

**Amulya K. Saxena**

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Email: [amulya.saxena@nhs.net](mailto:amulya.saxena@nhs.net)**Personal statement**

I have dedicated my efforts to neonatal and paediatric surgery focusing specifically on areas to improve surgical outcomes through research, training and analysing outcomes. As Editor-in-Chief of the *Journal of Pediatric Endoscopic Surgery*, I have been instrumental in promoting scholarship in the specialized field of paediatric minimal access surgery. My role as President of the *European Paediatric Surgeons Association (EUPSA)* that started in 2021 will further strengthen teaching programs that were initiated between 2012-2018 when I served 2 terms as the Chairman of the EUPSA Education Office.

My committed interest in Tissue Engineering and Regenerative Medicine commenced under the guidance of Dr. Joseph Vacanti (President of the American Pediatric Surgical Association) at Boston Children's hospital has enabled fostering international partnerships with grants in order to pursue this area of research dedicated to address shortage of organs for paediatric patients. Over the past 28 years, I contributed to national and international programs in collaborative research and scientific publications. I have been successful with the Industry in development of specialized instruments for neonatal and paediatric surgery from the stage of conception and designing to successful production and clinical implementation.

**Publications**■ **Peer reviewed manuscripts**

203 total refereed journal papers, h-index 29, 2674 citations (10 most relevant publications)

- Saxena AK, Marler J, Benvenuto M, Willital GH, Vacanti JP. Skeletal muscle tissue engineering using isolated myoblasts on synthetic biodegradable polymers: preliminary studies. *Tissue Eng.* 1999; 5: 525-531.
- Saxena AK, Castellani C, Höllwarth ME. Surgical aspects of thoracoscopy and efficacy of right thoracoscopy in minimal invasive repair of pectus excavatum. *J Thorac Cardiovasc Surg.* 2007; 133(5):1201-1205.
- Saxena AK, Brinkmann OA. Unique features of Prune-Belly Syndrome in Laparoscopic Surgery. *J Am Coll Surg.* 2007; 205(2):217-221.
- Saxena AK, Willital GH. Valuable lessons from two decades of pectus repair with the Willital-Hegemann procedure. *J Thorac Cardiovasc Surg.* 2007; 134(4):871-876.
- Saxena AK, Mathur P. Classification of congenital pouch colon based on anatomic morphology. *Int J Colorectal Dis.* 2008; 23(6):635-639.
- Saxena AK, Kofler K, Ainödhofer H, Höllwarth ME. Esophagus tissue engineering: hybrid approach with esophageal epithelium and unidirectional smooth muscle tissue component generation in vitro. *J Gastrointest Surg.* 2009; 13(6):1037-1043.
- Saxena AK, Baumgart H, Komann C, et al. Esophagus tissue engineering: in situ generation of rudimentary tubular vascularized esophageal conduit using the ovine model. *J Pediatr Surg.* 2010;45(5):859-864.
- Saxena AK, Ainoedhofer H, Höllwarth ME. Culture of ovine esophageal epithelial cells and in vitro esophagus tissue engineering. *Tissue Eng Part C Methods.* 2010;16(1):109-114.
- Sommer G, Schriefl A, Zeindlinger G, Katzensteiner A, Ainödhofer H, Saxena AK, Holzapfel GA. Multiaxial mechanical response and constitutive modeling of esophageal tissues: Impact on esophageal tissue engineering. *Acta Biomater.* 2013;9(12):9379-9391.
- Sukhotnik I, Coran A, Pollak Y, Kuhnreich E, Berkowitz D, Saxena A. Activated notch signaling cascade is correlated with stem cell differentiation toward absorptive progenitors after massive small bowel resection in a rat. *Am J Physiol Gastrointest Liver Physiol.* 2017;313(3):G247-G255.

### ■ Invited manuscripts

- Saxena AK. Tissue Engineering: Present Concepts and Strategies. *J Ind Assoc Pediatr Surg*. 2005;10(1):14-19.
- Saxena AK. Pectus excavatum, pectus carinatum and other forms of thoracic deformities. *J Ind Assoc Pediatr Surg*. 2005;10(3):147-157.
- Saxena AK. Tissue engineering and regenerative medicine research perspectives for pediatric surgery. *Pediatr Surg Int*. 2010;26(6): 557-573.
- Saxena AK. Esophagus tissue engineering: designing and crafting the components for the "hybrid construct" approach. *Eur J Pediatr Surg*. 2014;24(3):246-262.
- Saxena AK. Surgical perspectives regarding application of biomaterials for management of large congenital diaphragmatic hernia defects. *Pediatr Surg Int*. 2018; 34(5): 475-489

### ■ Books edited

- Saxena AK, Höllwarth ME. Essentials of Pediatric Endoscopic Surgery, Springer Verlag, Berlin Heidelberg, 2009 (ISBN 978-3-540-78386-2)
- Saxena AK. Chest Wall Deformities. Springer Verlag, Berlin Heidelberg, 2017 (ISBN 978-3-662-53088-7)

### ■ Book chapters

74 published book chapters

## Research

### ■ Past research

- **Clinical trial-** (PI) Application criteria for infrared ear thermometers in pediatric surgery project (1999-2000) Funded Braun GmbH **DM 10,000.00**
- **Experimental research- EU Grant FP6- Proposal 037409 (co-applicant)** EuroSTEC – Soft tissue engineering for congenital birth defects in children (2006-2011) Funded European Union **€ 7,235,500.00**
- **Industry sponsored research (Instrument designing and development)- (PI)** Bar stabilizer anvil tool for pectus bar removal (2005-2007) Funded by Walter Lorenz Surgical Inc, Jacksonville, FL, USA
- **Experimental research- (PI)** Smart Matrix project collaborative project (2010-2011) Funded by RAFT Trustees Vernon Hospital Northwood, UK and Medical University of Graz, Austria
- **Clinical study- (PI)** Seat belts and traffic accidents in pediatric blunt gastrointestinal injury (2011-2012) supported by SafeKids Austria Foundation, Graz, Austria
- **Clinical study- (PI)** Equine related injuries in pediatric and adolescent age (2011-2012) supported by SafeKids Austria Foundation, Graz, Austria
- **Industry sponsored research (Instrument designing and development)- (PI)** Bar stabilizer anvil tool for pectus bar removal (2011-2013) Funded by Richard Wolf GmbH, Knittlingen, Germany

### ■ Present research

- **Experimental research- (PI- joint project)** Biomaterial vascularization project (2018-) Funded by University Grant Victor Babes University of Pharmacy and Medicine, Timisoara, Romania
- **Experimental research- (PI- joint project)** Minimal access surgery organ surface modification project (2019-) Funded by University Grant Victor Babes University of Pharmacy and Medicine, Timisoara, Romania

### ■ Planned research

- **Experimental research-** Biomaterial for suture less anastomosis (Imperial College London partners)
- **Experimental research-** Artificial intelligence in paediatric minimal access surgery (Imperial College London partners)

## Teaching

- **Thesis supervised**
  - 1 MD thesis, Medical University of Münster, Germany (2004)
  - 15 MD thesis, Medical University of Graz, Austria (2008-2013)
  - 1 MD thesis, University of Padova, Italy (2014-2016)
  - 1 PhD thesis, Riga Stradins University, Riga, Latvia (2018-)
- **Innovative teaching ([Annual events](#))**
  - Director- STEPS Teaching Seminars under European Paediatric Surgeons Association (2004-)
  - Lecturer- Minimal invasive neonatal surgery Course, Naples, Italy (2011-)
  - Director- European Paediatric Surgeons Association Laparoscopy Program, Timisoara, Romania (2015-)
  - Lecturer- Masterclass for paediatric minimal invasive surgery, Bologna, Italy (2015-)
  - Director- European Paediatric Surgeons Association- Masterclass lab, Braga, Portugal (2017-)
  - Director- European Paediatric Surgeons Association Minimal Access Surgery Lab, Riga, Latvia (2017-)
  - Course Director- European Paediatric Surgeons Association Congress- Neonatal Surgery Course (2017-)
  - Instructor- BAPES Advanced Minimal Access 3mm Scholarship Course, Slough, UK (2017-)
  - Director- Paediatric Minimally Invasive Surgery and Urology Course, SFITS, Geneva, Switzerland (2018-)
- **UEMS (European Union of Medical Specialities) Paediatric Surgery Curriculum**  
Member of UEMS Committee for formulation of standards of training and Paediatric Surgical Curriculum for Trainees in Europe (2016-2019)

## Markers of esteem

- **Scientific Societies- Executive Board**  
*Membership in 18 International Scientific Societies*
  - President-elect European Paediatric Surgeons Association (EUPSA)
  - Chairman and Executive Board Member- Strategies and Trends in European Pediatric Surgery (STEPS)
  - Treasurer/ Executive Board Member- International Society for Pediatric Wound Care (ISPeW)
  - Honorary member- Hungarian Association of Pediatric Surgeons (HAPS)
  - Treasurer/ Executive Board Member- European Society of Pediatric Endoscopic Surgery (ESPES) (2011-15)
- **Journal Editor-in- Chief**  
Journal of Pediatric Endoscopic Surgery (ISSN: 2524-7875 (print version) ISSN: 2524-7883 (electronic version))
- **Journal Editorial Board**  
Journal of Pediatric Surgery  
European Journal of Pediatric Surgery  
Pediatric Surgery International  
Technology and Healthcare  
Journal of Indian Association of Pediatric Surgeons  
Bio-Medical Materials and Engineering
- **Journal Ad hoc reviewer (34 journals- prominent listed)**  
Science  
Lancet  
Annals of Surgery  
Transplant International  
Critical care medicine

■ **Scientific awards**

- 2007 European Research Institute Award for Outstanding Clinical Applied Research
- 2009 Dr. Farooq Abdullah Award for Best Research Paper (Senior Category)
- 2010 *Bank Austria- Creditanstalt* Visiting Scientist Program Award
- 2011 "*Hans-Salzer Prize*" Austrian Society for Paediatric- and Adolescent Surgery
- 2016 First prize at the AAPI International Research Competition (Basic Science & Translational Research)
- 2017 "Best presentation" 7th Annual Congress European Society of Paediatric Endoscopic Surgery (ESPES)
- 2019 Indian Association of Paediatric Surgeons Oration Medal (PESICON)

■ **Visiting Professor/Invited Surgeon**

*15 International University Departments and Institutes (main 5 listed below)*

- 2005 Department of Pediatric Surgery, All India Institute of Medical Sciences, New Delhi, India
- 2007 Department of Pediatric Surgery, Children's Hospital Eastern Ontario, Ottawa, Canada
- 2010 Department of Pediatric Surgery, Juntendo University School of Medicine, Tokyo, Japan
- 2018 Kindai University School of Medicine, Osaka, Japan
- 2019 Department of Pediatric Surgery, Val de Hebron University, Barcelona, Spain

■ **Advisory Board**

- Chairman Data Monitoring Committee- (2018-) **German National Grant DFG Project "MUC-FIRE"** trial „A randomized multicentre open-label controlled trial to show that mucous fistula refeeding reduces the time from enterostomy closure to full enteral feeds"
- Independent Ethics Advisor- (2020-) **EU Project Horizon 2020- Smartbone** regeneration project
- External Advisory Board- (2020-) **EU Project Marie Skłodowska-Curie ITN "SkinTERM Skin Tissue Engineering and Regenerative Medicine: From skin repair to regeneration"**

■ **Grant reviewer**

- 2011 NC3Rs National Centre for the Replacement, Refinement and Reduction of Animals in Research, UK
- 2012 Action Medical Research, UK
- 2013 French National Research Agency (*Agence Nationale de la Recherche*), France
- 2019 French Foundation for Rare disease (*Fondation Maladies Rares*), France

## Appendix (Education, Training and Scientific presentations)

### Education and Training

#### ■ Medical education and academic titles

- 1986-1992 Medical University of Pecs, Hungary graduated with *"Summa-cum-laude"*
- 1992 MD Thesis, Department of Ear, Nose and Throat, Medical University of Pecs, Hungary
- 1993-2002 Specialization in Pediatric Surgery, Westfälische Wilhelms University Münster, Germany
- 1996-1997 Research Fellow in Surgery, Boston Children's Hospital, Harvard Medical School, USA
- 2008 Habilitation (PhD), Medical University of Graz, Austria
- 2010 Assistant Professor, Pediatric- and Adolescent Surgery, Medical University of Graz, Austria
- 2011 Associate Professor, Pediatric- and Adolescent Surgery, Medical University of Graz, Austria
- 2014 Fellowship of the Royal College of Physicians and Surgeons (FRCS), Glasgow

#### ■ Appointments

- 2002-2003 Consultant Pediatric Surgeon, Westfälische Wilhelms University Münster, Germany
- 2003-2004 Lead Consultant Pediatric Surgeon, Westfälische Wilhelms University Münster, Germany
- 2004 Interim Head of Pediatric Surgery, Westfälische Wilhelms University Münster, Germany
- 2005-2006 Senior Consultant Pediatric Surgeon, Medical University of Graz, Austria
- 2006-2013 Deputy Director, Pediatric- and Adolescent Surgery, Medical University of Graz, Austria
- 2009-2015 Head of Experimental Fetal Surgery and Tissue Engineering Unit, Department of Pediatric- and Adolescent Surgery, Medical University of Graz, Austria

#### ■ Honorary degrees

- 2014 Doctorate in Science (hon) University of Pharmacy and Medicine, Timisoara, Romania
- 2016 Professor (hon) University of Mostar, Bosnia and Herzegovina

#### ■ Guest fellowships

- 1996-1997 Pediatric Infectious Diseases, Boston's Children Hospital, Harvard Medical School, USA
- 1999 Children's Mercy Hospital, University of Missouri, Kansas City, Missouri, USA
- 2001 Hospital 12 de Octubre, Universidad Complutense, Madrid, Spain
- 2007 Children's Hospital Medical Centre, University of Cincinnati, Cincinnati, Ohio, USA

### Scientific presentations

#### ■ Oral presentations

- 588 Oral presentations at national and international scientific meetings
- 22 Keynote lectures