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CURRICULUM VITAE

Nikki Johnston PhD

Professor
Department of Otolaryngology and Communication Sciences

OFFICE ADDRESS:

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EDUCATION:

09/1995 - 06/1996 B.Sc. with honors in Anatomical Sciences, University of Dundee, United Kingdom, Dundee

09/1999 - 10/2002 Ph.D. in Molecular and Cellular Pathology, University of Dundee, United Kingdom, Dundee

POSTGRADUATE TRAINING AND FELLOWSHIP APPOINTMENTS:

01/2003 - 09/2003 Research Fellow, Surgical Sciences, Otolaryngology, Wake Forest University School of Medicine, Winston-Salem, NC

FACULTY APPOINTMENTS:

01/2003 - 09/2003 Research Assistant Professor, Surgical Sciences, Otolaryngology, Wake Forest University School of Medicine, Winston-Salem

05/2006 - Present Assistant Professor, Otolaryngology and Communication Sciences, Medical College of Wisconsin, Milwaukee, WI

02/2014 - Present Associate Professor, Otolaryngology and Communication Sciences, Research, Medical College of Wisconsin

06/2015 - Present Associate Professor, Microbiology and Immunology, Medical College of Wisconsin

EDUCATIONAL ADMINISTRATIVE APPOINTMENTS:

01/2009 - Present Education Coordinator, Otolaryngology, Medical College of Wisconsin, Milwaukee, WI

07/2010 - Present Director of Airway, Digestive and Voice Research, Otolaryngology, Medical College of Wisconsin, Milwaukee, WI

AWARDS AND HONORS:

10/2002 Best Abstract and Travel Award, The Union of European Gastroenterology Week (Geneva, Switzerland)

09/2003 Key Not Presentation, World Organization for Specialized Studies on Diseases of the Esophagus (Paris, France)

07/2005 Best Abstract and Travel Award, The Union of European Gastroenterology Week (Copenhagen, Denmark)

05/2008 Broyles-Maloney Award, American Broncho-Esophagological Association (Orlando, Florida)

05/2009 Broyles-Maloney Award, American Broncho-Esophagological Association (Phoenix, Arizona)

03/2011 American Cancer Society / MCW Cancer Center Travel Award to Attend and Present, Annual AACR conference (Orlando, Florida)

06/2011 Marquis Who’s Who in Medicine and Healthcare 2012

01/2012 Marquis Who’s Who in America 2013

10/2012 2012 Faculty Service Award for service to the Faculty Council Committees of the MCW, Medical College of Wisconsin

03/2013 Charles Ferguson Clinical Research Prize, American Society of Paediatric Otolaryngology

04/2013 Broyles-Maloney Award, American Broncho-Esophagological Association (Orlando, Florida)

MEMBERSHIPS IN HONORARY AND PROFESSIONAL SOCIETIES:

2005 - Present American Association for Cancer Research (Member)
2006 - Present Society for Bimolecular Sciences (Member)
2007 - Present Association for Research in Otolaryngology (Member)
2009 - Present American Broncho-Esophagological Association (Phoenix, Arizona) (Member)
2011 - Present Medical College of Wisconsin Cancer Center (Member)
2011 - Present Clinical and Translational Science Institute of Southeast Wisconsin (Member)

EDITORSHIPS/EDITORIAL BOARDS/JOURNAL REVIEWS:

Editorial Board

2011 - Present International Scholarly Research Network (ISRN) Otolaryngology Journal
2012 - Present Conference Papers in Medicine
2013 - Present Applied Scientific Reports

Journal Review

2008 - Present The American Journal of Gastroenterology
2008 - Present Annals of Otology, Rhinology and Laryngology
2008 - Present Laryngoscope
2010 - Present European Respiratory Journal
2014 - Present The Lancet
2014 - Present Dysphagia
2016 - Present Cancer Medicine
2017 - Present Surgical Endoscopy
2017 - Present JAMA - Otolaryngology

LOCAL/REGIONAL APPOINTED LEADERSHIP AND COMMITTEE POSITIONS:

2007 - Present Member, Department of Otolaryngology Resident Research Committee, Medical College of Wisconsin
2008 - 2010 Scientific Advisor, Clinician/Scientist Scholars Program, Medical College of Wisconsin
2008 - Present Extended Service Member, Admissions Committee of the Faculty Council, Medical College of Wisconsin
2009 - Present Education Coordinator, Department of Otolaryngology Resident Research Committee, Medical College of Wisconsin
2009 - Present Chair, Department of Otolaryngology Resident Research Committee, Medical College of Wisconsin
2010 - Present Director, Airway, Digestive and Voice Research, Medical College of Wisconsin
2012 - Present Member, Community Medical Education Program Student Recruitment, Admissions and Support Work Group, Medical College of Wisconsin
2013 - Present Member, Head and Neck Faculty Disease Committee, Medical College of Wisconsin
2014 - Present MCW Milwaukee Faculty Member, Admissions - Green Bay, Medical College of Wisconsin

NATIONAL ELECTED/APPOINTED LEADERSHIP AND COMMITTEE POSITIONS:

2013 - Present Advisory Board, Voice Institute of New York Research Foundation

INTERNATIONAL ELECTED/APPOINTED LEADERSHIP AND COMMITTEE POSITIONS:

2011 - 2012 Vice Chair, Otolaryngology, World Organization for Specialized Studies on Diseases of the Esophagus
2014 - Present Member, Permanent Scientific Committee, World Organization for Specialized Studies on Diseases of the Esophagus
2015 - 2016 Chair, Airway Reflux, World Organization for Specialized Studies on Diseases of the Esophagus
2017 - 2018 Chair, Congress Advisory Committee and Scientific Committee, World Organization for Specialized Studies on Diseases of the Esophagus

RESEARCH GRANTS/AWARDS/CONTRACTS/PROJECTS:

Active

Peer Review

Title:	Cytokine Inflammatory Mediators and Mucin Regulation in Middle Ear Epithelium
Source:	NIH/NIDCD
Role & Effort:	Co-investigator
PI:	Joseph Kerschner, MD (Medical College of Wisconsin, Milwaukee, WI)
Dates:	07/01/2012 - 06/30/2017
Direct Funds:	$1,205,425

Title:	Establishment of primary and immortalized human middle ear epithelial cells lines as tools for the otitis media research community
Source:	NIH/NIDCD
Role & Effort:	PI
Dates:	03/01/2017 - 02/28/2019
Direct Funds:	$275,000

Pending

Peer Review

Title:	Effects of pepsin on laryngopharyngeal neoplasia
Source:	ACS
Role & Effort:	Principal Investigator
Dates:	07/01/2013 - 06/30/2017
Direct Funds:	$743,821 (Scored as ‘excellent/outstanding and put on ‘pay-if’ list)

Title:	Efficacy of Reza band for the treatment of laryngopharyngeal reflux
Source:	MCW Cancer Center
Role & Effort:	Co-investigator
PI:	John Rhee, MD
Dates:	03/01/2018 - 02/28/2019
Direct Funds:	$183,246

Prior

Peer Review

Title:	It is not about acid anymore: Role of pepsin in the pathogenesis of gastroesophageal reflux diseases related laryngitis.
Source:	Society of American Gastrointestinal and Endoscopic Surgeons
Role & Effort:	Co-investigator
PI:	Martin Montenovo, MD (University of Washington, Seattle)
Dates:	07/01/2008 - 06/30/2010
Direct Funds:	$20,000

Title:	MicroRNA Regulation of Cholesteatoma Growth

Source:	NIH/NIDCD
Role & Effort:	Co-investigator
PI:	David Friedland, MD, PhD (Medical College of Wisconsin, Milwaukee, WI)
Dates:	04/01/2010 - 03/31/2012
Direct Funds:	$260,000
Title:	Microaspiration as a Cause for Respirtapry Disease in Children
Source:	NIH/NIDDK
Role & Effort:	Co-investigator
PI:	Rachel Rosen, MD, MPH, (Children's Hospital, Boston)
Dates:	07/01/2010 - 12/31/2011
Direct Funds:	$85,000

Non-Peer Review

Title:	Role of pepsin in chronic otitis media with effusion
Source:	Friends of MCW
Role & Effort:	Mentor
PI:	Justin Yan
Dates:	07/01/2009 - 08/31/2009
Title:	Role of nasopharyngeal reflux in refractory chronic rhinosinusitis.
Source:	Respiratory Technology Corporation
Role & Effort:	Co-investigator
PI:	Todd Loehrl, MD (Medical College of Wisconsin, Milwaukee)
Dates:	01/01/2011 - 12/31/2011

INVITED LECTURES/WORKSHOPS/PRESENTATIONS:

International

The Third Bioploymer Research Conference, York, United Kingdom, 09/1999

The First International Symposium on Human Pepsin, York, United Kingdom, 09/1999

Analysis of the defense mechanisms in the squamous epithelium associated with the aero-digestive tract., The First International LPR (laryngopharyngeal reflux) Conference, Winston-Salem, NC, 05/2000

The Fourth Bioploymer Research Conference, Dundee, United Kingdom, 09/2000

The Second International LPR Conference, Winston-Salem, NC, 05/2001

Expression of carbonic anhydrase iso-enzymes in gastro-oesophageal and laryngopharyngeal reflux disease., The Second International Symposium on Human Pepsin, Dundee, United Kingdom, 09/2001

Analysis of the defense mechanisms functioning in the epithelium of the aero-digestive tract., The Second International Symposium on Human Pepsin, Dundee, United Kingdom, 09/2001

Analysis of the defense mechanisms functioning in the epithelium of the aero-digestive tract., The Third International Symposium on Human Pepsin, Portsmouth, United Kingdom, 09/2001

Overview of basic immunoblotting procedure., The Fifth Bioploymer Research Conference, Portsmouth, United Kingdom, 09/2001

What are the compared mechanisms of cellular defense in the esophagus at the laryngeal level?, World Organization for Specialized Studies on Diseases of the Esophagus, Paris, France, 09/2003

Role of pepsin in development of laryngopharyngeal reflux disease., Airway Diseases – A Shared Approach to Management & 6th Internationsl Symposium on Human Pepsin, York, United Kingdom, 04/2005

Laryngeal epithelial defenses: Effect of laryngopharyngeal reflux., Airway Diseases – A Shared Approach to Management & 6th Internationsl Symposium on Human Pepsin, York, United Kingdom, 04/2005

Receptor-mediated uptake of pepsin., Extra Oesophageal Reflux, State of the Art and Beyond, Nottingham, United Kingdom, 08/2006

Pepsin: Role in breakdown of laryngeal epithelial defenses and development of disease., Extra Oesophageal Reflux, State of the Art and Beyond, Nottingham, United Kingdom, 08/2006

The case for non-acid reflux in the pathogenesis of reflux-induced signs and symptoms., World Organization for Specialized Studies on Diseases of the Esophagus, Avignon, France, 09/2006

Panel: Non-acid reflux and its significance to the otolaryngologist. Role of pepsin in reflux-attributed laryngeal disorders and disease., American Association for Otolaryngology – Head and Neck Surgery, Washington DC, 09/2007

Mucin gene expression in human laryngeal epithelium: Effect of laryngopharyngeal reflux., International Conference on Advances in Laryngeal Biophysiology, Madison, WI, 07/2008

Director, 2008 International Conference on Extra-esophageal Reflux held in conjunction with the 8th International Symposium on Human Pepsin, Milwaukee, WI, 09/2008

Novel Drug Targets for Reflux Disease., International Conference on Extra-esophageal Reflux held in conjunction with the 8th International Symposium on Human Pepsin, Milwaukee, WI, 09/2008

A rationale for targeting pepsin in the treatment of reflux disease., Reflux and its consequences: key opinions in laryngeal, pulmonary and oesophageal manifestations in conjunction with 9th international symposium on human pepsin, Kingston upon Hull, United Kingdom, 04/2010

Director, 2011 2nd International Conference on Extra-esophageal Reflux: Diagnosis and Treatment, Milwaukee, WI, 10/2011

Vice Chair, Otolaryngology Organizing Committee for the World Organization for Specialized Studies on Diseases of the Esophagus, Como, Italy, 09/01/2012 - 09/04/2012

LPR as a risk factor in laryngeal cancer – role of refluxed pepsin in laryngopharyngeal neoplasia., World Organization for Specialized Studies on Diseases of the Esophagus, Paris, France, 08/27/2013

Chair, Symposium on Upper third of the esophagus and pharyngeal cancers at the World Organization for Specialized Studies on Diseases of the Esophagus, Paris, France, 08/27/2013 - 08/30/2013

Can LPR promote carcinogenesis of the laryngopharynx?, American Association for Otolaryngology – Head and Neck Surgery, Vancouver, Canada, 09/2013

Post symposium review panel, International Society for Otitis Media – 18th international symposium on recent advances in otitis media., Maryland, 06/2015 - Present

Chair of Symposium on Airway Reflux, World Organization for Specialized Studies on Diseases of the Esophagus, Monaco, 08/2015 - Present

Catching reflux with a mouse., 14th Biennial Phonosurgery Symposium, University of Wisconsin, Department of Surgery, 07/2016 - Present

Chair of Symposium on Laryngopharyngeal Reflux, World Organization for Specialized Studies on Diseases of the Esophagus, Geneva, 09/2017 - Present

Guest Speaker, 7th World Voice Consortium Conference, Denmark, Copenhagen, 12/2017 - Present

Guest Speaker, International Congress of ORL-HNS 2018, Seoul, South Korea, 04/2018 - Present

Panel participant, World Congress for Broncho-Esophagology and World Congress for Bronchology and Interventional Pulmonology, Mayo Clinic, Rochester, MN, 06/2018 - Present

National

Analysis of the defense mechanisms functioning in the epithelium of the aero-digestive tract., The Scottish Society for Experimental Medicine, Dundee, United Kingdom, 11/2001

Laryngeal epithelial defense against laryngopharyngeal reflux: role of stress proteins., Laryngopharyngeal Reflux Dysphagia and Laryngology, Winston-Salem, NC, 05/2004

Pepsin and carbonic anhydrase III: diagnostic markers for laryngopharyngeal reflux disease., Laryngopharyngeal Reflux Dysphagia and Laryngology, Winston-Salem, NC, 05/2004

Role of pepsin in reflux-attributed laryngeal disorders and disease., University of California San Francisco Voice Conference, San Francisco, CA, 10/2006

Novel drug targets for reflux., Department of Otolaryngology, University of Washington, Seattle, WA, 10/2007

Novel drug targets for reflux., Department of Otolaryngology, University of Wisconsin, Madison, WI, 10/2007

Novel drug targets for reflux disease., Grand Rounds, Department of Otolaryngology, Mt. Sinai, New York, NY, 06/2008

Novel Drug Targets for Reflux Disease., Course Organizing Committee Member for the University of California San Francisco Voice Conference, San Francisco, CA, 10/2008

Novel drug targets for reflux disease., Guest Speaker at Boys Town National Research Hospital, Omaha, NE,

06/2009

Grand Rounds, Department of Surgery, Creighton University, Omaha, NE, 04/2010

Role of pepsin in reflux-attributed laryngeal inflammatory disease and carcinogenesis, Department of Surgery, University of Washington, Seattle, WA, 06/2011

Mouse models for reflux disease, Best Evidence ENT, Kohler, WI, 08/2016 - Present

Pepsin: biomarker, mediator, and therapeutic target for reflux and aspiration., Guest Speaker for Grand Rounds at Bobby R. Alford Department of Otolaryngology – Head and Neck Surgery, Baylor College of Medicine, Houston, TX, 10/2016 - Present

Keynote Speaker, 2017 Fall Voice Conference, Pentagon City – Washington, D.C., 10/2017 - Present

Regional

Guest Speaker for Doctoral Student Class, University of Wisconsin, Madison, WI, 04/2010

Clinical Understanding of Pepsin., 12th Biennial Phonosurgery Symposium, Department of Surgery, University of Wisconsin, Madison, WI, 07/13/2012 - 07/14/2012

Update on LPR research, Advances and Controversies in Laryngology, Chicago, IL, 08/11/2012 - 08/12/2012

Local

Novel drug targets for reflux disease., Dysphagia monthly meeting, Department of Gastroenterology, Medical College of Wisconsin, Milwaukee, WI, 04/2009

Role of pepsin in reflux-attributed laryngeal inflammatory disease and carcinogenesis, Inflammation and Cancer Cell Biology Research Group (ICCBRG), Medical College of Wisconsin, Milwaukee, WI, 12/2010

Anti-pepsin therapeutic for reflux disease., Resident Research Conference lecture, Medical College of Wisconsin, Department of Otolaryngology and Communication Sciences, 07/2016 - Present

Pepsin: biomarker, mediator, and therapeutic target for reflux and aspiration., Faculty Highlight for Medical College of Wisconsin, Department of Otolaryngology and Communication Sciences Annual Research Day, 03/2017 - Present

Current State and Research Resources, Department of Otolaryngology Faculty Retreat, 02/2018 - Present

PEER REVIEWED WORKSHOPS/PRESENTATIONS:

International

Digestive Diseases Week, San Diego, CA, 05/2000

Analysis of the defense mechanisms functioning in the epithelium of the aero-digestive tract, Digestive Diseases Week, Atlanta, GA, 05/2001

Effect of reflux on expression of carbonic anhydrase iso-enzymes. (Poster Distinction), The World Congress of Gastroenterology, Bangkok, Thailand, 02/2002

Is carbonic anhydrase a potential defense mechanism against gastro- oesophageal reflux disease?, The Union of European Gastroenterology Week, Geneva, Switzerland, 10/2002

Pepsin – a mediator of reflux associated laryngeal damage., World Organization for Specialized Studies on Diseases of the Esophagus, Paris, France, 09/2003

Pepsin is the causal factor for loss of protective carbonic anhydrase isoform III in patients with laryngopharyngeal reflux disease, World Organization for Specialized Studies on Diseases of the Esophagus, Paris, France, 09/2003

Effect of pepsin on laryngeal stress response., Digestive Disease Week, Chicago, IL, 05/2005

Pepsin as a causal agent of inflammation during nonacidic reflux., International Conference on Advances in Laryngeal Biophysiology and 11th Biennial Phonosurgery Symposium, Madison, WI, 07/2010

Esophageal epithelial defense against reflux mediated injury: are some better protected than others?, World Organization for Specialized Studies on Diseases of the Esophagus, Boston, MA, 08/2010

National

Is carbonic anhydrase a potential defense mechanism against gastro- oesophageal reflux disease?, The British Society of Gastroenterology, Birmingham, United Kingdom, 03/2002

Pepsin and carbonic anhydrase as diagnostic markers for laryngopharngeal reflux., Tirological Society, Southern Section, Marco Island, FL, 01/2004

Effect of pepsin on laryngeal stress protein (Sep70, Sep53, and Hsp70) response: role in laryngopharyngeal reflux disease., Combined Otolaryngology Spring Meetings, Boco Ratan, FL, 05/2005

Activity/stability of human pepsin: implications for reflux attributed laryngeal disease., Tirological Society, Southern Section, Marco Island, FL, 02/2007

Receptor-mediated uptake of pepsin by laryngeal epithelial cells., Combined Otolaryngology Spring Meetings (American Laryngological Association), San Diego, CA, 04/2007

Pepsin in non-acidic refluxate can damage hypopharyngeal epithelial cells., Combined Otolaryngology Spring Meetings (American Broncho-Esophagological Association), Phoenix, AZ, 05/2009

Role of pepsin in laryngopharyngeal cancer., Combined Otolaryngology Spring Meetings (American Broncho-Esophagological Association), Las Vegas, NV, 05/2010

Panel: Great debates –laryngopharyngeal reflux – diagnosis, management, and controversy, Combined Otolaryngology Spring Meetings (American Broncho-Esophagological Association), Las Vegas, NV, 05/2010

Pepsin as a causal agent of inflammation during nonacidic reflux., The Voice Foundation's 39th Annual Symposium: Care of the Professional Voice, Philadelphia, PA, 06/2010

COMMITTEE SERVICE:

Medical College of Wisconsin

2007 - Present Chair, Resident research, Research, Otolaryngology, Medical College of Wisconsin

2008 - Present Extended service member, Admissions, Medical College of Wisconsin

MCW STUDENTS, FACULTY, RESIDENTS AND CLINICAL/RESEARCH FELLOWS MENTORED:

Medical Students

06/2006 - 07/2006 Mathew Crapko, Summer student mentor, Medical College of Wisconsin

06/2007 - 07/2007 Ethan Handler, Summer student mentor, Medical College of Wisconsin

06/2008 Javad Sajan, Summer student mentor, Medical College of Wisconsin

06/2009 - 07/2009 Justin Yan, Summer student mentor, Medical College of Wisconsin

01/2010 - 08/2011 Justin Yan (Received Honors in Research), Physician/scientist program mentor, Medical College of Wisconsin

01/2010 - 01/2011 Craig Hoekzema, Physician/scientist program mentor, Medical College of Wisconsin

Residents

01/2012 - 06/2012 Elizabeth Kelly, M.D., Resident research rotation mentor, Medical College of Wisconsin

02/2014 - 06/30/2014 Craig Hoekzema, M.D., Resident research rotation mentor, Medical College of Wisconsin

07/2014 - 11/2014 Justin Yan, M.D., Resident research rotation mentor, Medical College of Wisconsin

Faculty

07/2008 - 11/2010 Joel Blumin, M.D., Scientific Advisor in Clinician/Scientist Scholars Program, Medical College of Wisconsin

08/2013 - 07/2014 Sang-Hyuk Lee, M.D., Scientific Advisor during one year research sabbatical, Medical College of Wisconsin

EXTRAMURAL STUDENTS, FACULTY, RESIDENTS, AND CLINICAL/RESEARCH FELLOWS MENTORED:

Undergraduate Students

06/2011 - 09/2011 Jack Kershchner, Summer student mentor

PROGRAMMATIC DEVELOPMENTS:

Research Programs

2016 - Present NSF I-Corps - commercialization of applied academic research

2016 - Present International, multidisciplinary, drug discovery program to develop a novel therapeutic for reflux disease which specifically targets pepsin.

INVENTION AND LICENSING :

2016 - Present Licensed immortalized cell lines established from normal human posterior commissure and true vocal cord to Applied Biological Materials Inc. in 2015 Licensed immortalized cell lines established from normal human posterior commissure and true vocal cord to ATCC in 2016 Developed and optimized a direct ELISA for pepsin, using two in-house monoclonal antibodies against human pepsin, which will be licensed to a company for sale. Currently testing sensitivity and specificity of different clinical sample types and preparing manuscript for publication prior to licensing. Filed MCW Discovery/Invention Disclosure for the potential use of custom pepsinogen primers for a PCR assay for pepsinogen mRNA as a diagnostic for inlet patches. A new composition of use patent is being prepared. We are finalizing the claims for a novel therapeutic for airway reflux that specifically targets pepsin. To be filed 2018. We will license novel immortalized human middle ear epithelial cells lines to ATCC in 2018

BIBLIOGRAPHY

Refereed Journal Publications/Original Papers

1. Axford SE, Sharp N, Ross PE, Pearson JP, Dettmar PW, Pannetti M, and Koufman JA. Cell biology of laryngeal epithelial defenses in health and disease: preliminary studies. Ann Otol Rhinol Laryngol 2001;110(No. 12):1099-1108.
2. **Johnston N**, Ross PE, Bulmer D, Pearson JP, Gill G, Pignatelli M, Panetti M, Axford SE, Dettmar PW, and Koufman JA,. Cell biology of laryngeal epithelial defenses in health and disease: further studies. Ann Otol Rhinol Laryngol 2003;112(No. 6): 481-491.
3. **Johnston N**, Knight J, Dettmar PW, Lively MO, and Koufman J. Pepsin and carbonic anhydrase as diagnostic markers for laryngopharyngeal reflux disease. Laryngoscope 2004; 114: 2130-2134.
4. Koufman JA, Dettmar PW, and **Johnston N**. Laryngopharyngeal Reflux (LPR). ENT News Voice Edition 2005; 14(No. 1): 42-45.
5. Knight J, Lively MO, **Johnston N**, Dettmar PW, and Koufman J. Development of a highly sensitive pepsin immunoassay for detection of laryngopharyngeal reflux in subjects undergoing 24-hour double-probe monitoring. Laryngoscope 2005; 115: 1473-1478.
6. Gill GA, **Johnston N**, Buda A, Pignatelli M, Pearson J, Dettmar PW, and Koufman J. Laryngeal epithelial defenses against laryngopharyngeal reflux (LPR): investigations of pepsin, carbonic anhydrase III, pepsin, and the inflammatory response. Ann Otol Rhinol Laryngol 2005; 114(12): 913-921.
7. **Johnston N**, Dettmar PW, Lively MO, and Koufman J. Effect of pepsin on laryngeal stress protein (Sep70, Sep53, and Hsp70) response: role in laryngopharyngeal reflux disease. Ann Otol Rhinol Laryngol 2006; 115(1): 47-58.
8. **Johnston N** and Koufman JA. What are the compared mechanisms of cellular defense in the esophagus and at the laryngeal level? The duodenogastroesophageal reflux. 125 questions and 125 answers (Proceedings from the World Organization for Specialized Studies on Diseases of the Esophagus, Paris, France, September 2003). R. Giuli and C Scarpignato Eds. 2006: 15-23.
9. **Johnston N**, Dettmar PW, Bishwokarma B, Koufman JA, and Lively MO. Activity/stability of human pepsin: implications for reflux attributed laryngeal disease. Laryngoscope 2007; 117 (6) 1036-1039.
10. Crapko M, Kerschner J, and **Johnston N**. Role of extra-esopahgeal reflux in chronic otitis media with effusion. Laryngoscope 2007; 117 (8): 1419-1423.
11. **Johnston N**, Wells CW, Blumin JH, Toohill RJ, and Merati AL. Receptor-mediated uptake of pepsin by laryngeal epithelial cells. Ann Otol Rhinol Laryngol 2007; 116(12): 934-938.
12. Rees ENL, Pazmany L, Gutowska-Owsiak D, Inman C, Phillips A, Stokes C, **Johnston N**, Koufman JA, Postma G, Bailey M, and Birchall MA. The Mucosal Immune Response to laryngopharyngeal reflux. American Journal of Respiratory and Critical Care Medicine 2008; 177: 1187-1193.
13. Samuels T, Handler E, Syring ML, Pajewski N, Blumin JH, Kerschner JE, **Johnston N**. Mucin Gene Expression in Human Laryngeal Epithelia: Effect of Laryngopharyngeal Reflux. Ann Otol Rhinol Laryngol 2008; 117(9): 688-695.
14. Birchall MA, Bailey M, Gutowska-Owsiak D, **Johnston N**, Inman CF, Stokes CR, Postma G, Pazmany L,

Koufman JA, Phillips A, Rees LE. Immunologic Response of the Laryngeal Mucosa to Extraesophageal Reflux. Ann Otol Rhinol Laryngol 2008; 117(12): 891-895.
15. Blumin JH, **Johnston N** and Toohill RJ. What are the underlying causes (impaired protective reflexes, mucosal sensory deficits, reduced mucosal protection) of esophago-pharyngeal reflux? (Proceedings from the World Organization for Specialized Studies on Diseases of the Esophagus, Monte Carlos, France, April 2008). R. Giuli and C Scarpignato Eds.
16. **Johnston N**, Wells CW, Samuels TL, and Blumin JH. Pepsin in non-acidic refluxate can damage laryngeal epithelial cells. Ann Otol Rhinol Laryngol 2009; 118:677-685.
17. Samuels TL and **Johnston N**. Pepsin as a Causal Agent of Inflammation during Nonacidic Reflux. Otolaryngol Head Neck Surg 2009; 141(5):559-563.
18. Samuels TL and **Johnston N**. Pepsin as a marker for extra-esophageal reflux. Ann Otol Rhinol Laryngol; 2010; 119:203-208.
19. **Johnston N**, Wells CW, Samuels TL, and Blumin JH. A rationale for targeting pepsin in the treatment of reflux disease. Ann Otol Rhinol Laryngol; 2010; 119(8):547-558.
20. Bock JM, Brawley MK, **Johnston N**, Samuels TL, Massey BL, Campbell BH, Toohill RJ, Blumin JH. Analysis of pepsin in tracheoesophageal puncture sites. Ann Otol Rhinol Laryngol; 2010; 119(12):799-805.
21. **Johnston N**. Review article: Uptake of pepsin at pH7 - in non-acid reflux - causes inflammatory and perhaps even neoplastic, changes in the laryngopharynx. Alimentary, Pharmacology and Therapeutics 2011; 33 (Suppl. 1):13-20.
22. Allen J, Tinling SP, **Johnston N**, and Belafsky P. Review article: effects of pepsin and alginate in an animal model of squamous cell carcinoma. Alimentary, Pharmacology and Therapeutics 2011; 33 (Suppl. 1): 21-27.
23. Blumin JH and **Johnston N**. Evidence of extraesophageal reflux in idiopathic subglottic stenosis. Laryngoscope 2011; 121(6):1266-1273.
24. Sana SS, Sana SM, **Johnston N**, and Mittal SK. Laryngopharyngeal reflux disease (LPRD): A literature review. Journal of Family Practice 2011; 60(8):458-462.
25. Rosen R, **Johnston N**, Hart K, Khatwa U, Katz E, and Nurko S. Higher rate of lung culture positivity in children with nonacid reflux and respiratory disorders. The Journal of Pediatrics 2011; 159(3):504-506.
26. Wassenaar E, **Johnston N**, Merati A, Montenovo M, Petersen R, Tatum R, Pellegrini C, and Oelschlager B. Pepsin detection in patients with laryngopharyngeal reflux before and after fundoplication. Surgical Endoscopy 2011; 25(12):3870-3876.
27. Rosen R, **Johnston N**, Hart K, Katz E, Khatwa U, and Nurko S. The presence of pepsin in the lung and its relationship to pathologic gastroesophageal reflux. Neurogastroenterology and Motility 2012: 24(2): 129-e85.
28. Trinick R, **Johnston N**, Dalzell AM, and McNamara PS. Reflux-aspiration in children with neurodisability – a significant problem, but can we measure it? Journal of Paediatric Surgery 2012: 47(2):291-298.
29. **Johnston N**, Yan JC, Hoekzema CR, Samuels TL, Stoner G, Blumin JH, and Bock JM. Pepsin promotes proliferation in normal and transformed laryngopharyngeal epithelial cells. Laryngoscope 2012;122(6):1317-1325
30. Loehrl TA, Samuels TL, Poetker DM, Toohill RJ, Blumin JH and **Johnston N**. The role of extra-esophageal reflux in medically and surgically refractory rhinosinusitis. Laryngoscope 2012: 122(7): 1425-1430.
31. Koufman JA and **Johnston N**. Potential benefits of pH8.8 alkaline drinking water as an adjunct in the treatment of reflux disease. Annals of Otol Rhinol and Laryngol 2012: 121(7): 431-434. Recommended for F1000Prime http://f1000.com/prime/718021982
32. **Johnston N**, Dettmar PW, Strugala V, Allen JE and Chan WW. Laryngopharyngeal reflux and GERD. Annals of the New York Academy of Sciences 2013; 1300(1):71-79.
33. Rosen R, Amirault J, **Johnston N**, Haver K, Khatwa U, Rubinstein E, Nurko S. The utility of endoscopy and multichannel intraluminal impedance testing in children with cough and wheezing. Pediatr Pulmonol. 2014 Nov;49(11):1090-6.
34. Laohasiriwong S, **Johnston N** and Woodson TB. Extra-esophageal reflux (EER), NOSE score, and sleep quality in an adult clinic population. Laryngoscope 2013; epub ahead of print.
35. Kelly EA, Parakininkas DE, Werlin SL, Southern JF, **Johnston N**, and Kerschner JE. Prevalence of pediatric aspiration associated extra-esophageal reflux disease. JAMA Otolaryngology – Head and Neck Surgery 2013, epub ahead of print. Reviewed by Dr. Sanjay Gupta for MedPage Today http://www.medpagetoday.com/Gastroenterology/GERD/41281, ENT Today, JAMA Archives and

Reuters Health.

36. Samuels TL, Pearson ACS, Wells CW, Stoner GD, and **Johnston N**. Curcumin and anthocyanin inhibit pepsin-mediated cell damage and carcinogenic changes in airway epithelial cells. Annals of Otology, Rhinology and Laryngology 2013, In Press.
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