

MATERIALS LICENSE

Amendment No. 04

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, Code of Federal Regulations, Chapter I, Parts 30, 31, 32, 33, 34, 35, 36, 39, 40, and 70, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s). This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations, and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

OFFICIAL RECORD COPY

Licensee		In accordance with the letter dated June 6, 1997, 3. License Number 37-00783-05 is amended in its entirety to read as follows:	
1. Wills Eye Hospital			
2. 900 Walnut Street Philadelphia, Pennsylvania 19107-5598		4. Expiration Date December 31, 2005	
		5. Docket or Reference No. 030-33972	
6. Byproduct, Source, and/or Special Nuclear Material	7. Chemical and/or Physical Form	8. Maximum Amount that Licensee May Possess at Any One Time Under This License	
A. Cobalt 60	A. Sealed sources (General Electric Company AB Elekta Model 43047)	A. 201 sources of not more than 36 curies each and a total not to exceed 6,600 curies	
9. Authorized use			
A. For use of a Leksell Gamma System Model 23016 (a.k.a. Gamma Knife or Cerebral Stereotactic Radiosurgical Unit) radiation therapy unit for the treatment of humans and for research purposes including animal studies.			

CONDITIONS

10. Licensed material may be used at the licensee's facilities located at 900 Walnut Street, Philadelphia, Pennsylvania.
11. A. Licensed material shall be used under the supervision of a team of at least three individuals which includes the following: a Neurosurgeon, a Radiation Therapist, and a Medical Physicist each of whom is specifically named on the license.
- B. Radiation Therapists for this license are Walter J. Curran, Jr. M.D., Maria Werner-Wasik, M.D., Jeffrey G. Rosenstock, M.D. and Benjamin W. Corn, M.D.
- C. Neurosurgeons for this license are W. Warren Goldman, M.D., Ph.D., David W. Andrews, M.D. and Robert H. Rosenwasser, M.D.
- D. The Medical Physicists for this license are Madge Beverly Downes, M.S. and Greg Bednarz, Ph.D.
12. The Radiation Safety Officer for this license is Madge Beverly Downes, M.S.

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MATERIALS LICENSE
SUPPLEMENTARY SHEET

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13. A. Gamma Knife sources shall be tested for leakage at intervals not to exceed 6 months. Records of test results shall be kept in units of microcuries and maintained for inspection by the Commission. In the absence of a certificate from a transferor indicating that a test has been made within 6 months before the transfer, a source received from another person shall not be used until tested for leakage.
- B. The tests shall be sufficiently sensitive to detect 0.005 microcurie of contamination on the test sample.
- C. The test sample shall be taken from selected accessible surfaces of the Gamma Knife. The selected accessible surfaces shall be those surfaces on which one might expect contamination to accumulate if there were to be leakage and shall include the inner surface of the most frequently used helmets. A minimum of a single wipe of the entire surface of the collimator will be taken.
- D. If the test reveals the presence of 0.005 microcurie or more of removable contamination, the licensee shall immediately withdraw the Gamma Knife from use and take action to prevent spread of contamination. A report shall be filed within 5 days of the date the leak test result is known with the U.S. Nuclear Regulatory Commission, Region I, ATTN: Chief, Nuclear Materials Safety Branch, 475 Allendale Road, King of Prussia, Pennsylvania 19406. The report shall specify the source involved, the test results, and corrective action taken.
14. A set of written emergency instructions shall be posted at the Gamma Knife control console. These instructions shall inform the operator of the procedure to be followed should he be unable to withdraw the patient from the focus beam of radiation with the controls outside the treatment room.
15. A. Access to the Gamma Knife room shall be controlled by a door at each entrance. Such doors shall be normally closed.
- B. Each entrance to the Gamma Knife room shall be equipped with an electrical interlock system that will remove the patient from the focus beam of radiation upon opening of any entrance door. The interlock system shall be connected in such a manner that the patient cannot be returned to the focus beam until all entrance doors are closed and the control is reset at the control panel.
- C. Electrical interlocks on entrance doors to the Gamma Knife room shall be tested for proper operation at the beginning of each day of use. Records of test results shall be maintained for inspection by the Commission.
- D. In the event of malfunction of any door interlock, the Gamma Knife control shall be locked in the "off" condition and not used, except as may be necessary for repair or replacement of the interlock system, until the interlock system is shown to be functioning properly.

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16. A. Any changes made in the treatment room shielding, location of the unit within the treatment room, or use of the Gamma Knife unit that could result in increased radiation levels in areas outside the Gamma Knife treatment room shall be evaluated by a radiation survey made in accordance with Condition 17, and reported to the Commission within 30 days following completion of the change(s).
- B. Relocation of the Gamma Knife unit to a new facility is not permitted without prior approval all the plans and details by the Commission. Following such approval and relocation, a radiation survey shall be made in accordance with Condition 17, and reported to the Commission within 30 days after completion of the move.
17. Before initiation of a treatment program, and subsequent to each set of source changes, radiation surveys and tests shall be performed in accordance with the following:
- A. A radiation survey shall be made of:
- (i) The Gamma Knife source housing, with the shielding door closed. The maximum and average radiation levels at 1 meter from the Gamma Knife housing in the "closed" position shall not exceed 10 milliroentgens per hour and 2 milliroentgens per hour, respectively.
 - (ii) All areas adjacent to the treatment room with the Gamma Knife shielding door in the "open" position. The survey shall be performed with a phantom in the focus beam of radiation and shall clearly establish:
 - (a) That radiation levels in restricted areas are not likely to cause occupational dose in excess of the limits specified in 10 CFR 20.1201 or doses to members of the public in excess of the limits specified in 10 CFR 20.1301, and
 - (b) That quantities of radiation in unrestricted areas do not exceed the limits specified in 10 CFR 20.1301(a)(2).
- B. Tests shall be made to determine proper operation of:
- (i) Electrical interlocks on entrance doors to the Gamma Knife treatment room.
 - (ii) The Gamma Knife treatment timing device.
- C. A report of the results of the above surveys and tests shall be sent to the U.S. Nuclear Regulatory Commission, Region I, ATTN: Chief, Nuclear Materials Safety Branch, 475 Allendale Road, King of Prussia, Pennsylvania 19406, not more than 30 days after connection of the hydraulic system for the Gamma Knife.

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18. The following shall be performed by the manufacturer or by persons specifically licensed by the Commission or an Agreement State to perform such services:
- A. Installation, relocation, or removal of the Gamma Knife containing sources.
 - B. Source replacements or adjustments.
 - C. Any maintenance or repair operations on the Gamma Knife unit involving a mechanism that could expose the sources, reduce the shielding around the sources, or compromise the safety of the unit and result in increased radiation levels.
19. Notwithstanding the requirements of 10 CFR 35.632(b)(2), 35.632(b)(3), 35.632(b)(6), 35.634(a)(3), and 35.634(a)(4), the licensee is not required to determine the coincidence of the radiation field and the field indicated by a light beam localizing device, the uniformity of the radiation field and its dependence on the orientation of the useful beam, and the accuracy of all distance measuring and localization devices in medical use.
20. The licensee is authorized to transport licensed material in accordance with the provisions of 10 CFR Part 71, "Packaging and Transportation of Radioactive Material."
21. Except as specifically provided otherwise in this license, the licensee shall conduct its program in accordance with the statements, representations, and procedures contained in the documents, including any enclosures, listed below, except for minor changes in the medical use radiation safety procedures as provided in 10 CFR 35.31. The U.S. Nuclear Regulatory Commission's regulations shall govern unless the statements, representations, and procedures in the licensee's application and correspondence are more restrictive than the regulations.
- A. Application dated September 29, 1995 except QM plan in Appendix II
 - B. Application received November 29, 1995 except QM plan in Appendix II
 - C. Letter received December 1, 1995
 - D. Facsimiles received December 4, 1995 (3)
 - E. Letter dated January 31, 1996
 - F. Letter dated March 14, 1996
 - G. Letter dated March 20, 1996
 - H. Letter dated May 2, 1996

For the U.S. Nuclear Regulatory Commission

Original Signed By:

Michelle Bearusley

By

Nuclear Materials Safety Branch
Region I

King of Prussia, Pennsylvania 19406

JUN 17 1997

Date _____

JUN 17 1997

Karla S. McCaney
Assistant Executive Director
Wills Eye Hospital
900 Walnut Street
Philadelphia, PA 19107-5598

Dear Ms. McCaney:

This refers to your license amendment request. Enclosed with this letter is the amended license.

Please review the enclosed document carefully and be sure that you understand and fully implement all the conditions incorporated into the amended license. If there are any errors or questions, please notify the U.S. Nuclear Regulatory Commission, Region I Office, Licensing Assistance Team, (610) 337-5093 or 5239, so that we can provide appropriate corrections and answers.

Thank you for your cooperation.

Sincerely,

Original Signed By:
Michelle Beardsley

Michelle R. Beardsley
Division of Nuclear Materials Safety

License No. 37-00783-05
Docket No. 030-33972
Control No. 124655

Enclosure:
Amendment No. 04

DOCUMENT NAME: R:\WPS\MLTR\L3700783.05

To receive a copy of this document, indicate in the box: "C" = Copy w/o attach/encl "E" = Copy w/ attach/encl "N" = No copy

OFFICE	DNMS/RI	N	DNMS/RI				
NAME	Beardsley						
DATE	06/16/97	06/ /97	06/ /97	06/ /97	06/ /97		

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June 6, 1997

Mr. Thomas K. Thompson
Senior Health Physicist
Division of Nuclear Materials Safety
United States Nuclear Regulatory Commission
Region 1
475 Allendale Road
King of Prussia, PA 19406

RE: LICENSE NO 37-00783-05
DOCKET NO. 030-33972

Dear Mr. Thompson:

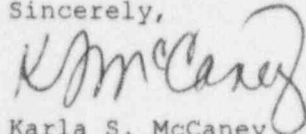
Wills Eye Hospital requests the addition of Robert H. Rosenwasser, M.D.
FACS as a qualified Neurosurgeon to our license No. 37-00783-05 for the
use of a Leksell Gamma System.

I have attached the following:

- * Certificates of attendance at the University of
Pittsburgh sponsored "Principles and Practice of Gamma Knife
Radiosurgery" from May 12-16, 1997.
- * Curriculum Vitae.
- * Check in the amount of \$470.00 to cover request for
amendment.

Thank you for your consideration.

Sincerely,



Karla S. McCaney
Assistant Executive Director
Attachments
KSM/smp

cc: M. Beverly Downes, M.S., D.A.B.R.

124655

JUN 9 1997



University of Pittsburgh

Center for Continuing Education in the Health Sciences

This is to certify that

Robert H. Rosenwasser, M.D., FACS

attended the continuing medical education activity,

Principles and Practices of Gamma Knife Radiosurgery

May 12 - 16, 1997

The Center for Continuing Education in the Health Sciences, University of Pittsburgh, is accredited by the Accreditation Council for Continuing Medical Education to sponsor continuing medical education for physicians.

The Center for Continuing Education in the Health Sciences designates this continuing medical education activity for up to 44.0 hours in Category 1 credit towards the AMA Physician's Recognition Award. In accordance with the AMA, each physician should claim only those hours of credit that he/she actually spent in the educational activity and each physician is responsible for maintaining their own records.

Nurses and other health care professionals are awarded 4.4 continuing education units (CEU's)

Barton E. Barnes, MD.

124655

University of Pittsburgh

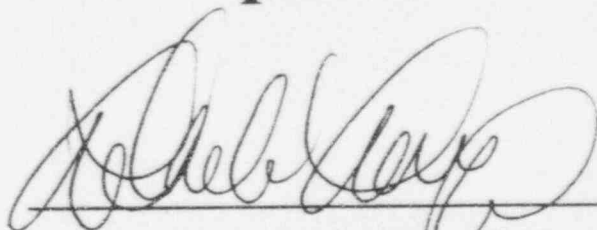
Center for Image-Guided Neurosurgery

This is to Certify That

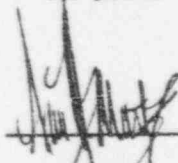
Robert H. Rosenwasser, M.D., FACS

Successfully completed

Principles and Practice of Gamma Knife Radiosurgery



L. Wade Lunsford, M.D., FACS

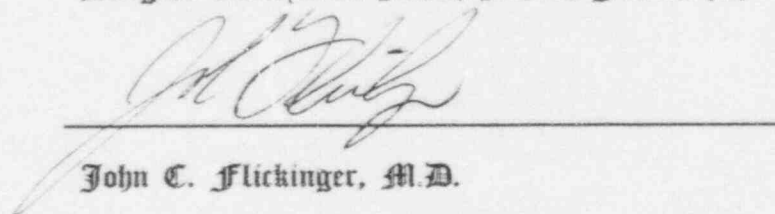


Ann D. Maitz, M.Sc.

from May 12 - 16, 1997



Douglas Kondziolka M.D., M.Sc., FRCSC



John C. Flickinger, M.D.

CURRICULUM VITAE

NAME

Robert H. Rosenwasser, M.D.

ADDRESS

Department of Neurosurgery
Thomas Jefferson University Hospital
834 Walnut Street - Suite 650
Philadelphia PA 19107
(215) 928-7000

MARITAL STATUS

Married, Wife- Deborah Lynne August, M.D.

PRESENT ACADEMIC AND HOSPITAL APPOINTMENTS

1994- Professor of Neurosurgery, Thomas Jefferson University
1994- Director, Interventional Neuroradiology, Wills Neurosensory
Institute
Thomas Jefferson University
1995- Chief, Division of Cerebrovascular Surgery and Interventional
Neuroradiology
Thomas Jefferson University Hospital

EDUCATION

1971-73 Louisiana State University, New Orleans, Louisiana
1973-75 B.S. Nicholl's State University, Thibodaux, Louisiana
1975-79 M.D., Louisiana State University, Shreveport, Louisiana
1979-80 Internship, General Surgery, Temple University Hospital,
Philadelphia, PA
1980-85 Residency, Neurological Surgery, Temple University Hospital
Philadelphia, PA
1/84 - 6/84 Fellowship, Neurovascular Surgery, University of Western
Ontario, Dr. C.G. Drake and Dr. S. Peerless, London, Ontario
1992-93 Fellowship, Interventional Neuroradiology, New York
University, Dr. Alex Berenstein, NY

HONORS and AWARDS

1974 Premedical Student Award, Nicholl's State University
Runner-Up Van Wagenen Fellowship

SPECIALTY BOARD CERTIFICATION

1987 American Board of Neurological Surgery 8768

LICENSURE

1979-84 Louisiana R#10008, L#015079
1980- Pennsylvania MD023976E
1992- New York 189006

PREVIOUS ACADEMIC and HOSPITAL APPOINTMENTS

1985-88 Assistant Professor of Neurosurgery, Temple University
Hospital, Philadelphia, PA
1988-94 Associate Professor of Neurosurgery, Temple University Hospital,
Philadelphia, PA
1986-94 Associate Professor of Physiology, Temple University,
Philadelphia, PA
1985-94 Director, Neurosurgical Intensive Care Unit, Temple University
Hospital, Philadelphia, PA
Chief, Section of Cerebrovascular Surgery, Temple University
Hospital, Philadelphia, PA
Director, Cerebrovascular Laboratory, Temple University
Hospital, Philadelphia, PA
Co-Director, Trauma Program, Temple University Hospital,
Philadelphia, PA
Deputy Director, Department of Neurosurgery, Temple University
Hospital, Philadelphia, PA
1990-94 Director, Neurosurgical Residency Training Program
Temple University, Philadelphia, PA
1992-94 Director, Interventional Neuroradiology, Temple University
Hospital, Philadelphia, PA
1992-94 Chief, Section of Cerebrovascular and Endovascular
Neurosurgery, Temple University Hospital, Philadelphia, PA

HOSPITAL PRIVILEGES

1985-94 Attending Physician - Neurosurgery, St. Christopher's, Hospital
for Children, Philadelphia, PA
1986- Attending Physician - Neurosurgery, Albert Einstein Medical
Center, Philadelphia, PA
1988- Consultant in Neurosurgery, Shriner's Hospital for Crippled
Children, Philadelphia, PA
1994- Attending Physician - Thomas Jefferson University Hospital,
Philadelphia, PA
1994- Attending Physician - Neurosurgery, Pennsylvania
Hospital, Philadelphia, PA
1994- Attending Physician - Neurosurgery, Wills Eye Hospital,
Philadelphia, PA

TEACHING POSITIONS

1985-94 Teaching-attending in Neurosurgery, Temple University
Hospital, Philadelphia, PA
1994- Teaching-attending in Neurosurgery, Thomas Jefferson
University Hospital, Philadelphia, PA

EDITORIAL ACTIVITIES

1990- Trauma Quarterly, Waverly Press, Editorial Board
1992- Neurosurgery (M.J. Apuzzo, Editor), Publications Reviewer
1993- Cranial Maxiofacial Trauma, Neurosurgery Section Editor
1994- Neurosurgery (M.J. Apuzzo, Editor), Library Editor
1996- Journal of Neurovascular Disease (S. Kellogg, Editor) Editorial Board

PROFESSIONAL ORGANIZATION MEMBERSHIPS AND POSITIONS

American Medical Association
Pennsylvania Medical Society
Philadelphia County Medical Society
Congress of Neurological Surgeons
New York Academy of Science
American Assoc. for the Advancement of Science
American Association of Neurological Surgeons
Philadelphia Neurooncology Society
Philadelphia Neurologic Society
Philadelphia Chapter of the Society for Neuroscience
American College of Surgeons
North American Skull Base Society
Society of University Neurosurgeons
Philadelphia College of Physicians
International Society of Critical Care Medicine
Cerebrovascular Surgery Section of AANS
Trauma and Critical Care Section of AANS
North American Spine Society
World Federation of Therapeutic and Interventional Neuroradiology
International Society for Endovascular Surgery

RESEARCH GRANTS

Active Support

Principal Investigator: NINCDS North American Symptomatic Carotid Endarterectomy Trial 1988-1997 \$17,000.00

Co-Principal Investigator: "Vagus Nerve Stimulation in the Treatment of Refractory Partial Seizures", Cyberonics, Inc. Total award: \$106,000.00

Principal Investigator: "A Safety Study of Tirilazad Mesylate in Male Patients with Subarachnoid Hemorrhage": "Efficacy/Safety Study Tirilazad Mesylate in North American Women with Subarachnoid Hemorrhage", Upjohn Company 1995

Previous Support

Principal Investigator: "The Effect of Lidoflazine on Cerebral Blood Flow" Biomedical Research Grant #501-979-28, Temple University School of Medicine

Total award: \$6,617.00 1986-1987

Co-Principal Investigator: "An In-Vivo Model for Microcirculatory Studies of Cerebral Vasospasm" Research Incentive Fund, Temple University School of Medicine Total award: \$5000.00 1985-1986

"The Effect of Neutrophil on Brain Ischemia and Reperfusion" American Heart Affiliate Total award: \$18,000.00 1987-1988

As Sponsor: American Heart Association Medical Student Scholarship in Cerebrovascular Disease Student: Sharon Rubin Total award: \$1500.00 1989

"Cervical Spine Trauma and Myelopathy" Lecture to Occupational and Physical Therapy Students Temple University Hospital, Philadelphia, PA, April 1987

"Head Trauma", Saint Mary Hospital, Langhorne, PA April 1987

"Intracerebral Hemorrhage: Medical and Surgical Management" Department of Medicine - Management Conference, Temple University Hospital, Philadelphia, PA October 1987

"Management of Spinal Cord Injury" Department of Surgery - Trauma Grand Rounds Temple University Hospital, Philadelphia, PA February 1988

"Football Injuries to the Central Nervous System, Nesbitt Memorial Hospital September 1988

"Perioperative Management of Aneurysmal Subarachnoid Hemorrhage" Pottstown Medical Center, Pottstown, PA October 1988

"Craniofacial and Cranial Base Surgery -Neurosurgical Considerations" Philadelphia College of Otolaryngology, Philadelphia, PA November 1988

"Evaluation and Management of TIA and Stroke "Family Practice Review Course, Sheraton Golf Resort, Lancaster PA March 1989

"Early Aneurysm Surgery: A Personal Experience"Society of University Neurosurgeons, Toronto, Canada May 1989

"Medical and Surgical Management of TIA and Stroke" Louise von Hess Foundation for Medical Education Seminar on Neurologic Disorders November 1989

"Cerebral Ischemia-Basic Concepts and Clinical Correlates" Medical Grand Rounds -- Lehigh Valley Medical Center June 1990

"Transoral Approach to Lesions of the Clivus and Craniovertebral Junction" 2nd Annual PAN Philadelphia Symposium on Surgery of the Posterior Fossa Philadelphia, PA September 1990

"Neurosurgical Infections: 1991" American College of Surgeons Philadelphia Chapter Philadelphia, PA March 1991

"Pathophysiology of Ischemia and Reperfusion" Cerebral Ischemia Meeting, Salt Lake City, UT April 1991

"Critical Care Management of Neurovascular Problems", Cerebral Ischemia Meeting Salt Lake City, UT April 1991

INVITED LECTURES AND ADDRESSES

Visiting Professor "Facial Reanimation after Acoustic Surgery" "Perioperative Management of Subarachnoid Hemorrhage" University of Tubingen Tubingen, F.R.G. July 1991

Visiting Professor "Hemodynamic Considerations in Subarachnoid Hemorrhage" University of Syracuse Syracuse, NY October 1991

"Neurosurgical Critical Care" New Jersey Chapter - Society of Critical Care Medicine Philadelphia, PA October 1991

"Perioperative Management of Subarachnoid Hemorrhage" American Association of Neurological Surgeons American Association of Neurological Surgeons, New Orleans, LA, April 1992

Visiting Professor - "Endovascular Neurosurgery", Conemaugh Memorial Hospital, Johnstown, PA May 1994

"Management of Aneurysms and Subarachnoid Hemorrhage"-Department of Neurology, Pennsylvania Hospital, Philadelphia, PA September 1994

"Intravascular Aneurysm Occlusion" "Cavernous Angiomas and Asym. Lesions" "Middle Cerebral Artery Aneurysms" The Sixth Pan-Philadelphia Neurosurgery Conference: Aneurysms and Vascular Malformations, Philadelphia, PA October 1994

Visiting Professor - International Meeting of the National Institute of Neurology and Neurosurgery, Mexico City, MX "Preoperative Embolization of Arteriovenous Malformations, and Endovascular Management of Giant Intracranial Aneurysms" February 1995

"A Case of Cushing's Disease with Petrosal Sinus Sampling" Endocrine Forum Thomas Jefferson University, Philadelphia, PA March 1995

"Interventional Neuroradiology - A New Approach to Cerebrovascular Disease" Neurology Grand Rounds Albert Einstein Medical Center, Philadelphia, PA March 1995

"INR - A New Approach to Cerebrovascular Disease" Neurology Grand Rounds Thomas Jefferson University Philadelphia, PA May 1995

"Current Strategies in the Management of Cerebral Vasospasm", presented at the Scientific Session of the Society of University Neurosurgeons Annual Meeting, Philadelphia, PA June 1995

Lecture "Advances in Neurosurgery", Board of Trustees, Pennsylvania Hospital, Philadelphia, PA July 1995

Lecture "Current Strategies in the Treatment of Aneurysmal Subarachnoid Hemorrhage", Department of Neurology, Neurology Grand Rounds, Thomas Jefferson University Hospital, Philadelphia, PA November 1995

Guest Speaker - "Current Strategies in the Management of Aneurysmal Subarachnoid Hemorrhage", New Jersey Neurosurgical Society, East Brunswick, NJ December 1995

Lecture - "New Strategies for Emergent Stroke Care", Department of Neurology, Cerebrovascular Center, Thomas Jefferson University, Philadelphia, PA December 1995

Lecture - "Interventional Neuroradiology" Radiology Grand Rounds, Pennsylvania Hospital, Philadelphia, PA February 1996

Guest Examiner, American Board of Neurological Surgery, Durham, NC May 1996

Lecture - "GDC Update" Department of Radiology, Pennsylvania Hospital, October 1996

Lecture - "Aneurysms and AVM's", Stroke Update Conference, Department of Neurology, Thomas Jefferson University Hospital, Phila., PA October 1996

Guest Speaker - "Endovascular Approaches to Cerebrovascular Disease", Department of Neurosurgery, Walter Reed Army Hospital, Washington, DC October 1996

Guest Speaker - "Endovascular Advances in Neurosurgery", Philadelphia Chapter American Association of Neuroscience Nurses (AANN), Phila., PA November 1996

Guest Speaker - "Endovascular Treatment of Aneurysms", Medical Society of Delaware, Wilmington, DE March 1997

PUBLICATIONS

PEER-REVIEWED ARTICLES

Garrido E and Rosenwasser RH, Painless foot drop secondary to lumbar herniated disc: Report of two cases Neurosurgery 1981; 8(4): 484-486.

Rosenwasser RH, Delgado TE and Buchheit WA: Surgical management for acoustic neuromas. Surgical Rounds 1982.

Rosenwasser RH, Delgado TE, Buchheit WA and Freed MH, Control of hypertension and prophylaxis against vasospasm in subarachnoid hemorrhage: Preliminary report Neurosurgery 1983; 12(6): 658-661

Garrido E and Rosenwasser RH. Experience with the suction irrigation technique in the management of spinal epidural infection" Neurosurgery 1983; 12(6): 678-679

Shupak R, Rosenwasser RH and Harp J, High dose fentanyl-oxygen anesthesia for use in mycotic aneurysm surgery. Neurosurgery, 1983; 13(2); 160-162

Rosenwasser RH, Garrido E and Freed MH, Monitoring of activated clotting time during carotid endarterectomy: A preliminary report. Neurosurgery 9(5): 521-523.

Rosenwasser RH, Delgado TE and Buchheit WA, Cerebrovascular complications of closed neck and head trauma: Injuries to the carotid artery. Surgical Rounds 1983; 6(6): 56-65.

Rosenwasser RH and Delgado TE, Compound fronto-basal skull fractures: Acute surgical management. Southern Medical Journal 1984; 77(3): 347-350.

Rosenwasser RH, Tuma RF and Buchheit WA, An In-Vivo model for microcirculatory studies of cerebral vasospasm. Microvascular Research 1984; 27:261.

Rosenwasser RH, Buchheit WA and Truex RC Jr., Subarachnoid Hemorrhage: Diagnosis and current management. Pennsylvania Medicine 1984; 87: 72-74.

Rosenwasser RH, Tuma RF and Buchheit WA, Effect of lidoflazine on serotonin-induced cerebral vasospasm, preliminary report of an In-Vivo study. Stroke 1986; 17(4): 728-730.

Rosenwasser RH, Kleiner L, Krzeminski J, Buchheit WA, Posterior fossa intracranial pressure monitoring: A preliminary report. Journal of Neurosurgery 1989; 71:503-505.

Rosenwasser RH, Subarachnoid Hemorrhage. Philadelphia Medicine 1989, 84(4); 155-159.

Rosenwasser RH, Tuma RF and Buchheit WA, The effect of intravenous lidoflazine on whole blood induced basilar artery contraction: an In-vivo study. Surgical Neurology, 1987; 27: 533-536.

Vasthare U, Heinel L, Rosenwasser RH, Tuma RF, The effect of leukopenia on ischemic and reperfusional injury. Surgical Neurology, 1990, 33:261-265.

Kleiner L, Krzeminski J, Rosenwasser RH. Temporary motor sensory paralysis associated with intrathecal morphine - Case report and review of the literature: Neurosurgery, 1989, 24:756-758.

Rosenwasser RH, Surgical management of compound fronto-basal skull fractures. Contemporary Neurosurgery, February 1989.

Rosenwasser RH and Winer J, Penetrating injuries of the spinal axis: evaluation and management. *Trauma Quarterly* 1989; 6:(1): 55-60.

Vasthare US, Heinel LA, Rosenwasser RH, Tuma RF: Leukocyte involvement in cerebral ischemia and reperfusion injury. *Surgical Neurology* 1990; 33:261-265.

Rodman MS, Rosenwasser RH, Vitti R, Johnson EA, Mauer A, Quantitative thallium-201 SPECT for grading of malignant glioma. *Proceedings of the 37th Annual Meeting of the Society of Nuclear Medicine*, 1990.

Rosenwasser RH, Andrews DW, Jimenez DF: Penetrating craniocerebral trauma. *Surgical Clinics of North America* 1991; 71(2): 305-316.

Jimenez DF, Rosenwasser RH, Jenkins J: Role of transcranial sonography in the management of head injury. *Cardiovascular Technology* 1991; 3:9.

Rosenwasser RH, Jimenez F, Routine use of etomidate and temporary vessel occlusion during aneurysm surgery. *Neurological Research* 1991; 13: 222-228.

Young WF, Rosenwasser RH, Intracranial extension of a fronto-ethmoidal sinus mucocele: A delayed complication of chronic sinusitis. *New York State Journal of Medicine* 1991; 91: 163-164.

Vasthare US, Rubin S, Riina HA, Rosenwasser RH, Carlsson C, and Tuma RF: Effect of fentanyl on the electrophysiological recovery following incomplete global ischemia. *Drug Development Research* 1991; 23: 277-232.

Winer JW, Rosenwasser RH, "Electroencephalographic Activity and Serum/Cerebrospinal Fluid Pentobarbital Levels in Determining Therapeutic Endpoint During Barbiturate Coma." *Neurosurgery* 1991; 29 (5): 739-41.

Rosenwasser RH, Liebman E, Jimenez DF, Buchheit WA, Andrews DW: "Facial Reanimation after Facial Nerve Injury" *Neurosurgery* 1991; 29(4): 568-574.

Rosenwasser RH, Winer JW, Getch C: "Injury Mechanism: Penetrating Craniocerebral Injury" *Trauma Quarterly* 1992; 8: 30-57.

Rosenwasser RH, Young WF: "Critical Care Management of Head Injury" *Trauma Quarterly* 1992; 8: 30-57.

Pratt H, Martin WH, Schwegler JW, Rosenwasser RH, Rosenberg S, Flamm E: Temporal correspondence of intracranial, cochlear and scalp-recorded human auditory nerve action potentials. *Electroencephalography and Clinical Neurophysiology* 1992; 84(5): 447-455.

Young WF, Katz MR, Rosenwasser RH, Spontaneous migration of an intracranial bullet into the cervical canal. *Southern Medical Journal* 1993; 86(5): 557-559.

- Young WF, Rosenwasser RH. A comparative analysis of allograft versus autologous iliac crest graft for interbody fusion after cervical discectomy. *Spine* 1993; 18: 1123-1124.
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March 1997

BETWEEN:

License Fee Management Branch, ARM
and
Regional Licensing Sections

Program Code: 02300
Status Code: 0
Fee Category: 7A
Exp. Date: 20051231
Fee Comments: WAS 2-PT LIC
Decom Fin Assur Req'd: N

LICENSE FEE TRANSMITTAL

A. REGION

1. APPLICATION ATTACHED

Applicant/Licensee: WILLS EYE HOSPITAL
Received Date: 970609
Docket No: 3033972
Control No.: 124655
License No.: 37-00783-05
Action Type: Amendment

2. FEE ATTACHED

Amount: \$470.00
Check No.: 308224

3. COMMENTS

Signed
Date

Brown, R.J.
6/10/97

B. LICENSE FEE MANAGEMENT BRANCH (Check when milestone 03 is entered / /)

1. Fee Category and Amount: 7A \$470

2. Correct Fee Paid. Application may be processed for:

Amendment
Renewal
License

3. OTHER

Signed
Date

Log *June?*
Renewal
Check No. 308224
Amount 9470
Fee Category 7A
Type of Fee AMD
Date Check Rec'd 6/16/97
Date Completed
By: 88

1997 JUN 13 PM 3:43