Cysts with Facet Effusion*", Symposium Neuroradiologicum XVI, Phila. PA, May 15-17, 1998.
22. Henderson FC: "*Stabilization of Cervical Spine Traumatic Fracture Subluxations*". International College of Surgeons. Wash DC, May 2-4, 1996
23. McRae, D.; Dieterich S.; Lundsten, M.; Gagnon, G.; Henderson, F.C., "*SRS with Cyberknife at Georgetown: An Exploration of the Possibilities*" First Annual Cyberknife Society Meeting. Napa Valley, CA, November 13-15, 2003.
24. Sharma, M.; Henderson, F.C., "*A New Paradigm for Treatment of Chordomas*" Third Annual Cyberknife Users' Meeting and the First Annual Cyberknife Society Meeting, Napa Valley, CA, November 13-15, 2003.
25. "*Stereotactic Radiosurgical Management of Chordomas*" AANS meeting, California, San Francisco, October 2004.
26. "*Pain Control and Quality of Life Data*" Annual Meeting of the Congress of Neurological Surgeons, Boston, MA, October 8, 2005.
27. Henderson, F.C.; Liao, J.J.; Nasr, N.; Collins, B.T.; McRae, D.; Harter, K.W.; Gagnon, G.J.; Molzahn, I., "*Stereotactic Radiosurgery of Spinal Tumors Using Cyberknife: Three Year Followup of Pain and Quality of Life*" Fifth Annual Cyberknife User's Meeting, La Costa Resort, Carlsbad, CA, January 25-28, 2006.
28. "*Quality of Life after Stereotactic Irradiation of Spinal Tumors*" 23rd Annual Meeting of the AANS/CNS, Phoenix, Arizona, March 7-10, 2007.
29. "*Complications of Anterior Cervical Spine Surgery*," AANS, Philadelphia, Pennsylvania, USA, 1988.
30. "*Rheumatoid Arthritis: Clinical Radiological and Pathology Indicators for Surgical Referral*," Tri-Service Rheumatology Association, Washington, D.C., USA, 1992.
31. "*Neurotransplantation in the Spinal Cord*," CNS, Washington, D.C., USA, 1993.
32. "*Transoral Surgery: Indications, Technique, Pitfalls*," 5th Annual Spine Workshop, Bethesda, Maryland, USA, 1993.

33. *"Transoral Removal of Ventral Neuraxial Tumors,"* Microsurgery of the Brain Technique Workshop, St. Louis, Missouri, USA, 1994.
34. *"Treatment of Basilar Invagination,"* 6th Annual Hands-On Spine Workshop, Bethesda, Maryland, USA, 1995.
35. Viola, J.J.; Henderson, F.C.; Harter, W.K., *"High Dose Afterloading Brachytherapy in Treatment of Spinal Malignancy"* AANS/CNS Spine Section, Orlando, Florida, USA, 1996.
36. Henderson, F.C.; Viola, J.J.; Harter, W.K., *"Afterloading Interstitial Brachytherapy for Recurrent Metastatic Tumors of the Spine"* NASS, Vancouver, British Columbia, Canada, 1996.
37. *"Treatment of Spinal Tumors,"* Visiting Professor Lecture, Medical University of South Carolina, Charleston, South Carolina, USA, 1996.
38. *"The Pathology/Physiology of Cervical Spondylotic Disease,"* AANS, Philadelphia, Pennsylvania, USA, 1997.
39. *"Surgical Management of Craniocervical Disease,"* Visiting Professor Lecture, Medical University of South Carolina, Charleston, South Carolina, USA, 1997.
40. *"Spondylosis of the Cervical Spine – Pathophysiology and Clinical Correlates,"* AANS, Philadelphia, Pennsylvania, USA, 1998.
41. *"Histopathology, Anatomy and Surgical Treatment of Basilar Invagination,"* 7th International Hands-On Spine Workshop, Bethesda, Maryland, USA, 1998
42. *"Transoral Surgery,"* Visiting Professor Lecture, Medical University of South Carolina, Charleston, South Carolina, USA, 1998.
43. *"Surgical Treatment of Rheumatoid Arthritis in the Cervical Spine,"* AANS/CNS Joint Section Hands-On Spine, Palm Springs, California, USA, 1998.
44. Henderson, F.C.; Marchek, C.P.; Gharpuray, V.M., *"A Comparison of the Clinical Behavior and the Histopathology of Plate Versus Cage-Plate Systems for Cervical Fusion"* CNS, Semi Ah Moo, Washington, USA, 1998.
45. *"Complication Avoidance of Anterior Cervical Spine Surgery,"* AANS, New Orleans, Louisiana, USA, 1999.
46. *"Pathophysiology of Cervical Spondylotic Myelopathy,"* AANS, New Orleans, Louisiana, USA, 1999.

47. "Primary Tumors of Spine," Annual Spine Conference, Whistler, British Columbia, Canada, 1999.
48. "Occipito-Cervical Stabilization in Rheumatoid Disease," AANS, Boston, Massachusetts, USA, 1999.
49. "Experimental Models of Spinal Fusion," Seminars on Spinal Disorders, Keystone, Colorado, USA, 1999.
50. Henderson, F.C.; Mega, J.E.; Moore, J.R.; Marchek, C.P.; Cuddy, B.G.; Gharpuray, V.M., "Mechanical and Histological Comparison of Instrumented Cervical Corpectomies on Caprine Model" CSRS-European Section, Strasbourg, France, July 1999.
51. Coumans, J.V.; Henderson, F.C., "Osteoplastic Laminectomy Following Intradural Cervical Spine Surgery" CSRS-European Section, Strasbourg, France, July 1999.
52. Voyadzis, J.M.; Henderson, F.C., "Tarlov Cysts: 10 Case Series and Review of Literature" CNS/AANS Joint Spine Conference, Palm Desert, California, USA, 2000.
53. "Adjacent Segment Disease," Annual Spine Workshop, Whistler, British Columbia, Canada, 2000.
54. "Far-Lateral Transcondylar Approach to the Skull Base," International Spine Conference, Bethesda, Maryland, June 2001.
55. Henderson, F.C., "Anterior Approach to the Cervico-Thoracic Junction" International Hands-On Spine Course, Bethesda, Maryland, USA, 2002. (Oral Presentation)
56. Henderson, F.C., "Cyberknife Stereotactic Radiation" American College of Surgeons, San Francisco, California, USA, October 2002.
57. Henderson, F.C.; Rodgers J.; "Early Experience with Stereotactic Radiosurgery at Georgetown University" CyberKnife Society, Napa Valley, California, USA, November 2002.
58. Henderson, F.C., "Cyberknife: Prospective Evaluation of the First 30 Spinal Radiosurgeries at Georgetown University Hospital" Stereotactic Surgery Symposium, New York, New York, USA, December 2002.
59. Henderson, F.C. "Radiosurgery for Treatment of Tumors of the Spine" National Hospital for Neurology and Neurosurgery, London, Great Britain, January 2003.
60. Henderson, F.C.; Sharma, M., "Spinal Stereotactic Surgery of the Spine-Preliminary Experience with 33 Consecutive Patients" Lende Neurosurgery Conference, Snowbird, Utah, USA, January 2003.

61. Henderson, F.C.; Rodgers, J., “*Stereotactic Radiosurgery: A One Year Experience*” International Symposium of Radiosurgery, Washington, DC, USA, April 2003.
62. “*Telescopic Plate Spacer: New Options for Spinal Replacement*,” N.I.H., Grand Rounds, May 23, 2003.
63. “*Stereotactic Radiosurgery of the Spine: Prospective Evaluation of a One Year Experience*” Bethesda, Maryland, USA, June 2003.
64. “*13th International Hands On Spine Conference: The Anterior Cervico-thoracic Approach for Spinal Metastatic Disease*,” Bethesda, Maryland, June 3, 2003.
65. “*New Treatment Algorithms with Spinal Radiosurgery*,” Georgetown University Hospital, Washington DC, October 16, 2003.
66. “*New Treatment Algorithms for Spinal Disease with Radiosurgery*,” Societa Italiano Neurochirurgia, Pulia, Italy, November 10, 2003.
67. “*Prospective Experience with Cyberknife Radiosurgery at Georgetown University Hospital*,” Napa, California, November 13-14, 2003.
68. “*The Argument for Staged Radiosurgery*,” Cyberknife Society Meeting, Napa Valley, California, November 14-15, 2003.
69. “*Radiobiology and Outcomes for Stereotactic Radiosurgery of the Spine*,” CNS Denver, Colorado, November 18, 2003.
70. “*New Treatment Strategies for Spinal Tumors with Stereotactic Radiosurgery*,” Taiwan Neurosurgery Society, Taipeh, December 6-8, 2003.
71. “*Anterior Approaches to the Cervico thoracic Junction, Stabilization Options*,” Taiwan Neurosurgery Society, Taipeh, December 6-8, 2003.
72. “*Prospective Experience with Cyberknife Radiosurgery at Georgetown University Hospital*” Napa, California, November 13-14, 2003.
73. Henderson, F.C.; Gagnon, G., “*Rationale for Staged Treatment*” Third Annual Cyberknife Users’ Meeting and the First Annual Cyberknife Society Meeting, Napa Valley, Napa Valley, CA, November 13-15, 2003.
74. “*Radiobiology and Outcomes for Stereotactic Radiosurgery of the Spine*” CNS Denver, Colorado, November 18, 2003.
75. “*New Treatment Strategies for Spinal Tumors with Stereotactic Radiosurgery*” Taiwan Neurosurgery Society, Taipeh, December 6-8, 2003.

76. *"Anterior Approaches to the Cervico-thoracic Junction, Stabilization Options"* Taiwan Neurosurgery Society, Taipeh, December 6-8, 2003.
77. Cyberknife Radiosurgery: *"New Treatment for Spinal Tumors with Cyberknife"* Lende Neurosurgical Conference, Snowbird, Utah, January 31- February 6, 2004.
78. *"The Gold Standard of Radiosurgery in Neurosciences: State-of-the-Art Technology and Integrated Patient Care."* Conference, Washington Hospital Center, Washington, DC, April 16-17, 2004.
79. *"New Stratagems for Extracranial Radiosurgery"* Dalcross Hospital, Sydney, Australia, June 14, 2004.
80. *"New Stratagems for Extracranial Radiosurgery"* Neurosurgery Multi Disciplinary Conference, Sir Charles Gardner Hospital, Perth, Australia, June 25, 2004.
81. *"Vertebral Body Replacement"* Techniques for Spine Surgery Symposium, NY, New York, December 3, 2004.
82. *"Reconstruction for Cervical Tumors"* Current Concepts and Techniques for Spine Surgery Symposium, Hyatt Regency Islandia Mission Bay, San Diego, CA, April 1-2, 2005.
83. *"Image Guided Surgery and Radiosurgery of the Spine"* AANS Spine Symposium, Ernest N. Morial Convention Center, New Orleans, Louisiana, April 16-21, 2005.
84. Degen JW, Gagnon GJ, Voyadzis JM, McRae DA, Lundsten M, Henderson, FC. *"Experience with Cyberknife Radiosurgery of Spinal Lesions at Georgetown University Hospital"*. Annual Meeting of the American Association of Neurological Surgeons, April 2005
85. *"Quality of Life After Spinal Radiosurgery"* Robotic Whole Body Stereotactic Radiosurgery Symposium, Cyberknife Society/Stanford University Medical Center, Washington, DC, May 13, 2005.
86. *"Pain Control and Quality of Life Data following Stereotactic Radiosurgery"* Annual Meeting of the Congress of Neurological Surgeons, Boston, MA, October 8, 2005.
87. *"Stereotactic Radiosurgery of the Spine, Radiobiology and Quality of Life Outcome"*. Italian National Association of Neurosurgeons. Venice, Oct 2005
88. *"Anterior Treatment of Cervico-Thoracic Metastatic Disease"*. EBI Invited lecturer, New York, NY, Dec 7th, 2005.

89. *“New Strategies for Treatment of Benign and Malignant Spinal Tumors”*, FCHenderson, Washington Hospital Center, Grand Rounds, January 2006.
90. *“Radiation Re-Treatment of the Spine Using CyberKnife Stereotactic Radiosurgery”*. Liao JJ, Nasr NM, Gagnon G, Henderson FC, Balfour American Society for Therapeutic Radiology and Oncology 47th Annual Meeting. October 2005
91. *“Pain and Quality of Life after Stereotactic Irradiation”*, Cyberknife Users’ Meeting, La Costa Resort, Carlsbad, California, January 25-28, 2006.
92. *“New Strategies for Radiosurgery of Spinal Tumors”* Grand Rounds, Georgetown University Hospital, February 23, 2006.
93. *“New Paradigms in Treatment of Benign and Malignant Spinal Tumors”* St. Mary’s County CME Conference Series 2006, California, Maryland, March 2006
94. *“Pain and Quality of Life After Stereotactic Radiosurgery of Spinal Tumors”*, Cyberknife/Stanford University Conference, Intercontinental Hotel, Chicago, Illinois, April 7-8, 2006.
95. *“Stereotactic Radiosurgery of Spinal Tumors—Quality of Life and Efficacy”* AANS 74th Annual Meeting, San Francisco, California, April 22-27, 2006.
96. Spinal Tumor Association, Tele Conference *“Pain and Quality of Life Issues following Stereotactic Irradiation”*, May 10, 2006.
97. *“Radiology and Quality of Life Issues for Patients with Spinal Tumors”*, Biannual American Society for Stereotactic Radiosurgery, Boston, Mass , June 2006
98. *“Radiobiology of CyberKnife in Treatment of Spinal Tumors”*, New Technology Symposium, Sydney, Australia, June, 2006
99. *“Basilar Invagination and Encephalo-Myelopathy”*, Grand Rounds, Georgetown University, Washington, DC, Sept 2006
100. *“Treatment of Spinal and Head and Neck Cancers with CyberKnife”*, Radiosurgery Symposium, Brisbane , June, 2006 ,Queensland, Australia
101. *“Focal Stretch- Related Encephalo-Myelopathy, Diagnosis ,Treatment and Computational Analysis”*, Visiting Professor, Grand Rounds, UCLA, LA, California, Sept ,2006
102. *“CyberKnife Radiosurgery of Chordomas”*, for, Sharma, M, Gagnon, GJ, Henderson FC. CyberKnife Users’ Meeting (Spine Session), November 2003, Napa CA, 2003



103. “*CyberKnife Radiosurgery in Previously Irradiated Spines*”, for Gagnon GJ, Degen J, McRae D, Henderson FC. Worldwide CyberKnife Users’ Meeting (Spine Session) January 28 2005, Ritz Carlton Hotel, Half Moon Bay, CA, 2005
104. “*Robotic Stereotactic Irradiation of Spinal Chordomas and Chondrosarcoma—A Case for Dose Escalation*”, Seigle JM, Gagnon GJ, Harter KW, Henderson FC. Worldwide CyberKnife Users’ Meeting (CNS Session), January 25, 2006, Carlsbad, CA. 2006
105. Visiting Professor, Grand Rounds, UCLA, LA, California, Sept, 2006 “*Stereotactic Radiosurgery of Central Nervous System, Head and Neck Tumors*”. FCHenderson
106. “*Treatment of Metastatic Cancer through the Anterior Cervical, Thoracic and Lumbar Approaches*”. Invited Lecturer, EBI Annual Spine Workshop. N.Y., N.Y., Dec 5 2006
107. Gagnon GJ, Henderson FC, Huaing J. “*Methods to Reduce Carcinogenic Risk from CyberKnife Radiosurgery*”. Worldwide CyberKnife Users’ Meeting, January 24-28, 2007, Palm Springs, CA.
108. Gagnon GJ, Collins BT, Henderson FC, McRae D. “*Radiosurgical Metastasectomy in a Select Patient Population*”. Worldwide CyberKnife Users’ Meeting (Extra-cranial Session), January 24-28, 2007, Palm Springs, CA
109. Nasr NM, Collins BT, Jean WC, Henderson FC, McRae DA, Gagnon GJ. “*The Use of Fractionated Stereotactic Radiosurgery in the Treatment of Malignant Melanoma*”. Worldwide CyberKnife Users’ Meeting. January 25, 2006, Carlsbad, CA.
110. “*Synergy of Vascular Endothelial Growth Factor Inhibitors with SRS*” CyberKnife Clinical Advisory Board Meeting, Half Moon Bay, CA, May 18-20, 2007.
111. FC Henderson, K Schmidt, Mott: “*Finite Element Analysis in Predicting Deformity Stress as a Cause of Encephalo-Myelopathy and Neurobehavioral Changes in Children*”. IBMSPS, Washington DC, SEPT 8, 2007
112. “*Stress Measurement in TBI with the Spinal Cord Stress Injury Analysis*”: F Henderson, J Berry. Dept of Defense Product Line Review: Fort Dietrich, MD, Sept 2007
113. “*Biomechanical Deformity of the Craniospinal Angle : Reduction of Deformity Results in Neurological Improvement of Neurological Deficit and Behavior*”: FC Henderson, S Mott: The International Conference for Syringomyelia; Rugby, Great Britain, November 11-18th, 2007
114. Gagnon GJ, McRae DA, Degen JW, Henderson FC. “*CyberKnife Radiosurgery in Previously Irradiated Spines*”. Whole Body Radiosurgery Symposium, Washington, DC. 14 May, 2005.

115. *“Deformative Stress of the Brainstem Causes Neuro-Behavioral Change. Case Cohort Series: Correlation of Predicted Stress and Outcome in Children.”* F Henderson, S Mott AANS/CNS J Peds, Miami,FLA, Nov 28, 2007
116. *“Cyberknife Treatment of Chordomas and Chondrosarcomas at GU”:* Fraser Henderson, Kyle McCool, Juliet M. Seigle, Gregory Gagnon CyberKnife Society, Phoenix , Ariz, Jan 26,2008
117. *“Reduction of Abnormal Biomechanical Stress in the Brainstem Improves Deficit and Neuro-Behavioral Disorders: Presentation of Case Cohort Series Correlating Clinical Outcome Metrics with Predicted Biomechanical Stresses.”* Neurosurgery in the Rockies, Beaver Creek, Colorado, Feb 22, 2008.
118. *“Safety, Efficacy and Quality of Life after CyberKnife Stereotactic Robotic Irradiation of Spinal Tumors”.* Fraser C. Henderson Sr, Gregory Gagnon, Donald McRae, Inge Molzahn, Jay Liao , Nadim Nasr AANS/CNS Joint Section for Spine, Orlando, FLA, Mar 1, 2008
119. Daniel Djakiew, Fatima Khwaja and Fraser Henderson, *“Induction of the p75NTR Protein Inhibits Central Nervous System Tumor Cell Survival,”* 7th International Brain Research Organization World Congress of Neuroscience, 12-17th July 2007, Melbourne, Australia.
120. Djakiew, F. Khwaja, F. Henderson, (2007), *“The Role of p75 Neurotrophin Receptor in Neurotrauma and Oncology”.* Fourth Annual Congress of the International Brain Mapping & Intraoperative Surgical Planning Society (IBMISPS), Washington, DC.
121. Henderson, FC : *“Quality of Life and Survival after Stereotactic Irradiation of Metastatic and Benign Disease in the Spine”.* AANS, 9/21/08, Orlando, FLA.
122. Murphy, S.F, Banasiak, M., Yee, G-T., Malafa, M., Thompson, J., Rojiani, A., Tofilon, P Henderson, F., Djakiew, D., Obadia, M. Brem, S, *“Modulation of p75NTR by Celecoxib and Ibuprofen in U251 Human Glioma Cells”.* AACR, 2009.
123. Djakiew, Khwaja, F., Henderson, F. (2007), *“The Role of p75 Neurotrophin Receptor in Neurotrauma and Oncology”.* Fourth Annual Congress of the International Brain Mapping & Intraoperative Surgical Planning Society (IBMISPS), Washington, DC.
124. Djakiew, D., Khwaja, F., Henderson, F., *“Induction of the p75NTR Protein Inhibits Central Nervous System Tumor Cell Survival,”* 7th International Brain Research Organization World Congress of Neuroscience, 12-17th July 2007, Melbourne, Australia
125. Invited speaker for the European Society for Functional and Stereotactic Neurosurgery. Rimini, Italy, Oct 7th, 2008:Henderson FC: *“Treatment of Metastatic Disease , Chordomas and Benign Disease with CyberKnife Stereotactic Irradiation”*

126. “*Treatment of Chordomas, Radiobiology and Quality of Life*”; Henderson FC, AANS San Diego, CA, May 3 2009
127. Henderson FC, McCool JK, Gagnon G: “*Novel Treatment for Spinal Chordomas: Efficacy, Pain, Quality of Life*”. AANS/CNS Section on Spine and Peripheral Nerves, Phoenix Ariz., March 2009
128. “*P75NTR Radiosensitizers: Effects Human -NTR as a Molecular Target for Development of Antiangiogenic Radiosensitizers: Effects of Combining Radiation with Celecoxib and Ibuprofen in Human Glioma Cells*”. Rojiani A, Wotoczek G, Murphy SF, Banasiak M, Yee GT, Malafa M, Thompson J, Rojiani A, Tofilon P, Henderson F, Djakiew D, Wotoczek, Obadia M, Brem S
129. Henderson FC : “*The Influence of Deformative Stress of the Brainstem and Spinal Cord on Neurological Behavior*” Neurobiology Grand Rounds, Virginia Technology Institute, Blacksburg, VA, Oct 26, 2009
130. Henderson FC: “*Deformative stress in the Chiari population: Case Cohort Series.*” The Chiari Syringomyelia Foundation Annual Meeting, AANS, Phila, PA 2010.
131. Henderson FC: “*Single Versus Multi-session CyberKnife® Radiosurgery for Spine Metastases—The Georgetown & University of Pittsburgh Experience*”. AANS, Philadelphia, PA, 2010
132. Henderson FC: “*The influence of Deformative Stress in disorders of the craniocervical junction.*” Washington Clinical Pathology Society Meeting, May 2010. Washington D.C.
133. Henderson FC, Mathis M: “*Deformative Stress : A Paradigm for Neurological Injury in Ehlers Danlos Syndrome.*” Ehlers Danlos Society Conference, Baltimore, MD, 2010
134. Henderson FC: Invited Guest Speaker March of Dimes Session : “*Neurosurgical Manifestationss of Ehlers Danlos Syndrome.*” American College Molecular Genetics Vancouver, Canada March 2011
135. AANS/CNS Chiari Meeting: Co-morbidity of Autism and Chiari Malformation 2011
136. Henderson FC, Mathis M: “*Neurological Manifestationss of EDS*” : Ehlers Danlos Syndrome National Conference, Baltimore, MD, 2011
137. Invited Speaker: “*Comorbidities of Chiari malformation*” ,Chiari Walk, Fredericksburg, VA, 2012
138. AANS/CNS Chiari Meeting: Co-morbidity of Autism and Chiari Malformation 2012
139. Henderson FC, Mathis M: “*Neurological Manifestationss of EDS*” : Ehlers Danlos Syndrome National Conference, Baltimore, MD, 2013

140. Henderson FC: *"Neurological evaluation and treatment of Craniocervical and Spinal Disorders in the EDS population."* ILC Foundation, Toronto, Canada, 2013
141. Henderson FC: *"The diagnosis and treatment of Neurological disorders arising in the setting of Hereditary Hypermobility Syndromes."* Washington Clinical Pathology Society, Chevy Chase, March 2014
142. Henderson FC: *"New Developments in the Diagnosis of Headache in the Chiari Population."* Chiari Fundraiser Walk. June 29th, 2014
143. Henderson FC: *"Neurosurgical Management of Ehlers Danlos Syndrome",* EDNS,Houston July 11th, 2014
144. Henderson FC: *"Radiological Evaluation of Neurosurgical Pathology in the Chronic pain population",* The Coalition against Pediatric Pain, Washington , DC, September 12th , 2014
145. Henderson FC: *"The Consensus Report, and Radiological Metrics for evaluation of Craniocervical Instability.CSF Colloquium on Co-morbid Conditions Complicating the Outcome of Chiari Decompression."* Boston, Mass, October 18th, 2014
146. Henderson FC: *"Neurosurgical Manifestationss of Lax Ligament Syndromes",* ILC Annual Conference, Toronto, Canada, November 7th, 2014
147. Henderson FC: *"Paraneoplastic Limbic Encephalopathy , PANDAS and Dystonia",* CSF Greater Washington Chapter , Quarterly conference, Lanham, January 15th , 2015
148. Henderson FC: *"The relationship between Dysautonomia and Brainstem Deformity",* CSF Annual Meeting, Washington D.C., May , 1 2015
149. Henderson FC: *"Neurological Manifestationss of Ehlers Danlos Syndrome",* The Hypermobility Conference, London University College, June 11th , 2015, London Great Britain.
150. Henderson FC: *"Pathophysiology and Pitfalls of Treatment of Craniocervical Instability in the Hypermobility Syndromes."* Complex Spine Conference, National Hospital for Neurology and Neurosurgery, Queen Square, London ,Great Britain, June 12th ,2015
151. Henderson FC: *"Neurosurgical Management of Hereditary Hypermobility Connective Tissue Disorders"* British Ehlers Danlos Syndrome, Annual Conference, Boreham Wood, Great Britain, June 13 th, 2015
152. Henderson FC: *"Neurosurgical Pitfalls in breaking Hypermobility Connective Tissue Disorders"* Chiari Syringomyelia Foundation Conference, April 2016

153. Henderson FC: "*Neurosurgical Manifestations of Ehlers Danlos Syndrome*" Ehlers Danlos Syndrome Conference, New York, New York, May 1<sup>st</sup> 2016
154. Henderson FC: "*Neurosurgical and Spinal Manifestations of Ehlers Danlos Syndrome*" Ehlers Danlos Syndrome Conference, Baltimore, Maryland, July 2016
155. Henderson FC: "*Neurosurgical Manifestations of Ehlers Danlos Syndrome*" Methodist Hospital, Houston, Texas September 30<sup>th</sup>, 2016
156. Henderson FC: "*Pitfalls of Craniocervical and Spine Surgeries and Management of EDS patients*" Canada. November 2016.
157. Henderson FC: "*Neurosurgical Manifestations of Ehlers Danlos Syndrome*" University of Wales, Cardiff, UK. January, 2017
158. Henderson FC: "*Spinal Manifestations of Hypermobility Tissue Disorders*" Southern England Spine Society Tauton. January, 2017
159. Henderson FC: "*Neurosurgical Manifestations of Ehlers Danlos Syndrome*" The Integration of Art, Science and Medicine at Brown University - Providence, Rhode Island. June 2017
160. Henderson FC: "*Surgical Manifestations of Hypermobility Tissue Disorders*" XXIX ASAP Conference on Chiari I Malformation, Syringomyelia, and Related Disorders. New York. July 2017
161. Henderson FC: "*Differential Diagnosis of Headaches in Hypermobility Tissue Disorders*" "The Ehlers Danlos Society – Global Learning Conference" Las Vegas, Nevada. September 2017
162. Henderson FC: "*Cephalic Manifestations of Hypermobility Tissue Disorders*" International School of Ehlers Danlos Murcia, Spain. October 2017
163. Henderson FC: "*Headaches and Connective Tissue Disorders*" The ILC Ehlers Danlos and Chronic Pain Learning Conference – Toronto, Canada. November 2017
164. Henderson FC: "*Differential Diagnosis and Headache in Ehlers Danlos Syndrome Society*" . Maastricht ,Netherlands, April 2018
165. Henderson FC: "5 year follow up on Craniocervical Fusion Stabilization for instability in EDS". CSF Unite at the Hill, Patient Conference and Advocacy, Washington DC,