

**Harvard Medical School/Harvard School of Dental Medicine
Format for the Curriculum Vitae**

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Place of Birth: Taipei, Taiwan, Republic of China (ROC)

Education

Year	Degree (Honors)	Field of Study (Thesis advisor for doctoral research degrees)	Institution
1975	M.B. (equivalent to M.D.)	College of Medicine	National Taiwan University, Taipei, ROC
1976	M.P.H.	Epidemiology	Harvard University, School of Public Health, Boston, MA
1979	Dr.P.H.	Epidemiology and Biostatistics (Dr. Brian McMahon)	Harvard University, School of Public Health, Boston, MA
2016-	Special Student	Christianity	Harvard University, Divinity School

Postdoctoral Training

Year(s)	Title	Specialty/Discipline	Institution
07/74-06/75	Intern	Rotating (Medicine, Surgery, Pediatrics, Obstetrics/ Gynecology, Physical Therapy and Rehabilitation Medicine)	National Taiwan University Hospital, Taipei, R O C
07/76-06/78	Resident	Preventive Medicine	Harvard School of Public Health, Boston, MA
01/81-06/84	Resident	Anatomic Pathology	Beth Israel Hospital, Boston, MA
07/84-06/85	Chief Resident	Pathology	Beth Israel Hospital, Boston, MA

Faculty Academic Appointments

Year(s)	Academic Title	Department	Academic Institution
09/78-11/80	Assistant Professor in Epidemiology	Community and Family Medicine	Duke University, Durham, NC
01/81-06/85	Clinical Fellow	Pathology	Harvard Medical School, Boston, MA
07/85-06/89	Instructor	Pathology	Harvard Medical School, Boston, MA
07/89-06/98	Assistant Professor	Pathology	Harvard Medical School, Boston, MA
07/98-12/13	Associate Professor	Pathology	Harvard Medical School, Boston MA
01/14-	Professor	Pathology	Harvard Medical School, Boston MA

Appointments at Hospitals/Affiliated Institutions

Year(s)	Position Title	Department (Division, if applicable)	Institution
07/85-06/89	Associate	Pathology	Beth Israel Hospital, Boston, MA
07/86-06/87	Staff	Pathologist	Salem Hospital, Salem, MA
07/89-present	Associate Pathologist	Pathology	Beth Israel Deaconess Medical Center, Boston, MA

Major Administrative Leadership Positions

Year(s)	Position Title	Specific Department	Institution
<u>Local</u>			
1986-1992	Associate Director	Cytology Laboratory	Beth Israel Hospital, Boston, MA
1992-1996	Medical Director	Cytopathology Laboratory	Beth Israel Hospital, Boston, MA
1992-1996	Program Director	Cytopathology Fellowship	Beth Israel Hospital, Boston, MA
1996-2014	Program Director	Cytopathology Fellowship	Beth Israel Deaconess Medical Center, Boston, MA
1996-2017	Medical Director	Cytopathology Division	Beth Israel Deaconess Medical Center, Boston, MA

Committee Service**Local**

Year(s) of Membership	Name of Committee	Institution/Organization
2015-	Standing Committee on Office of Diversity and Inclusion	Beth Israel Deaconess Medical Center, Boston, MA
2015-2018	Standing Committee on Promotions, Reappointments and Appointments	Harvard Medical School, Boston, MA

National

Year(s) of Membership	Name of Committee	Institution/Organization
2005-2009	Voting Member, Hematology and Pathology Devices Panel, Medical Devices Advisory Committee	Center for Devices and Radiological Health, Food and Drug Administration, Rockville, MD
October 22-23, 2007	Member, Committee on Post Thyroid FNA Testing and Treatment Options	National Cancer Institute Thyroid Fine Needle Aspiration State of the Science Conference, Bethesda, MD
2009-2015	Consultant, Hematology and Pathology Devices Panel, Medical Devices Advisory Committee	Center for Devices and Radiological Health, Food and Drug Administration, Rockville, MD
2015-	Voting Member, Hematology and Pathology Device Panel of Medical Devices Advisory Committee	Center for Devices and Radiological Health, Food and Drug Administration, Rockville, MD

International

May, 2011	Convenor and Moderator of Cytopathology Session	Seventh Asia Pacific Congress of International Academy of Pathology
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Professional Societies

Year(s) of Membership	Society Name	Title of Role(s)
1985- present	College of American Pathologists	
1985- present	Gastrointestinal Pathology Society	
1986- present	American Society of Cytopathology	
1987- present	United States and Canadian Academy of Pathology	
	March 1996	Moderator of Gastrointestinal Preferred Session at the Annual Meeting
	1999-2001	Member, Abstract Review Board, Education Committee
	March 2000	Moderator of Cytopathology Preferred Session at the Annual Meeting
	March 2004	Panelist for the Liver Evening Specialty Conference at the Annual meeting

	2011-2013	Member, Abstract Review Board, Education Committee
1994- present	Papanicolaou Society of Cytopathology	
2010- present	World Organization for Specialized Studies on Diseases of the Esophagus 2013 Congress	Chair and speaker, Topical Forum on Evidence-based decision making in esophageal cancer
2010- present	American Medical Women's Association 2010- 2012	Chair, Publications Committee
2010- present	American Gastroenterological Association 2011-2014	Member, Research Awards Panel

Grant Review Activities

Year(s) of Membership	Name of Committee	Institution/Organization
1980-1984	Epidemiology and Disease Control Study Section	Division of Research Grants, National Institutes of Health, Bethesda, MD Permanent Member
1987-1989	Behavioral and Neurosciences Study Section (Subcommittee 2)	National Institutes of Health, Bethesda, MD Permanent Member
1989	Physiological Sciences Study Section	National Institutes of Health, Bethesda, MD Ad hoc Member
July, 1988	Special Study Section to Review Small Business Innovation Research Grant Applications	National Institutes of Health, Bethesda, MD
1992-94	Fogarty International Research Collaboration Awards Study Section	Fogarty International Center, National Institutes of Health, Bethesda, MD Permanent Member
September, 1990	Cancer Clinical Investigation Review Committee	National Cancer Institute, Bethesda, MD Ad hoc Member
June, 2011 – May, 2014	Research Award Panel	American Gastroenterological Association

Editorial Activities

- **Ad hoc Reviewer**

Year(s)	Journal Name
1993-98	Diagnostic Cytopathology
1994	New England Journal of Medicine

1995	Cancer Causes and Control
1995-2011	Cancer and Cancer Cytopathology
2004-present	American Journal of Gastroenterology
2007	Clinical Endocrinology

• **Other Editorial Roles**

Year(s)	Role	Journal Name
1998-present	Member, Editorial Board	Diagnostic Cytopathology
2011-2012	Member, Editorial Board	Cancer Cytopathology
2013-2017	Member, Editorial Advisory Board	Cancer Cytopathology

Honors and Prizes

Year	Name of Honor/Prize	Awarding Organization	Achievement for which awarded <i>(if unclear from award title)</i>
1989	Excellence as a teacher and a clinician	Gastrointestinal Division at the Beth Israel Hospital, Boston, MA	
1990	Certificate of Merit	Stowell-Orbison Award at the 79th Annual Meeting of the United States-Canadian Academy of Pathology	For "The Cell Block for Body Cavity Fluids: Do the Results Justify the Cost?"
1991	Certificate of Merit	Stowell-Orbison Award at the 80th Annual Meeting of the United States-Canadian Academy of Pathology	For "Nature and Significance of Cells with Irregular Nuclear Contours (CINC) in Esophageal Mucosal Biopsies"
2004, 2006	Outstanding Reviewer Award	American College of Gastroenterology	

Report of Funded and Unfunded Projects

Funding Information

Year(s) funded	Grant title	Funding source/Granting Agency	Grant type and number	Role on project (If PI or site PI, total direct costs)	Description of the major goals
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Past

1988-1990	"Epidemiology of Lymphomatoid Papulosis"	National Cancer Institute	5 R03 CA48744	P.I.	
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- Major goals: To establish the relationship between history of lymphoma and occurrence of lymphomatoid papulosis and to quantify the odds ratio. To determine if there is increased risk of malignancy in patients with lymphomatoid papulosis.
- 1989 "Occurrence of Langerhans' Cells in Human Esophagus"
Gastrointestinal Pathology Society
Microgrant
P.I.
- Major goals: To determine the nature of squiggly cells in esophageal squamous epithelium and to determine its significance.
- 1993 "Correlation of Pharmaceutical Product Consumption and Esophageal Adenocarcinoma Incidence Rate"
William F. Milton Fund, Harvard Medical School
P.I.
- Major goals: To determine if there is an association between the consumption of pharmaceutical product, especially those that relax lower esophageal sphincter, and the incidence rate of esophageal adenocarcinoma.
- 2006-2008 "Use of multiplex reverse transcriptase polymerase chain reaction and BARCODE analysis to assist the diagnosis of thyroid lesions on fine needle aspirations"
Beth Israel Deaconess Medical Center Pathology Department
P.I.
- Major goals: To establish a protocol to use multiplex reverse transcriptase polymerase chain reaction and BARCODE analysis to assess mutations in thyroid FNA in order to determine the malignant potential.
- 2011-2012 "Occurrence and management of esophageal symptoms before and after radiation and/or chemotherapy for patients with breast cancer, lung cancer, and lymphoma." P.I.: Dr. Abram Recht
Joint Center of Radiation Therapy Foundation
Co-P.I.
- Major goals: To determine the frequency that patients treated with radiation and/or chemotherapy for breast cancer, lung cancer, or lymphoma have esophageal symptoms and to determine the patterns of diagnosis and treatment for patients with such symptoms.

Current Unfunded Projects

- | Year(s) | Title |
|---------|---|
| 2014 - | "Descriptive study of a large cohort of patients with Barrett's esophagus"
To describe in details the clinical, histologic and molecular characteristics of patients with Barrett's esophagus and the factors associated with their outcome. |
| 2015 - | "Impact of Afirma Gene Expression Classifier on Rate of Thyroidectomy at One Institution"
To examine if the rate of thyroid surgery has changed after implementation of Afirma testing at our institution |
| 2017 - | " <u>Are 'Eosinophilic Gastritis' and Collagenous Gastritis Related Conditions? A Pediatric Case Control Study</u> "
to explore a potential similarities and differences between these two diseases by performing a case control study |

Report of Local Teaching and Training

Teaching of Students in Courses

Year(s)	Course title Type of student/audience	Location Level of Effort
1981-1983	Lab for Human Pathology 30 medical students	Harvard-MIT Division of Health Sciences and Technology 2 hours contact time; hours preparation
1983-1989	Lab for Pathophysiology (Gastrointestinal Pathophysiology) 20 medical students	Harvard Medical School 2 hours contact time; hours preparation
1995-2007	Pathology Lab for Gastrointestinal Module of Human Systems Course, Interdepartmental 20 medical students	Harvard Medical School 2 hours contact time per week for 3 weeks
1999	Advanced Biomedical Science Course, "Biology of Solid Tumor Progression" 6 medical students	Harvard Medical School 2 hours contact time for one session
2010-2011	Panelist for Annual GI Career Luncheon 30 medical students	Harvard Medical School 1 hour contact time per week for one week
2014-2017	Medical Mandarin 10 medical students	Harvard Medical School 2 hours contact time per semester

Formal Teaching of Residents, Clinical Fellows and Research Fellows (post-docs)

Year(s)	Title Type of student/audience	Location Level of effort
1986-present	Selected topics on cytopathology (e.g. breast FNA, thyroid FNA, lymph node FNA, bone and soft tissue FNA, GI and pulmonary cytology) 20-30 residents and fellows	Beth Israel Hospital/Beth Israel Deaconess Medical Center, Pathology Department One hour contact time, twice a year
1986-present	Selected topics on cytopathology (e.g. breast FNA, thyroid FNA, bone and soft tissue FNA, etc); tutoring at a multi-headed scope 1-4 residents and fellows	Beth Israel Hospital/Beth Israel Deaconess Medical Center, Pathology Department One hour contact time, three to four times annually

2006-present	Bethesda System for Reporting Gynecologic Cytology 4-5 residents and fellows	Beth Israel Deaconess Medical Center, Pathology Department One hour contact time annually
2006-present	CLIA88 4-5 residents and fellows	Beth Israel Deaconess Medical Center, Pathology Department One hour contact time annually
2006-present	Reporting Thyroid FNA Cytology 4-5 residents and fellows	Beth Israel Deaconess Medical Center, Pathology Department One hour contact time annually
June 12, 2009	Current issues of thyroid FNA 5 endocrine fellows	Beth Israel Deaconess Medical Center, Endocrine Division One hour contact time for one session
April 25, 2014 May 8, 2015 June 23, 2017	Management of thyroid nodules: a case based presentation 20 endocrine fellows and faculty members	Beth Israel Deaconess Medical Center, Endocrine Division One hour contact time for one session

Clinical Supervisory and Training Responsibilities

Year(s)	Type of responsibility/Location	Level of effort
1986-present	Teaching residents and fellows at multi-headed microscopes while signing out surgical pathology, cytology, and autopsy cases in the department of pathology at the Beth Israel Hospital/Beth Israel Deaconess Medical Center, Boston, MA	2-5 hours per week for 22 weeks per year
1992-present	Administrating and supervising cytopathology fellowship program in the department of pathology at the Beth Israel Hospital/Beth Israel Deaconess Medical Center, Boston, MA. In addition to the 37 individuals listed below (those with publications), 20 completed this fellowship program under my supervision	10-20 hours per week of teaching at microscope for 6 weeks per year; 1-2 hours per week of administrating the program all year round

Formally Supervised Trainees and Faculty

Year(s)	Name and degree/Current position Describe type of supervision (R=resident; F=fellow) and the specific achievements of your trainee that occurred as a direct result of your supervision
1986-1991	Sherry T. Emery, M.D./ Staff pathologist, Beverly Hospital, Beverly, MA R-one publication; see <i>Research Investigations</i> publication #27
1987-1990	Catherine S. Abendroth, M.D./ Chief, Division of Anatomic Pathology, Penn State Milton S. Hershey Medical Center, Hershey, PA R-one publication; see <i>Research Investigations</i> publication #16
1987-1992	Mark M. Mangano, M.D./ Staff Pathologist, Milford-Whitinsville Regional Hospital, Milford, MA R-two publications; see <i>Research Investigations</i> publications #'s 17, 28
1989-1990	Jon G. Jonasson, M.D./ Pathologist, University of Iceland, Reykjavik, Iceland F- five publications; see <i>Research Investigations</i> publications #'s 13, 14, 18, 19, 23
1989-1993	Humphrey Gardner, M.D./ Biogen, Inc., Cambridge, MA R- one publication; see <i>Research Investigations</i> publication #24
1990-1991	Yasmin Malamud, M.D./ Santo Domingo F-one publication; see <i>Research Investigations</i> publication #20
1990-1994	Bruce A. Beckwith, M.D./ Chairman of Pathology, Commonwealth Pathology Partners, PC, Salem, MA R-one publication; see <i>Research Investigations</i> publication #35
1991-1992	Jorge L. Gonzalez, M.D./ Staff Pathologist, Dartmouth-Hitchcock Medical Center, Lebanon, NH F-one publication; see <i>Research Investigations</i> publication #26
1991-1996	Kalliopi P. Siziopikou, M.D., Ph.D./ Staff Pathologist, Rush University Medical Center, Chicago, IL R-one publication; see <i>Research Investigations</i> publication #41
1992-1993	Linnea Garcia, M.D./ Staff Pathologist, North Shore Medical Center, Salem, MA F-three publications and one abstract; see <i>Research Investigations</i> publications #'s 29, 37, 67; Abstract presented at American Society of Clinical Pathology meeting, 1995
1992-1997	Graziella Abu-Jawdeh, M.D./ Staff Pathologist, North Shore Medical Center, Salem, MA Faculty-five publications; see <i>Research Investigations</i> publications #'s 32, 35, 37, 38, 41

- 1993-1994 Mark Kaplan, M.D./ Private practice in Pennsylvania
F-one publication; see *Research Investigations* publication #45
- 1994-1995 Ana Segura, M.D./ Colombia
Visiting F from Colombia-one abstract presented at American Society of Clinical Pathology meeting, 1995
- 8/94-1/95 Wen-Ying Lee, M.D./ Staff Pathologist, Chi-Mei Hospital, Tainan, Taiwan
Visiting F from Taiwan-one publication; see *Research Investigations* publication #42
- 1991-1996 Jean Fraser, M.D./ Pathologist, Haverhill Pathologists, Haverhill, MA
R and F-three publications; see *Research Investigations* publications #'s 34, 62, 67
- 1993-1998 Laura Collins, M.D./ Staff Pathologist and Associate Director of Anatomic Pathology, Beth Israel Deaconess Medical Center, Boston, MA
R and F-two publications; see *Research Investigations* publications #'s 38, 57
- 1994-1998 Yunn-Yi Chen, M.D., Ph.D./ Staff Pathologist and Associate Professor, University of California, San Francisco
R-three publications; see *Research Investigations* publications #'s 46, 54, 60
- 1996-2001 Gamze Ayata, M.D./ Staff Pathologist, Beth Israel Deaconess Medical Center, Boston, MA
R and F-six publications; see *Research Investigations* publications #'s 64, 65, 67, 71, 76, and *Other peer-reviewed publications* # 4
- 1-6/1997 Bülent Mizrak, M.D./ Turkey
Visiting F from Turkey-one abstract presented at American Society of Cytopathology meeting, 1997
- 1997-1998 Sheida Sharifi, M.D./ Staff Pathologist, Mt. Auburn Hospital, Cambridge, MA
F-one publication; see *Research Investigations* publication #53
- 1998-1999 Yilin Zhang, M.D./ Staff Pathologist, Samaritan Medical Center, Watertown, NY
F-one publication; see *Research Investigations* publication #62
- 1999-2000 Jeffrey Keating, M.D./ Staff Pathologist, Community Hospital of the Monterey Peninsula, Monterey, CA
F-one publication; see *Research Investigations* publication #59
- 1999-2003 Liron Pantanowitz, M.D./ Staff Pathologist, University of Pittsburgh Medical Center, Pittsburgh, PA
R-one publication; see *Other peer-reviewed publications* # 6
- 2000-2001 Timothy Myers, M.D./ Staff Pathologist, Private practice, Minneapolis, MN
R-two publications; see *Research Investigations* publication #52, and *Other peer-reviewed publications* # 5
- 2000-2001 Mark Tulecke, M.D./ Staff Pathologist, North Shore Medical Center, Salem, MA
F-one publication; see *Research Investigations* publication #68
- 2001-2002 Bradley Gornstein, M.D./ Private practice, Albany, NY
F-one publication; see *Research Investigations* publication #73
- 2002-2003 Christopher Eedes, M.D./ Staff Pathologist, Pathcare, Cape Town, South Africa
F-one publication; see *Research Investigations* publication #69
- 2003-2004 Chris Wunderlich, M.D./ Staff Pathologist, Clinical Pathology Associates, Suburban Hospital, Louisville, KY
F-one abstract presented at United States and Canadian Academy of Pathology meeting, 2004
- 2004-2005 Anthony Harton, M.D./ Staff Pathologist, Pathology Group of Louisiana, Baton Rouge, LA
F-one publication; see *Research Investigations* publication #78

2004-2005	Yan Peng, M.D./ Associate Professor of Pathology, University of Texas-Southwestern Medical Center, Dallas, TX F-two publications; see <i>Research Investigations</i> publication # 77, and <i>Other peer-reviewed publications</i> #9
2005-2006	Gissou Azabdaftari, M.D./ Assistant Professor, Roswell Park Cancer Institute, Buffalo, NY One publication; see <i>Research Investigations</i> publication #80
2007-2008	Namita Jain (Gupta), M.D./ Staff Pathologist, Riverview Medical Center, Red Bank, NJ F-one publication; see <i>Research Investigations</i> publication #82
2008-2009	Sherrie White, M.D./ Staff Pathologist, Jacobi Medical Center, Bronx, NY F-one publication and one abstract; see <i>Abstracts</i> publication #1 and <i>Other peer-reviewed publications</i> # 10
2007-2012	Remmi Singh, M.D./ Staff Pathologist, Northside Hospital, Atlanta, GA R and F -two publications; see <i>Research Investigations</i> publications #'s 83, 84
2006-2011	Von Samedi, M.D./Staff Pathologist and Assistant Professor, University of New Mexico, Albuquerque, NM R and F; one publication; see <i>Other peer-reviewed publications</i> # 10
2007-2011	Anna Harris, M.D./ Dermatopathology fellow, Beth Israel Deaconess Medical Center, Boston, MA R-one publication; see <i>Other peer-reviewed publications</i> # 10
2009-2013	Kathriel Brister, MD./Resident in Anatomic and Clinical Pathology, Beth Israel Deaconess Medical Center, Boston, MA R-four abstract; see <i>Abstracts</i> publications #3, 5-7

Formally Supervised Trainees (Fellows) with no Publications

Year(s)	Name & degrees	Current position
July, 1993	Vivi Mastroianni, M.D. Visiting from Greece	Private practice in Greece
2-3/1994	Cheng-Shiang Shiao, M.D. Visiting from Taiwan	Staff Pathologist, National Taiwan University Hospital, Taipei, Taiwan
June, 1994	Linda Kapusta, M.D. Visiting from Canada	Staff Pathologist, Sunnybrook Health Science Centre, North York, Ontario, Canada
1994-1995	David Rubin, M.D.	Private practice in New York
1995-1996	Robert Goulart, M.D.	Director, Surgical Pathology and Hospital Pathology Services, Associate Director, Cytopathology Services, New England Pathology Associates at Mercy Medical Center, Sisters of Providence Health System/Catholic Health East, Springfield, MA
4-5/1997	Nataliya Milova, M.D. Visiting from Ukraine	Ukraine
1999-2000	Yineng Fu, M.D.	Staff Pathologist, North Shore Medical Center, Salem, MA
2001-2002	Jerry Kao, M.D.	Staff Pathologist, Tri-City Medical Center, Oceanside, CA
2002-2003	Heather Crowley, M.D.	Staff Pathologist, Private Practice, NH
2003-2004	David Sherman, M.D.	Staff Pathologist, Emerson Hospital, Concord, MA
2005-2006	Adam Kuten, M.D.	Staff Pathologist, Private Practice, Seattle, WA
2006-2007	Daniel Schreiber, M.D.	Staff Pathologist, Bassett Hospital, Cooperstown, NY,

2006-2007	Constantine Theoharis, M.D.	Instructor in Pathology, Columbia University, NY, NY Assistant Professor of Pathology, Yale Medical School, New Haven, CT
2007-2008	Mark Galan, M.D.	Assistant Professor, Department of Pathology, Rutgers University School of Medicine, Newark, NJ
2008-2009	Kelly Hornaman, M.D.	Staff Pathologist, Gwinnett Medical Center, Lawrenceville, GE
2009-2010	Julia Braza, M.D.	Staff Pathologist, Cambridge Hospital, Cambridge, MA
2009-2010	Edward O'Neill, M.D.	Staff Pathologist, Tempa General Hospital, Tempa, FL
2010-2011	Von Samedi, M.D.	Assistant Professor of Pathology, University of New Mexico, Albuquerque, NM
2010-2011	Amy Mondelblatt, M.D.	Staff Pathologist, Beverly Hospital, Beverly, MA
2011-2012	David Azar, M.D.	Assistant Professor of Pathology, Department of Pathology, University of Pittsburg Medical Center, Mercy, Pittsburgh, PA

Formal Teaching of Peers (e.g., CME and other continuing education courses)

No presentations below were sponsored by outside entities.

Year(s)	Title(s) or topic(s) of talk(s) Course Name	Number of talks in single course Location(s) (city or country)
1989-95	"Gastrointestinal Cytology" Advances in Cytology	1 Boston, MA
1996-2001	"Update on Prognostic Markers in Gastrointestinal Malignancies" Gastrointestinal, Liver, and Pancreatic Pathology	1 Boston, MA
1996-2014	"Pulmonary Cytology" Advances in Cytology	2 Boston, MA
1998-2009	"Selected Topics in Cytology of GI Tract, Liver, and Pancreas" Gastrointestinal, Liver, and Pancreatic Pathology	1 Boston, MA
2007	"Endoscopic Ultrasonography: Cytologist's Perspective" Endoscopic Ultrasonography Workshop	1 Boston, MA
2010	"Cytology of the Liver and Biliary Tract" Gastrointestinal, Liver, and Pancreatic Pathology	1 Boston, MA
2011	"Cytology of the Liver, Biliary Tract and Pancreas" Gastrointestinal, Liver, and Pancreatic Pathology	1 Boston, MA

Local Invited Presentations

No presentations below were sponsored by outside entities.

Year(s)	Title of presentation/ Type of presentation Department and Institution where presented
1999	"Debate on the Use of Pap Smears Versus ThinPrep"/ Obs/Gyn Grand Rounds Obstetrics and Gynecology Department, Beth Israel Deaconess Medical Center, Boston, MA

- 2006 “Reporting Thyroid FNA”/Cytology Conference
Cytology Division, Department of Pathology, Brigham and Women’s Hospital, Boston, MA
- 2009 “Thyroid FNA at BIDMC”/Endocrine Conference
Endocrine Division, Department of Medicine, Beth Israel Deaconess Medical Center,
Boston, MA

Report of Regional, National and International Invited Teaching and Presentations

Those presentations below sponsored by outside entities are so noted and the sponsor indicated.

Year(s)	Title of Presentation or Name of Course/ Type of Presentation/Role(s) (note if presentation the result of a selected abstract) Location (Sponsor if any)
<u>Regional</u>	
1993	“Cytopathology”/ Lecture New England Pathology Society, Boston, MA
1994	“Fine Needle Aspiration of Breast”/ Lecture Massachusetts Society of Cytology Meeting, Framingham, MA
1995	"Glandular Abnormalities in Cervico-Vaginal Cytology"/ Lecture in CME course Baystate Medical Center, Springfield, MA
1995	"Fine Needle Aspiration of the Breast"/ Lecture in CME course Baystate Medical Center, Springfield, MA
1996	"Fine Needle Aspiration of the Thyroid"/ Lecture in CME course Clinical Laboratory Science Society of Central New England, Marlborough, MA
1998	"Atypical Glandular Cells on Pap Smears"/ Lecture Annual Scientific Meeting of the Vermont/New Hampshire Cytotechnology Association, Lincoln, NH
1999	"Pulmonary Cytology"/ Lecture in CME course Annual Long Island Cytology Seminar, Melville, NY
2000	"Breast Fine Needle Aspiration--Old Technique for Old Diseases in the New Millennium"/ Lecture New England Pathology Residents' Society Meeting, Boston, MA
2010	“HPV Testing and Vaccines and Your Patients”/Lecture in CME course Massachusetts Medical Society, Waltham, MA

National

- 1988 "Fine Needle Aspiration Biopsy in Cancer Diagnosis and Management"/ Symposium and Workshops –Second International Society of Chinese Bioscientists in America, Berkeley, CA
- 1991 "Epidemiologic Aspects of the Papanicolaou Smear: A Model for Cancer Screening"/Keynote speech
American Society of Cytology Annual Meeting, Los Angeles, CA
- 1991- 2004 "Aspiration Cytology of Breast: A Practical Approach to Diagnosis"/ Workshop
American Society of Clinical Pathologists Annual Meeting – venue changes
- 1993 "Glandular Lesions on Pap Smears"/Lecture in CME course
Upper New York State Society of Cytology, Kingston, NY
- 1995 "Breast FNA: Differential Diagnosis by Cytologic Features"/ Teleconference
National Health Lab
- 1998 "Cytology of Columnar-Lined (Barrett's) Esophagus"/ Lecture
Special Symposium jointly sponsored by National Institute of Diabetes and Digestive and Kidney Diseases, National Institutes of Health, and Department of Veterans Affairs and Veterans Administration, New England Health Care System, Boston, MA
- 1999 "Update on Prognostic Markers of Colorectal Carcinomas"/ Pathology Grand Rounds
University of South Florida, Tampa, FL
- 1999 "Topics in Pathology Practice: Atypical Glandular Cells on Pap Smear"/Special Lecture
University of South Florida, Tampa, FL
- 2000 "Cytology of Dysplasia in the GI Tract"/ Lecture in Gastrointestinal Pathology Society Companion Meeting
American Society of Clinical Pathologists/College of American Pathologists Fall Annual Meeting, San Diego, CA
- 2004 "Thyroid FNA: Its Use and Limitations"/Special Lecture
Milton R. Hales lecture in Pathology at West Virginia University School of Medicine, Morgantown, WV
- 2006 "The Papanicolaou Test: Past, Present, and Future"/ Pathology Grand Rounds
Johns Hopkins Medical Institutions, Baltimore, MD
- 2007 "Cytopathology for Gastroenterologists"/ GI Grand Rounds
University of Washington, Frontiers in Gastroenterology and Hepatology, Seattle, WA
- 2007 "Cytology slide seminar"/ Seminar for residents
University of Washington, Department of Pathology, Seattle, WA
- 2007 "The Papanicolaou Test in the Age of HPV Testing and Vaccine"/ Lecture in CME course
"Cytology of the Pancreas and Biliary Tract"/ Lecture in CME course
"Interpreting and Reporting Thyroid FNA"/ Lecture in CME course
Pacific Northwest Society of Pathologists and Washington State Society of Pathologists, Seattle, WA
- 2009 "Thyroid FNA utilizing liquid-based cytology (ThinPrep®): Ready for prime time?" /
Lecture in CME course
27th annual Baystate Cytopathology Conference sponsored by Baystate Pathology Associates, Baystate Reference Laboratories & Baystate Health Continuing Education, Holyoke, MA
- November, 2013 "Management of thyroid nodules in 2013"/Workshop
61st Annual Scientific Meeting of American Society of Cytopathology, Orlando, FL

International

- March, 1990 Visiting Pathologist/ Interactive communication
The Sun Yat-Sen Cancer Center Hospital, Taipei, Taiwan, Republic of China
- 1993 "Gastrointestinal Cytology"/ Lecture
Clinical Cytopathology Symposium and Workshop, Dubai, United Arab Emirates
- 1998-2001 "Fine Needle Aspiration of Breast: A Probabilistic Approach to Diagnosis"/ Short course
United States-Canadian Academy of Pathology Annual Meeting – Venue changes
- 2000 "Is there data that indicate that brush cytology is a valuable aid in the detection of high-grade dysplasia that is missed on biopsy?"/ Lecture
6th World Congress of the International Organization for Studies on Diseases of the Esophagus, Paris, France
- 2001 "Respiratory Cytopathology"/ Lecture in CME program
"Cytology Case Seminar"/Case Seminar in CME program
AC Camargo Hospital of Cancer and the Brazilian Society of Pathology, São Paulo, Brazil
- 2001 "Breast Fine Needle Aspiration"/ Lecture
Brasilian Society of Cytology, Brasilia, Brazil
- 2001 "Cervical Neoplasia Screening in the New Millennium"/ Special Lecture
Chang Gung Memorial Hospital and Chang Gung Medical School, Linkou, Taiwan, Republic of China
- 2001 "Cytology Case Seminar"
Taiwan Society of Pathology, Linkou, Taiwan, Republic of China
- 2002 "The Bethesda System 2002"/ Lecture
"Case Seminar of Pap Smears"
Symposium on Pathology of the Female Genital Tract, Taiwan Society of Pathology, Kaoshiung, Taiwan, Republic of China
- 2002-2005 "Cervical Neoplasia Screening in the New Millennium"/ Short course
United States-Canadian Academy of Pathology Annual Meeting – venue changes
- 2004 Liver Evening Specialty Conference/Case presentation as member of panel
United States-Canadian Academy of Pathology, Vancouver, BC, Canada
- 2006 "Cytology of the Upper GI Tract"/ Lecture
"Cytology of the Liver, Pancreas, and Common Bile Duct"/Lecture
"The Papanicolaou Test"/ Keynote speech
2006 Brazilian Cytopathology Congress, Brasilia, Brazil
- 2009 "Current issues of Thyroid FNA"/ Lecture
"Thyroid FNA Slides Seminar"/ Case presentation and discussion
"Cytology of the Bile Duct and Pancreas"/ Lecture
"Common Bile Duct Brushings and Pancreatic FNA Slide Seminar"/ Case presentation and discussion
British Columbia Cytology Day, Department of Pathology of University of British Columbia, Vancouver, BC, Canada (Hologic Canada Inc.)
- 2009 "The Impact of Currently Available HPV Vaccines on Cervical Cancer Prevention"/Lecture
Session on "Human Papilloma Virus and Cervical Cancer," BIT Life Sciences' 2nd Annual Congress and Expos of Molecular Diagnostics-2009, Beijing, China

- 2009 “Current issues of Thyroid FNA”/ Lecture
 “Thyroid FNA Slides Seminar”/ Case presentation and discussion
 “Cytology of the Bile Duct and Pancreas”/ Lecture
 “Common Bile Duct Brushings and Pancreatic FNA Slide Seminar”/ Case presentation and discussion
 Dr. Yvan Bédard Memorial Symposium jointly sponsored by Gamma-Dynacare Medical Laboratories, and Mount Sinai Hospital, Toronto, ON, Canada (Hologic Canada Inc.)
- 2010 “What is the sensitivity-specificity of balloon cytology in detecting LGD”/ Lecture
 “Can the exact role of biomarkers for the diagnosis of BE be defined?”/ Lecture
 10th World Conference of OESO (World Organization for Specialized Studies on Diseases of the Esophagus) on Barrett’s Esophagus, Boston, MA, USA
- 2011 “Cytology of Pancreatic Tumors”/ Lecture
 “From Papanicolaou to New Technologies and HPV Vaccination”/ Lecture
 “CLIA88 in the US: What Works and What Doesn’t: the US Experience”/ Lecture
 “Fine Needle Aspiration of Breast”/ Lecture
 The 7th Asia Pacific International Academy of Pathology Congress, Taipei, Taiwan, Republic of China
- 2012-2014 "Pancreaticobiliary Cytology with Clinical, Endoscopic Ultrasound and Histologic Correlation"/ Short course
 United States-Canadian Academy of Pathology Annual Meeting – Venue changes
- 2012 “Are Dilated Intercellular Spaces (DIS) normal?”/Lecture
 The 11th World Conference of OESO (World Organization for Specialized Studies on Diseases of the Esophagus) on Reflux Disease, Como, Italy
- August, 2013 “What are the levels of evidence”/Lecture
 “What is the clinical significance of post-therapy pathologic stage in patients with esophageal adenocarcinoma following preoperative chemo-radiation?”/Lecture
 The 12th World Conference of OESO (World Organization for Specialized Studies on Diseases of the Esophagus) on Cancer of the Esophagus, Paris, France
- 2015-2017 “Challenges in thyroid cytopathology: How can ultrasound findings and molecular tests help?”/Short course
 United States-Canadian Academy of Pathology Annual Meeting – Venue changes
- 2019- “A multidisciplinary approach to new challenges in thyroid pathology: Integrating ultrasonographic, morphologic, and molecular techniques”/Short course
 United States-Canadian Academy of Pathology Annual Meeting – Venue changes

Report of Clinical Activities and Innovations

Current Licensure and Certification

<u>Year</u>	<u>Type of License or Certification</u>
1974	Educational Council for Foreign Medical Graduates (ECFMG)
1976	Federal Licensure Examination (FLEX) in Massachusetts
1978	American Board of Preventive Medicine, General Preventive Medicine
1984	American Board of Pathology, Anatomic Pathology

1989 American Board of Pathology, Cytopathology

Practice Activities

Year(s)	Type of activity	Name and location of practice	Level of activity
1986-2010	Sign-out responsibilities, general surgical pathology, cytopathology, and autopsy services.	Pathology Department, Beth Israel Hospital/Beth Israel Deaconess Medical Center	22-26 weeks per year
1986-present	Consultant, gastrointestinal pathology	Pathology Department, Beth Israel Hospital/Beth Israel Deaconess Medical Center	8-10 weeks per year
2010-present	Sign-out responsibilities, gastrointestinal pathology, cytopathology, and autopsy services.	Pathology Department, Beth Israel Deaconess Medical Center	26 weeks per year
1986-present	Consultant, cytopathology	Pathology Department, Beth Israel Hospital/Beth Israel Deaconess Medical Center	All year round

Clinical Innovations

Published in 2006, see *Research Investigations* publication #77

Proposed probability-based reporting systems for thyroid. Probability-based reporting systems make recommendation for patient management evidence-based. My proposal for the thyroid cytology provided a basis for the diagnostic scheme proposed in the National Cancer Institute Thyroid Fine-Needle Aspiration State of the Science Conference (Baloch ZW, LiVolsi VA, Asa SL, et al. Diagnostic terminology and morphologic criteria for cytologic diagnosis of thyroid lesions: a synopsis of the National Cancer Institute Thyroid Fine-Needle Aspiration State of the Science Conference. *Diagn Cytopathol* 2008;36:425-37). The Bethesda System for reporting thyroid cytology that came out of this conference is being adopted nationally. My proposed reporting system has been used to report research findings in international meetings from countries other than United States.

Report of Scholarship

- **Peer Reviewed Publications in print or other media**

Research Investigations:

1. **Wang HH**, MacMahon B. Mortality of workers employed in the manufacture of chlordane and heptachlor. *J Occup Med* 1979; **21**:745-8.

2. **Wang HH**, MacMahon B. Mortality of pesticide applicators. *J Occup Med* 1979; **21**:741-4.
3. **Wang HH**, Grufferman S. Aplastic anemia and occupational pesticide exposure: a case-control study. *J Occup Med* 1981; **23**:364-6.
4. Grufferman S, **Wang HH**, DeLong ER, Kimm SYS, Delzell ES, Falletta JM. Environmental factors in the etiology of rhabdomyosarcoma in childhood. *J Natl Cancer Inst* 1982; **68**[1]:107-13.
5. Matsumori A, **Wang HH**, Abelmann WH, Crumpacker CS. Treatment of viral myocarditis with ribavirin in an animal preparation. *Circulation* 1985; **71**[4]:834-9.
6. **Wang HH**, Antonioli DA, Goldman H. Comparative features of esophageal and gastric adenocarcinomas: Recent changes in type and frequency. *Hum Pathol* 1986; **17**:482-7.
7. MacMahon B, Monson RR, **Wang HH**, Zheng T. A second follow-up of mortality in a cohort of pesticide applicators. *J Occup Med* 1988; **30**[5]:429-32.
8. **Wang HH**, Owings DV, Antonioli DA, Goldman H. Increased subepithelial collagen deposition is not specific for collagenous colitis. *Mod Pathol* 1988; **1**[5]:329-35.
9. Hann L, Ducatman BS, **Wang HH**, Fine V, McIntire JM. Non-palpable breast lesions: evaluation by fine needle aspiration cytology. *Radiology* 1989; **171**:373-6.
10. Schnitt SJ, **Wang HH**. Histologic sampling of grossly benign breast biopsies: how much is enough? *Am J Surg Pathol* 1989; **13**[6]:505-12.
11. Ducatman BS, Hogan CL, **Wang HH**. A triage system for processing fine needle aspiration cytology. *Acta Cytol* 1989; **33**[6]:797-9.
12. **Wang HH**, Ducatman BS, Eick D. Comparative features of ductal carcinoma in situ and infiltrating ductal carcinoma of the breast on fine needle aspiration biopsy. *Am J Clin Pathol* 1989; **92**:736-40.
13. Jonasson JG, Ducatman BS, **Wang HH**. The cell block for body cavity fluids: do the results justify the cost? *Mod Pathol* 1990; **3**[6]:667-70.
14. **Wang HH**, Jonasson JG, Ducatman BS. Brush cytology of the upper gastrointestinal tract: obsolete or not? *Acta Cytol* 1991; **35**[2]:195-8.
15. **Wang HH**, Ducatman BS, Thibault S. Cytologic features of premalignant glandular lesions in the upper gastrointestinal tract. *Acta Cytol* 1991; **35**[2]:199-203.
16. Abendroth CS, **Wang HH**, Ducatman BS. Comparative features of carcinoma *in situ* and atypical ductal hyperplasia of breast on fine needle aspiration biopsy. *Am J Clin Pathol* 1991; **96**:654-9.
17. Mangano MM, Antonioli DA, Schnitt SJ, **Wang HH**. Nature and significance of cells with irregular nuclear contours in esophageal mucosal biopsies. *Mod Pathol* 1992; **5**:191-6.

18. Jonasson JG, **Wang HH**, Antonioli DA, Ducatman BS. Tubal metaplasia of the uterine cervix: a prevalence study in patients with gynecologic pathologic findings. *Int J Gynecol Pathol* 1992; **11**:89-95.
19. Jonasson JG, **Wang HH**, Porter DH, Tyagi G, Ducatman BS. Image-directed percutaneous biopsy: a comparison of cytology and histology. *Cancer* 1992; **70**:2187-91.
20. Malamud Y, Ducatman BS, **Wang HH**. Comparative features of comedo and non-comedo ductal carcinoma in situ of the breast on fine needle aspiration biopsy. *Diagn Cytopathol* 1992; **8**:571-6.
21. **Wang HH**, Lach LL, Kadin ME. Epidemiology of lymphomatoid papulosis. *Cancer* 1992; **70**:2951-7.
22. Crystal BS, **Wang HH**, Ducatman BS. A comparison of different preparation techniques for fine needle aspiration specimens. A semiquantitative and statistical analysis. *Acta Cytol* 1993; **37**[1]:24-8.
23. Ducatman BS, **Wang HH**, Jonasson JG, Hogan CL, Antonioli DA. Tubal metaplasia: A cytologic study with comparison to other neoplastic and non-neoplastic conditions of the endocervix. A cytologic study. *Diagn Cytopathol* 1993; **9**:98-105.
24. Gardner HAR, Ducatman BS, **Wang HH**. Predictive value of fine needle aspiration of the thyroid in the classification of follicular lesions. *Cancer* 1993; **71**:2598-603.
25. Yeo K-T, **Wang HH**, Nagy JA, Sioussat TM, Ledbetter SR, Hoogewerf AJ, Zhou Y, Masse EM, Senger DR, Dvorak HF, Yeo T-K. Vascular permeability factor (vascular endothelial growth factor) in guinea pig and human tumor and inflammatory effusions. *Cancer Res* 1993; **53**:2912-8.
26. Gonzalez JL, **Wang HH**, Ducatman BS. Fine needle aspiration of Hürthle cell lesions: A cytomorphologic approach to diagnosis. *Am J Clin Pathol* 1993; **100**:231-35.
27. Ducatman BS, Emery ST, **Wang HH**. Correlation of histologic grade of breast carcinoma with cytologic features on fine needle aspiration of breast. *Mod Pathol* 1993; **6**:539-43.
28. **Wang HH**, Mangano MM, Antonioli DA. Evaluation of T-lymphocytes in esophageal mucosal biopsies. *Mod Pathol* 1994; **7**:55-8.
29. Garcia LW, Ducatman BS, **Wang HH**. The value of multiple fluid specimens in the cytological diagnosis of malignancy. *Mod Pathol* 1994; **7**:665-8.
30. **Wang HH**, Hsieh C-c, Antonioli DA. Rising incidence rate of esophageal adenocarcinoma and use of pharmaceutical agents that relax the lower esophageal sphincter: an hypothesis. *Cancer Causes & Control* 1994; **5**:573-8.
31. Spechler SJ, Zeroogian JM, Antonioli DA, **Wang HH**, Goyal RK. Prevalence of metaplasia at the gastro-oesophageal junction. *Lancet* 1994; **344**:1533-6.

32. Abu-Jawdeh GM, Trawinski GM, **Wang HH**. Histocytologic study of squamous atypia on pap smears. *Mod Pathol* 1994; **7**:920-4.
33. Mowschenson PM, Hodin RA, **Wang HH**, Upton M, Silen W. Fine needle aspiration of normal thyroid tissue may result in the misdiagnosis of follicular neoplasms. *Surgery* 1994; **116**:1006-9.
34. Fraser JL, Antonioli DA, Chopra S, **Wang HH**. Prevalence and non-specificity of microvesicular fatty change in the liver. *Mod Pathol* 1995; **8**:65-70.
35. Beckwith BA, Abu-Jawdeh GM, Burke L, **Wang HH**. Lack of utility of Pap smears obtained at colposcopy with tissue sampling. *J Gynecol Surg* 1995; **11**:85-9.
36. Resnick MB, Gallinger S, **Wang HH**, Odze RD. Growth factor expression and proliferation kinetics in periampullary neoplasms in familial adenomatous polyposis. *Cancer* 1995; **76**:187-94.
37. **Wang HH**, Sovie S, Trawinski G, Garcia LW, Abu-Jawdeh GM, Upton M, Werneke S. ThinPrep processing of endoscopic brushing specimens. *Am J Clin Pathol* 1996; **105**:163-7.
38. Collins LC, **Wang HH**, Abu-Jawdeh GM. The qualifiers of atypical squamous cells of undetermined significance help in patient management. *Mod Pathol* 1996; **9**:677-81.
39. **Wang HH**, Zeroogian JM, Spechler SJ, Goyal RK, Antonioli DA. Prevalence and significance of pancreatic acinar metaplasia at the gastroesophageal junction. *Am J Surg Pathol* 1996; **20**:1507-10.
40. **Wang HH**, Sovie S, Zeroogian JM, Spechler SJ, Goyal RK, Antonioli DA. Value of cytology in detecting intestinal metaplasia and associated dysplasia at the gastroesophageal junction. *Hum Pathol* 1997; **28**:465-71.
41. Siziopikou KP, **Wang HH**, Abu-Jawdeh G. Cytologic features of neoplastic lesions in endocervical glands. *Diagn Cytopathol* 1997; **17**:1-7.
42. Lee W-Y, **Wang HH**. Fine needle aspiration is limited in the classification of benign breast diseases. *Diagn Cytopathol* 1998; **18**:56-61.
43. Sidawy MK, Stoler MH, Frable WJ, Frost AR, Masood S, Miller TR, Silverberg SG, Sneige N, **Wang HH**. Interobserver variability in the classification of proliferative breast lesions by fine-needle aspiration: Results of the Papanicolaou Society of Cytopathology Study. *Diagn Cytopathol* 1998; **18**:150-65.
44. **Wang HH**, Ducatman BS. Fine needle aspiration of the breast: A probabilistic approach to diagnosis of carcinoma. *Acta Cytol* 1998; **42**:285-9.
45. Kaplan MA, Segura AM, **Wang HH**, Schnitt SJ, Upton MP. Evaluation of Cytolyt[®] and PreseryCyt[®] as preservatives for immunocytochemistry for cytokeratin in fine needle aspiration. *Appl Immunohistochem* 1998; **6**:23-9.

46. Chen Y-Y, Antonioli DA, Spechler SJ, Zeroogian JM, Goyal RK, **Wang HH**. Gastroesophageal reflux disease versus *Helicobacter pylori* infection as the cause of gastric carditis. *Mod Pathol* 1998; **11**:950-6.
47. Torres C, Turner JR, **Wang HH**, Richards W, Sugarbaker D, Shahsafaei A, Odze RD. Pathologic prognostic factors in Barrett's-associated adenocarcinoma: A follow-up study of 96 patients. *Cancer* 1999; **85**:520-8.
48. Glickman JN, Torres C, **Wang H**, Turner JR, Shahsafaei A, Richards WG, Sugarbaker DJ, Odze RD. Prognostic significance of lymph node micrometastasis in esophageal carcinoma. *Cancer* 1999; **85**:769-78.
49. Gulizia JM, **Wang H**, Antonioli D, Spechler SJ, Zeroogian J, Goyal R, Shahsafaei A, Chen Y, Odze RD. Proliferative characteristics of intestinalized mucosa in the distal esophagus and gastroesophageal junction (short-segment Barrett's esophagus): A case control study. *Hum Pathol* 1999; **30**:412-8.
50. Torres C, **Wang H**, Turner J, Shahsafaei A, Odze RD. Prognostic significance and effect of chemoradiotherapy on microvessel density (angiogenesis) in esophageal adenocarcinoma and squamous cell carcinoma. *Hum Pathol* 1999; **30**:753-8.
51. Torres CM, **Wang HH**, Turner JR, Richards W, Sugarbaker D, Shahsafaei A, Odze RD. Pathologic prognostic factors in esophageal squamous cell carcinoma: A follow-up study of 74 patients with or without preoperative chemoradiation therapy. *Mod Pathol* 1999; **12**:961-8.
52. **Wang HH**, Myers T, Lach LJ, Hsieh C-c, Kadin ME. Increased risk of lymphoid and nonlymphoid malignancies in patients with lymphomatoid papulosis. *Cancer* 1999; **86**:1240-5.
53. Sharifi S, Ducatman BS, **Wang HH**, Fraser JL. Peritoneal washing cytology is unnecessary in gynecologic surgery for benign diseases. *Cancer (Cancer Cytopathol)* 1999; **87**:259-62.
54. Chen YY, **Wang HH**, Antonioli DA, Spechler SJ, Zeroogian JM, Goyal R, Shahsafaei A, Odze RD. Significance of acid-mucin-positive nongoblet columnar cells in the distal esophagus and Gastroesophageal junction. *Hum Pathol* 1999; **30**:1488-95.
55. Turner JR, Torres CM, **Wang HH**, Shahsafaei A, Richard WG, Sugarbaker D, Odze RD. Preoperative chemoradiotherapy alters the expression and prognostic significance of adhesion molecules in Barrett's-associated adenocarcinoma. *Hum Pathol* 2000; **31**(3):347-53.
56. Glickman JN, **Wang H**, Das KM, Goyal RK, Spechler SJ, Antonioli D, Odze RD. Phenotype of Barrett's esophagus and intestinal metaplasia of the distal esophagus and gastroesophageal junction: An immunohistochemical study of cytokeratins 7 and 20, DAS-1 and 45MI. *Am J Surg Pathol* 2001; **25**(1):87-94.
57. Collins L, Niloff J, Burke L, Abu-Jawdeh G, **Wang H**. Relative risk of high grade squamous intraepithelial lesion associated with prior abnormal Pap smears. *J Reprod Med* 2001;**46**(2):105-9.

58. Kulke MH, Thakore KS, Thomas G, **Wang H**, Loda M, Eng C, Odze RD. Microsatellite instability and hMLH1/hMSH2 expression in Barrett's esophagus-associated adenocarcinoma. *Cancer* 2001; **91**(8):1451-7.
59. Keating JT, **Wang HH**. Significance of a diagnosis of atypical squamous cells of undetermined significance for Papanicolaou smears in perimenopausal and postmenopausal women. *Cancer (Cancer Cytopathol)* 2001; **93**(2):100-5.
60. Glickman JN, Chen Y-Y, **Wang HH**, Antonioli DA, Odze RD. Phenotypic characteristics of a distinctive multilayered epithelium suggests that it is a precursor in the development of Barrett's esophagus. *Am J Surg Pathol* 2001; **25**(5):569-78.
61. Kulke MH, Odze RD, Thakore KS, Thomas G, **Wang H**, Loda M, Eng C. Allelic loss of 10q23, the *PTEN* tumour suppressor gene locus, in Barrett's oesophagus-associated adenocarcinoma. *Br J Cancer* 2001; **84**(6):748-53.
62. Zhang Y, Fraser JL, **Wang HH**. Morphologic predictors of papillary carcinoma on fine needle aspiration of thyroid with ThinPrep preparations. *Diagn Cytopathol* 2001; **24**(6):378-83.
63. Glickman JN, Fox V, Antonioli DA, **Wang HH**, Odze, RD. Morphology of the cardia and significance of carditis in pediatric patients. *Am J Surg Pathol* 2002; **26**(8):1032-9.
64. Ayata G, Reddy SI, Sapp H, Shaz BH, Brien TP, **Wang HH**, Antonioli DA, Farraye FA, Odze RD. Prevalence and significance of inflammatory bowel disease-like morphologic features in collagenous and lymphocytic colitis. *Am J Surg Pathol* 2002; **26**(11):1414-23.
65. Sapp H, Reddy SI, Brien TP, Ayata G, Shaz BH, Dorfman DM, **Wang HH**, Antonioli DA, Farraye FA, Odze RD. The terminal ileum is affected in patients with lymphocytic or collagenous colitis. *Am J Surg Pathol* 2002; **26**(11):1484-92.
66. Wieczorek TJ, **Wang HH**, Antonioli DA, Glickman JN, Odze RD. Pathologic features of reflux and *Helicobacter pylori*-associated carditis. *Am J Surg Pathol* 2003; **27**(7):960-8.
67. Ayata G, Abu-Jawdeh GM, Fraser, JL, Garcia LW, Upton MP, **Wang HH**. Accuracy and consistency in application of a probabilistic approach to reporting breast fine needle aspiration. *Acta Cytol* 2003; **47**:973-8.
68. Tulecke MA, **Wang HH**. ThinPrep for cytologic evaluation of follicular thyroid lesions: correlating with histologic features. *Diagn Cytopathol* 2004; **30**:7-13.
69. Eedes CR, **Wang HH**. Cost-effectiveness of immediate specimen adequacy assessment of thyroid fine needle aspirations. *Am J Clin Pathol* 2004; **121**:64-9.
70. Glickman JN, Bousvaros A, Farraye FA, Zholudev A, Friedman S, **Wang HH**, Leichtner AM, Odze RD. Pediatric patients with untreated ulcerative colitis may present initially with unusual morphologic findings. *Am J Surg Pathol* 2004; **28**:190-7.

71. Shaz BH, Reddy SI, Ayata G, Brien TP, Farraye FA, Antonioli DA, Odze RD, **Wang HH**. Sequential clinical and histopathologic changes in collagenous and lymphocytic colitis over time. *Mod Pathol* 2004;**17**:395-401.
72. Mutinga ML, Odze RD, **Wang HH**, Hornick JL, Farraye FA. The clinical significance of right-sided colonic inflammation in patients with left sided chronic ulcerative colitis. *Inflamm Bowel Dis* 2004;**10**:215-9.
73. Gornstein B, Jacobs T, Bédard Y, Biscotti C, Ducatman B, Layfield L, McKee G, Sneige N, **Wang H**. Interobserver agreement of a probabilistic approach to reporting breast fine needle aspirations on ThinPrep. *Diagn Cytopathol* 2004;**30**:389-95.
74. Kulke MH, Odze RD, Mueller JD, **Wang HH**, Redston M, Bertagnolli MM. Prognostic significance of vascular endothelial growth factor and cyclooxygenase 2 expression in patients receiving preoperative chemoradiation for esophageal cancer. *J Thorac Cardiovasc Surg* 2004;**127**(6):1579-86.
75. O'Connell FP, **Wang HH**, Odze RD. Utility of immunohistochemistry in distinguishing primary gut adenocarcinoma from metastatic breast carcinoma in the gastrointestinal tract. *Arch Pathol Lab Med* 2005;**129**:338-47.
76. Ayata G, **Wang HH**. Fine needle aspiration cytology of lobular carcinoma in situ on ThinPrep[®]. *Diagn Cytopathol* 2005;**32**:276-80.
77. Peng Y, **Wang HH**. Impact of reflex HPV testing on interpretation and management of ThinPrep Pap tests. *Diagn Cytopathol* 2006;**34**:585-8.
78. Harton AM, **Wang HH**, Schnitt SJ, Jacobs TW. p63 immunocytochemistry improves accuracy of diagnosis on fine needle aspiration of the breast. *Am J Clin Pathol* 2007;**128**:80-5.
79. Shields HM, Recht A, **Wang HH**. Exposure to both radiation and chemotherapy increases the risk of Barrett's and multilayered epithelium. *Dig Dis Sci* 2009;**54**:2143-9.
80. Azabdaftari G, Goldberg SN, **Wang HH**. Efficacy of on-site specimen adequacy evaluation of image-guided fine and core needle biopsies. *Acta Cytol* 2010;**54**:132-137.
81. Coco, DP, Goldblum JR, Hornick JL, Lauwers GY, Montgomery E, Srivastava A, **Wang HH**, and Odze RD. Interobserver variability in the diagnosis of crypt dysplasia in Barrett's esophagus. *Am J Surg Pathol*, 2011;**35**:45-54.
82. Gupta NJ and **Wang HH**. Increase of core biopsies in visceral organs – experience at one institution. *Diagn Cytopathol*, 2011;**39**:791-795.
83. Singh RS, **Wang HH**. Timing of repeat thyroid fine-needle aspiration in the management of thyroid nodules. *Acta Cytol* 2011;**55**(6):544-548.
84. Singh RS, **Wang HH**. Eliminating the “Atypia of Undetermined Significance/Follicular Lesion of Undetermined Significance” category from the Bethesda System for Reporting Thyroid Cytopathology. *Am J Clin Pathol* 2011;**136**:896-902.

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86. Star KV, Ho VT, MD, **Wang HH**, Odze RD. Histologic features in colon biopsies can discriminate mycophenolate from GVHD-induced colitis. *Am J Surg Pathol* 2013;**37**:1319-1328.
87. Tao YK, Shen D, Sheikine Y, Ahsen OO, **Wang HH**, Schmolze DB, Johnson NB, Brooker JS, Cable AE, Connolly JL, Fujimoto JG. Assessment of breast pathologies using nonlinear microscopy. *Proc Natl Acad Sci USA* 2014;**111**:15304-15309.
88. Brister KJ, Singh RS, **Wang HH**. Reporting thyroid FNA before and after implementation of the Bethesda System – one institution's experience. *Diagn Cytopathol* 2015;**43**:28-31.
89. Marotti JD, Rao KP, Brister KJ, Gutmann EJ, Tsapakos MJ, Sheiman R, **Wang HH**, VanderLaan PA. Cytologic Rapid On-Site Evaluation (ROSE) of Transthoracic CT-Guided Lung Needle Biopsies: Who Should Perform the ROSE? A Cross-Institutional Analysis of Procedural and Diagnostic Outcomes, *J Am Soc Cytopathol* 2015;**4**:160-169.
90. Mehrzad R, Nishino M, Connolly J, **Wang H**, Mowschenson P, Hasselgren P-O. The relationship between follicular variant of papillary thyroid cancer and follicular adenomas. *Surgery* 2016;**159**:1396-1406.
91. Hamilton MJ and Makrauer FM, Golden K, **Wang H**, Friedman S, Levine JS, Burakoff RB, Joshi P, Banks PB and Odze RD, "Prospective Evaluation of Terminal Ileitis in a Surveillance Population of Ulcerative Colitis Patients", *Inflamm Bowel Dis* 2016;**22**:2448-2455.
92. Shields H, Li J, Pelletier S, **Wang H**, Freedman R, Mamon H, Ng A, Freedman A, Come S, Avignan D, Huberman M, Recht A. Persistence of dysphagia and odynophagia after mediastinal radiation and chemotherapy in patients with lung cancer or lymphoma. *Esophagus* 2017;**30**(2):1-8.
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94. Najarian RM, Ashworth LA, **Wang HH**, Bousvaros A, Goldsmith JD. Microscopic/"Backwash" ileitis and its association with colonic disease in new onset pediatric ulcerative colitis. *J Pediatr Gastroenterol Nutr*, 2019, in print.

Other Peer-reviewed Publications

1. Schnitt SJ, **Wang HH**, Dvorak AM. Morphologic changes in primary neuroendocrine carcinoma of the skin following radiation therapy. *Hum Pathol* 1986; **17**:198-201.

2. Costello TJ, **Wang HH**, Schnitt SJ, Ritter R, Antonioli DA. Paget's disease with extensive involvement of the female genital tract—initially detected by cervical cytospin. *Arch Pathol Lab Med* 1988; **112**:941-4.
 3. Werth TE, **Wang HH**, Chopra S. A 20-year-old woman with abnormal liver-function test results in the third trimester of pregnancy. *Gastroenterology* 1990; **99**:552-8.
 4. Ayata G and **Wang HH**. Fine needle aspiration cytology of low nuclear-grade ductal carcinoma in situ with atypical ductal hyperplasia and tubular carcinoma. *Case Review. Pathology Case Reviews* 1999; **4**:203-7.
 5. Myers T, **Wang HH**. Fibroadenoma mimicking papillary carcinoma on ThinPrep of fine needle aspiration of the breast. *Arch Pathol Lab Med* 2000;**124**(11):1667-9.
 6. Pantanowitz L, Upton MP, **Wang HH**, Nasser I. Cytomorphology of verrucous carcinoma of the cervix. A case report. *Acta Cytol* 2003;**47**:1050-4.
 7. **Wang HH**. Reporting thyroid fine needle aspiration: literature review and a proposal. *Diagn Cytopathol* 2006;**34**:67-76.
 8. Evenson A, Mowschenson P, **Wang H**, Connolly J, Mendrinos A, Parangi S, Hasselgren P. Hyalinizing trabecular adenoma -an uncommon thyroid tumor frequently misdiagnosed as papillary or medullary thyroid carcinoma. *Am J Surg* 2007;**193**:707-12.
 9. Peng Y, **Wang HH**. A meta-analysis of comparing fine needle aspiration and frozen section for evaluating thyroid nodules. *Diagn Cytopathol* 2008;**36**:916-20.
 10. Samedi V, White S, Zimarowski MJ, Harris A, Saffitz J, **Wang HH**. Metastatic peritoneal mesothelioma in the setting of recurrent ascites: A Case Report. *Diagn Cytopathol* 2010;**38**:675-81.
 11. VanderLaan PA, **Wang HH**, Majid A, Folch E. Endobronchial Ultrasound-Guided Transbronchial Needle Aspiration (EBUS-TBNA): An overview and update for the cytopathologist. *Cancer Cytopathol* 2014;**122**(8):561-576.
 12. Wadhwa V, Slattery E, Garud S, Sethi S, **Wang H**, Poylin VY, Berzin TM. Endometriosis mimicking colonic stromal tumor. *Gastroenterol Rep* 2016;**4**(3):257-259.
 13. Vardeh H, Magro CM, Brown L, **Wang H**, Faulkner-Jones B, Konya C, Kim S, Shmerling R, Rosen S. Gastrointestinal pathology associated with dermatomyositis: Presentation of three cases and a general review. *Am J Surg Pathol*, in print.
- **Non-peer reviewed scientific or medical publications/materials in print or other media**

Proceedings of Meetings or other Non-Peer Reviewed Research Publications

1. **Wang HH.** What is the level of agreement between the results of histological and cytological detection of benign Barrett's mucosa? The 6th OESO World Congress Proceedings. Paris: John Libbey Eurotext; 2003.p.129-131.
2. **Wang HH.** Are there data indicating that brush cytology is a valuable aid in the detection of high-grade dysplasia that is missed on biopsy? The 6th OESO World Congress Proceedings. Paris: John Libbey Eurotext; 2003.p.320-322.
3. **Wang HH.** Should cytology-based clinical decisions always be complemented by correlative results from biopsies? The 6th OESO World Congress Proceedings. Paris: John Libbey Eurotext; 2003.p.322.
4. **Wang HH.** What is the sensitivity-specificity of balloon cytology in detecting low-grade dysplasia? The 10th OESO World Congress Proceedings. Ann N Y Acad Sci 2011;**1232**:65.
5. Younes M, **Wang HH.** Can the exact role of biomarkers for the diagnosis of BE be defined? Barrett's Esophagus. The 10th OESO World Congress Proceedings. Ann N Y Acad Sci 2011;**1232**:88-89.

Reviews, Chapters, Monographs and Editorials

1. Geisinger KR, **Wang HH,** Ducatman BS, Teot LA. Gastrointestinal cytology. In: Hajdu SI, ed. **Values and Limitations of Cytologic Examination** [in the series *Clinics in Laboratory Medicine, Volume II*]. Philadelphia: W.B. Saunders; 1991.p.403-41.
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3. **Wang HH.** Gastrointestinal tract. In: Cibas ES, Ducatman BS, eds. **Cytology. Diagnostic Principles and Clinical Correlates.** Philadelphia: W.B. Saunders; 1996.p.171-87.
4. Connolly JL, Schnitt SJ, **Wang HH,** Dvorak AM, Dvorak HF. Principles of cancer pathology. In: Holland JF, Bast RC Jr, Morton DL, Frei E IIIrd, Kufe DW, Weichselbaum RR, eds. **Cancer Medicine, 4th Edition.** Baltimore: Williams & Wilkins; 1997.p.533-55.
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10. **Wang HH**. Gastrointestinal tract. In: Cibas ES and Ducatman BS, eds. **Cytology. Diagnostic Principles and Clinical Correlates, 2nd Edition**. Philadelphia: Saunders; 2003.p.189-214.
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13. Layfield LJ, Abrams J, Cochand-Priollet B, Evans D, Gharib H, Greenspan F, Henry M, LiVolsi V, Merino M, Michael CW, **Wang H**, Wells SA. Post-thyroid FNA testing and treatment options: a synopsis of the National Cancer Institute thyroid fine needle aspiration state of the science conference. *Diagn Cytopathol* 2008;**36**:442-8.
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19. Nishino M, **Wang HH**. Should the thyroid AUS/FLUS category be further stratified by malignancy risk? (editorial). *Cancer Cytopathol*, 2014;**122**(7):481-483.

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Books/Textbooks for the Medical or Scientific Community

1. Ducatman BS, **Wang HH** (eds). **The Pap Smear: Controversies in Practice**. London, New York, New Delhi: Arnold, 2002.
2. Odze RD, Montgomery EA, **Wang HH**, Lauwers GW, Greenson JK, Carneiro Fátima, Hornick JL. Tumors of the Esophagus and Stomach. AFIP Atlas of Tumor Pathology, 4th series. Fascicle 28. Arlington, VA: American Registry of Pathology, 2019.

Professional Educational Materials or Reports, in print or other media Syllabus (Educational materials distributed to course participants)

Title/Audience/Use

1. “Gastrointestinal Cytology,” Pathologists, CME course sponsored by HMS.
2. “Aspiration Cytology of Breast: A Practical Approach to Diagnosis,” Clinical pathologists, Professional update sponsored by the American Society of Clinical Pathologists (#3410).
3. “Cytopathology,” Pathologists, residents and fellows, Professional update sponsored by New England Pathology Society.
4. “Glandular Lesions on Pap Smears,” Cytopathologists, Professional update sponsored by Upper New York State Society of Cytology.
5. “Fine Needle Aspiration of Breast,” Cytopathologists, Professional update sponsored by Massachusetts Society of Cytology.
6. “Breast FNA: Differential Diagnosis by Cytologic Features,” Teleconference sponsored by National Health Lab.
7. “Glandular Abnormalities in Cervico-Vaginal Cytology,” Cytopathologists, Professional update sponsored by Baystate Medical Center.

8. "Fine Needle Aspiration of the Thyroid," Cytopathologists, Professional update sponsored by Clinical Laboratory Science Society of Central New England.
9. "Update on Prognostic Markers in Gastrointestinal Malignancies," Pathologists, CME course sponsored by HMS.
10. "Pulmonary Cytology," Cytopathologists, CME course sponsored by HMS.
11. "Atypical Glandular Cells on Pap Smears," Cytotechnologists, Professional update sponsored by Scientific Meeting of the Vermont/New Hampshire Cytotechnology Association.
12. "Selected Topics in Cytology of GI Tract, Liver and Pancreas," Pathologists, CME course sponsored by HMS.
13. "Fine Needle Aspiration of Breast: A Probabilistic Approach to Diagnosis," Pathologists, Professional update sponsored by the United States-Canadian Academy of Pathology (# 23).
14. "Pulmonary Cytology," Cytopathologists and cytotechnologists, Professional update sponsored by Long Island Cytology Society.
15. "Breast Fine Needle Aspiration—Old Technique for Old Diseases in the New Millennium," Pathology residents, Professional update sponsored by New England Pathology Residents' Society.
16. "Cytology of Dysplasia in the GI Tract," Pathologists, Professional update sponsored jointly by American Society of Clinical Pathologists/College of American Pathologists.
17. "Respiratory Cytopathology," Pathologists and other physicians, Continuing Education program sponsored jointly by AC Camargo Hospital of Cancer and the Brazilian Society of Pathology.
18. "Cervical Neoplasia Screening in the New Millennium," Pathologists, Professional update sponsored by the United States-Canadian Academy of Pathology (#19).
19. "The Papanicolaou Test in the Age of HPV Testing and Vaccine," Pathologists, Professional update sponsored jointly by the Pacific Northwest Society of Pathologists and Washington State Society of Pathologists.
20. "Cytology of the Pancreas and Biliary Tract," Pathologists, Professional update sponsored jointly by the Pacific Northwest Society of Pathologists and Washington State Society of Pathologists.
21. "Interpreting and Reporting Thyroid FNA," Pathologists, Professional update sponsored jointly by the Pacific Northwest Society of Pathologists and Washington State Society of Pathologists.
22. "Pancreaticobiliary Cytology with Clinical, Endoscopic Ultrasound and Histologic Correlation," Pathologists, Professional update sponsored by the United States-Canadian Academy of Pathology (#15).

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Abstracts, Poster Presentations and Exhibits Presented at Professional Meetings:

1. Tyler J, **Wang H**, Hartzband P, Hennessey JV, Nishino M. On-site adequacy evaluation does not affect the rate of nondiagnostic thyroid fine needle aspiration. *Mod Pathol* 2016; 29 (supplement 2):120A.
2. Allard F, Goldsmith J, Ayata G, Brown L, Challies T, Najarian R, Nasser I, **Wang H**, Yee E. Intra- and interobserver variability in the assessment of ampullary dysplasia. *Mod Pathol* 2016; 29 (supplement 2): 439A.
3. Darras N, Agarwal S, Fanquin WC, **Wang HH**, Sacks BA, Nishino M. *Mod Pathol* 2017; 30 (supplement 2): 92A.
4. Morrow M, Beinvogl B, Verhave M, **Wang H**, Goldsmith J. Are ‘Eosinophilic Gastritis’ and Collagenous Gastritis Related Conditions? A Pediatric Case Control Study. Presented in the 107th Annual Meeting of United States and Canadian Academy of Pathology, Vancouver, BC, on March 20, 2018.
5. Torous V, Kilim H, Kimball A, Brister K, Singh R, Anna Feldmam A, Hasselgren P, Hartzband P, Hennessey J, **Wang H**, Nishino M. Impact of Afirma Gene Expression Classifier on Rate of Thyroidectomy at One Institution. Presented in the 107th Annual Meeting of United States and Canadian Academy of Pathology, Vancouver, BC, on March 21, 2018.