

Carl H. Snyderman, MD, MBA – Professional Activities

PEER-REVIEWED ARTICLES:

1. **Snyderman C**, Johnson JT, Barnes EL. Extraparotid Warthin's tumor. *Otolaryngol Head Neck Surg.* 1986 Feb; 94(2):169-75.
2. **Snyderman C**, Johnson JT, Barnes L. Carcinoid tumor of the larynx: case report and review of the world literature. *Otolaryngol Head Neck Surg.* 1986 Sep;95(2):158-64.
3. **Snyderman C**, May M, Berman MA, Curtin HD. Facial paralysis: traumatic neuromas vs. facial nerve neoplasms. *Otolaryngol Head Neck Surg.* 1988 Jan;98(1):53-9.
4. **Snyderman CH**, Johnson JT. Laryngotracheal separation for intractable aspiration. *Ann Otol Rhinol Laryngol.* 1988 Sep-Oct;97(5 Pt 1):466-70.
5. **Snyderman CH**, Heo DS, Chen K, Whiteside TL, Johnson JT. T-cell markers in tumor-infiltrating lymphocytes of head and neck cancer. *Head Neck.* 1989 Jul-Aug;11(4):331-6.
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7. **Snyderman CH**, Sekhar LN, Sen CN, Janecka IP. Malignant skull base tumors. *Neurosurg Clin N Am.* 1990 Jan;1(1):243-59.
8. Schuller DE, **Snyderman CH**, Quivey JM. Dermatofibrosarcoma protuberans. *Head Neck.* 1990 Mar-Apr;12(2):178-81.
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11. Carrau RL, **Snyderman C**, Janecka IP, Sekhar L, Sen C, D'Amico F. Antibiotic prophylaxis in cranial base surgery. *Head Neck.* 1991 Jul-Aug;13(4):311-7.
12. **Snyderman C**, Weissman J, Tabor E, Curtin C. Crack cocaine burns of the larynx. *Arch Otolaryngol Head Neck Surg.* 1991 Jul;117(7):792-5.
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14. Carrau RL, Weissman JL, Janecka IP, **Snyderman CH**, Curtin HD, Sekhar L, Lee HS. Computerized tomography and magnetic resonance imaging following cranial base surgery. *Laryngoscope.* 1991 Sep;101(9):951-9.
15. Sekhar LN, Nanda A, Sen CN, **Snyderman C**, Janecka IP. The extended frontal approach to tumors of the anterior, middle and posterior skull base. *J Neurosurg.* 1992 Feb;76(2):198-206.

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16. Costantino PD, Nuss DW, **Snyderman CH**, Johnson JT, Friedman CD, Narayanan K, Houston G. Experimental tracheal replacement using a revascularized jejunal autograft with an implantable Dacron mesh tube. *Ann Otol Rhinol Laryngol.* 1992 Oct;101(10):807-14.
17. Grandis JR, **Snyderman CH**, Johnson JT, Yu VL, D'Amico F. Postoperative wound infection. A poor prognostic sign for patients with head and neck cancer. *Cancer.* 1992 Oct 15;70(8):2166-70.
18. **Snyderman CH**, D'Amico F. Outcome of carotid artery resection for neoplastic disease: a meta-analysis. *Am J Otolaryngol.* 1992 Nov-Dec;13(6):373-80.
19. Eibling DE, Janecka IP, **Snyderman CH**, Cass SP. Meta-analysis of outcome in anterior skull base resection for squamous cell and undifferentiated carcinoma. *Skull Base Surg.* 1993;3(3):123-9.
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113. Morera V, Fernandez-Miranda J, Prevedello D, Madhok R, Gardner P, Carrau R, **Snyderman C**, Kassam A. Endoscopic endonasal anatomy and approach to the petrous apex. *Skull Base*. 2009;19(Suppl 3):30.
114. Morera V, Fernandez-Miranda J, Prevedello D, Madhok R, Gardner P, Carrau R, **Snyderman C**, Kassam A. Endoscopic anatomy and approach of the superior orbital fissure. *Skull Base*. 2009;19(Suppl 3):31.
115. Pant H, **Snyderman C**, Prevedello D, Gardner P, Carrau R, Kassam A. Endoscopic resection of giant angiofibromas with intracranial extension: a staged approach. *Skull Base*. 2009;19(Suppl 3):37.
116. Pinheiro-Neto C, Fernandez-Miranda J, Rivera-Serrano C, Vaezi A, **Snyderman C**, Gardner P. Endoscopic anatomy of the palatovaginal canal (palatosphenoidal canal): a landmark for dissection of the vidian nerve during endonasal transpterygoid approaches. *Skull Base*. 2011;21:14.
117. Paluzzi A, Fernandez-Miranda J, Tormenti M, Pinheiro-Neto C, **Snyderman C**, Gardner P. Anatomic-surgical classification of endoscopic endonasal transclival approaches. *Skull Base*. 2011;21:15.
118. Shin S, Tormenti M, Challinor S, Wang T, Fernandez-Miranda J, **Snyderman C**, Gardner P. Endoscopic endonasal surgery for growth hormone secreting pituitary adenomas. *Skull Base*. 2011;21:20.
119. Tormenti M, Tomycz N, Wang T, Fernandez-Miranda J, **Snyderman C**, Gardner P. Endoscopic endonasal resection for olfactory groove meningiomas. *Skull Base*. 2011;21:33.
120. Pinheiro-Neto C, **Snyderman C**, Fernandez-Miranda J, Vaezi A, Gardner P. Extended dissection of nasoseptal flap pedicle for the transpterygoid approach. *Skull Base*. 2011;21:36.
121. Vaezi A, Pinheiro-Neto C, Branstetter H, Gardner P, Fernandez-Miranda J, **Snyderman C**. Pneumatization of the lateral recess of the sphenoid is correlated with increased separation between the V2 and vidian nerves. *Skull Base*. 2011;21:46.

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122. Fernandez-Miranda J, Pinheiro-Neto C, Vaezi A, Paluzzi A, **Snyderman C**, Gardner P. Transposition of the pterygopalatine fossa during endonasal endoscopic transpterygoid approaches. *Skull Base*. 2011;21:62.
123. Rivera-Serrano C, Carlos D, Pinheiro-Neto C, **Snyderman C**, Fernandez-Miranda J, Vaezi A, Gardner P. Posterior pedicle nasoseptal flap for velopharyngeal insufficiency: a novel flap for pharyngoplasty and pharyngeal reconstruction. 2011;21:62.
124. **Snyderman CH**, Friedman RA, Fernandez-Miranda J. Avoiding disaster at the skull base: case studies in 3D. *Otolaryngol Head Neck Surg*. 2011 Aug;145(Suppl 2):P16.

OTHER PUBLICATIONS:

1. **Snyderman C**, Johnson J. Laryngotracheal separation for intractable aspiration. pp. 466-70. Home Study Course in Otolaryngology-Head and Neck Surgery, 1988.
2. Heo D, Whiteside T, **Snyderman, C**, Johnson J. Natural killer cell cytotoxicity in head and neck cancer. Audio-Digest Foundation, 1989.
3. **Snyderman C**. Book Review: *Plastic Techniques for Neurosurgery*. *Head Neck*. 1992;14(1):81-2.
4. **Snyderman C**. Unconventional cancer treatment. Audio-Digest Foundation, 1993.
5. **Snyderman C**. Management of chronic aspiration. *Aerodigestive disease: Exploring surgical options*. Audio-Digest Foundation, 1993.
6. **Snyderman C**. Commentary: Cavernous sinus involvement in head and neck cancer. *Otolaryngology Journal Club Journal*. 1994 1:63-4.
7. **Snyderman C**, Cass S. Commentary: Management of the jugular bulb during lateral skull base surgery. *Otolaryngology Journal Club Journal*. 1994;1:290-1.
8. **Snyderman C**, Carrau R. Commentary: Complications of craniofacial resection for tumors involving the anterior skull base. *Otolaryngology Journal Club Journal*. 1994;1:333-5.
9. **Snyderman C**, Carrau R. Commentary: Resection of persistent nasopharyngeal carcinoma. *Otolaryngology Journal Club Journal*. 1995;2:56-8.
10. **Snyderman C**. Commentary: Highly selective infusions of supradose cisplatin for cranial base malignancies. *Otolaryngology Journal Club Journal*. 1995;2:117-8.
11. **Snyderman C**. Book Review: *Atlas of Cranial Base Surgery*. *Head Neck*. 1995;17:456.
12. **Snyderman C**. Commentary: Trigeminal nerve tumors of the lateral skull base. *Otolaryngology Journal Club Journal*. 1995;2:329-31.
13. **Snyderman C**. Nutritional chemoprevention for head and neck cancer. Audio-Digest Foundation, February 1997.
14. **Snyderman C**. Book Review: *Microsurgical Anatomy of the Skull Base and Approaches to the Cavernous Sinus*. *Head Neck*. 1997 Oct:644.
15. **Snyderman C**. Commentary: Conservative management of acoustic neuroma: An outcome study. *Otolaryngology Journal Club Journal*. 1997;4:275-7.

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16. **Snyderman C.** A dry mouth deserves a doctor's attention. The Jewish Chronicle, Pittsburgh, PA, 1999.
17. **Snyderman C.** Ask an expert: My mouth always feels dry. Is there anything I can do? The Jewish Chronicle, Pittsburgh, PA, June 2003.
18. Osguthorpe J, Batra P, Kraus D, **Snyderman C.** Endoscopic approach to sinonasal malignancies stirs debate. Special report section of ENTToday. 2009 May;4(5):14-6.
19. **Snyderman C.** Epistaxis—surgical encounters: What are the limits of endoscopic sinus surgery? British Academic Conference on Otolaryngology News, July 2009.
20. Carrau RL, Kassam AB, **Snyderman CH**, Bhatki AM. Anterior subfrontal approach – tumor removal. eMedicine/Medscape Reference, July 8, 2009.
21. Carrau R, Kassam A, **Snyderman C.** Skull base-infratemporal fossa approach. eMedicine for WebMD, 2009.
22. **Snyderman CH.** Minimally invasive surgery for sinus tumors. Headway, UPMC Cancer Centers and University of Pittsburgh Cancer Institute Newsletter on Advances in the Prevention, Detection and Treatment of Head and Neck Cancers, April 2011.

PROFESSIONAL ACTIVITIES

TEACHING:

Peer-Reviewed Lectures

1. Extraparotid Warthin's tumor. Pennsylvania Academy of Ophthalmology and Otolaryngology Annual Meeting, Bedford Springs, PA, June 1984.
2. Traumatic neuromas of the facial nerve causing facial paralysis. Pennsylvania Academy of Ophthalmology and Otolaryngology Annual Meeting, Hershey, PA, June 5-8, 1986.
3. Traumatic neuromas of the facial nerve. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, San Antonio, TX, September 14-18, 1986.
4. Facial paralysis in osteogenesis imperfecta. Pennsylvania Academy of Ophthalmology and Otolaryngology Annual Meeting, Bedford Springs, PA, June 11, 1987.
5. Carotid sinus hypersensitivity associated with cancer of the head and neck. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, Chicago, IL, September 19-23, 1987.
6. Anterior cranial base reconstruction: role of regional arterialized flaps. Eastern Section Meeting of the Triologic Society, New York, NY, January 29, 1988.
7. Laryngotracheal separation for chronic aspiration. Combined Otolaryngological Spring Meetings, Palm Beach, FL, April 25, 1988.
8. The incidence of deep venous thrombosis in head and neck surgery. Pennsylvania Academy of Ophthalmology and Otolaryngology Annual Meeting, Hershey, PA, June 10-12, 1988.
9. The diagnosis and treatment of cranial base neoplasms. Pennsylvania Academy of Ophthalmology and Otolaryngology Annual Meeting, Hershey, PA, June 10-12, 1988.

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10. The prognostic significance of helper-inducer/cytotoxic-suppressor ratios in tumor infiltrating lymphocytes of head and neck cancer. 2nd International Conference on Head and Neck Cancer, Boston, MA, August 3, 1988.
11. Outcome of anterior cranial base reconstruction. International Symposium on Cranial Base Surgery, Pittsburgh PA, September 13-17, 1988.
12. Triton tumors of the head and neck. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, Washington, DC, September 25-29, 1988.
13. A comparison of local, regional, and systemic natural killer cell cytotoxicity in patients with head and neck cancer. Combined Otolaryngology Annual Spring Meeting, San Francisco, CA, April 6, 1989.
14. Tumors of the anterior cranial base. Southwestern Pennsylvania Chapter of the American College of Surgeons Annual Meeting, Pittsburgh, PA, April 26, 1989.
15. Functional and phenotypic analyses of lymphocytes isolated from tumor involved lymph nodes in head and neck cancer. 7th International Congress of Immunology, Berlin, Germany, July 30-August 5, 1989.
16. A phenotypic and functional analysis of lymph nodes in head and neck cancer. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, New Orleans, LA, September 24-28, 1989.
17. The preoperative evaluation of cranial base tumors. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, New Orleans, LA, September 24-28, 1989.
18. Immunohistology of tumor infiltrating lymphocytes in head and neck cancer. Society for Biological Therapy Annual Meeting, Williamsburg, VA, November 16-19, 1989.
19. Local adoptive immunotherapy of head and neck cancer xenografts with Interleukin-2 and Lymphokine activated killer cells. Society for Biological Therapy Annual Meeting, Williamsburg, VA, November 16-19, 1989.
20. PGE2 production by cultured squamous cell carcinoma. Association for Research in Otolaryngology Midwinter Meeting, St. Petersburg Beach, FL, February 4-8, 1990.
21. Immunologic effects of perilesional Interleukin-2 in head and neck cancer. Association for Research in Otolaryngology Midwinter Meeting, St. Petersburg Beach, FL, February 4-8, 1990.
22. Therapeutic outcome of malignant cranial base tumors. North American Skull Base Society Annual Meeting, Marina del Rey, CA, February 17-21, 1990.
23. Incidence of deep venous thrombosis in the head and neck surgery population. Southwestern Pennsylvania Chapter of the American College of Surgeons Annual Meeting, Pittsburgh, PA, April 11, 1990.
24. Skull base tumors. American Academy of Neurological Surgeons Annual Meeting, Nashville, TN, April 28-May 3, 1990.
25. Immunologic assessment of patients with advanced squamous cell carcinoma of the head and neck following local IL2 therapy. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, San Diego, CA, September 11, 1990.
26. Reconstruction of the oral cavity in oncological surgery. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, San Diego, CA, September 11, 1990.

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27. Significance of coagulation factors in patients with squamous cell carcinoma of the head and neck. Head and Neck Oncology Research Conference, Las Vegas, NV, September 26-28, 1990.
28. The adverse effect of post-operative wound infection on survival in patients with squamous cell carcinoma of the head and neck. Head and Neck Oncology Research Conference, Las Vegas, NV, September 26-28, 1990.
29. Immunosuppressive effects of cultured squamous cell carcinoma. Head and Neck Oncology Research Conference, Las Vegas, NV, September 26-28, 1990.
30. Crack cocaine burns of the larynx. American Diopther and Decibel Society Annual Meeting, Barbados, West Indies, January 24, 1991.
31. Tracheal replacement with revascularized small bowel graft and dacron sleeve prosthesis: An experimental study. The First Laryngotracheal Reconstruction Symposium, August 23-27, 1991.
32. Unproven therapy: quackery in head and neck cancer. Society of Otorhinolaryngology and Head-Neck Nurses 15th Annual Congress and Symposium, Kansas City, MO, September 22-26, 1991.
33. Skin grafts of the head and neck. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, Kansas City, MO, September 22-26, 1991.
34. Reconstruction of the oral cavity in oncologic surgery. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, Kansas City, MO, September 22-26, 1991.
35. Evaluation and treatment of intractable aspiration. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, Kansas City, MO, September 22-26, 1991.
36. Carotid artery resection: Update on preoperative evaluation. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, Kansas City, MO, September 22-26, 1991.
37. Prognostic significance of tumor-infiltrating lymphocytes in head and neck cancer. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, Kansas City, MO, September 22-26, 1991.
38. Angiogenesis induced by head and neck carcinoma xenografts in the chick embryo chorioallantoic membrane. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, Kansas City, MO, September 22-26, 1991.
39. Intractable aspiration: experience with laryngotracheal separation. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, Kansas City, MO, September 22-26, 1991.
40. Extended frontal approach prosection. Conference on Neurosurgery, San Francisco, CA, April 11-12, 1992.
41. Anterior approaches to the skull base. Conference on Neurosurgery, San Francisco, CA, April 11-12, 1992.
42. Is carotid artery resection justified for advanced head and neck carcinoma? Southwestern Pennsylvania Chapter of the American College of Surgeons Annual Meeting, Pittsburgh, PA, May 6, 1992.
43. Prognostic significance of PGE₂ production by lymphocytes and tumor cells in squamous cell carcinomas of the head and neck. American Association for Cancer Research 83rd Annual Meeting, San Diego, CA, May 20-23, 1992.
44. Meta-analysis of carotid artery resection for head and neck cancer. Third International Conference on Head and Neck Cancer, San Francisco, CA, July 26-30, 1992.

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45. Quantitative assessment of prostaglandin E₂ in tissues involved with squamous cell carcinoma of the head and neck. Third International Conference on Head and Neck Cancer, San Francisco, CA, July 26-30, 1992.
46. Evaluation and treatment of intractable aspiration. American Academy of Otolaryngology-Head and Neck Surgery 96th Annual Meeting, Washington, DC, September 14, 1992.
47. Skin grafts in head and neck reconstruction. American Academy of Otolaryngology-Head and Neck Surgery 96th Annual Meeting, Washington, DC, September 14, 1992.
48. A comparison of ceftriaxone and tobramycin/vancomycin for perioperative antibiotic prophylaxis in cranial base surgery: preliminary results. North American Skull Base Society Annual Meeting, Scottsdale, AZ, February 12-14, 1993.
49. Inhibition of tumor growth by a cyclooxygenase inhibitor is associated with leukotriene B₄ levels in tumor tissues. American Association for Cancer Research 84th Annual Meeting, Orlando, FL, March 1993.
50. Frontal sinusitis: new approaches to old problems. Southwestern Pennsylvania Chapter of the American College of Surgeons Annual Meeting, Pittsburgh, PA, April 28, 1993.
51. Computer-assisted frontal sinusotomy. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, Minneapolis, MN, October 2-6, 1993.
52. Evaluation and treatment of intractable aspiration. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, Minneapolis, MN, October 2-6, 1993.
53. Skin grafts in head and neck reconstruction. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, Minneapolis, MN, October 2-6, 1993.
54. Computer-assisted frontal sinusotomy. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, Minneapolis, MN, October 2-6, 1993.
55. Meta-analysis of outcome of therapy for esthesioneuroblastoma. North American Skull Base Society Annual Meeting, Orlando, FL, February 20-23, 1994.
56. Anterior approaches to the skull base. North American Skull Base Society Annual Meeting, Orlando, FL, February 20-23, 1994.
57. Computer-assisted endoscopic sinus surgery. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting. San Diego, CA, September 18-21, 1994.
58. Evaluation and management of intractable aspiration. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting. San Diego, CA, September 18-21, 1994.
59. Quackery in otolaryngology. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting. San Diego, CA, September 18-21, 1994.
60. Aggressive pseudotumor of the skull base. North American Skull Base Society Annual Meeting, Naples, FL, February 18-21, 1995.
61. Comparison of staging systems for esthesioneuroblastoma. North American Skull Base Society Annual Meeting, Naples, FL, February 18-21, 1995.
62. The extended orbitocranial approach: an alternative to anterior craniofacial resection of skull base lesions. North American Skull Base Society Annual Meeting, Naples, FL, February 18-21, 1995.

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63. Risk factors for local recurrence of adenoid cystic carcinoma. North American Skull Base Society Annual Meeting, Naples, FL, February 18-21, 1995.
64. Immunology of head and neck carcinoma. American Society for Head and Neck Surgery Annual Meeting, Palm Desert, CA, April 28-May 1, 1995.
65. Image guidance. American Society of Head and Neck Radiology Annual Meeting, Pittsburgh, PA, May 17-21, 1995.
66. Quackery in otolaryngology. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting. New Orleans, LA, September 17-20, 1995.
67. Evaluation and treatment of intractable aspiration. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, New Orleans, LA, September 17-20, 1995.
68. Computer-assisted endoscopic sinus surgery. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, New Orleans, LA, September 17-20, 1995.
69. What's new in endoscopic surgical procedures. Southwestern Pennsylvania Chapter of the American College of Surgeons Annual Meeting, Pittsburgh, PA, April 3, 1996.
70. Prospective trial of perioperative nutritional supplementation in patients with head and neck cancer. Fourth International Conference on Head and Neck Cancer, Toronto, Canada, July 28-31, 1996.
71. Mucosal melanomas of the head and neck: a meta-analysis of prognostic factors. Fourth International Conference on Head and Neck Cancer, Toronto, Canada, July 28-31, 1996.
72. Premalignancy and chemoprevention. Fourth International Conference on Head and Neck Cancer, Toronto, Canada, July 28-31, 1996.
73. Delayed resection in the management of non-orbital rhabdomyosarcoma of the head and neck. Fourth International Conference on Head and Neck Cancer, Toronto, Canada, July 28-31, 1996.
74. Anterior cranial base approaches. Fourth International Conference on Head and Neck Cancer, Toronto, Canada, July 28-31, 1996. Fourth International Conference on Head and Neck Cancer, Toronto, Canada, July 28-31, 1996.
75. Nutritional chemoprevention of head and neck cancer. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, Washington, DC, September 29-30, 1996.
76. Quackery in otolaryngology. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, Washington, DC, September 29-30, 1996.
77. Computer-assisted endoscopic sinus surgery. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, Washington, DC, September 29-30, 1996.
78. Intranasal endoscopic ligation of the sphenopalatine artery. American Society for Head and Neck Surgery Prevention Committee Presentation, American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, Washington, DC, September 29-30, 1996.
79. Endoscopic sphenopalatine artery ligation for the treatment of epistaxis: efficacy and cost analysis. American Rhinologic Society 43rd Annual Meeting, San Francisco, CA, September 6, 1997.

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80. Osteoplastic obliteration of the frontal sinus with hydroxyapatite cement. American Rhinologic Society 43rd Annual Meeting, San Francisco, CA, September 6, 1997.
81. Cerebrospinal fluid leak repair with hydroxyapatite cement. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting. San Francisco, CA, September 7-10, 1997.
82. Role of arachidonic acid metabolites in a murine squamous cell carcinoma model. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting. San Francisco, CA, September 7-10, 1997.
83. Computer-assisted endoscopic sinus surgery. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting. San Francisco, CA, September 7-10, 1997.
84. Endoscopic sphenopalatine artery ligation. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting. San Francisco, CA, September 7-10, 1997.
85. Endoscopic sphenopalatine artery ligation. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting. San Francisco, CA, September 7-10, 1997.
86. Report from the alternative medicine study program. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting. San Francisco, CA, September 7-10, 1997.
87. The Boston Tea Party and other remedies. American Dietetic Association 80th Annual Meeting, Boston, MA, October 27-30, 1997.
88. Endoscopic Zenker's diverticulectomy. Southwestern Pennsylvania Chapter of the American College of Surgeons 44th Annual Meeting, Pittsburgh, PA, June 3, 1998.
89. Endoscopic sphenopalatine artery ligation for epistaxis. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, San Antonio, TX, September 13-16, 1998.
90. Food, nutrition, and the prevention of cancer. Presentation for the Prevention Committee of the American Society for Head and Neck Surgery, American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, San Antonio, TX, September 13-16, 1998.
91. Endoscopic assisted skull base surgery. North American Skull Base Society Annual Meeting, Chicago, IL, May 28-31, 1999.
92. Neurilemmomas of the paranasal sinuses. North American Skull Base Society Annual Meeting, Chicago, IL, May 28-31, 1999.
93. Endoscopic sphenopalatine artery ligation for epistaxis. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting. New Orleans, LA, September 26-29, 1999.
94. Carotid artery management in skull base surgery. North American Skull Base Society Annual Meeting, Scottsdale, AZ, March 17-20, 2000.
95. Cervical spine disease. Southwestern Pennsylvania Chapter of the American College of Surgeons 46th Annual Meeting, Pittsburgh, PA, March 29, 2000.
96. Endoscopic repair of anterior cranial base defects. Pennsylvania Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, Nemaquin, PA, June 23-24, 2000.
97. Alternative therapy of head and neck cancer. Fifth International Conference on Head and Neck Cancer. San Francisco, CA, July 29-August 2, 2000.

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98. Advances in tobacco cessation. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, Washington DC, September 24-27, 2000.
99. Endoscopic sphenopalatine artery ligation for epistaxis. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, Washington DC, September 24-27, 2000.
100. Endoscopic management of skull base pathology. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, Washington DC, September 24-27, 2000.
101. Endoscopic sphenopalatine artery ligation for epistaxis. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, San Diego, CA, September 22, 2002.
102. Office techniques for tobacco cessation. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, San Diego, CA, September 24, 2002.
103. Craniofacial surgery for malignant skull base tumors: report of an international collaborative study. North American Skull Base Society 14th Annual Meeting, Memphis, TN, February 22-25, 2003.
104. Treatment of velopharyngeal incompetence with injectable hydroxylapatite. American Rhinologic Society Annual Meeting, Nashville, TN, May 3, 2003.
105. Endoscopic resection of anterior cranial base neoplasms. Pennsylvania Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, Pittsburgh, PA, June 20-21, 2003.
106. Endoscopic sphenopalatine artery ligation: clinical experience. Pennsylvania Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, Pittsburgh, PA, June 20-21, 2003.
107. Registration errors with image guidance during endoscopic anterior cranial base surgery. Pennsylvania Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, Pittsburgh, PA, June 20-21, 2003.
108. Diagnosis and treatment of the unknown primary. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, Orlando, FL, September 21-24, 2003.
109. Endoscopic sphenopalatine artery ligation for epistaxis. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, Orlando, FL, September 21-24, 2003.
110. Advanced endoscopic surgery of the sphenoid sinus. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, Orlando, FL, September 21-24, 2003.
111. Registration errors with image guidance during endoscopic anterior cranial base surgery. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, Orlando, FL, September 21-24, 2003.
112. Imaging/navigation. North American Skull Base Society Annual Meeting. New Orleans, LA, February 14, 2004.
113. The extended endoscopic technique for resection of anterior cranial base neoplasms. Pennsylvania Academy of Otolaryngology-Head and Neck Surgery Annual Scientific Meeting, Philadelphia, PA, June 11-12, 2004.
114. Endoscopic approaches to the ventral skull base. Pennsylvania Academy of Otolaryngology-Head and Neck Surgery Annual Scientific Meeting, Philadelphia, PA, June 11-12, 2004.
115. Controversies in endoscopic sinus surgery. Pennsylvania Academy of Otolaryngology-Head and Neck Surgery Annual Scientific Meeting, Philadelphia, PA, June 11-12, 2004.

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116. Endoscopic approaches to the ventral skull base. 6th International Conference on Head and Neck Cancer, Washington, DC, August 7-10, 2004.
117. Skull base surgery techniques. 6th International Conference on Head and Neck Cancer, Washington, DC, August 7-10, 2004.
118. Effect of tobacco use on extracellular matrix of squamous cell carcinoma. 6th International Conference on Head and Neck Cancer, Washington, DC, August 7-10, 2004.
119. The extended endoscopic technique for resection of anterior cranial base neoplasms. 6th International Conference on Head and Neck Cancer, Washington, DC, August 7-10, 2004.
120. Severe epistaxis from metastatic renal cell carcinoma: management of a difficult case. North American Skull Base Society 16th Annual Meeting, Toronto, Ontario, Canada, April 7-10, 2005.
121. Recovery of visual loss following endoscopic pituitary. Pennsylvania Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, Pittsburgh, PA, June 10-11, 2005.
122. Endoscopic sphenopalatine artery ligation for epistaxis. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, Los Angeles, CA, September 25-28, 2005.
123. Endoscopic resection of sino-nasal tumors: sometimes, always, or never. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, Los Angeles, CA, September 25-28, 2005.
124. Advanced endoscopic surgery of the sphenoid sinus and ventral skull base. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, Los Angeles, CA, September 25-28, 2005.
125. Surgical approaches to the cervical spine. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, Los Angeles, CA, September 25-28, 2005.
126. Esthesioneuroblastoma: the University of Pittsburgh experience. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, Los Angeles, CA, September 25-28, 2005.
127. Management of carotid artery injury during endoscopic surgery. North American Skull Base Society Annual Meeting, Phoenix, AZ, February 17-18, 2006.
128. Endoscopic endonasal approaches to the petrous apex. North American Skull Base Society Annual Meeting, Phoenix, AZ, February 17-18, 2006.
129. Acquisition of surgical skills for endonasal brain surgery. North American Skull Base Society Annual Meeting, Phoenix, AZ, February 17-18, 2006.
130. Clinical experience with the expanded endonasal approach for resection of the odontoid process. American Rhinologic Society 52nd Annual Meeting, Toronto, Ontario, Canada, September 16, 2006.
131. Endoscopic endonasal resection of nasal dermoids. American Rhinologic Society 52nd Annual Meeting, Toronto, Ontario, Canada, September 16, 2006.
132. Endoscopic sphenopalatine artery ligation for epistaxis. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, Toronto Ontario, Canada, September 17-20, 2006.
133. Endoscopic approaches to the cranial base. North American Skull Base Society 18th Annual Meeting, Chicago, IL, May 24-27, 2007.

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134. Endoscopic endonasal resection of esthesioneuroblastoma: a multi-center study. North American Skull Base Society 18th Annual Meeting, Chicago, IL, May 24-27, 2007.
135. Juvenile nasopharyngeal angiofibroma: the Pittsburgh experience. North American Skull Base Society 18th Annual Meeting, Chicago, IL, May 24-27, 2007.
136. Resection of the odontoid process through the expanded endonasal approach: clinical experience from 14 patients. North American Skull Base Society 18th Annual Meeting, Chicago, IL, May 24-27, 2007.
137. Vascularized nasal septal flap for reconstruction of skull base defects following expanded endonasal approaches to the skull base: outcome analysis. North American Skull Base Society 18th Annual Meeting, Chicago, IL, May 24-27, 2007.
138. The posterior pedicle inferior turbinate flap: a new vault for malignancies. Is it worth it? North American Skull Base Society 18th Annual Meeting, Chicago, IL, May 24-27, 2007.
139. The expanded endonasal approach to Meckel's cave. North American Skull Base Society 18th Annual Meeting, Chicago, IL, May 24-27, 2007.
140. Transpterygoid transposition of temporoparietal fascia flap for skull base reconstruction. North American Skull Base Society 18th Annual Meeting, Chicago, IL, May 24-27, 2007.
141. Expanded endonasal surgery: limits of endoscopic approaches. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, Washington, DC, September 16-19, 2007.
142. Clinical indications and experience with the expanded endonasal approach for resection of the odontoid process. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, Washington, DC, September 16-19, 2007.
143. Acquisition of surgical skills for endonasal skull base surgery: a training program. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, Washington, DC, September 16-19, 2007.
144. Endoscopic skull base surgery: the ridiculous to the sublime. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, Washington, DC, September 16-19, 2007.
145. Classification of endonasal skull base approaches. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, Washington, DC, September 16-19, 2007.
146. Challenges of endoscopic cranial base surgery for sinonasal tumors. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, Washington, DC, September 16-19, 2007.
147. Endoscopic skull base surgery. Triological Society Annual Meeting, Orlando, FL, May 1- 4, 2008.
148. Endoscopic endonasal tranorbital tumor. Triological Society Annual Meeting, Orlando, FL, May 1- 4, 2008.
149. Prospective evaluation of the nasoseptal flap for endoscopic anterior skull base reconstruction. Triological Society Annual Meeting, Orlando, FL, May 1- 4, 2008.
150. Endoscopic resection of giant angiofibromas with intracranial extension: a staged approach. Triological Society Annual Meeting, Orlando, FL, May 1- 4, 2008.
151. Primary lesions of the petrous apex. 3rd World Congress for Endoscopic Surgery of the Brain, Skull Base,

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- and Spine. Sao Paulo, Brazil, May 22-24, 2008.
152. Transnasal endoscopic approach. 3rd World Congress for Endoscopic Surgery of the Brain, Skull Base, and Spine. Sao Paulo, Brazil, May 22-24, 2008.
 153. Vascular injuries. 3rd World Congress for Endoscopic Surgery of the Brain, Skull Base, and Spine. Sao Paulo, Brazil, May 22-24, 2008.
 154. Contemporary management of CSF leaks and encephaloceles of the ABC. 5th International Congress of the World Federation of Skull Base Societies and North American Skull Base Society 19th Annual Meeting, Vancouver, BC, September 11-14, 2008.
 155. Endoscopic sphenopalatine artery ligation for epistaxis. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, Chicago, IL, September 22-24, 2008.
 156. Carotid catastrophes during endoscopic sinus surgery: avoidance and management. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, Chicago, IL, September 22-24, 2008.
 157. Endoscopic surgical anatomy of the cranial base. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, Chicago, IL, September 22-24, 2008.
 158. Quality of life following endoscopic endonasal approach for skull base lesions. 9th Congress of the European Skull Base Society, Rotterdam, The Netherlands, April 16-19, 2009.
 159. Endoscopic sphenopalatine artery ligation for expistaxis. XIX IFOS World Congress, Sao Paulo, Brazil, June 1-5, 2009.
 160. Transnasal endoscopic cranial base surgery. XIX IFOS World Congress, Sao Paulo, Brazil, June 1-5, 2009.
 161. Endoscopic sphenopalatine artery ligation for epistaxis. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, San Diego, CA, October 4-7, 2009.
 162. Endoscopic skull base surgery: evolution of a technique. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, San Diego, CA, October 4-7, 2009.
 163. Quality of life following endonasal skull base surgery. North American Skull Base Society Annual Meeting, New Orleans, LA, October 16-18, 2009.
 164. A surgical training model for endoscopic skull base surgery. North American Skull Base Society Annual Meeting, New Orleans, LA, October 16-18, 2009.
 165. Endoscopic skull base surgeries: is infection a real problem? North American Skull Base Society Annual Meeting, New Orleans, LA, October 16-18, 2009.
 166. Endoscopic endonasal resection of nasal dermoid cysts involving the anterior skull base. North American Skull Base Society Annual Meeting, New Orleans, LA, October 16-18, 2009.
 167. Skull base surgery: a personal odyssey. 4th World Congress for Endoscopic Surgery of the Brain, Skull Base and Spine, Pittsburgh, PA, April 28-30, 2010.
 168. Training and education – a systematic training program for endonasal skull base surgery. 4th World Congress for Endoscopic Surgery of the Brain, Skull Base and Spine, Pittsburgh, PA, April 28-30, 2010.
 169. Rhinologic and endoscopic tips for the otolaryngologist. American Academy of Otolaryngology-Head and

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Neck Surgery Annual Meeting, Boston, MA, September 25-28, 2010.

170. A surgical training model for endoscopic sinus surgery. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, Boston, MA, September 25-28, 2010.
171. Endoscopic sphenopalatine artery ligation for epistaxis. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, Boston, MA, September 25-28, 2010.
172. Endoscopic skull base anatomy. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, Boston, MA, September 25-28, 2010.
173. A surgical training model for temporal bone surgery. American College of Surgeons 96th Annual Clinical Congress, Washington, DC, October 3-4, 2010.
174. A surgical training model for endoscopic skull base surgery. American College of Surgeons 96th Annual Clinical Congress, Washington, DC, October 3-4, 2010.
175. Surgical training models. Pennsylvania Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, Bedford Springs, PA, June 18, 2011.
176. Endoscopic sphenopalatine artery ligation for epistaxis. Instruction Course, American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, San Francisco, CA, September 11, 2011.
177. Endoscopic surgical anatomy of the cranial base. Instruction Course, American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, San Francisco, CA, September 12, 2011.
178. Hemostasis during endoscopic sinus surgery. Instruction Course, American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, San Francisco, CA, September 13, 2011.
179. Avoiding disaster at the skull base: case studies in 3D. Mini Seminar, American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, San Francisco, CA, September 14, 2011.

Invited International Lectures

1. Three dimensional (3D) endoscopy. Minimally Invasive Techniques in Oto-Rhino-Laryngology, 14th Alexandria International Conference in Otolaryngology, Alexandria, Egypt, April 10-12, 1996.
2. Endoscopic ligation of the internal maxillary artery. Minimally Invasive Techniques in Oto-Rhino-Laryngology, 14th Alexandria International Conference in Otolaryngology, Alexandria, Egypt, April 10-12, 1996.
3. Orbital decompression for Graves' disease. Minimally Invasive Techniques in Oto-Rhino-Laryngology, 14th Alexandria International Conference in Otolaryngology, Alexandria, Egypt, April 10-12, 1996.
4. Endoscopic management of erosive skull base lesions. Minimally Invasive Techniques in Oto-Rhino-Laryngology, 14th Alexandria International Conference in Otolaryngology, Alexandria, Egypt, April 10-12, 1996.
5. Endoscopic orbital decompression for graves disease. University of Puerto Rico School of Medicine, Dorado Beach, Puerto Rico, June 26-28, 1997.
6. The surgical management of angiofibroma. University of Puerto Rico School of Medicine, Dorado Beach, Puerto Rico, June 26-28, 1997.
7. Cefzil and the management of the patient with chronic sinusitis and otitis. Commonsense in

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Otolaryngology, University of Puerto Rico School of Medicine, San Juan, PR, September 3-6, 1999.

8. Laryngotracheal separation for intractable aspiration. 2nd Tanta International Meeting on Head and Neck and Skull Base Surgery, Cairo, Egypt, January 18-21, 2001.
9. Endoscopic sphenopalatine artery ligation for epistaxis. 2nd Tanta International Meeting on Head and Neck and Skull Base Surgery, Cairo, Egypt, January 18-21, 2001.
10. Endoscopic assisted management of nasopharyngeal angiofibroma. 2nd Tanta International Meeting on Head and Neck and Skull Base Surgery, Cairo, Egypt, January 18-21, 2001.
11. Minimally invasive skull base surgery. 2nd Tanta International Meeting on Head and Neck and Skull Base Surgery, Cairo, Egypt, January 18-21, 2001.
12. Craniofacial resection. 2nd Tanta International Meeting on Head and Neck and Skull Base Surgery, Cairo, Egypt, January 18-21, 2001.
13. FESS: challenging indications in sinus infections and complications. 2nd Tanta International Meeting on Head and Neck and Skull Base Surgery, Cairo, Egypt, January 18-21, 2001.
14. Extrasellar pituitary adenomas. 2nd Biennial International Instructional Milano Masterclass, Milano, Italy, March 20-26, 2003.
15. Frontal sinus obliteration. 2nd Biennial International Instructional Milano Masterclass, Milano, Italy, March 20-26, 2003.
16. Most frequent complications in head and neck surgery. XII Curso Internacional de Menarini Para ORL, Seville, Spain, March 26-27, 2004.
17. Endoscopic treatment for epistaxis. XII Curso Internacional de Menarini Para ORL, Seville, Spain, March 26-27, 2004.
18. Vascular lesions evaluation and management. XII Curso Internacional de Menarini Para ORL, Seville, Spain, March 26-27, 2004.
19. A treatment algorithm for severe epistaxis: role of endoscopic surgery. International Conference on the Controversies in Paranasal Sinus Surgery, Zurich, Switzerland, October 1-2, 2004.
20. Classification of surgical approaches to the ventral skull base. International Conference on the Controversies in Paranasal Sinus Surgery, Zurich, Switzerland, October 1-2, 2004.
21. Endoscopic approaches to the anterior skull base including complications and requirements and types of repair. AOASIF Advances in the Management of Craniomaxillofacial Surgery. Whistler, British Columbia, Canada, February 20-22, 2005.
22. Endoscopic approaches to the ventral skull base. AOASIF Advances in the Management of Craniomaxillofacial Surgery. Whistler, British Columbia, Canada, February 20-22, 2005.
23. Technical modifications of osteoplastic obliteration of the frontal sinus. 3rd Biennial International Milano Masterclass, Milano, Italy, March 4-6 2005.
24. Recurrent epistaxis following sphenopalatine artery ligation. 3rd Biennial International Milano Masterclass, Milano, Italy, March 4-6 2005.
25. Nasopharyngeal cancer: is there a role for endoscopic cranial base surgery? 3rd Biennial International

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Milano Masterclass, Milano, Italy, March 4-6 2005.

26. Non tumoral lesions of the skull base: reliable techniques, predictable outcomes. 3rd Biennial International Milano Masterclass, Milano, Italy, March 4-6 2005.
27. Parasellar region surgery and beyond: the next dimension. 3rd Biennial International Milano Masterclass, Milano, Italy, March 4-6 2005.
28. Petrous apex and clivus. 7th Congress of the European Skull Base Society, Fulda, Germany, May 19, 2005.
29. Classification of surgical approaches to the ventral skull base. 7th Congress of the European Skull Base Society, Fulda, Germany, May 19, 2005.
30. Anterior skull base malignancies. 7th Congress of the European Skull Base Society, Fulda, Germany, May 19, 2005.
31. Treatment of malignant tumors of the sino-nasal tract. XVIII IFOS World Congress, Rome, Italy, June 25-30, 2005.
32. A modular classification of transnasal endoscopic skull base approaches. XVIII IFOS World Congress, Rome, Italy, June 25-30, 2005.
33. Endoscopic oncologic surgery. XVIII IFOS World Congress, Rome, Italy, June 25-30, 2005.
34. The transnasal endoscopic approach of the skull base and spine. Royal Belgian ENT-HNS Society, Liege, Belgium, November 18, 2005.
35. Extended indications, new instruments, and education for endonasal endoscopic approach of the skull base. Royal Belgian ENT-HNS Society, Liege, Belgium, November 18, 2005.
36. Management of carotid injury in endoscopic sinus surgery. 4th Annual Otolaryngology Update, University of Toronto, Toronto, Ontario, Canada, February 4, 2006.
37. Endoscopic management of epistaxis. 4th Annual Otolaryngology Update, University of Toronto, Toronto, Ontario, Canada, February 4, 2006.
38. The expanded endonasal approach to the skull base: endoscopic principles. AO Advanced Skull Base and Craniofacial Surgery Symposium, Royal Society of Medicine, London, England, May 14-16, 2006.
39. Endoscopic approaches to the sphenoid and pituitary. AO Advanced Skull Base and Craniofacial Surgery Symposium, Royal Society of Medicine, London, England, May 14-16, 2006.
40. Petrous apex approaches. AO Advanced Skull Base and Craniofacial Surgery Symposium, Royal Society of Medicine, London, England, May 14-16, 2006.
41. Training the endoscopic surgeon. AO Advanced Skull Base and Craniofacial Surgery Symposium, Royal Society of Medicine, London, England, May 14-16, 2006.
42. Endoscopic approaches to the craniovertebral junction. AO Advanced Skull Base and Craniofacial Surgery Symposium, Royal Society of Medicine, London, England, May 14-16, 2006.
43. Acquisition of surgical skills for endonasal skull base surgery. 3rd World Congress of IFHNOS, Prague, Czech Republic, June 28-July 1, 2006.
44. Endoscopic surgery of the skull base: the expanded endonasal approach. 6th SVO International Conference

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on Head and Neck Cancer, Venice, Italy, September 7-9, 2006.

45. Endonasal endoscopic approaches to the skull base. European Skull Base Society Annual Meeting, Freiburg, Germany, November 10, 2006.
46. Minimally invasive endoscopic surgery of the cranial base. British Skull Base Society Meeting, Birmingham, England, January 25-26, 2007.
47. General principles and extended applications in the anterior and central skull base. British Skull Base Society Meeting, Birmingham, England, January 25-26, 2007.
48. Minimally invasive endoscopic surgery of the cranial base: extended applications in the lateral skull base. British Skull Base Society Meeting, Birmingham, England, January 25-26, 2007.
49. So you want to be a skull base surgeon! An incremental training program. 4th International Milano Masterclass, Milano, Italy, March 22-26, 2007.
50. Avoiding a craniotomy: endoscopic resection of nasal dermoids. 4th International Milano Masterclass, Milano, Italy, March 22-26, 2007.
51. A new endoscopic staging system for angiofibromas. 4th International Milano Masterclass, Milano, Italy, March 22-26, 2007.
52. Medial endonasal approach to the petrous apex. 4th International Milano Masterclass, Milano, Italy, March 22-26, 2007.
53. How low can you go? The endonasal transodontoid approach. 4th International Milano Masterclass, Milano, Italy, March 22-26, 2007.
54. An algorithm for reconstruction of small and large dural defects. 4th International Milano Masterclass, Milano, Italy, March 22-26, 2007.
55. Principles of endoscopic cranial base surgery. 3rd Turkish National Rhinology Congress and CITRAS, Bodrum, Turkey, April 21-25, 2007.
56. A modular classification of endonasal approaches to the cranial base. 3rd Turkish National Rhinology Congress and CITRAS, Bodrum, Turkey, April 21-25, 2007.
57. Management of carotid artery during endoscopic surgery. 3rd Turkish National Rhinology Congress and CITRAS, Bodrum, Turkey, April 21-25, 2007.
58. Endoscopic management of severe epistaxis. 3rd Turkish National Rhinology Congress and CITRAS, Bodrum, Turkey, April 21-25, 2007.
59. Endoscopic craniofacial resection of esthesioneuroblastoma and sinonasal malignant tumors. 3rd Turkish National Rhinology Congress and CITRAS, Bodrum, Turkey, April 21-25, 2007.
60. Endoscopic skull base resection of olfactory neuroblastoma. 3rd NUH-NUS Otolaryngology Conference, Singapore, October 16-19, 2007.
61. Endoscopic resection of inverted papilloma. 3rd NUH-NUS Otolaryngology Conference, Singapore, October 16-19, 2007.
62. Endoscopic management of CSF leaks. 3rd NUH-NUS Otolaryngology Conference, Singapore, October 16-19, 2007.

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63. Transsphenoidal approach to pituitary tumors. 3rd NUH-NUS Otolaryngology Conference, Singapore, October 16-19, 2007.
64. Endoscopic resection of angiofibroma. 3rd NUH-NUS Otolaryngology Conference, Singapore, October 16-19, 2007.
65. What are the limits of endoscopy? The expanded endonasal approach to the ventral skull base. 3rd NUH-NUS Otolaryngology Conference, Singapore, October 16-19, 2007.
66. Future of endoscopy. 3rd NUH-NUS Otolaryngology Conference, Singapore, October 16-19, 2007.
67. Endoscopic approach to hemostasis for epistaxis. 3rd NUH-NUS Otolaryngology Conference, Singapore, October 16-19, 2007.
68. Expanded transsphenoidal approaches to skull base tumors. 3rd NUH-NUS Otolaryngology Conference, Singapore, October 16-19, 2007.
69. Minimally invasive endoscope-assisted surgery for sinonasal tumors. 3rd NUH-NUS Otolaryngology Conference, Singapore, October 16-19, 2007.
70. Endoscopic pituitary surgery: an otolaryngology surgeon's perspective. 3rd NUH-NUS Otolaryngology Conference, Singapore, October 16-19, 2007.
71. Skull base endoscopic surgery. Spanish Society of ENT Annual Meeting, Madrid, Spain, November 10-13, 2007.
72. The expanded endonasal approach to the ventral skull base. Spanish Society of ENT Annual Meeting, Madrid, Spain, November 10-13, 2007.
73. Evolution and principles of endoscopic skull base surgery. Endoscopic Surgery of the Cranial Base and Pituitary Fossa Course. Charing Cross Hospital, London, England, March 26, 2008
74. Level I and II approaches: anatomy and technique. Endoscopic Surgery of the Cranial Base and Pituitary Fossa Course. Charing Cross Hospital, London, England, March 26, 2008
75. Reconstruction: cerebrospinal fluid leaks, septal mucosal flap. Endoscopic Surgery of the Cranial Base and Pituitary Fossa Course. Charing Cross Hospital, London, England, March 26, 2008.
76. Endonasal approaches to the cranial base. Middle East Update in Otolaryngology-Head and Neck Surgery. Dubai, UAE, April 2-4, 2008.
77. Endoscopic management of severe epistaxis. Middle East Update in Otolaryngology-Head and Neck Surgery. Dubai, UAE, April 2-4, 2008.
78. Endoscopic treatment of angiofibromas. Middle East Update in Otolaryngology-Head and Neck Surgery. Dubai, UAE, April 2-4, 2008.
79. Endoscopic pituitary surgery: otolaryngological perspective. Middle East Update in Otolaryngology-Head and Neck Surgery. Dubai, UAE, April 2-4, 2008.
80. Reconstruction of skull base defects with the septal mucosal flap. Middle East Update in Otolaryngology-Head and Neck Surgery. Dubai, UAE, April 2-4, 2008.

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81. Surgical management of CSF leaks. Middle East Update in Otolaryngology-Head and Neck Surgery. Dubai, UAE, April 2-4, 2008.
82. What are the limits of endoscopic sinus surgery? European Rhinologic Society Annual Meeting, Crete, Greece, June 14-19, 2008.
83. FESS & malignancies in the nose-sinuses and skull base area. European Rhinologic Society Annual Meeting, Crete, Greece, June 14-19, 2008.
84. Endonasal endoscopic skull base surgery. Advanced Digital Technology in Head and Neck Reconstruction, Wales, UK, June 29-July 1, 2008.
85. Instrumentation for endoscopic skull base surgery. 20th Memorial Meeting of the Japanese Society for Skull Base Surgery, Tokyo, Japan, July 5-12, 2008.
86. Endoscopic skull base surgery: minimally or maximally invasive. 20th Memorial Meeting of the Japanese Society for Skull Base Surgery, Tokyo, Japan, July 5-12, 2008.
87. Evolution of endoscopic skull base surgery. Australasian Rhinological Society Annual Meeting, Auckland, New Zealand. September 26-28, 2008.
88. Endoscopic management of sinonasal tumors. Australasian Rhinological Society Annual Meeting, Auckland, New Zealand. September 26-28, 2008.
89. Hemostatic techniques in endoscopic skull base surgery. Australasian Rhinological Society Annual Meeting, Auckland, New Zealand. September 26-28, 2008.
90. Transnasal orbital surgery. Australasian Rhinological Society Annual Meeting, Auckland, New Zealand. September 26-28, 2008.
91. The scope of endoscopic skull base surgery. Australasian Rhinological Society Annual Meeting, Auckland, New Zealand. September 26-28, 2008.
92. Lessons learned from a decade of endoscopic skull base surgery and 1000 patients. 15th Congress of the Japanese Neuroendoscopy Society, Tokyo, Japan, November 18-25, 2008.
93. Management of CSF leaks. 15th Congress of the Japanese Neuroendoscopy Society, Tokyo, Japan, November 18-25, 2008.
94. Endoscopic resection of olfactory esthesioneuroblastomas. International Expertise of Specific Rhinologic Topics, Nancy, France, December 1-3, 2008.
95. Endoscopic reconstruction of the anterior skull base following endonasal skull base surgery. International Expertise of Specific Rhinologic Topics, Nancy, France, December 1-3, 2008.
96. Endoscopic repair of large dural defects. V Polish Rhinologic Forum, Warsaw, Poland, December 5-7, 2008.
97. The pedicled septal mucosal flap. V Polish Rhinologic Forum, Warsaw, Poland, December 5-7, 2008.
98. Principles of endoscopic skull base surgery. V Polish Rhinologic Forum, Warsaw, Poland, December 5-7, 2008.
99. Endonasal approaches to the petrous apex. V Polish Rhinologic Forum, Warsaw, Poland, December 5-7, 2008.

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100. A new endoscopic staging for angiofibromas. V Polish Rhinologic Forum, Warsaw, Poland, December 5-7, 2008.
101. Endoscopic resection of sinonasal malignancies: techniques and outcomes. V Polish Rhinologic Forum, Warsaw, Poland, December 5-7, 2008.
102. Anyone can be a skull base surgeon... with the right training: a systematic approach to endonasal skull base surgery. 5th Biennial International Milano Masterclass, Milano, Italy, March 27-29, 2009.
103. Is it operable? Surgical management of giant angiofibromas with intracranial extension. 5th Biennial International Milano Masterclass, Milano, Italy, March 27-29, 2009.
104. Big problems in little noses: endonasal skull base surgery without craniotomy. 5th Biennial International Milano Masterclass, Milano, Italy, March 27-29, 2009.
105. Does endoscopic resection of olfactory neuroblastoma violate oncological principles? 5th Biennial International Milano Masterclass, Milano, Italy, March 27-29, 2009.
106. Sellar and parasellar lesions: things you didn't know you could do just a few years ago. 5th Biennial International Milano Masterclass, Milano, Italy, March 27-29, 2009.
107. Endoscopic management of severe epistaxis. 6th Pan Arab Congress of Otorhinolaryngology Head & Neck Surgery and the 5th International Congress of the Jordanian Society of Otorhinolaryngology Head & Neck Surgery, Amman, Jordan, May 12-15, 2009.
108. Endoscopic repair of CSF leaks: endoscopic treatment of giant angiofibroma. 6th Pan Arab Congress of Otorhinolaryngology Head & Neck Surgery and the 5th International Congress of the Jordanian Society of Otorhinolaryngology Head & Neck Surgery, Amman, Jordan, May 12-15, 2009.
109. Nasal morbidity of endonasal skull base surgery. 13th British Academic Conference in Otolaryngology, Liverpool, UK, July 8-10, 2009.
110. New treatment strategies, cost effectiveness, and hemostasis during sinus and skull base surgery. 13th British Academic Conference in Otolaryngology, Liverpool, UK, July 8-10, 2009.
111. Endoscopic ethmoid ligation of carotid injuries. 13th British Academic Conference in Otolaryngology, Liverpool, UK, July 8-10, 2009.
112. What are the limits of endoscopic sinus surgery? The expanded endonasal approach to the ventral skull base. 13th British Academic Conference in Otolaryngology, Liverpool, UK, July 8-10, 2009.
113. How much can you resect endoscopically? 13th British Academic Conference in Otolaryngology, Liverpool, UK, July 8-10, 2009.
114. Endoscopic management of midline anterior skull base tumor – clinical anatomy, anterior skull base resection: how I do it. 5th NUH-NUS Otolaryngology Conference, Singapore, March 8-12, 2010.
115. Endoscopic management of pituitary lesions – anatomy, approaches: how I do it. 5th NUH-NUS Otolaryngology Conference, Singapore, March 8-12, 2010.
116. Endoscopic management of lesions in pterygopalatine fossa and infratemporal fossa – anatomy, approaches: how I do it. 5th NUH-NUS Otolaryngology Conference, Singapore, March 8-12, 2010.
117. Complications of endoscopic skull base surgery. 5th NUH-NUS Otolaryngology Conference, Singapore,

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March 8-12, 2010.

118. Indications and limitation of expanded endoscopic skull base surgery. 5th NUH-NUS Otolaryngology Conference, Singapore, March 8-12, 2010.
119. Results of expanded endoscopic sinuses surgery compared to conventional surgery. 5th NUH-NUS Otolaryngology Conference, Singapore, March 8-12, 2010.
120. Endoscopic surgery for sinonasal malignancy. Does it violate oncological principles? 57th Portuguese ENT Congress, Cascais, Portugal, May 4-9, 2010.
121. Endoscopic endonasal surgery of the skull base: principles and practice. 57th Portuguese ENT Congress, Cascais, Portugal, May 4-9, 2010.
122. Endoscopic skull base surgery for sinonasal malignancy: preservation of oncological principles. 4th World Congress of the International Federation of Head and Neck Oncologic Societies, Seoul, Korea, June 14-19, 2010.
123. Quality of life following endoscopic skull base surgery. 4th World Congress of the International Federation of Head and Neck Oncologic Societies, Seoul, Korea, June 14-19, 2010.
124. A new staging system for angiofibromas. 4th World Congress of the International Federation of Head and Neck Oncologic Societies, Seoul, Korea, June 14-19, 2010.
125. Endoscopic treatment of sinonasal malignancies. 9th Annual Cairo University Conference, Cairo, Egypt, October 10-17, 2010.
126. Role of endoscopy in pediatric sinonasal tumors. 9th Annual Cairo University Conference, Cairo, Egypt, October 10-17, 2010.
127. Endoscopic treatment of severe epistaxis. 9th Annual Cairo University Conference, Cairo, Egypt, October 10-17, 2010.
128. Endonasal approaches to the petrous apex. 9th Annual Cairo University Conference, Cairo, Egypt, October 10-17, 2010.
129. Reconstruction of large dural defects. Endonasal Endoscopic Approaches to the Paranasal Sinuses and Skull Base: A Hands-On Dissection Course, Maribor, Slovenia, November 12-14, 2010.
130. Principles of endonasal skull base surgery. Endonasal Endoscopic Approaches to the Paranasal Sinuses and Skull Base: A Hands-On Dissection Course, Maribor, Slovenia, November 12-14, 2010.
131. Sagittal plane I: transcribriform, transplanum, transsellar approaches. Endonasal Endoscopic Approaches to the Paranasal Sinuses and Skull Base: A Hands-On Dissection Course, Maribor, Slovenia, November 12-14, 2010.
132. Endoscopic surgery of the parasellar space and cavernous sinus and petrous apex: overview. Endonasal Endoscopic Approaches to the Paranasal Sinuses and Skull Base: A Hands-On Dissection Course, Maribor, Slovenia, November 12-14, 2010.
133. Overview on nasal endoscopic surgery of the skull base. Department of Otolaryngology, Federal University of Sao Paulo, Sao Paulo, Brazil, March 22, 2011.
134. Endoscopic sinus surgery for malignant nasal tumors. Head and Neck Surgery and Otorhinolaryngology

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Department, Hospital A.C. Camargo, Sao Paulo, Brazil, March 24, 2011.

135. Endoscopic endonasal surgery for sinonasal malignancy: preservation of oncological principles. 2nd International ORL Forum, JiaoTong University, Shanghai, China, October 6, 2011.
136. Endoscopic endonasal skull base surgery in pediatric patients. Endoscopic Sinus and Skull Base Surgery and Anatomy Workshop, JiaoTong University, Shanghai, China, October 8, 2011.
137. Management of carotid injury during endoscopic surgery. Endoscopic Sinus and Skull Base Surgery and Anatomy Workshop, JiaoTong University, Shanghai, China, October 8, 2011.
138. Endonasal treatment of sinonasal malignancy. Xi'an International Neurosurgical Forum, Xi'an, China, October 20, 2011.
139. Otolaryngological aspects of neuroendoscopic surgery. Neuroendoscopic and Minimally Invasive Neurosurgical Seminar, Chongqing, China, October 22, 2011.
140. Skull base surgery. 1st Kuala Lumpur International Multi-Disciplinary Endonasal Endoscopic Approach to Cranial Skull Base and Pituitary Fossa Course and Workshop, Kuala Lumpur, Malaysia, December 7, 2011.
141. Esthesioneuroblastoma: controversies. 1st Kuala Lumpur International Multi-Disciplinary Endonasal Endoscopic Approach to Cranial Skull Base and Pituitary Fossa Course and Workshop, Kuala Lumpur, Malaysia, December 7, 2011.
142. Vascular and bleeding control in endoscopic skull base surgery. . 1st Kuala Lumpur International Multi-Disciplinary Endonasal Endoscopic Approach to Cranial Skull Base and Pituitary Fossa Course and Workshop, Kuala Lumpur, Malaysia, December 7, 2011.
143. A systematic training program for endonasal skull base surgery. . 1st Kuala Lumpur International Multi-Disciplinary Endonasal Endoscopic Approach to Cranial Skull Base and Pituitary Fossa Course and Workshop, Kuala Lumpur, Malaysia, December 7, 2011.

Invited National Lectures

1. Diagnosis and treatment of head and neck cancers. American Cancer Society Cancer Update, Erie, PA, April 25, 1990.
2. Surgical management of chronic aspiration. Masters in Otolaryngology Ski Meeting, Snowmass, CO, March 1992.
3. Inflammatory conditions of the paranasal sinuses. Masters in Otolaryngology Ski Meeting, Snowmass, CO, March 1992.
4. Neoplastic conditions of the paranasal sinuses. Masters in Otolaryngology Ski Meeting, Snowmass, CO, March 1992.
5. Management of chronic aspiration. Otolaryngology Update, University of California School of Medicine, San Francisco, CA, November 5-7, 1992.
6. Cancer quackery. Otolaryngology Update, University of California School of Medicine, San Francisco, CA, November 5-7, 1992.

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7. Epistaxis: endoscopic repair of the sphenopalatine artery. 16th Annual Pediatric ORL Nurses Spring Meeting, Boca Raton, FL, May 10, 2002.
8. Endoscopic optic nerve decompression and endoscopic management of anterior skullbase tumors. AOASIF Course, Chicago, IL, April 3, 2004.
9. What are the limits of endoscopic sinus surgery and endoscopic sphenopalatine artery ligation. Interdisciplinary Problem Solving in Cranio-Maxillofacial and Neurologic Surgery, Louisiana State University Health Sciences Center School of Medicine, New Orleans, LA, April 23-24, 2004.
10. Endoscopic pituitary surgery. Interdisciplinary Problem Solving in Cranio-Maxillofacial and Neurologic Surgery, Louisiana State University Health Sciences Center School of Medicine, New Orleans, LA, April 23-24, 2004.
11. Endoscopic approaches to the ventral skull base. North American Skull Base Society Dissection Course for Senior Otolaryngology and Neurosurgery Residents, Memphis, TN, July 31-August 1, 2004.
12. Infratemporal approach to the lateral skull base. North American Skull Base Society Dissection Course for Senior Otolaryngology and Neurosurgery Residents, Memphis, TN, July 31-August 1, 2004.
13. Endoscopic orbital decompression. Sacramento Society of Otolaryngology, Sacramento, CA, February 10, 2005.
14. Endoscopic ligation of the sphenopalatine artery for severe epistaxis. Sacramento Society of Otolaryngology, Sacramento, CA, February 10, 2005.
15. What are the limits of endoscopic sinus surgery: the expanded endonasal approach. Michigan Otolaryngological Society, Dearborn, MI, April 13, 2005.
16. Conventional and minimally invasive approaches to the paranasal sinuses and ventral skull base. Interdisciplinary Problem Solving in Cranio-Maxillofacial and Neurologic Surgery, New York, NY, May 7, 2005.
17. Endoscopic versus microseptal pituitary approaches. Interdisciplinary Problem Solving in Cranio-Maxillofacial and Neurologic Surgery, New York, NY, May 7, 2005.
18. Surgical access in skull base surgery: endoscopic vs. open approaches. New York Head & Neck Society, New York, NY, November 2, 2005.
19. What are the limits of endoscopic sinus surgery? Columbus EENT Society, Columbus, OH, December 5, 2005.
20. What are the limits of endoscopic surgery? Chicago Laryngological and Otological Society, Chicago, IL, February 6, 2006
21. The expanded endonasal approach. Chicago Laryngological and Otological Society, Chicago, IL, February 6, 2006.
22. Endoscopic brain surgery: the expanded endonasal approach. Tidewater Otolaryngology and Ophthalmology Society Annual Meeting, Virginia Beach, VA, March 16-17, 2006.
23. Salvage surgery for recurrent/persistent oropharyngeal cancer: surgical access and oncologic considerations. Multi-management of Head and Neck Cancer and Thyroid and Parathyroid Diseases, Beth Israel Medical Center, New York, NY, March 18-24, 2006.

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24. Oropharyngeal cancer tumor board. Multi-management of Head and Neck Cancer and Thyroid and Parathyroid Diseases, Beth Israel Medical Center, New York, NY, March 18-24, 2006.
25. Minimally invasive approaches to the cranial base. Multi-management of Head and Neck Cancer and Thyroid and Parathyroid Diseases, Beth Israel Medical Center, New York, NY, March 18-24, 2006.
26. What are the limits of endoscopic skull base surgery? Memphis Society of Otolaryngology-Head and Neck Surgery, Memphis, TN, April 20, 2006.
27. Epistaxis: how I do it. Advanced Endoscopic Sinus Surgery Dissection Course, University of California, San Francisco, CA, April 27-29, 2006.
28. Skull base approaches: state of the art. Advanced Endoscopic Sinus Surgery Dissection Course, University of California, San Francisco, CA, April 27-29, 2006.
29. Updated instrumentation in sinusitis. Advanced Endoscopic Sinus Surgery Dissection Course, University of California, San Francisco, CA, April 27-29, 2006.
30. Endoscopic surgery and the orbit. Advanced Endoscopic Sinus Surgery Dissection Course, University of California, San Francisco, CA, April 27-29, 2006.
31. What are the limits of endoscopic surgery? American College of Surgeons, White Sulphur Springs, WV, May 11-12, 2006.
32. What are the limits of endoscopic sinus surgery? Orange County Society of Otolaryngology Head and Neck Surgery, University of California, Irvine, CA, June 14, 2006.
33. Endoscopic surgery for sinonasal neoplasms. American Head & Neck Society Annual Meeting and Research Workshop, Chicago, IL, August 17-20, 2006.
34. Endoscopic pituitary surgery: otolaryngological perspective. Florida Hospital Neuroscience Institute, Orlando, FL, February 23-25, 2007.
35. Neuroendoscopy suite-basic setup and technical considerations. Florida Hospital Neuroscience Institute, Orlando, FL, February 23-25, 2007.
36. Endoscopic repair of CSF fistulas of the skull base-transpterygoid to lateral sphenoid. Florida Hospital Neuroscience Institute, Orlando, FL, February 23-25, 2007.
37. The septal musosal flap. Florida Hospital Neuroscience Institute, Orlando, FL, February 23-25, 2007.
38. Medial orbital decompression and intraorbital approaches. Florida Hospital Neuroscience Institute, Orlando, FL, February 23-25, 2007.
39. Anterior craniofacial approaches and endoscopic arterial ligation SPA & EA. Florida Hospital Neuroscience Institute, Orlando, FL, February 23-25, 2007.
40. Transodontoid approach. Florida Hospital Neuroscience Institute, Orlando, FL, February 23-25, 2007.
41. Complications of endoscopic skull base surgery: ENT. Florida Hospital Neuroscience Institute, Orlando, FL, February 23-25, 2007.
42. Endoscopic management of severe epistaxis. New England Otolaryngology Society Annual Meeting, Boston, MA, October 11-13, 2007.

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43. What are the limits of endoscopic sinus surgery? New England Otolaryngology Society Annual Meeting, Boston, MA, October 11-13, 2007.
44. The expanded endonasal approach to the cranial base. New England Otolaryngology Society Annual Meeting, Boston, MA, October 11-13, 2007.
45. Endoscopic pituitary surgery. New England Otolaryngology Society Annual Meeting, Boston, MA, October 11-13, 2007.
46. Evolution and principles of endoscopic skull base surgery. Minimally Invasive Endoscopic Endonasal Surgery of the Skull Base, Paranasal Sinuses, and Posterior Fossa Course. Florida Hospital, Orlando, FL, March 7-9, 2008.
47. The training of an endoscopic skull base surgeon. Minimally Invasive Endoscopic Endonasal Surgery of the Skull Base, Paranasal Sinuses, and Posterior Fossa Course. Florida Hospital, Orlando, FL, March 7-9, 2008.
48. Principles of endoneurosurgery. Minimally Invasive Endoscopic Endonasal Surgery of the Skull Base, Paranasal Sinuses, and Posterior Fossa Course. Florida Hospital, Orlando, FL, March 7-9, 2008.
49. Sella/pituitary. Minimally Invasive Endoscopic Endonasal Surgery of the Skull Base, Paranasal Sinuses, and Posterior Fossa Course. Florida Hospital, Orlando, FL, March 7-9, 2008.
50. Transpterygoid approaches, parapharyngeal space, petrous apex medial expansion. Minimally Invasive Endoscopic Endonasal Surgery of the Skull Base, Paranasal Sinuses, and Posterior Fossa Course. Florida Hospital, Orlando, FL, March 7-9, 2008.
51. Role of the endoscope at the anterior skull base. Massachusetts Eye & Ear Head & Neck Cancer Update, Boston, MA, April 18-20, 2008.
52. Pediatric endoscopic skull base surgery. 23rd Symposium: Ear, Nose & Throat Disorders in Children: 2008 Update, Pittsburgh, PA, November 14-15, 2008.
53. Endoscopic management of juvenile angiofibroma. Ohio Valley Advanced Endoscopic Sinus and Cranial Base Course, University of Cincinnati, Cincinnati, OH, March 20-21, 2009.
54. Endoscopic skull base surgery. Technological Advances in Head and Neck Oncology and Cranio-Maxillofacial Surgery, Portland, OR, July 24-26, 2009.
55. Oncological principles of endonasal skull base surgery. Cleveland Head and Neck Society Meeting, Cleveland, OH, December 9, 2009.
56. What are the limits of endoscopic sinus surgery? Cleveland Head and Neck Society Meeting, Cleveland, OH, December 9, 2009.
57. Use of vascular pedicle flaps for endoscopic repair of skull base defects. 5th Annual Loma Linda Skull Base Course, Loma Linda, CA, October 24-25, 2010.
58. Transclival/transodontoid approach. 5th Annual Loma Linda Skull Base Course, Loma Linda, CA, October 24-25, 2010.
59. What are the limits of endoscopic sinus surgery? Central Pennsylvania Society of Otorhinolaryngologists Annual Meeting, Hershey, PA, February 23, 2011.

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Invited Local Lectures

1. Carcinoid tumor of the larynx. George Schein Memorial Lecture, Pittsburgh Otological Society, Pittsburgh, PA. May 8, 1985.
2. Treatment of intractable aspiration. George Schein Memorial Lecture, Pittsburgh Otological Society, Pittsburgh, PA, April 5, 1987.
3. Surgery of the cranial base. Jefferson County Medical Society, DuBois, PA, May 12, 1988.
4. Treatment of chronic aspiration. Jefferson County Medical Society, DuBois, PA, May 12, 1988.
5. A new direction for ENT - anterior skull base surgery. Society of Otorhinolaryngology and Head-Neck Nurses, Pittsburgh, PA, June 7, 1988.
6. Diagnosis of oral cancer: essentials of early detection and indications for biopsy. Carcinoma of the Oral Cavity – Diagnosis, Management and Continuing Care, Eye & Ear Hospital and the American Cancer Society, Pittsburgh, PA, November 9, 1988.
7. Complications of tracheostomy. Critical Care Medicine Symposium, University of Pittsburgh School of Medicine, Pittsburgh, PA, November 18, 1988.
8. Cranial base surgery. Anesthesiology Conference, Eye & Ear Hospital, Pittsburgh, PA, November 24, 1988.
9. Fractures of the frontal sinus. Otolaryngology Mini-Seminar, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, January 17, 1989.
10. Current research in immunology. Residents' Conference, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, February 21, 1989.
11. Therapeutic outcome of cranial base surgery. Cranial Base Surgery Mini-Seminar, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, March 28-29, 1989.
12. Cranial base surgery: Where do we go from here? Cranial Base Surgery Mini-Seminar, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, March 28-29, 1989.
13. Cancer of the cranial base. St. George Oral Cancer Society, University of Pittsburgh School of Dental Medicine, Pittsburgh, PA, April 27, 1989.
14. Evaluation of head and neck cancer. Mayview State Hospital, Pittsburgh, PA, June 2, 1989.
15. Local adoptive immunotherapy of head and neck cancer. Tumor Board, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, July 24, 1989.
16. Early diagnosis: the dilemma of oral biopsy. Three Rivers Dental Conference, Pittsburgh, PA, September 19, 1989.
17. Surgical management of skull base neoplasms. Association of Surgical Technicians, Pittsburgh, PA, October 21, 1989.
18. Prostaglandin production and immunosuppression by squamous cell carcinomas of the head and neck. American Cancer Society Institutional Grants Seminar, University of Pittsburgh Cancer Institute, Pittsburgh, PA, November 3, 1989.

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19. Complications of tracheostomy. Department of Critical Care Medicine, University of Pittsburgh School of Medicine, Pittsburgh, PA, November 7, 1989.
20. Tracheostomy management and decannulation. Residents' Lecture, Division of Physical Medicine and Rehabilitation, University of Pittsburgh School of Medicine, Pittsburgh, PA, January 16, 1990.
21. Immunology of cervical lymphatics in the head and neck cancer patient. Otolaryngology Mini-Seminar, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, March 7, 1990.
22. Amyloidosis in head and neck. Tumor Board, University of Pittsburgh Cancer Institute, Pittsburgh, PA, March 16, 1990.
23. Endoscopic sinus disease. Alumni Day, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, April 20, 1990.
24. Techniques of examination and biopsy: evaluation of the node in the neck. St. Margaret Memorial Hospital, Pittsburgh, PA, May 11, 1990.
25. Management of pharyngeal dysfunction. Pathology and Surgical Treatment, Pittsburgh, PA, October 10-11, 1990.
26. The craniocervical junction. Pathology and Surgical Treatment, Pittsburgh, PA, October 10-11, 1990.
27. Nutritional considerations in head and neck cancer patients. Medical Symposium, Monongahela Valley Hospital, Monongahela, PA, October 17, 1990.
28. Electrophysiologic monitoring of laryngeal function. Otoneurology Update, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, June 13, 1991.
29. Role of transfusion in head and neck oncology. Otolaryngology Mini-Seminar, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, October 2, 1991.
30. Tracheal replacement with revascularized jejunum and dacron sleeve prosthesis. Grand Rounds, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, October 15, 1991.
31. Trauma to the nose and mid-face. Residents' Conference, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, October 19, 1991.
32. Epidemiology of laryngeal carcinoma: potential for chemoprevention. Cancer Committee of The Eye & Ear Institute Pavilion of Montefiore University Hospital and The Eye & Ear Institute of Pittsburgh Annual Meeting, Pittsburgh, PA, October 25, 1991.
33. Speech rehabilitation after total laryngectomy. Cancer Committee of The Eye & Ear Institute Pavilion of Montefiore University Hospital and The Eye & Ear Institute of Pittsburgh Annual Meeting, Pittsburgh, PA, October 25, 1991.
34. Glossodynia. Grand Rounds, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, November 19, 1991.
35. Clinicopathologic evaluation of neck masses. Sophomore Pathology Class, Department of Pathology, University of Pittsburgh School of Medicine, Pittsburgh, PA, February 28, 1992.

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36. Chemoprevention of head and neck cancer. Grand Rounds, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, May 19, 1992.
37. Oral cavity, nasal cavity and pharynx. First Year Medical Students, University of Pittsburgh School of Medicine, Pittsburgh, PA, September 22, 1992.
38. Chronic aspiration. Grand Rounds, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, September 22, 1992.
39. Lympho-proliferative disorders. Grand Rounds, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, October 6, 1992.
40. Differential diagnosis of otalgia. University of Pittsburgh School of Dental Medicine, Pittsburgh, PA, October 20, 1992.
41. Electrophysiologic evaluation of recurrent laryngeal nerve injury. Otolaryngology Mini-Seminar, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, October 28, 1992.
42. Neck dissection. Grand Rounds, Department of Surgery, University of Pittsburgh School of Medicine, Pittsburgh, PA, October 31, 1992.
43. Management of the N₃ neck. Cancer Committee of the Eye & Ear Institute Pavilion of Montefiore University Hospital Annual Meeting, Pittsburgh, PA, November 20, 1992.
44. Nutrition and the immune system. Clinical Dietetic Students, University of Pittsburgh School of Medicine, Pittsburgh, PA, February 8, 1993.
45. Clinicopathologic evaluation of neck masses. Department of Pathology, University of Pittsburgh School of Medicine, Pittsburgh, PA, February 26, 1993.
46. Otolgia and pain. Predoctoral Students' Occlusion III Course, University of Pittsburgh School of Medicine, Pittsburgh, PA, March 1, 1993.
47. Signs and symptoms of oral cancer. Oral Cancer Screening Recognition and Management Seminar, University of Pittsburgh School of Medicine, Pittsburgh, PA, March 31, 1993.
48. Endoscopic orbital decompression for graves disease. Computer-Assisted Endoscopic Sinus Surgery Seminar, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, May 7-8, 1993.
49. Surgery for chronic aspiration. Surgical Anatomy of the Head and Neck, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, May 10-14, 1993.
50. Radical and modified neck dissection. Surgical Anatomy of the Head and Neck, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, May 10-14, 1993.
51. Management of N₃ neck. Surgical Anatomy of the Head and Neck, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, May 10-14, 1993.
52. Surgical approaches to the frontal sinus. Surgical Anatomy of the Head and Neck, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, May 10-14, 1993.
53. Approaches to the infratemporal fossa. Surgical Anatomy of the Head and Neck, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, May 10-14, 1993.

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54. Split thickness skin graft: how I do it. Surgical Anatomy of the Head and Neck, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, May 10-14, 1993.
55. Role of prostaglandins and leukotrienes in head and neck cancer. Developmental Therapeutics Seminar Series, University of Pittsburgh Cancer Institute, Pittsburgh, PA, June 19, 1993.
56. Osteology of the skull. Human Body Course, University of Pittsburgh School of Medicine, Pittsburgh, PA, September 28-29, 1993.
57. Meninges and dural venous sinuses. Human Body Course, University of Pittsburgh School of Medicine, Pittsburgh, PA, September 28-29, 1993.
58. Cranial nerve V. Human Body Course, University of Pittsburgh School of Medicine, Pittsburgh, PA, September 28-29, 1993.
59. Carotid artery resection. Residents' Lecture, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, October 11, 1993.
60. Additional applications: computer assisted sinus endoscopic surgery. C.A.S.E.S. Workshop, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, October 29-30, 1993.
61. Avoidance of complications using computer-assisted endoscopic sinus surgery. C.A.S.E.S. Workshop, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, October 29-30, 1993.
62. Computer assisted endoscopic sinus surgery. C.A.S.E.S. Workshop, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, October 29-30, 1993.
63. Anesthesia and operative techniques. C.A.S.E.S. Workshop, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, October 29-30, 1993.
64. Postoperative care. C.A.S.E.S. Workshop, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, October 29-30, 1993.
65. Cancer quackery. Grand Rounds, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, December 21, 1993.
66. Ear pain. Otolaryngology for the Family Practitioner Workshop, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, January 14, 1994.
67. Otolgia and pain. Residents' Lecture, University of Pittsburgh School of Dental Medicine, Pittsburgh, PA, March 14, 1994.
68. Meta-analysis of prognostic factors for esthesioneuroblastoma. Grand Rounds, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, March 15, 1994.
69. Unconventional cancer treatments. Medical Students' Lecture, University of Pittsburgh School of Medicine, Pittsburgh, PA, April 5, 1994.
70. Head and neck surgery and prevention update. Eleventh Annual George Tolstoi Hematology/Oncology Symposium, Nemaconlin, PA, April 23, 1994.

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71. Computer assisted endoscopic sinus surgery. Alumni Teaching Day, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, April 29, 1994.
72. Neck masses. Problem Based Learning Series, University of Pittsburgh School of Medicine, Pittsburgh, PA, July 5, 1994.
73. Osteology of the skull. Human Body Course, University of Pittsburgh School of Medicine, September 27-30, 1994.
74. Meninges and dural venous sinuses. Human Body Course, University of Pittsburgh School of Medicine, September 27-30, 1994.
75. Trigeminal nerve. Human Body Course, University of Pittsburgh School of Medicine, September 27-30, 1994.
76. Middle ear and facial nerve. Human Body Course, University of Pittsburgh School of Medicine, September 27-30, 1994.
77. Infratemporal and pterygopalatine fossae. Human Body Course, University of Pittsburgh School of Medicine, Pittsburgh, PA, September 27-30, 1994.
78. Smokeless tobacco: carcinogens and cancer prevention. Cancer of the Oral Cavity: A Comprehensive Approach Seminar, University of Pittsburgh School of Medicine, Pittsburgh, PA, October 19, 1994.
79. Meta-analysis of mucosal melanomas of the head and neck. Tumor Board, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, November 21, 1994.
80. Evaluation and management of neck masses. Center for Continuing Medical Education in the Health Sciences Teleconference, University of Pittsburgh School of Medicine, Pittsburgh, PA, January 11, 1995.
81. Evaluation of neck mass. Problem Based Learning/Ambulatory Subspecialties Lecture, University of Pittsburgh School of Medicine, Pittsburgh, PA, February 6, 1995.
82. Nutrition aspects of head and neck cancer. Nutrition Forum, University of Pittsburgh School of Medicine, Pittsburgh, PA, February 27, 1995.
83. Applications of image guided surgery in the head and neck. Grand Rounds, Department of Surgery, The Western Pennsylvania Hospital, Pittsburgh, PA, March 8, 1995.
84. The diagnosis and treatment of sinusitis. Center for Continuing Education in the Health Sciences Teleconference, University of Pittsburgh School of Medicine, Pittsburgh, PA, March 15, 1995.
85. Life-threatening aspiration: management alternatives. Otolaryngology Mini-Seminar, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, March 25, 1995.
86. CUSUM analysis of supraglottic cancer. Grand Rounds, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, April 18, 1995.
87. Carotid artery resection. Head and Neck Laryngology and Bronchoesophagology Lecture Series, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, April 24, 1995.
88. Head and neck trauma. Problem Based Learning/Ambulatory Subspecialties Lecture, University of Pittsburgh School of Medicine, Pittsburgh, PA, May 31, 1995.

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89. Introduction and conclusions, evaluations. Alternative Therapy for the Treatment of Cancer and AIDS: An Educational Program on Unproven Medical Therapies, University of Pittsburgh School of Medicine and the University of Pittsburgh Cancer Institute, Pittsburgh, PA, June 12, 1995.
90. Alternative approaches to the parapharyngeal space. Surgical Anatomy of the Head and Neck, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, June 19-23, 1995.
91. Surgical options for tongue base resection. Surgical Anatomy of the Head and Neck, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, June 19-23, 1995.
92. Split thickness skin graft: How I do it. Surgical Anatomy of the Head and Neck, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, June 19-23, 1995.
93. Lateral rhinotomy and medial maxillectomy: indications and techniques. Surgical Anatomy of the Head and Neck, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, June 19-23, 1995.
94. Approaches to the infratemporal fossa. Surgical Anatomy of the Head and Neck, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, June 19-23, 1995.
95. Airway and tracheostomy management. Residents' Lecture, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, July 25, 1995.
96. Early diagnosis of head and neck cancer. DuBois Regional Medical Center, DuBois, PA, July 31, 1995.
97. Airway concerns in head and neck trauma. Comprehensive Update on Airway Management Workshop, University of Pittsburgh School of Medicine, Pittsburgh, PA, September 23-24, 1995.
98. Tumors and foreign bodies. Comprehensive Update on Airway Management Workshop, University of Pittsburgh School of Medicine, Pittsburgh, PA, September 23-24, 1995.
99. Osteology of the skull. Human Body Course, University of Pittsburgh School of Medicine, Pittsburgh, PA, September 26-October 2, 1995.
100. Meninges and dural venous sinuses. Human Body Course, University of Pittsburgh School of Medicine, Pittsburgh, PA, September 26-October 2, 1995.
101. Pterygopalatine fossa and trigeminal nerve. Human Body Course, University of Pittsburgh School of Medicine, Pittsburgh, PA, September 26-October 2, 1995.
102. Middle ear. Human Body Course, University of Pittsburgh School of Medicine, Pittsburgh, PA, September 26-October 2, 1995.
103. Trigeminal nerve review. Human Body Course, University of Pittsburgh School of Medicine, Pittsburgh, PA, September 26-October 2, 1995.
104. Head and neck trauma. Problem Based Learning/Ambulatory Subspecialties Lecture, University of Pittsburgh School of Medicine, Pittsburgh, PA, October 18, 1995.
105. Impact of early diagnosis on outcome. Detecting Oral Cancer: Diagnosis, Care & Follow-Up, University of Pittsburgh Medical School of Medicine and the University of Pittsburgh Cancer Institute, Pittsburgh, PA, October 18, 1995.
106. Diagnosis of head and neck cancer. Grand Rounds, University of Pittsburgh Cancer Institute, Pittsburgh, PA, October 24, 1995.

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107. Uncommon malignancies. Nursing Grand Rounds, University of Pittsburgh Cancer Institute, Pittsburgh, PA, October 24, 1995.
108. Inhibition of squamous cell carcinoma with cyclooxygenase inhibitors of arachidonic acid metabolism. Southwestern Pennsylvania Chapter of the American College of Surgeons Annual Residents' Day Program, Pittsburgh, PA, November 1, 1995.
109. Evaluation and treatment of chronic cough. St. John's Medical Center, Steubenville, OH, November 6, 1995.
110. Chemoprevention of epithelial cancers with nsaid. Innovations in Cancer Care, University of Pittsburgh Cancer Institute, Pittsburgh, PA, November 16-17, 1995.
111. Alternative therapies. Oncology Clinical Nurse Specialist Student Lecture, University of Pittsburgh School of Nursing, Pittsburgh, PA, November 28, 1995.
112. 3-D endoscopic surgery and 3-D interactive skull base surgery. Medical 3-D Imaging: Concepts, Applications and Advances Seminar, University of Pittsburgh School of Medicine, Pittsburgh, PA, December 6, 1995.
113. Endoscopic sphenopalatine artery ligation. Sinus Disease Update, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, January 10, 1996.
114. Intraoperative CT guided computer assisted surgery. Grand Rounds, Department of Surgery, University of Pittsburgh School of Medicine, Pittsburgh, PA, February 17, 1996.
115. Lateral approach to the cranial base. Head & Neck Laryngology and Bronchoesophagology Lecture Series, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, February 19, 1996.
116. Nutritional aspects of head and neck cancer. Memorial Medical Center, Johnstown, PA, March 15, 1996.
117. Evaluation of neck mass. Problem Based Learning/Ambulatory Subspecialties Lecture, University of Pittsburgh School of Medicine, Pittsburgh, PA, March 25 & 29, 1996.
118. Head and neck trauma. Problem Based Learning/Ambulatory Subspecialties Lecture, University of Pittsburgh School of Medicine, Pittsburgh, PA, March 13, 1996 and June 5, 1996.
119. Nutritional aspects of head and neck cancer. Richard G. Laube Cancer Center, Kittanning, PA, July 23, 1996.
120. Meninges and dural venous sinuses. Human Body Course, University of Pittsburgh School of Medicine, Pittsburgh, PA, September 25-26, 1996.
121. Pterygopalatine fossa and trigeminal nerve (V₂). Human Body Course, University of Pittsburgh School of Medicine, Pittsburgh, PA, September 25-26, 1996.
122. Trigeminal nerve-review. Human Body Course, University of Pittsburgh School of Medicine, Pittsburgh, PA, October 4, 1996.
123. Innovations in endoscopic sinus surgery. Department of Otolaryngology-Head and Neck Surgery. Medical College of Ohio at Toledo, Toledo, OH, October 7, 1996.

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124. Quackery and alternative cancer therapies. Grand Rounds, Division of Medical Oncology, University of Pittsburgh School of Medicine, Pittsburgh, PA, October 10, 1996.
125. Head & neck trauma. Problem Based Learning/Ambulatory Subspecialties Lecture, University of Pittsburgh School of Medicine, Pittsburgh, PA, November 7, 1996.
126. Upper airway obstruction/laryngeal trauma. Emergencies in Otolaryngology and Ophthalmology, University of Pittsburgh School of Medicine, Pittsburgh, PA, November 20, 1996.
127. Non-traditional healing: alternative therapies. Acute Care Nurse Practitioner Students, University of Pittsburgh School of Nursing, Pittsburgh, PA, November 21, 1996.
128. Cancer chemoprevention with non-steroidal anti-inflammatory drugs (NSAID). 7th Annual Pittsburgh Cancer Conference, Pittsburgh, PA, December 4, 1996.
129. Diagnosis and treatment of sinusitis. Akron City Hospital, Akron, OH, December 11, 1996.
130. Management of invasive thyroid cancer. Thyroid Cancer Conference, Division of Endocrinology, University of Pittsburgh School of Medicine, Pittsburgh, PA, January 29, 1997.
131. Surgical options for oropharyngeal lesions. Surgical Anatomy of the Head and Neck, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, February 17-18, 1997.
132. FESS: Avoidance of complications. Surgical Anatomy of the Head and Neck, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, February 17-18, 1997.
133. Head & neck trauma. Problem Based Learning/Ambulatory Subspecialties Lecture, University of Pittsburgh School of Medicine, Pittsburgh, PA, February 25, 1997.
134. Role of arachidonic acid metabolites in head and neck cancer. Grand Rounds, Department of Surgery, University of Pittsburgh School of Medicine, Pittsburgh, PA, March 1, 1997.
135. Epistaxis: update on endoscopic sphenopalatine artery ligation. Update on Sinus Disorders Mini-Seminar, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, March 12, 1997.
136. Lateral approach to the cranial base. Head & Neck Laryngology and Bronchoesophagology Lecture Series, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, April 21, 1997.
137. Head and neck trauma. Problem Based Learning/Ambulatory Subspecialties Lecture, University of Pittsburgh School of Medicine, Pittsburgh, PA, April 23, 1997.
138. Tobacco use: prevention and cessation for health care professionals. University of Pittsburgh Cancer Institute, Pittsburgh, PA, April, 30, 1997.
139. Head & neck trauma. Problem Based Learning/Ambulatory Subspecialties Lecture. University of Pittsburgh School of Medicine, Pittsburgh, PA, June 4, 1997.
140. ENT considerations and examination. Maxillofacial Prosthodontics Residents' Lecture Series, University of Pittsburgh School of Medicine, Pittsburgh, PA, September 3, 1997.
141. Endoscopic sphenopalatine artery ligation for epistaxis. Pennsylvania Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, Nemaquin, PA, June 20-21, 1997.

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142. Early diagnosis and risks/nutritional support of head and neck cancer. Carcinoma of the Head and Neck Seminar, Seven Springs, PA, September 12, 1997.
143. Olfaction and taste: diagnosis and management of dysfunction. Nasal Allergy and Sino-Nasal Disorders Residents' Lecture Series, Department of Otolaryngology, University of Pittsburgh School of Medicine, November 10, 1997.
144. Early diagnosis of head and neck cancer. University of Pittsburgh Cancer Institute Continuing Education Outreach Program, Latrobe Area Hospital, Latrobe, PA, November 20, 1997.
145. Early diagnosis of head and neck cancer. Grand Rounds, Department of Family Practice, UPMC Shadyside Hospital, Pittsburgh, PA, November 25, 1997.
146. Update on tobacco cessation. Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, December 17, 1997.
147. Alternative medicine: nutritional and herbal therapies. Nutrition Support Forum, University of Pittsburgh Medical Center, Pittsburgh, PA, January 26, 1998.
148. The use of interactive devices for endoscopic sinus surgery. Update on Sinus Disorders Mini-Seminar, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, March 25, 1998.
149. Cancer quackery. University of Pittsburgh Cancer Institute Education Outreach Program, DuBois Regional Medical Center, DuBois, PA, June 1, 1998.
150. Early recognition of head and neck cancer. Washington Hospital, Washington, PA, August 12, 1998.
151. Introduction to being a physician. Patient/Doctor Relationship Block PBL Course, University of Pittsburgh School of Medicine, August 17-21, 1998.
152. Recent advances in smoking cessation therapy. GlaxoWellcome Educational Program, Pittsburgh, PA, August 19, 1998.
153. Transphenoidal approaches for pituitary tumors and macroadenomas. Neuro-Endocrine Rounds, University of Pittsburgh Medical Center, September 11, 1998.
154. Epidemiology: risks and prevention. Oral Cancer: Detection Care and Follow-up. University of Pittsburgh School of Medicine, Pittsburgh, PA, October 7, 1998.
155. Management of common ENT problems. Lecture to Physicians and Nurses, University of Pittsburgh Student Health Clinic, Pittsburgh, PA, December 16, 1998.
156. Upper airway obstruction/laryngeal trauma. Emergencies in Otolaryngology and Ophthalmology, Pittsburgh, PA, February 26, 1999.
157. Olfaction and taste. Nasal Allergy and Sinonasal Disorders Conference, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, March 1, 1999.
158. Head & neck trauma. Problem Based Learning/Ambulatory Subspecialties Lecture, University of Pittsburgh School of Medicine, Pittsburgh, PA, March 22, 1999.
159. Carotid artery dissection. Grand Rounds, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, March 24, 1999.

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160. Early recognition of head and neck cancer. Armstrong County Memorial Hospital, Kittanning, PA, May 4, 1999.
161. Early recognition and treatment of head and neck cancer. Tumor Board, DuBois Regional Medical Center, DuBois, PA, August 16, 1999.
162. Diagnosis and management of cranial base tumors. Armstrong County Memorial Hospital, Kittanning, PA, September 10, 1999.
163. Bias in medical care-alternative medicine. Medicine, Ethics and Society Course, University of Pittsburgh School of Medicine, Pittsburgh, PA, September 22, 1999.
164. Diagnosis and management of skull base tumors. Tumor Board, UPMC Horizon Hospital, Greenville, PA, October 1, 1999.
165. Facial pain in older adults. Otolaryngology Fall Specialty Conference, UPMC Shadyside Hospital, Pittsburgh, PA, October 16, 1999.
166. Endoscopic treatment of epistaxis. Understanding Surgical Therapy for Beginner to Advanced Surgeons. UPMC Shadyside Hospital, Pittsburgh, PA, November 6-8, 1999.
167. Alternative therapies in sinonasal disorders. Rhinosinusitis Mini-Seminar, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, January 6, 2000.
168. Olfaction and taste. Clinical Assessment of Cranial Nerve Disorders Mini-Seminar, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, January 26, 2000.
169. Autonomic nerves. Clinical Assessment of Cranial Nerve Disorders Mini-Seminar, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, January 26, 2000.
170. Assessment of cranial nerve disorders. Clinical Assessment of Cranial Nerve Disorders Mini-Seminar, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, January 26, 2000.
171. Cancer quackery. Washington Hospital, Washington, PA, February 9, 2000.
172. Update on endoscopic repair of CSF leak. Head and Neck Surgery Mini-Seminar, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, February 10, 2000.
173. Experience with laryngeal separation for intractible aspiration. Topics in Otolaryngology Mini-Seminar, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, March 16, 2000.
174. PET/CT scanning and head and neck cancer patient. Otolaryngology Mini-Seminar, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, May 5, 2000.
175. Advances in cranial base surgery. Cancer of the Oral Cavity of the Head and Neck, University of Pittsburgh Cancer Institute, Pittsburgh, PA, September 27, 2000.
176. Locally advanced and recurrent disease. Innovations in Head and Neck Cancer, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, April 27, 2001.
177. Advances in cranial base surgery. Advances in Cranial Base Surgery, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, May 4-5, 2001.

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178. Anterior cranial base. Advances in Cranial Base Surgery, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, May 4-5, 2001.
179. A meta-analysis of prognostic factors for local recurrence of esthesioneuroblastoma. Advances in Cranial Base Surgery, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, May 4-5, 2001.
180. Is tobacco use a risk factor for extracapsular spread. Festschrift of Isamu Sando, MD, DMedSc, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, May 18, 2001.
181. Management of nosebleeds. Grand Rounds, Department of Emergency Medicine, UPMC Shadyside Hospital, Pittsburgh, PA, June 19, 2001.
182. Minimally invasive surgery of anterior cranial base. Interdisciplinary Problem Solving in Cranio-Maxillofacial Surgery, Pittsburgh, PA, February 23, 2002.
183. Epistaxis. ENT Nurses Education Day, Pittsburgh, PA, March 25, 2002.
184. Identification and therapy of white lesions: lichen planus, leukoplakia and thrush. Comprehensive Care of Oral Cavity Disease, Pittsburgh, PA, May 22, 2002.
185. Epistaxis. Residents' Lecture, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, August 5, 2002.
186. Differential diagnosis of oral cavity mucosal lesions. Oral Cavity Cancer: Screening, Detection, Treatment and Postoperative Management, Pittsburgh, PA, October 16, 2002.
187. Examination of the oral cavity and neck. Examination of the Head and Neck Course, Western Pennsylvania Hospital, Pittsburgh, PA, March 07, 2003.
188. Laryngeal cancer. Journal Club, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, April 14, 2003.
189. Taste disorders. Oral Cavity Seminar, University of Pittsburgh School of Dental Medicine, Pittsburgh, PA, May 14, 2003.
190. Esthesioneuroblastoma. Cancer Care Conference, Western Pennsylvania Hospital, Pittsburgh, PA, July 11, 2003.
191. Surgical management of epistaxis. Residents' Lecture, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, August 11, 2003.
192. Overview of head and neck cancer. Department of Respiratory Therapy, UPMC Presbyterian Hospital, Pittsburgh, PA, September 10, 2003.
193. Endoscopic anatomy of the anterior cranial base. Endoscopic Sinus Surgery Workshop: Mastering the Basics and Advanced Surgical Techniques. UPMC Shadyside Hospital, Pittsburgh, PA, October 25, 2003.
194. Endoscopic pituitary surgery. Endoscopic Sinus Surgery Workshop: Mastering the Basics and Advanced Surgical Techniques. UPMC Shadyside Hospital, Pittsburgh, PA, October 25, 2003.
195. Epistaxis endoscopic AE and SPA ligation. Endoscopic Sinus Surgery Workshop: Mastering the Basics and Advanced Surgical Techniques. UPMC Shadyside Hospital, Pittsburgh, PA, October 25, 2003.

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196. What are the limits/limitations of endoscopic surgery? Endoscopic Sinus Surgery Workshop: Mastering the Basics and Advanced Surgical Techniques. UPMC Shadyside Hospital, Pittsburgh, PA, October 25, 2003.
197. White lesions of the oral cavity: detection and treatment of early oral cavity cancer. What Every Dentist Should Know Seminar, Monroeville, PA, October 29, 2003.
198. Education during residency. Journal Club, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, November 9, 2003.
199. Epistaxis. Brownsville General Hospital, Brownsville, PA, December 4, 2003.
200. Epistaxis. Greene County Memorial Hospital, Waynesburg, PA, January 13, 2004
201. Cancer quackery. UPMC Shadyside Hospital, Pittsburgh, PA, March 1, 2004.
202. Nutritional chemoprevention. Armstrong County Memorial Hospital, Kittanning, PA, April 6, 2004.
203. Vascular emergencies of the head and neck. Residents' Teaching Conference, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, May 10, 2004.
204. Open osteotomy vs. minimally invasive techniques for anterior skull base tumors. Advanced Techniques in Pediatric and Adult Craniofacial and Skull Base Surgery, Advanced Cranio-Maxillofacial Forum, Pittsburgh, PA, May 22, 2004.
205. Skull base surgery, past, present, and future. Grand Rounds, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, June 9, 2004.
206. The evolution of skull base surgery. Grand Rounds, Department of Plastic Surgery, University of Pittsburgh School of Medicine, Pittsburgh, PA, August 4, 2004.
207. Tracheostomy in the morbidly obese patient. General Surgery Seminar, University of Pittsburgh School of Medicine, Pittsburgh, PA, September 8, 2004
208. Smell and taste disorders. Residents' Conference, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, October 11, 2004.
209. Endoscopic pituitary surgery. Endoscopic Sinus Surgery Workshop, UPMC Shadyside Hospital, Pittsburgh, PA, October 22-24, 2004.
210. Endoscopic treatment of sinonasal tumors and epistaxis. Endoscopic Sinus Surgery Workshop, UPMC Shadyside Hospital, Pittsburgh, PA, October 22-24, 2004.
211. Endoscopic anterior ethmoid and sphenopalatine artery ligation. Endoscopic Sinus Surgery Workshop, UPMC Shadyside Hospital, Pittsburgh, PA, October 22-24, 2004.
212. Tobacco and the extracellular matrix. Grand Rounds, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, November 17, 2004.
213. Cranial Base Surgery. Coding and Billing Seminar, UPMC Presbyterian Hospital, Pittsburgh, PA, November 29, 2004.
214. Sinonasal tumors. Residents' Lecture, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, January 3, 2005.

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215. ENT exam. Advanced Physical Diagnosis Course, University of Pittsburgh School of Medicine, Pittsburgh, PA, January 24, 2005.
216. Take a bite out of cancer with nutrition. UPMC Presbyterian Hospital, Pittsburgh, PA, February 8, 2005.
217. Cancer quackery. Neoplasia Course, UPMC Shadyside, Pittsburgh, PA, February 28, 2005.
218. Tracheotomy in the morbidly obese patient. Grand Rounds, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, March 15, 2005.
219. Nutritional challenges and opportunities in cancer of the head and neck. Nutrition Support Forum, UPMC Presbyterian Hospital, Pittsburgh, PA, April 25, 2005.
220. Nasal cancers/epistaxis. ENT Nurses' Education Day, UPMC Presbyterian Hospital, Pittsburgh, PA, July 11, 2005.
221. Recent advances in the use of multimedia in skull-base surgery. 3rd International Conference on Telemedicine and Multimedia Communication, Pittsburgh, PA, October 21, 2005.
222. Endoscopic anatomy of the anterior cranial base. Endoscopic Sinus Surgery Workshop, UPMC Shadyside, Pittsburgh, PA, October 22, 2005.
223. Endoscopic pituitary surgery. Endoscopic Sinus Surgery Workshop, UPMC Shadyside, Pittsburgh, PA, October 22, 2005.
224. Endoscopic repair of CSF leaks. Endoscopic Sinus Surgery Workshop, UPMC Shadyside, Pittsburgh, PA, October 22, 2005.
225. Orbital decompression and optic nerve decompression. Endoscopic Sinus Surgery Workshop, UPMC Shadyside, Pittsburgh, PA, October 22, 2005.
226. Endoscopic treatment of sinonasal tumors. Endoscopic Sinus Surgery Workshop, UPMC Shadyside, Pittsburgh, PA, October 22, 2005.
227. Epistaxis: endoscopic anterior ethmoid and sphenopalatine artery ligation. Endoscopic Sinus Surgery Workshop, UPMC Shadyside, Pittsburgh, PA, October 22, 2005.
228. Cancer quackery. Neoplasia Course, UPMC Shadyside, Pittsburgh, PA, February 27, 2006.
229. Challenges of reconstruction of the cranial base. Grand Rounds, Department of Plastic Surgery, Western Pennsylvania Hospital, Pittsburgh, PA, March 8, 2006.
230. Endoscopic anatomy of the anterior cranial base. Endoscopic Sinus Surgery Workshop: Mastering the Basics and Advanced Surgical Techniques, UPMC Shadyside Hospital, Pittsburgh, PA, October 20-22, 2006.
231. Endoscopic pituitary surgery. Endoscopic Sinus Surgery Workshop: Mastering the Basics and Advanced Surgical Techniques, UPMC Shadyside Hospital, Pittsburgh, PA, October 20-22, 2006.
232. Orbital decompression and optic nerve decompression. Endoscopic Sinus Surgery Workshop: Mastering the Basics and Advanced Surgical Techniques, UPMC Shadyside Hospital, Pittsburgh, PA, October 20-22, 2006.
233. Endoscopic treatment of sinonasal tumors. Endoscopic Sinus Surgery Workshop: Mastering the Basics and Advanced Surgical Techniques, UPMC Shadyside Hospital, Pittsburgh, PA, October 20-22, 2006.

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234. Endonasal brain surgery. Science Club, The Ellis School, Pittsburgh, PA, November 6, 2006.
235. To infinity and beyond... what are the limits of endoscopic sinus surgery? Grand Rounds, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, January 15, 2008.
236. Endoscopic management of angiofibromas. Alumni Day/Update in Head and Neck Surgery-ENT. Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, March 28-29, 2008.
237. Skull base update. Grand Rounds, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, October 8, 2008.
238. Endoscopic repair of cerebrospinal fluid leaks. UPMC Shadyside Hospital Endoscopic Sinus Surgery Workshop: Mastering the Basics and Advanced Surgical Techniques, Pittsburgh, PA, November 7-9, 2008.
239. Sphenoid sinus approach and extended indications including pituitary. UPMC Shadyside Hospital Endoscopic Sinus Surgery Workshop: Mastering the Basics and Advanced Surgical Techniques, Pittsburgh, PA, November 7-9, 2008.
240. Epistaxis: endoscopic anterior ethmoid and sphenopalatine artery ligation. UPMC Shadyside Hospital Endoscopic Sinus Surgery Workshop: Mastering the Basics and Advanced Surgical Techniques, Pittsburgh, PA, November 7-9, 2008.
241. Traditional skull base approaches. Grand Rounds, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, November 12, 2008.
242. Cranial base surgery and research. Otolaryngology Interest Group Talk, University of Pittsburgh School of Medicine, Pittsburgh, PA, January 21, 2009.
243. Endonasal endoscopic brain surgery: a paradigm shift. UPMC Mercy Hospital, Pittsburgh, PA, September 9, 2009.
244. Endoscopic repair of cerebrospinal fluid leaks. UPMC Shadyside Hospital Endoscopic Sinus Surgery Workshop: Mastering the Basics and Advanced Surgical Techniques, Pittsburgh, PA, October 23-24, 2009.
245. Sphenoid sinus approach and extended indications including pituitary. UPMC Shadyside Hospital Endoscopic Sinus Surgery Workshop: Mastering the Basics and Advanced Surgical Techniques, Pittsburgh, PA, October 23-24, 2009.
246. Epistaxis: endoscopic anterior ethmoid and sphenopalatine artery ligation. UPMC Shadyside Hospital Endoscopic Sinus Surgery Workshop: Mastering the Basics and Advanced Surgical Techniques, Pittsburgh, PA, October 23-24, 2009.
247. The education of endoscopic surgeons. Residents' Research Conference, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, June 2, 2010.
248. Controversies in cranial base surgery. Grand Rounds, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, November 3, 2010.
249. The changing landscape of the skull. Grand Rounds, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, January 10, 2011.

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250. Analytical methods for surgical complications: a quality control approach. Residents' Research Conference, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, August 24, 2011.
251. Expanded sphenoid sinus approaches. PGY4 Residents' Endoscopic Sinus Surgery Course, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, October 15, 2011.
252. Endoscopic sphenopalatine artery ligation. PGY4 Residents' Endoscopic Sinus Surgery Course, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, October 15, 2011.
253. Skull base tumors: endoscopic vs. open approaches, indications, techniques, and flaps. Head and Neck Fellows Didactic Teaching Conference, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, November 3, 2011.

Panel Participation

1. Panelist: Practical approach to sinus disease. Otolaryngology Alumni Teaching Day, University of Pittsburgh School of Medicine, May 19, 1989.
2. Panelist: Immunotherapy of cranial base tumors. North American Skull Base Society Annual Meeting, Orlando, FL, March 1, 1991.
3. Moderator: Laryngeal carcinoma. Cancer Committee of The Eye & Ear Institute Pavilion of Montefiore University Hospital Annual Meeting, Pittsburgh, PA, October 25, 1991.
4. Moderator: Evaluation and management of cervical metastasis. Cancer Committee of The Eye & Ear Institute Pavilion of Montefiore University Hospital Annual Meeting, Pittsburgh, PA, November 20, 1992.
5. Moderator: Indications. C.A.S.E.S. Workshop, University of Pittsburgh School of Medicine, October 29-30, 1993.
6. Moderator: Working group of research proposals. North American Skull Base Society Annual Meeting, Naples, FL, February 18-21, 1995.
7. Panelist: Stereoendoscopy. North American Skull Base Society Annual Meeting, Naples, FL, February 18-21, 1995.
8. Panelist: Risk factors for local recurrence of adenoid cystic carcinoma. Fourth International Conference on Head and Neck Cancer, Toronto, Canada, July 28-31, 1996.
9. Moderator: Multidisciplinary approach to cancer care. 8th Annual Pittsburgh Cancer Conference. Pittsburgh, PA, December 2-3, 1997.
10. Moderator: Thyroid tumors. Endocrine Disorders of the Head and Neck Mini-Seminar, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, February 11, 1999.
11. Panelist: Management of everyday sinus problems. George C. and Robert A Schein Memorial Alumni Day, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, May 14-15, 1999.
12. Panelist: Sinonasal operative complications and informed consent. Rhinosinusitis Mini-Seminar, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, January 6, 2000.

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13. Panelist: Traumatic injuries of the anterior cranial base. Southwestern Pennsylvania Chapter of the American College of Surgeons 46th Annual Meeting, Pittsburgh, PA, March 29, 2000.
14. Moderator: Long-term evaluation of hydroxyapatite cement for frontal sinus obliteration. Pennsylvania Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, Nemaquin, PA, June 23-24, 2000.
15. Panelist: How I Do It Series. 2nd Tanta International Meeting on Head and Neck and Skull Base Surgery, Cairo, Egypt, January 18-21, 2001.
16. Panel Moderator: Endoscopic management of sinonasal neoplasms. Advances in Cranial Base Surgery, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, May 4-5, 2001.
17. Moderator: Minimally invasive skull base surgery. Alumni Teaching Day, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, April 5, 2003.
18. Meet the Professor Breakfast Session. North American Skull Base Society Annual Meeting. New Orleans, LA. February 15, 2004.
19. Moderator: Evaluation and management of metastatic disease. ENT Refresher/Alumni Teaching Day, Department of Otolaryngology, University of Pittsburgh School of Medicine, Pittsburgh, PA, March 18, 2005.
20. Moderator: Reconstruction of dural defects with septal mucosal flaps. European Rhinologic Society Annual Meeting, Crete, Greece, June 14-19, 2008.
21. Moderator: Surgery of meningo-encephaloceles and CSF leaks of the olfactory cleft. International Expertise of Specific Rhinologic Topics, Nancy, France, December 1-3, 2008.
22. Moderator: Endoscopic skull base surgery I. 9th Congress of the European Skull Base Society, Rotterdam, The Netherlands, April 15-18, 2009.
23. Panelist: Endoscopic skull base surgery II. 9th Congress of the European Skull Base Society, Rotterdam, The Netherlands, April 15-18, 2009.
24. Panelist: Endoscopic resection versus open craniofacial resection for skull base malignancy. American Society for Head and Neck Surgery Annual Meeting, Phoenix, AZ, May 30-31, 2009.
25. Moderator: State-of-the-art: Endoscopic skull base surgery in 2009. Key principles of endonasal skull base surgery. American College of Surgeons Annual Clinical Congress, Chicago, IL, October 12-13, 2009.
26. Panelist: Esthesioneuroblastoma. 4th World Congress for Endoscopic Surgery of the Brain, Skull Base and Spine, Pittsburgh, PA, April 28-30, 2010.
27. Panelist: Sinonasal malignancies. 4th World Congress for Endoscopic Surgery of the Brain, Skull Base and Spine, Pittsburgh, PA, April 28-30, 2010.
28. Panelist: CSF rhinorrhea. 9th Annual Cairo University Conference, Cairo, Egypt, October 10-17, 2010.
29. Panel Lecture: Endoscopic endonasal surgery in the pediatric population – benefits and limitations. North American Skull Base Society 21st Annual Meeting, Scottsdale, AZ, February 18, 2011.
30. Panel Lecture: Quality of life following endonasal skull base surgery. North American Skull Base Society 21st Annual Meeting, Scottsdale, AZ, February 18, 2011.

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31. Panel Lecture: How many cases does it take to achieve proficiency in endoscopic endonasal skull base surgery? North American Skull Base Society 21st Annual Meeting, Scottsdale, AZ, February 19, 2011.
32. Moderator: Endoscopic surgery of nasal sinus skull base cancers. 2nd International ORL Forum, JiaoTong University, Shanghai, China, October 7, 2011.

Visiting Professorships

1. Application of CT-guided intraoperative navigational device for surgery of the paranasal sinuses. Department of Head and Neck Surgery, MD Anderson Cancer Center, Houston, TX, January 19, 1994.
2. Experience with endoscopic sphenopalatine artery ligation for the treatment of epistaxis. Department of Otolaryngology, Albany Medical College. Albany, NY, December 4, 1997.
3. Innovations in the management of frontal sinus disease. Department of Otolaryngology, Albany Medical College. Albany, NY, December 4, 1997.
4. Innovations in frontal sinus surgery. Department of Otolaryngology, State University of New York at Stony Brook, Stony Brook, NY, October 14, 1998.
5. Quackery in otolaryngology. Department of Otolaryngology, Louisiana State University Medical Center, New Orleans, LA, June 11-12, 1999.
6. Hydroxyapatite cement in the management of frontal sinus disease. Department of Otolaryngology, Louisiana State University Medical Center, New Orleans, LA, June 11-12, 1999.
7. To infinity and beyond: advances in cranial base surgery. Department of Otolaryngology, Hershey Medical Center, Hershey, PA, March 13, 2003.
8. Endoscopic SPA ligations for epistaxis. Department of Otolaryngology, Hershey Medical Center, Hershey, PA, March 13, 2003.
9. What are the limits of endoscopic surgery? Department of Otolaryngology, Loyola University, Chicago, IL, May 12, 2004.
10. Endoscopic sphenopalatine artery ligation for epistaxis. Department of Otolaryngology, University of Chicago, Chicago, IL, May 13, 2004.
11. Endoscopic surgery of the ventral skull base. Department of Otolaryngology, University of Washington Medical School, Seattle, WA, June 16, 2004.
12. Endoscopic surgery of the ventral skull base: what are the limits? Memorial Sloan-Kettering Cancer Center, New York, NY, October 21, 2004.
13. Diagnostic and therapeutic challenges of sinonasal and anterior cranial base tumors. Memorial Sloan-Kettering Cancer Center, New York, NY, October 21, 2004.
14. Endoscopic approaches to ventral skull base. Ottawa Hospital, Ottawa, Ontario, Canada, November 19, 2004.
15. What are the limits of endoscopic skull base surgery? Department of General Surgery, Beth Israel Deaconess Medical Center, Boston, MA, December 8-9, 2004.

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16. What are the limits of endoscopic skull base surgery? Department of Otolaryngology, University of California-Davis, Sacramento, CA, February 11, 2005.
17. What are the limits of endoscopic sinus surgery: the expanded endonasal approach. Department of Otolaryngology, University of Virginia, Charlottesville, VA, April 22, 2005.
18. What are the limits of endoscopic sinus surgery? Department of Otolaryngology, University Hospital, Zurich, Switzerland, January 26, 2006.
19. Endoscopic sphenopalatine artery ligation for severe epistaxis. Department of Otolaryngology, University of Tennessee, Memphis, TN, April 21, 2006.
20. Surgical approaches to the cervical spine: transcervical, extreme lateral, transoral, and endoscopic. Department of Otolaryngology, University of California, Irvine, CA, June 14, 2006.
21. Role of the endoscope at the anterior skull base. Department of Otolaryngology, Boston Medical Center, Boston, MA, April 17, 2008.
22. A new surgical paradigm: the expanded endonasal approach to the skull base. Department of Otolaryngology, New York University School of Medicine, New York, NY, February 10-12, 2009.
23. What are the limits of endoscopic sinus surgery? Department of Otolaryngology, Baylor College of Medicine, Houston, TX, May 12-13, 2010.
24. Oncological principles of endoscopic endonasal skull base surgery. Department of Otolaryngology, Baylor College of Medicine, Houston, TX, May 12-13, 2010.
25. Endoscopic repair of dural defects. Department of Otolaryngology Resident Research and Alumni Conference, University of Arkansas for Medical Sciences, Little Rock, AR, June 10-12, 2010.
26. Endonasal skull base surgery. Department of Otolaryngology Resident Research and Alumni Conference, University of Arkansas for Medical Sciences, Little Rock, AR, June 10-12, 2010.

Eponymous Lectures

1. Endoscopic skull base surgery in children: the expanded endonasal approach. Charles Bluestone Lecture, American Society of Pediatric Otolaryngology Annual Meeting, Chicago, IL, May 21, 2006.
2. Endoscopic surgery of the skull base: the expanded endonasal approach. Clerf Lecture, Jefferson Medical College of Thomas Jefferson University, Philadelphia, PA, August 25, 2006.
3. What are the limits of endoscopic sinus surgery? The EEA to the skull base. Alvin P. Wenger Lecture, Greater Baltimore Medical Center, Baltimore, MD, May 29, 2008.
4. Controversies in skull base surgery. 17th Annual John L. Kemink, MD Memorial Lecture, University of Michigan, Ann Arbor, MI, April 1, 2011.

Courses Taught

1. Middle Fossa Skill Station Cranial Base Surgery Practical Dissection Course: Outcome of carotid artery resection for neoplastic disease: a meta-analysis. North American Skull Base Society 3rd Annual Meeting, Acapulco, Mexico. February 15-20, 1992.

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2. Cranial Base Microsurgery and Radiosurgery: A Practical Applications Workshop. University of Pittsburgh School of Medicine, Pittsburgh, PA, May 11-14, 1992.
3. Cranial Base Microsurgery and Radiosurgery: A Practical Applications Workshop. University of Pittsburgh School of Medicine, Pittsburgh, PA, September 22-25, 1992.
4. Kassam AB, **Snyderman CH**. Minimally Invasive Endoscopic Surgery of the Cranial Base and Pituitary Fossa Course. University of Pittsburgh School of Medicine, Pittsburgh, PA, June 4-5, 2004.
5. Kassam AB, **Snyderman CH**. Minimally Invasive Endoscopic Surgery of the Cranial Base and Pituitary Fossa Course. University of Pittsburgh School of Medicine, Pittsburgh, PA, September 10-11, 2004.
6. Kassam AB, **Snyderman CH**. Minimally Invasive Endoscopic Surgery of the Cranial Base and Pituitary Fossa Course. University of Pittsburgh School of Medicine, Pittsburgh, PA, January 7-8, 2005. Endoscopic approaches to the ventral skull base.
7. Kassam AB, **Snyderman CH**. Minimally Invasive Endoscopic Surgery of the Cranial Base and Pituitary Fossa Course. University of Pittsburgh School of Medicine, Pittsburgh, PA, June 3-4, 2005.
8. Kassam AB, **Snyderman CH**. Minimally Invasive Endoscopic Surgery of the Cranial Base and Pituitary Fossa Course. University of Pittsburgh School of Medicine, Pittsburgh, PA, October 3-4, 2005.
9. Kassam AB, **Snyderman CH**. Minimally Invasive Endoscopic Surgery of the Cranial Base and Pituitary Fossa Course. University of Pittsburgh School of Medicine, Pittsburgh, PA, January 27, 2006.
10. Kassam AB, **Snyderman CH**. Minimally Invasive Surgery and Endoscopic Skull Base Dissection Course, University of Toronto, Toronto, Ontario, Canada, February 2-3, 2006.
11. Kassam AB, **Snyderman CH**. Minimally Invasive Endoscopic Surgery of the Cranial Base and Pituitary Fossa Course. Co-Director. University of Pittsburgh Medical Center. Pittsburgh, PA. June 2-3, 2006.
12. Kassam AB, **Snyderman CH**. Minimally Invasive Endoscopic Surgery of the Cranial Base and Pituitary Fossa Course. University of Pittsburgh School of Medicine, Pittsburgh, PA, September 21-23, 2006.
13. Kassam AB, **Snyderman CH**. Minimally Invasive Endoscopic Surgery of the Cranial Base and Pituitary Fossa Course. University of Pittsburgh School of Medicine, Pittsburgh, PA, January 13-15, 2007.
14. Kassam AB, **Snyderman CH**. Minimally Invasive Endoscopic Surgery of the Cranial Base and Pituitary Fossa Course. University of Pittsburgh School of Medicine, Pittsburgh, PA, May 31-June 2, 2007.
15. Kassam AB, **Snyderman CH**. Minimally Invasive Endoscopic Surgery of the Cranial Base and Pituitary Fossa Course. University of Pittsburgh School of Medicine, Pittsburgh, PA, September 6-8, 2007.
16. Kassam AB, **Snyderman CH**. Minimally Invasive Endoscopic Surgery of the Cranial Base and Pituitary Fossa Course. University of Pittsburgh School of Medicine, Pittsburgh, PA, September 23-25, 2007.
17. Kassam AB, **Snyderman CH**, Carrau RL. Minimally Invasive Endoscopic Surgery of the Cranial Base and Pituitary Fossa Course. University of Pittsburgh School of Medicine, Pittsburgh, PA, January 23-25, 2008.
18. Kassam AB, **Snyderman CH**, Carrau RL. Minimally Invasive Endoscopic Surgery of the Cranial Base and Pituitary Fossa Course. University of Pittsburgh School of Medicine, Pittsburgh, PA, June 1-3, 2008.
19. Kassam AB, **Snyderman CH**, Carrau RL. Minimally Invasive Endoscopic Surgery of the Cranial Base

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and Pituitary Fossa Course. University of Pittsburgh School of Medicine, Pittsburgh, PA, September 3-6, 2008.

20. Kassam AB, **Snyderman CH**, Carrau RL. Minimally Invasive Endoscopic Surgery of the Cranial Base and Pituitary Fossa Course. University of Pittsburgh School of Medicine, Pittsburgh, PA, October 22-25, 2008.
21. Kassam AB, **Snyderman CH**, Carrau RL. Minimally Invasive Endoscopic Surgery of the Cranial Base and Pituitary Fossa Course. University of Pittsburgh School of Medicine, Pittsburgh, PA, January 14-17, 2009.
22. **Snyderman CH**, Gardner PA, Carrau RL, Prevedello DM. Minimally Invasive Endoscopic Surgery of the Cranial Base and Pituitary Fossa Course. University of Pittsburgh School of Medicine, Pittsburgh, PA, September 13-16, 2009.
23. **Snyderman CH**, Gardner PA, Carrau RL, Prevedello DM. Endoscopic Endonasal Surgery of the Cranial Base and Pituitary Fossa Course. University of Pittsburgh School of Medicine, Pittsburgh, PA, December 2-5, 2009.
24. **Snyderman CH**, Gardner PA, Fernandez-Miranda J. Endoscopic Endonasal Surgery of the Cranial Base and Pituitary Fossa Course. University of Pittsburgh School of Medicine, Pittsburgh, PA, March 17-20, 2010.
25. **Snyderman CH**, Gardner PA, Fernandez-Miranda J. Endoscopic Endonasal Surgery of the Cranial Base and Pituitary Fossa Course. University of Pittsburgh School of Medicine, Pittsburgh, PA, May 23-26, 2010.
26. **Snyderman CH**, Gardner PA, Fernandez-Miranda J. Endoscopic Endonasal Surgery of the Cranial Base and Pituitary Fossa Course. University of Pittsburgh School of Medicine, Pittsburgh, PA, September 19-22, 2010.
27. **Snyderman CH**, Gardner PA, Fernandez-Miranda J. Endoscopic Endonasal Surgery of the Cranial Base and Pituitary Fossa Course. University of Pittsburgh School of Medicine, Pittsburgh, PA, December 7-10, 2010.
28. **Snyderman CH**, Gardner PA, Fernandez-Miranda JC. Endoscopic Endonasal Surgery of the Cranial Base and Pituitary Fossa Course. University of Pittsburgh School of Medicine, Pittsburgh, PA, May 18-21, 2011.
29. **Snyderman CH**, Gardner PA, Fernandez-Miranda JC. Endoscopic Endonasal Surgery of the Cranial Base and Pituitary Fossa Course. University of Pittsburgh School of Medicine, Pittsburgh, PA, September 18-21, 2011.
30. **Snyderman CH**, Gardner PA, Fernandez-Miranda JC. Endoscopic Endonasal Surgery of the Cranial Base and Pituitary Fossa Course. University of Pittsburgh School of Medicine, Pittsburgh, PA, November 9-12, 2011.

Poster Presentations

1. **Snyderman CH**. Management of burns of the ear. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, Anaheim, CA, October 23-27, 1983.
2. **Snyderman CH**. Extraparotid Warthin's tumor. American Academy of Otolaryngology-Head and Neck

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Annual Meeting. Las Vegas, NV, September 16-20, 1984.

3. **Snyderman CH.** Carcinoid tumor of the larynx. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, Atlanta, GA, October 20-24, 1985.
4. **Snyderman CH.** Cervical thymomas. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, Chicago, IL, September 19-23, 1987.
5. **Snyderman CH.** Infectious complications of cranial base surgery. International Symposium on Cranial Base Surgery, Pittsburgh, PA, September 13-17, 1988.
6. **Snyderman CH.** Reconstruction of the oral cavity in oncological surgery. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, Washington, DC, September 25-29, 1988.
7. **Snyderman CH.** Reconstruction of the oral cavity in oncological surgery. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, New Orleans, LA, September 24-28, 1989.
8. **Snyderman CH.** Management of cavernous sinus invasion. North American Skull Base Society Annual Meeting, Marina del Rey, CA, February 17-21, 1990.
9. **Snyderman CH.** Inflammatory pseudotumor of the maxilla. American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, Kansas City, MO, September 22-26, 1991.
10. **Snyderman CH.** Phase IB trial of local/regional Interleukin-2 in patients with advanced squamous cell carcinoma of the head and neck preliminary results. Third International Conference on Head and Neck Cancer, San Francisco, CA, July 26-30, 1992.
11. **Snyderman CH.** Surgical therapy of mucosal melanomas of the head and neck. North American Skull Base Society Annual Meeting, Scottsdale, AZ, February 12-14, 1993.
12. **Snyderman CH.** Effect of cyclooxygenase and lipoxygenase inhibitors of arachidonic acid metabolism on growth of squamous cell carcinoma in a murine model. University of Pittsburgh Cancer Institute Annual Retreat and Seminar, Nemaquin, PA, March 28-29, 1993.
13. **Snyderman CH.** Quackery in otolaryngology. Annual Meeting of American Academy of Otolaryngology-Head and Neck Surgery, Minneapolis, MN, October 2-6, 1993.
14. **Snyderman CH.** Combined PET/CT imaging of head and neck cancer. American Head and Neck Society Annual Meeting, Boca Raton, FL, May 11-13, 2002.
15. Fernandez-Miranda JC, Rivera-Serrano CM, Vaezi AE, **Snyderman CH**, Gardner PA. Endoscopic anatomy of the palatovaginal canal (palatosphenoidal canal): a landmark for dissection of the vidian nerve during endonasal transpterygoid approaches. 21st Annual Meeting of the North American Skull Base Society, Scottsdale, AZ, February 18, 2011.
16. Paluzzi A, Fernandez-Miranda JC, Tormenti M, Pinheiro-Neto C, **Snyderman C**, Gardner P. Anatomical classification of endoscopic endonasal transclival approaches. 21st Annual Meeting of the North American Skull Base Society, Scottsdale, AZ, February 18, 2011.
17. Gardner PA, Shin SS, Tormenti MJ, Challinor SM, Wang T, Fernandez-Miranda JC, **Snyderman CH.** Endoscopic endonasal surgery for growth hormone secreting pituitary adenomas. 21st Annual Meeting of the North American Skull Base Society, Scottsdale, AZ, February 18, 2011.
18. Tormenti MJ, Tomycz ND, Wang T, Fernandez-Miranda JC, **Snyderman CH**, Gardner PA. Endoscopic endonasal resection for olfactory groove meningiomas. 21st Annual Meeting of the North American Skull

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Base Society, Scottsdale, AZ, February 19, 2011.

19. Pinheiro-Neto CD, **Snyderman CH**, Fernandez-Miranda JC, Vaezi AE, Gardner PA. Extended dissection of nasoseptal flap pedicle for ipsilateral transpterygoid approach. 21st Annual Meeting of the North American Skull Base Society, Scottsdale, AZ, February 19, 2011.
20. Vaezi A, Pinheiro-Neto C, Branstetter BH, Gardner P, Fernandez-Miranda JC, **Snyderman CH**. Pneumatization of the lateral recess of sphenoid is correlated with increased separation between the V2 and vidian nerves. 21st Annual Meeting of the North American Skull Base Society, Scottsdale, AZ, February 18, 2011.
21. Fernandez-Miranda JC, Pinheiro-Neto CD, Vaezi AE, Paluzzi A, **Snyderman CH**, Gardner PA. Transposition of the pterygopalatine fossa during endonasal endoscopic transpterygoid approaches. 21st Annual Meeting of the North American Skull Base Society, Scottsdale, AZ, February 20, 2011.
22. Rivera-Serrano CM, Pinheiro-Neto CD, **Snyderman CH**, Fernandez-Miranda JC, Vaezi AE, Gardner PA. Posterior pedicle nasoseptal flap for velopharyngeal insufficiency: a novel flap for pharyngoplasty and pharyngeal reconstruction. 21st Annual Meeting of the North American Skull Base Society, Scottsdale, AZ, February 20, 2011.

Media Appearances

1. Shark cartilage for the treatment of cancer. KDKA-TV, Pittsburgh, PA, 1995.
2. Ask the ear, nose & throat doctor. KDKA-TV, Pittsburgh, PA, September 1995.
3. FDA approval of bone cement. WTAE-TV, Pittsburgh, PA, July 1996.
4. Our healthy community: nutrition and cancer. WCXJ Radio, Pittsburgh, PA, March 1997.
5. Endonasal surgery. Pittsburgh Cable News Channel, October 11, 2005.
6. Nose jobs: surgeons find new path for brain surgery. *Pittsburgh Post-Gazette*, October 19, 2005.
7. Life-threatening nosebleeds. *Pittsburgh Magazine*, May 1, 2006.
8. Study finds endoscopic brain surgery pioneered in Pittsburgh safe. Associated Press, February 8, 2007.
9. New brain surgery technique works for children. *Pittsburgh Post-Gazette*, February 14, 2007.
10. New brain-surgery technique works for children. Scripps Howard News Service, February 15, 2007.
11. New brain-surgery technique works for children. *Ventura County Star, Record-Searchlight, The Knoxville News-Sentinel, Times Records News*, February 16, 2007.
12. New brain-surgery technique works for children. KSHB-TV, Kansas City, MO, February 16, 2007.
13. Doctors treat children with brain surgery through nose. *Augusta Chronicle*, February 16, 2007.
14. New brain-surgery technique works for children. *Abilene Reporter-News*, February 16, 2007.
15. Surgeons use specially designed instruments to remove otherwise inoperable, baseball-sized tumors. *ScienceDaily*, February 21, 2007.

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16. New brain tumor surgery at UPMC. WQED-TV, Pittsburgh, PA, April 9, 2007.
17. Scar-free surgery procedures explored. *Times-News, The Daily Comet, Houma Courier, The Oregonian-Online, Seattle Post-Intelligencer, The Island Packet, Amarillo Globe-News, The Herald, The Post-Star, Press Democrat, Omaha World-Herald Online, The Grand Island Independent, Peninsula Clarion, Times & Democrat, The Gainesville Sun, The Ledger*, April 29, 2007.
18. Doctors study operating through body's openings to avoid scars. *Houston Chronicle-Online*, April 29, 2007.
19. Doctors perform surgery through natural openings. *Springfield News-Leader*, April 30, 2007.
20. Surgery without scars. *Post-Tribune*, April 30, 2007.
21. Scar-free surgery via body's natural openings outlined. *The Times-Reporter*, April 30, 2007.
22. A new path to brain surgery. Endoscopic endonasal approach. Associated Presss and News Blaze, May 31, 2007.
23. A new path to brain surgery. Endoscopic endonasal approach. Yahoo! Canada, June 14, 2007.
24. "Miracle kid" thanks surgeons and God for second life without tumor. *Las Vegas Review-Journal*, September 17, 2007.
25. Surgery without any scars. Today Show, NBC News Network, October 4, 2007.
26. 4-year-old becomes 100th patient to have skull-base tumor removed through the nose. Medical News Today, May 6, 2008.

International Surgical Activities

Telementoring

1. **Snyderman CH**, Gardner P. Endoscopic endonasal surgery for removal of a pituitary macroadenoma performed by Drs. Bostjan Lanisnik and Janez Ravnik, University of Maribor, Slovenia, November 17, 2011.

Live Surgery

1. **Snyderman CH**, Gardner P. Endoscopic endonasal surgery for removal of a pituitary adenoma. Xijing Hospital, Xi'an, China, October 20, 2011.
2. **Snyderman CH**, Gardner P. Endoscopic endonasal surgery for removal of a pituitary macroadenoma. National University of Malaysia Medical Center, Kuala Lumpur, Malaysia, December 9, 2011.
3. **Snyderman CH**, Gardner P. Endoscopic endonasal surgery for removal of a clival chordoma. National University of Malaysia Medical Center, Kuala Lumpur, Malaysia, December 9, 2011.

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Fellows Trained (Program Director)

2005-2006	Lee Zimmer, MD, PhD
2006-2007	Allan D. Vescan, MD
2007-2008	Adam M. Zanation, MD
2007-2008	Bradley A. Otto, MD (3 month fellowship)
2008-2009	Amol Bhatki, MD
2008-2009	Harshita Pant, MD (6 month fellowship)
2008-2009	Emiro Caicedo, MD (6 month fellowship)
2009-2010	Yew Kwang Ong, MBBCh
2009-2010	Steve C. Lee, MD (6 month fellowship)
2009-2010	C. Arturo Solares, MD (6 month fellowship)
7/1/10-12/31/10	Alec E. Vaezi, MD, PhD (6 month fellowship)
2010-Present	Carlos Pinheiro Neto, MD

RESEARCH:

<i>Grant Number</i>	<i>Grant Title</i>	<i>Role in Project and Percent of Effort</i>	<i>Years Inclusive</i>	<i>Source</i>
88-154	Clinical Oncology Career Development Award	Co-Investigator 50% Effort	1988-1991	American Cancer Society
IN-58-28	Prostaglandin Production by Squamous Cell Carcinoma	PI 10% Effort	1988-1989	American Cancer Society
---	A Comparison of Ceftriaxone and Tobramycin/Vancomycin for Antibiotic Prophylaxis in Cranial Base Surgery	PI 10% Effort	1990-1993	Hoffmann-LaRoche
1R29 CA53486-01A1	FIRST Award Role of Prostaglandins in Head and Neck Cancer	PI 50% Effort	1991-1997	National Cancer Institute
---	A Comparison of Impact and Replete for Peri-operative Nutrition in Head and Neck Cancer	PI 10% Effort	1993-1994	Sandoz Nutrition
1 P60 DE13059-01	Oral Cancer Center at the University of Pittsburgh (Project 1)	Co-Investigator 5% Effort	1999-2004	NIDCR
---	Education Grant	Project Supervisor 5% Effort	2003-2004	Novartis
<u>Pending</u>				
	Distributed Active Fiber Sensors in Microstructural Fibers	Co-PI	5/1/12-4/30/15	National Science Foundation

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Editorial Board Activities

Head & Neck

Basic Science Editor 1995-2003
Associate Editor 1994-2003

International Journal of Computer Assisted Radiology and Surgery

Editorial Board Member 2005-Present

Otolaryngology Clinics of North America

Guest Co-Editor 2011

Operative Techniques in Otolaryngology

Guest Editor 1997

Otolaryngology Journal Club Journal

Editorial Board 1993-2009

Skull Base Journal

Associate Editor 2007
Section Editor 2009
Editorial Board 2010-Present

Turkiye Klinikleri Journal of Medical Sciences

Advisory Board 2011-Present

Ad Hoc Journal Reviewer

Annals of Surgical Oncology

Archives of Otolaryngology-Head and Neck Surgery

Cancer

Head & Neck

Journal of Computer Assisted Radiology and Surgery

The Laryngoscope

Otolaryngology-Head and Neck Surgery

Current Research Projects

- Expression and Prognostic Role of MMP9, CD105 and CD31 in Olfactory Neuroblastoma (PRO10120406)
- Determination of the Source of Drill Pitch Changes in Cadaveric Cranial Bone (CORID No. 337)
- Immediate Surgical Repair of Cerebrospinal Fluid (CSF) Leaks Versus Conservative Management: A Cost-Effective Analysis (PRO11080731)

Inventions

Title: AcoustaDrill: A Bi-Modal Sensing Platform for Bone-Drilling in the Skull

Status: Invention Disclosure Submitted September 2011

Innovators: Paul J. Johnson, Daniel R. Ludwig, **Carl H. Snyderman, MD, MBA**

Development Status: Prototype

Current Administrative/Executive Projects

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Balanced Scorecard for OR Director
Economic Analysis of Otolaryngology Fellowship

SERVICE:

Professional Societies

American Academy of Otolaryngology-Head and Neck Surgery	
Alternative Therapies Study Group, Member	1996-2002
Complementary/Integrative Medicine Committee	
Co-Founding Member	1997
Member	1998-2004
Head and Neck Surgery and Oncology Committee	
Member	1996-2002
Consultant	2002-2004
International Otolaryngology Committee, Member	2010-Present
SIPac Editorial Review Board, Member	1997-2003
Skull Base Surgery Committee, Member	2005-2010
American College of Surgeons Southwestern Pennsylvania Chapter	
Committee on Applicants, Member	2000-Present
Council Member	1996-Present
President	2004-2005
Program Chair	1999
Treasurer	2002
American Head and Neck Society	
ad hoc Development Committee, Member	2004
Advanced Training Council Committee, Skull Base Member	2007
Fellowship and Scholarship Committee, Member	2002
5 th International Conference on Head and Neck Cancer, Executive Committee Member	1996
Prevention Committee, Member	1996-2000
North American Skull Base Society	
Annual Meeting Program Chair	2012
Nominating Committee, Member	1997-1999 / 2004-2007
Research Committee, Member	1992-1997
Research Committee, Chairman	1995-1997
Pennsylvania Medical Society	
Advisory Panel, Member	2003
Society of University Otolaryngologists-Head and Neck Surgeons	
Resident Education Committee, Member	2003
World Congress on Endoscopic Surgery of the Brain, Skull Base and Spine	
1 st World Congress, Co-Director	2005
4 th World Congress, Co-Director	2010

University of Pittsburgh School of Medicine and University of Pittsburgh Medical Center

Children's Hospital of Pittsburgh

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Pediatric Survivorship Team	2011-present
Montefiore University Hospital / Eye & Ear Institute Pavilion	
Emergency Room Committee	1992-1996
Infectious Disease Committee	1989-1993
Tissue Committee	1989-1996
University of Pittsburgh Cancer Institute	
Member	1989-Present
University of Pittsburgh Medical Center	
Cancer Registry Task Force	1992-1995
Clinical Pathway Coordinating Committee for Cranial Base Surgery	1993-1995
Emergency Department	
Task Force	1992-1996
Otolaryngology Liaison	1996-1995
Nutrition Committee	1994-1999
Surgical Services Oversight Committee	2007-2010
Surgical Skills Training Facility Task Force	2007
Total Quality Improvement Committee	1994-2001
Tracheostomy Task Force	2010-Present
University of Pittsburgh School of Medicine	
Ambulatory Subspecialties Course, Otolaryngology Preceptor and Lecturer	1994-1999
First Year Medical Student (FAST) Group Advisor	1991-2002
Human Body Course, Head and Neck Anatomy Lectures	1992-2001
Institutional Review Board	1999-2000
Liaison Committee on Medical Education	2010
Medical Student Applicant Interviewer	1991-2001
Problem Based Learning (PBL) Course in Anatomy Lecturer	1992-2001
Problem-Based Learning (PBL) Course on Patient/Doctor Relationship Lecturer	1992-2001
Senior Year Medical Student Electives Advisor	1992-2005
Special Institutional Education Programs Committee	2005-Present
Standing Committee for Tenured Faculty Promotions and Appointments	2006-2009

Department of Otolaryngology

Academic Incentives Committee	2007
Center for Cranial Base Surgery, Co-Director	1998-Present
Institutional Review Board Committee	2000-Present
Residency Executive Committee	1998-Present
Tenured Faculty and Promotions Committee	2006-Present
United Way Campaign, Physicians Committee, Department of Otolaryngology Chairman	1996-2010
Visiting Scholar Program, Associate Director	2009-Present

Industry Service

Best Health Care	
Credentialing Committee	1996-1999
New Technology Committee	1996-1999
IACT (Industry, Academics, Clinicians, Together)	
Coach/Mentor	2011-Present

Community Service

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