

Curriculum Vitae**Daniel A Sifrim****Prof Daniel Sifrim.**

Daniel Sifrim is a Gastroenterologist, trained in Argentina and Belgium, with both clinical and scientific interest in oesophageal benign disorders. He contributed with the development of diagnostic techniques for oesophageal motility disorders and gastro-oesophageal reflux disease (high resolution manometry, oesophageal impedance and salivary pepsin measurements). He is Emeritus Professor of Gastrointestinal Physiology at Barts and the London School of Medicine, Queen Mary University of London, UK. He is co-director of the Neurogastroenterology Department at Princess Grace Hospital, London.

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Date of Birth: Abril 23, 1955

Place of Birth: Buenos Aires, Argentina

Nationality Argentinian – Belgian (1997)

Married: Isabel Fernandez

Children: Pablo, 1982 Alejandro, 1985

Education:

1973 - B.A., Colegio Nacional Buenos Aires
(Secondary school)

1979 - M.D. , equivalent MB BS
Buenos Aires University
School of Medicine (Argentina)

1994 – (Ph. D) Doctor in Medicine
Geaggreerde voor het Hoger Onderwijs (Ph.D)
Katholieke Universiteit Leuven. Belgium

PhD Thesis

Sifrim DA. Inhibition in the human esophageal body. Its role in normal and disordered motility. Thesis submitted in partial fulfillment of the requirements for the degree of “Geaggreerde voor het Hoger Onderwijs”(Ph.D) K.U. Leuven. Acco. June 1994..

Professional Training

1980 - 1983 Resident (registrar) in Internal Medicine
Carlos Durand Hospital, Buenos Aires

1983 - 1985 Resident (registrar) in Gastroenterology
A. Posadas Hospital, Buenos Aires

1986 - 1987 Chief of Residents in Gastroenterology
A. Posadas Hospital Buenos Aires

1987 - 1988 Clinical Research Fellow
A. Posadas Hospital, Buenos Aires
Department of Medicine, Division of Nutrition.

1989 - 1990 Clinical Research Fellow
A. Posadas Hospital, Buenos Aires
Department of Medicine, Division of Gastroenterology.
Program "Gastrointestinal Motility Disorders"

1990 - 1994 Research Fellow
University Hospital Gasthuisberg, Leuven, Belgium
Department of Medicine, Division of Gastroenterology.
"Esophageal Motility Disorders"
Director: Prof. Gaston Vantrappen MD, Ph.D.

Academic Appointments

1989 - 1990 Instructor in Medicine
Buenos Aires University, School of Medicine

1989 - 1990 Scientific Advisory Council, Enteral
Nutrition. Buenos Aires University, School of Medicine

1994 - 2004 Associate Professor of Medicine
Faculty of Medicine. K.U.Leuven. Belgium

2004 - Professor of Medicine
Faculty of Medicine. K.U.Leuven. Belgium

2009 - Professor of GI Physiology
Barts and The London School of Medicine and
Dentistry, Queen Mary, University of London. UK

2022 - Emeritus Professor of GI Physiology Barts and The
London School of Medicine and Dentistry, Queen Mary, University of London. UK

- Certification and Licensure 1980 Medical Doctor Licensure (M.D.) equivalent MB BS
Ministry of Public Health, Argentina.
- 1986 Board Certification in Gastroenterology
Argentine Society of Gastroenterology.
Ministry of Public Health, Argentina.
- 1992 Medical Doctor Certificate
Ministry of PublicHealth and Education, Spain.
- 1997 Medical Doctor Degree
Ministry of PublicHealth, Belgium.
- 2010 Board Certification in Gastroenterology
Ministry of Public Health, Spain
- 2009 GMC full registration UK (GMC number 7041567)

Clinical work and experience

- 1983-1987 Clinical Staff. Internal Medicine
Intensive Care Unit. Anchorena Hospital, Buenos Aires,
Argentina
- 1987-1990 Clinical Staff. Gastroenterology Department
A. Posadas Hospital. Buenos Aires, Argentina. Honorary
Contract.
- 1990 - 1994 Research Fellow
University Hospital Gasthuisberg, Leuven, Belgium
Department of Medicine, Division of Gastroenterology.
- 1994 - 2006 Clinical Research Esophageal Disorders
University Hospital Gasthuisberg, Leuven, Belgium
Department of Medicine, Division of Gastroenterology.
- 2006 - 2009 Consultant Gastroenterology.
Outpatient Clinic Neurogastroenterology
University Hospital Gasthuisberg, Leuven, Belgium
Department of Medicine, Division of Gastroenterology.
- 2009 - 2022 Director Upper Gastrointestinal Physiology
Unit Royal London Hospital, UK (Honorary Contract)

Department Digestive Diseases. Barts and the London
School of Medicine and Dentistry, Queen Mary University
of London

Editorial activities

Associate Editor “Journal of Neurogastroenterology and Motility”

Associate Editor “Journal of Clinical Gastroenterology”

Member of editorial board, “American Journal of Gastroenterology” and *Current Treatment Options in Gastroenterology*

Reviewer for “Gastroenterology”.

“Gut”

“European Journal of Gastroenterology and Hepatology”

“Gastroenterologie Clinique et Biologie”

“American Journal of Gastroenterology”

“American Journal of Physiology”

Grants

1. FWO (Flemish Research Foundation), Belgium 1998-2001: 58000€; 2002-2006:215.000€; 2008-2011:406.000€
2. Belgian Cystic Fibrosis Association 2006-2007: 75.000€
3. Pharmaceutical Industry (principal investigator)
 - 2003: Novartis: 124.000€; GSK: 78.000; AZ : 168.000€
 - 2004 Pfizer: 109.000€
 - 2005-2006: GSK: 188.000€; AZ: 66.000€; AZ: 71.000€
 - 2007-2008: AZ (US) 40.000\$; Pfizer: 94:000€; AZ (Sweden) 185.000€
4. MRC (UK) Grant 89495 2009-2011: Translational Research in Neurogastroenterology, Principal Investigator together with Prof Q Aziz: 535.000£

Prizes

1. American Gastroenterology Association, Janssen Award in Basic Science and Clinical Research, 2003.
2. Research in Neurogastroenterology Award Mme van Genechten-Paternoster-Prof. Vantrappen (Belgium) 2005

Publications

1: Bingana RD, Nicolau LAD, Sales TMAL, Paula SM, do Carmo Neto JP, Castro IAL, Teixeira LFLS, Franco AX, Ribeiro FOS, de Paula RCM, Medeiros JVR, da Silva DA, Sifrim D, Souza MHL. Exploring the clinical relevance of "Angico Gum": an ineffective biopolymer for topical protection of oesophageal mucosa in gastroesophageal reflux disease patients. *J Pharm Pharmacol*. 2024 Mar 28;rgae032. doi: 10.1093/jpp/rgae032. Epub ahead of print. PMID: 38546507.

2: Marchetti L, Rogers BD, Hengehold T, Sifrim D, Gyawali CP. Saliva Production and Esophageal Motility Influence Esophageal Acid Clearance Related to Post-reflux Swallow-Induced Peristaltic Wave. *Dig Dis Sci*. 2024 Mar 25. doi: 10.1007/s10620-024-08315-x. Epub ahead of print. PMID: 38528208.

3: Kahrilas P, Anastasiou F, Bredenoord AJ, El Serag HB, Labenz J, Mendive J, Savarino EV, Sifrim D, Udrescu M, Yadlapati R, Hungin AP. Proton pump inhibitors: rational use and use-reduction. *The Windsor Workshop. Dig Dis*. 2024 Mar 21. doi: 10.1159/000538399. Epub ahead of print. PMID: 38513623.

4: Sales TMAL, Sidou FMNO, da Costa Filho HB, de Melo Nogueira K, Dias Júnior GJ, de Sousa Lima MA, da Silva LMG, Nicolau LAD, Soares PMG, Nobre E Souza MÂ, Sifrim D, de Souza MHL. Pepsin Inhibitors Prevent Inflammation and Loss of Laryngeal Barrier Function in Mice with Gastroesophageal Reflux. *Laryngoscope*. 2024 Jan 12. doi: 10.1002/lary.31239. Epub ahead of print. PMID: 38214310.

5: Argüero J, Sifrim D. Pathophysiology of gastro-oesophageal reflux disease: implications for diagnosis and management. *Nat Rev Gastroenterol Hepatol*. 2024 Apr;21(4):282-293. doi: 10.1038/s41575-023-00883-z. Epub 2024 Jan 4. PMID: 38177402.

6: Voulgaris T, Hoshino S, Sifrim D, Yazaki E. Does severe and chronic esophageal distension by air (observed in SGB and GB) affect the esophageal mucosa integrity (MNBI). *Neurogastroenterol Motil*. 2024 Mar;36(3):e14731. doi: 10.1111/nmo.14731. Epub 2023 Dec 26. PMID: 38148498.

7: Ustaoglu A, Daudali FA, D'afflitto M, Murtough S, Lee C, Moreno E, Blaydon DC, Kellsell DP, Sifrim D, Woodland P, Peiris M. Identification of novel immune cell signature in gastroesophageal reflux disease: altered mucosal mast cells and dendritic cell profile. *Front Immunol*. 2023 Nov 30;14:1282577. doi: 10.3389/fimmu.2023.1282577. PMID: 38098488; PMCID: PMC10720318.

8: Hungin AP, Yadlapati R, Anastasiou F, Bredenoord AJ, El Serag H, Fracasso P, Mendive JM, Savarino EV, Sifrim D, Udrescu M, Kahrilas PJ. Management advice for patients with reflux-like symptoms: an evidence-based consensus. *Eur J*

- Gastroenterol Hepatol. 2024 Jan 1;36(1):13-25. doi: 10.1097/MEG.0000000000002682. PMID: 38006602; PMCID: PMC10695341.
- 9: Sawada A, Zhang M, Ustaoglu A, Nikaki K, Lee C, Woodland P, Yazaki E, Takashima S, Ominami M, Tanaka F, Ciafardini C, Nachman F, Ditaranto A, Agotegaray J, Bilder C, Savarino E, Gyawali CP, Penagini R, Fujiwara Y, Sifrim D. Superficial oesophageal mucosal innervation may contribute to severity of symptoms in oesophageal motility disorders. *Aliment Pharmacol Ther.* 2024 Jan;59(1):100-112. doi: 10.1111/apt.17773. Epub 2023 Oct 16. PMID: 37845817.
- 10: Gorgulu V, Ergun P, Kipcak S, Doganavsargil B, Sifrim D, Bor S. Revisiting the Role of Esophageal Mucosal Dilated Intercellular Spaces in the Diagnosis and Pathophysiology of Heartburn. *J Neurogastroenterol Motil.* 2023 Oct 30;29(4):436-445. doi: 10.5056/jnm22142. PMID: 37814434; PMCID: PMC10577464.
- 11: Gyawali CP, Yadlapati R, Fass R, Katzka D, Pandolfino J, Savarino E, Sifrim D, Spechler S, Zerbib F, Fox MR, Bhatia S, de Bortoli N, Cho YK, Cisternas D, Chen CL, Cock C, Hani A, Remes Troche JM, Xiao Y, Vaezi MF, Roman S. Updates to the modern diagnosis of GERD: Lyon consensus 2.0. *Gut.* 2024 Jan 5;73(2):361-371. doi: 10.1136/gutjnl-2023-330616. PMID: 37734911; PMCID: PMC10846564.
- 12: Voulgaris T, Hoshino S, Sifrim D, Yazaki E. Improved diagnosis of reflux hypersensitivity. *Neurogastroenterol Motil.* 2023 Dec;35(12):e14680. doi: 10.1111/nmo.14680. Epub 2023 Sep 20. PMID: 37731341.
- 13: Voulgaris T, Hoshino S, Sifrim D, Yazaki E. Effect of aging and obesity on esophageal mucosal integrity as measured by baseline impedance. *Neurogastroenterol Motil.* 2023 Sep;35(9):e14626. doi: 10.1111/nmo.14626. Epub 2023 Jun 18. PMID: 37332225.
- 14: Sawada A, Sifrim D. How to recognize and treat rumination syndrome. *Curr Opin Gastroenterol.* 2023 Jul 1;39(4):340-346. doi: 10.1097/MOG.0000000000000937. Epub 2023 Apr 25. PMID: 37097822.
- 15: Sawada A, Sifrim D, Fujiwara Y. Esophageal Reflux Hypersensitivity: A Comprehensive Review. *Gut Liver.* 2023 Nov 15;17(6):831-842. doi: 10.5009/gnl220373. Epub 2023 Jan 2. PMID: 36588526; PMCID: PMC10651372.
- 16: Sergeev I, Velosa M, Mardare R, Yazaki E, Sifrim D. The influence of supragastric belching severity on esophageal acid exposure and motility. *Neurogastroenterol Motil.* 2023 Apr;35(4):e14520. doi: 10.1111/nmo.14520. Epub 2022 Dec 20. PMID: 36537295.
- 17: Markar S, Andreou A, Bonavina L, Florez ID, Huo B, Kontouli KM, Low DE, Mavridis D, Maynard N, Moss A, Pera M, Savarino E, Siersema P, Sifrim D, Watson

DI, Zaninotto G, Antoniou SA. UEG and EAES rapid guideline: Update systematic review, network meta-analysis, CINeMA and GRADE assessment, and evidence-informed European recommendations on surgical management of GERD. *United European Gastroenterol J*. 2022 Nov;10(9):983-998. doi: 10.1002/ueg2.12318. Epub 2022 Oct 5. PMID: 36196591; PMCID: PMC9731663.

18: Sawada A, Rogers B, Visaggi P, de Bortoli N, Gyawali CP, Sifrim D. Effect of hiatus hernia on reflux patterns and mucosal integrity in patients with non-erosive reflux disease. *Neurogastroenterol Motil*. 2022 Nov;34(11):e14412. doi: 10.1111/nmo.14412. Epub 2022 May 20. PMID: 35593218.

19: Savarino E, Bhatia S, Roman S, Sifrim D, Tack J, Thompson SK, Gyawali CP. Achalasia. *Nat Rev Dis Primers*. 2022 May 5;8(1):28. doi: 10.1038/s41572-022-00356-8. PMID: 35513420.

20: Armstrong D, Hungin AP, Kahrilas PJ, Sifrim D, Sinclair P, Vaezi MF, Sharma P. Knowledge gaps in the management of refractory reflux-like symptoms: Healthcare provider survey. *Neurogastroenterol Motil*. 2022 Oct;34(10):e14387. doi: 10.1111/nmo.14387. Epub 2022 May 3. PMID: 35502888; PMCID: PMC9787909.

21: Sales TMAL, do Nascimento RR, do Carmo Neto JP, da Costa Filho HB, Paula SM, Sousa MKA, de Melo Nogueira K, Junior GJD, da Silva DA, Soares PMG, Medeiros JVR, Nicolau LAD, Sifrim D, de Souza MHL. Laryngeal and Esophageal Mucosal Protection Using the Angico Gum Biopolymer in a Mouse Model of Reflux. *Laryngoscope*. 2023 Jan;133(1):162-168. doi: 10.1002/lary.30093. Epub 2022 Mar 8. PMID: 35258096.

22: Greenan G, Rogers BD, Sifrim D, Gyawali CP. Solid bolus swallows during high-resolution manometry complement multiple rapid swallows in predicting symptoms following antireflux surgery. *Neurogastroenterol Motil*. 2022 Aug;34(8):e14336. doi: 10.1111/nmo.14336. Epub 2022 Feb 23. PMID: 35195329.

23: Velosa M, Sergeev I, Sifrim D. Management of supragastric belching. *Neurogastroenterol Motil*. 2022 Feb;34(2):e14316. doi: 10.1111/nmo.14316. Epub 2022 Jan 4. PMID: 34984763.

24: Velosa M, Sifrim D. Editorial: rumination-more frequent than previously thought. *Aliment Pharmacol Ther*. 2022 Jan;55(1):112-113. doi: 10.1111/apt.16660. PMID: 34907563.

25: Nikaki K, Sifrim D. Rumination Syndrome "Real Prevalence": A Need to Increase Awareness, Early Recognition, and Specific Management. *Gastroenterology*. 2022 Mar;162(3):696-697. doi: 10.1053/j.gastro.2021.12.237. Epub 2021 Dec 11. PMID: 34902363.

- 26: Nikaki K, Sifrim D. Pathophysiology of Pediatric Gastroesophageal Reflux Disease: Similarities and Differences With Adults. *J Clin Gastroenterol*. 2022 Feb 1;56(2):99-113. doi: 10.1097/MCG.0000000000001604. PMID: 34560757.
- 27: Sergeev I, Sifrim D. Editorial: inconclusive diagnosis of GERD-are new parameters in impedance-pH-metry ready for clinical use? *Aliment Pharmacol Ther*. 2021 Aug;54(4):496-497. doi: 10.1111/apt.16509. PMID: 34331812.
- 28: Fass R, Boeckxstaens GE, El-Serag H, Rosen R, Sifrim D, Vaezi MF. Gastro-oesophageal reflux disease. *Nat Rev Dis Primers*. 2021 Jul 29;7(1):55. doi: 10.1038/s41572-021-00287-w. PMID: 34326345.
- 29: Gyawali CP, Tutuian R, Zerbib F, Rogers BD, Frazzoni M, Roman S, Savarino E, de Bortoli N, Vela MF, Sifrim D. Value of pH Impedance Monitoring While on Twice-Daily Proton Pump Inhibitor Therapy to Identify Need for Escalation of Reflux Management. *Gastroenterology*. 2021 Nov;161(5):1412-1422. doi: 10.1053/j.gastro.2021.07.004. Epub 2021 Jul 14. PMID: 34270955.
- 30: Masui D, Nikaki K, Sawada A, Sonmez S, Yazaki E, Sifrim D. Belching in children: Prevalence and association with gastroesophageal reflux disease. *Neurogastroenterol Motil*. 2022 Jan;34(1):e14194. doi: 10.1111/nmo.14194. Epub 2021 Jun 30. PMID: 34190371.
- 31: Sawada A, Lei WY, Zhang M, Lee C, Ustaoglu A, Chen CL, Sifrim D. Esophagealmucosal sensory nerves and potential mechanoreceptors in patients with ineffective esophageal motility. *Neurogastroenterol Motil*. 2022 Feb;34(2):e14205. doi: 10.1111/nmo.14205. Epub 2021 Jun 21. PMID: 34152070.
- 32: Nikaki K, Lee C, Ustaoglu A, Alessandrella A, Staiano A, Woodland P, Sifrim D. Esophageal Mucosa Innervation in Children With Nonerosive Reflux Disease. *Am J Gastroenterol*. 2021 Aug 1;116(8):1727-1729. doi: 10.14309/ajg.0000000000001286. PMID: 33927127.
- 33: Rogers B, Rogers B, Frazzoni M, Savarino E, Roman S, Sifrim D, Gyawali CP. Episode-level reflux characteristics: How experienced reviewers differentiate true reflux from artifact on pH-impedance studies. *Neurogastroenterol Motil*. 2022 Feb;34(2):e14153. doi: 10.1111/nmo.14153. Epub 2021 Apr 7. PMID: 33826230.
- 34: Roman S, Hebbard G, Jung KW, Katz P, Tutuian R, Wong R, Wu J, Yadlapati R, Sifrim D. Chicago Classification Update (v4.0): Technical review on diagnostic criteria for distal esophageal spasm. *Neurogastroenterol Motil*. 2021 May;33(5):e14119. doi: 10.1111/nmo.14119. Epub 2021 Mar 5. PMID: 33666299.
- 35: Ustaoglu A, Sawada A, Lee C, Lei WY, Chen CL, Hackett R, Sifrim D, Peiris M, Woodland P. Heartburn sensation in nonerosive reflux disease: pattern of

- superficial sensory nerves expressing TRPV1 and epithelial cells expressing ASIC3 receptors. *Am J Physiol Gastrointest Liver Physiol.* 2021 May 1;320(5):G804-G815. doi: 10.1152/ajpgi.00013.2021. Epub 2021 Mar 3. PMID: 33655767.
- 36: Yadlapati R, Kahrilas PJ, Fox MR, Bredenoord AJ, Prakash Gyawali C, Roman S, Babaei A, Mittal RK, Rommel N, Savarino E, Sifrim D, Smout A, Vaezi MF, Zerbib F, Akiyama J, Bhatia S, Bor S, Carlson DA, Chen JW, Cisternas D, Cock C, Coss-Adame E, de Bortoli N, Defilippi C, Fass R, Ghoshal UC, Gonlachanvit S, Hani A, Hebbard GS, Wook Jung K, Katz P, Katzka DA, Khan A, Kohn GP, Lazarescu A, Lenglinger J, Mittal SK, Omari T, Park MI, Penagini R, Pohl D, Richter JE, Serra J, Sweis R, Tack J, Tatum RP, Tutuian R, Vela MF, Wong RK, Wu JC, Xiao Y, Pandolfino JE. Esophageal motility disorders on high-resolution manometry: Chicago classification version 4.0[©]. *Neurogastroenterol Motil.* 2021 Jan;33(1):e14058. doi: 10.1111/nmo.14058. Erratum in: *Neurogastroenterol Motil.* 2024 Feb;36(2):e14179. PMID: 33373111; PMCID: PMC8034247.
- 37: Zerbib F, Bredenoord AJ, Fass R, Kahrilas PJ, Roman S, Savarino E, Sifrim D, Vaezi M, Yadlapati R, Gyawali CP. ESNM/ANMS consensus paper: Diagnosis and management of refractory gastro-esophageal reflux disease. *Neurogastroenterol Motil.* 2021 Apr;33(4):e14075. doi: 10.1111/nmo.14075. Epub 2020 Dec 28. PMID: 33368919.
- 38: Tack J, Pauwels A, Roman S, Savarino E, Smout A; ESNM HRM consensus group. European Society for Neurogastroenterology and Motility (ESNM) recommendations for the use of high-resolution manometry of the esophagus. *Neurogastroenterol Motil.* 2021 May;33(5):e14043. doi: 10.1111/nmo.14043. Epub 2020 Dec 4. PMID: 33274525.
- 39: de Bortoli N, Gyawali PC, Roman S, Tolone S, Sifrim D, Tutuian R, Penagini R, Pandolfino JE, Savarino EV. Hypercontractile Esophagus From Pathophysiology to Management: Proceedings of the Pisa Symposium. *Am J Gastroenterol.* 2021 Feb 1;116(2):263-273. doi: 10.14309/ajg.0000000000001061. PMID: 33273259.
- 40: Sawada A, Sifrim D. Reply. *Clin Gastroenterol Hepatol.* 2021 Jul;19(7):1511-1512. doi: 10.1016/j.cgh.2020.06.041. Epub 2020 Nov 26. PMID: 33248083.
- 41: Rogers B, Samanta S, Ghobadi K, Patel A, Savarino E, Roman S, Sifrim D, Gyawali CP. Artificial intelligence automates and augments baseline impedance measurements from pH-impedance studies in gastroesophageal reflux disease. *J Gastroenterol.* 2021 Jan;56(1):34-41. doi: 10.1007/s00535-020-01743-2. Epub 2020 Nov 5. PMID: 33151406.
- 42: Rengarajan A, Rogers BD, Wong Z, Tolone S, Sifrim D, Serra J, Savarino E,

Roman S, Remes-Troche JM, Ramos R, Perez de la Serna J, Pauwels A, Leguizamo AM, Lee YY, Kawamura O, Hayat J, Hani A, Gonlachanvit S, Cisternas D, Carlson D, Bor S, Bhatia S, Abrahao L, Pandolfino J, Gyawali CP. High-Resolution Manometry Thresholds and Motor Patterns Among Asymptomatic Individuals. *Clin Gastroenterol Hepatol*. 2022 Mar;20(3)