

DETAILS OF THE RESEARCH WORK FOR WHICH SUN PHARMA AWARD IS CLAIMED
– STATEMENT OF ACCOMPLISHMENTS

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HEAD

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BRIEF WRITE UP

Mohammad Javed Ali is an internationally recognized oculoplastic surgeon specializing in state of art lacrimal surgeries and is a leader in advances of the lacrimal drainage sciences. He currently heads the Govindram Seksaria Institute of Dacryology at the L.V. Prasad Eye Institute, India. He completed his basic medical education and MS Ophthalmology from NTR University of Health Sciences, Hyderabad. He obtained his fellowship of Royal College of General Practitioners (FRCGP), UK in 2003 and fellowship of Royal College of Physicians and Surgeons of Glasgow (FRCS) in 2008. He also completed his fellowship in Orbital Surgery in 2008, followed by a second fellowship in Ophthalmic Plastic Surgery and Ocular Oncology and Aesthetic Facial Plastic Surgery in 2010. He later trained in Rhinology with World leader Peter-John Wormald from Australia. Javed is one among the rare recipients of The Experienced Researcher – Senior Alexander Von Humboldt Fellowship Award, one of the pinnacle awards in the Research World. He completed his working PhD on 'glycobiology of lacrimal drainage system' in 2018 from University of Hyderabad. He is a recipient of the Shanti Swarup Bhatnagar Prize, the Indian Nobel Prize and also the highest scientific award by the Government of India. He also received Dr P Siva Reddy Gold Medal in Ophthalmology, Dr Pathak Medal in Ophthalmology, Mazher Foundation Award for outstanding academic

performance, Vengal Rao Medal, Raghavachary medal, Ranga Reddy Endowment award, Honavar award and Sunayna Medal. He described 3 new diseases of the lacrimal system along with their classifications and clinicopathologic profiles. He was honored by "Healthcare Leadership Award 2012" for his research and innovations in Dacryology and also received the 2015 ASOPRS Merrill Reeh Award for his path-breaking work on etiopathogenesis of punctal stenosis. His textbook "Principles and Practice of Lacrimal Surgery" is considered to be the most comprehensive treatise on the subject and his other treatise 'Atlas of Lacrimal Drainage Disorders', is the first of its kind. He is a section editor for 9 journals and reviewer for 30+ major journals. His areas of research are molecular pathogenesis of primary acquired nasolacrimal duct obstruction, Balloon catheter therapies, minimally invasive endoscopic lacrimal surgeries.

Publications: Total: 484; Peer reviewed – 366, Non-Peer reviewed – 47, Book chapters -53, Textbooks – 3, Published Surgical Videos – 10, Published interviews – 5,

Research Grants – 4; Editorial Boards - 13

Conference Presentations – 330; Instruction courses – 25; Keynote address – 13.

Live Surgical workshops – 30

Awards: 35

Profile : <https://scholar.google.com/citations?hl=en&user=dMi7JboAAAAJ>

https://www.researchgate.net/profile/Mohammad_Ali44

Web site : https://www.lvpei.org/view_doctor/dr-javed-ali

PubMed ID: Ali MJ

STATEMENT OF SCIENTIFIC ACCOMPLISHMENTS

Professor Mohammad Javed Ali has pioneered in establishing 'Dacryology', the science tear drainage pathways, as a separate branch of medicine, integrating basic and clinical sciences together. His pioneering translational work has helped lakhs of people directly within India and abroad. The major impact of his fundamental work and

surgical innovations has been in understanding and managing numerous congenital and acquired disorders of the lacrimal pathways predominantly in pediatric populations and the progress of this science at both clinical and basic science levels with multiple innovations on both the sides. The tremendous efforts of the past five years have resulted in widespread recognition of these disorders and that they are much more common and many people suffer from them than what was earlier believed.

Prof. Javed Ali is the only Clinician-Scientist in India to solely practice Dacryology, the study of biology of tear ducts and treatment of its disorders. He is a surgeon of repute globally and a well appreciated senior Humboldtian scientist. He has described three new diseases of the lacrimal drainage pathways, named and classified them and proposed diagnostic criteria and treatment modalities. All the three are published as follows:

1. **Ali MJ.** Idiopathic canalicular inflammatory disease: New disease description of clinical patterns, investigations, managements and outcomes. *Ophthalmic Plast Reconstr Surg* 2018 (Epub)
2. **Ali MJ,** Mohapatra S, Mulay K, Naik MN, Honavar SG. Incomplete punctal canalization: The external and internal punctal membranes. Outcomes of membranotomy and adjunctive procedures. *Br J Ophthalmol* 2013;97(1):92-95.
3. **Ali MJ,** Naik MN. Canalicular wall dysgenesis: the clinical profile of canalicular hypoplasia and aplasia, associated systemic and lacrimal anomalies, and clinical implications. *Ophthalmic Plast Reconstr Surg* 2013;29(6):464-468.

Prof. Javed Ali has also made path-breaking findings in the etiopathogenesis of a common old age disorder called "Punctal Stenosis", for which he was globally recognized by the American society of Ophthalmic Plastics surgery (ASOPRS), with

MERILL-REEH Award, for the most path-breaking work of year 2015. The relevant publication is the following:

1. **Ali MJ**, Mishra DK, Baig F, Lakshman M, Naik MN. Punctal stenosis: Histopathology, Immunology and Electron microscopic features- A step toward unraveling the mysterious etiopathogenesis. *Ophthalmic Plast Reconstr Surg* 2015;31(2):98-102.

Prof. Javed Ali with his German collaborators had made path-breaking anatomical and physiological findings of the Horner's-Duverney muscle. Interestingly, it was Prof. Ali who initially proposed the change in the nomenclature of this human skeletal muscle, which was accepted in the medical literature. The newer anatomical and functional findings of this skeletal muscle has helped crack an age-old mystery of how the lacrimal pump works to propel the tears from the eyes into the nasal cavity. The relevant publication is as follows

1. **Ali MJ**, Zetzsche M, Scholz M, Hahn D, Gaffling S, Heichel J, Hammer CM, Brauer L, Paulsen F. New insights into the lacrimal pump. *Ocul Surf* 2020;S1542-0123(20)30120-8 (Epub).

Prof. Javed Ali also conducted molecular biology studies to determine the right concentration and dosage of the drug Mitomycin C in endoscopic lacrimal surgeries, which are now being followed across the globe. He also described a new technique of using the drug Mitomycin-C during endoscopic surgeries, a technique which he named as "COS-MMC", which is now being used across the globe. The publications describing these details of this is as follows:

1. **Ali MJ**, Mariappan I, Maddileti S, Ali MH, Naik MN. Mitomycin-C in dacryocystorhinostomy: the search for the right concentration and duration- a fundamental study on human nasal mucosa fibroblasts. *Ophthalmic Plast Reconstr Surg* 2013;29(6):469-474.

2. Kamal S, **Ali MJ**, Naik MN. Circumostial injection of mitomycin C (COS-MMC) in external and endoscopic dacryocystorhinostomy: efficacy, safety profile and outcomes. *Ophthalmic Plast Reconstr Surg* 2014;30(2):187-190.

Prof. Javed Ali had the first intra-operative experience of path-breaking technology in lacrimal surgeries and was hence the first to establish guidelines for their use for the rest of the world. Those two major works are published as follows

Ali MJ, Naik MN. First Intra-operative experience with three dimensional (3D) high-definition (HD) nasal endoscopy for lacrimal surgeries. *Eur Arch Otorhinolaryngol* 2017;274(5):2161-2164.

Ali MJ, Singh S, Naik MN. The usefulness of continuously variable view rigid endoscope in lacrimal surgeries: First intra-operative experience. *Ophthalmic Plast Reconstr Surg* 2016;32(6):477-480.

The major work in the last 1-year has been the discovery of surfactant proteins in the human lacrimal canaliculus, first demonstration of an intrinsic cholinergic system in the lacrimal sac and the first ultrastructural insights into the etiopathogenesis of dacryolithiasis (stone formations in the tear ducts). The relevant publications are as follows

Ali MJ, Glockner M, Schicht M, Brauer L, Paulsen F. Detection of intrinsic cholinergic system in the human lacrimal drainage system: evidence and potential implications. *Graefes Arch Clin Exp Ophthalmol* 2018;256:2097-2102.

Ali MJ, Kumar NS, Brauer L, Paulsen F, Schicht M. Expression of surfactants in the human canaliculus: Evidence and potential insights into tear flow dynamics. *Ophthalmic Plast Reconstr Surg* 2018;34:594-597.

Ali MJ, Schicht M, Heichel J, Nadimpalli SK, Paulsen F. Graefes Arch Clin Exp Ophthalmol 2018;256:1313-1318.

In addition to these, Dr Javed Ali has two major textbooks published by Springer, Germany in lacrimal disorders. His textbook “Principles and Practice of Lacrimal Surgery” and the second major treatise “Atlas of Lacrimal Drainage Disorders”, are the first of its kind and the only atlas on lacrimal disorders. These two major treatises are as follows:

1.Ali MJ. Principles and Practice of Lacrimal Surgery. 2nd Edition 2018. Springer Nature, Germany.

2. Ali MJ. Atlas of Lacrimal Drainage Disorders. 1st Edition. 2017. Springer Nature, Germany.

Besides, Prof. Ali has recently signed a third contract with Springer Publishers for an elaborate treatise – Surgical Atlas of Lacrimal Diseases - a series of video publications, which is in production. All these are reflection of his numero uno position on Dacryology at a global platform. This was recognized in 2019 by the Government of India by its highest scientific award – The Shanti Swarup Bhatnagar Prize (also called the Indian Nobel Prize), for his path-breaking work in establishing and popularizing Dacryology as a separate subspecialty of medicine before 40 years of age.



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