

Surgical Anatomy of the Nasal Cavity and Paranasal Sinuses

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KEYWORDS

- Paranasal sinuses • Nasal anatomy • Sinus anatomy
- Maxillary sinus • Ethmoid sinus • Frontal sinus
- Sphenoid sinus • Surgical anatomy

The oral cavity and its bony components (maxilla and mandible), along with the nose and its related sinuses, constitute most of the face. Because of their proximity, disease in one may affect the other, whereas trauma of the midface will involve bones common to the oral cavity, nose, and paranasal sinuses. The two serve important life-supporting functions, being the portals for nutrition and respiration. The nasal cavity receives air and conditions the air that is passed on to the other areas of the respiratory tract. The paranasal sinuses are pneumatic cavities lined by mucous membrane and communicate directly with the nasal cavity. The paranasal sinuses are the frontal sinus, ethmoid cells, maxillary sinus, and sphenoid sinus. This article presents a brief but relevant view of the surgical anatomy of the nasal cavity and paranasal sinuses that will be germane to the topics discussed in other articles elsewhere in this issue.

THE NASAL CAVITY

The nasal cavities are located in the middle of the face between the frontal sinus above, the oral cavity below, and the orbits and maxillary sinuses to the sides (Figs. 1 and 2). The nasal cavity is

encased in a pyramidal-shaped osseo-cartilaginous framework and is divided into two compartments by the nasal septum. The osseous portion consists of two nasal bones that articulate with the nasal process of the frontal bone superiorly and fuses with the maxilla laterally. Their lower borders are beveled on their inner surfaces where they articulate with the upper lateral nasal cartilages. The upper lateral nasal cartilages project up below the nasal bones and are attached to them with dense connective tissue.

The cartilaginous portion of the framework consists of two components: the upper lateral and lower lateral nasal cartilages.

Upper Lateral Nasal Cartilages

The upper lateral nasal cartilage is roughly triangular-shaped. Its superior edge is thin and articulates with the nasal bones via dense connective tissue and fuses to the maxilla. The inferior border is also thin and inserts below the border of the lower lateral cartilage (this is not always a consistent relationship, however).¹ This inferior end is free and is the site of the intercartilaginous incision during rhinoplasty. The medial border is thick and continuous with the septal cartilage.

The authors have nothing to disclose.

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Nasal Cavity And Paranasal Sinuses Surgical Anatomy

**Peter S. Hechl, Reuben C.
Setliff, Manfred Tschabitscher**



Nasal Cavity And Paranasal Sinuses Surgical Anatomy:

The Nasal Cavity and Paranasal Sinuses João Adolfo Caldas Navarro, João de Lima Navarro, Paulo de Lima Navarro, 2001
This book shows the surgical anatomy of nasal and paranasal structures with emphasis on anatomical variations and their surgical importance. It provides tridimensional views of cadaveric microdissections showing all relevant anatomical structures in the nose and its relations with areas of surgical risk. The current official anatomical nomenclature is used to describe unique high quality figures and illustrations including CT scans of the nose and paranasal sinuses. **The Nasal Cavity and Paranasal Sinuses** Joao A.C. Navarro, 2011-12-27 *The Nasal Cavity and Paranasal Sinuses* Joao A.C. Navarro, 2012-12-06 This book shows the surgical anatomy of nasal and paranasal structures with emphasis on anatomical variations and their surgical importance. It provides tridimensional views of cadaveric microdissections showing all relevant anatomical structures in the nose and its relations with areas of surgical risk. The current official anatomical nomenclature is used to describe unique high quality figures and illustrations including CT scans of the nose and paranasal sinuses.

Surgery of the Nose and Paranasal Sinuses: Principles and Concepts, An Issue of Oral and Maxillofacial Surgery Clinics Orrett E. Ogle, Harry Dym, 2012-05-28 Guest Editors Orrett Ogle and Harry Dym present a comprehensive look at surgery of the nose and paranasal sinuses. Topics include surgical anatomy of the paranasal sinuses instrumentation and techniques for examination of the ear nose throat and sinuses imaging of the paranasal sinuses microbiology of the paranasal sinuses surgery of the paranasal sinuses removal of parotid submandibular and sublingual glands oro antral and oro nasal fistulas turbinectomy and surgery for nasal obstruction cysts and benign tumors of paranasal sinuses tonsillitis peritonsillar and lateral pharyngeal abscesses and much more. **Sinus Surgery** Howard Levine, M. Pais Clemente, 2005 Electronic book available in pdf format **Clinical Anatomy of the Nose, Nasal Cavity and Paranasal Sinuses** Johannes Lang, 2013-01-09 An important review of the clinical anatomy of the nose nasal cavity and paranasal sinuses is presented by Professor Lang. He has intensively researched the anatomy of these structures for a quarter of a century with emphasis on exact measurements of these vital structures as they relate to surgical intervention. [Micro-endoscopic Surgery of the Paranasal Sinuses and the Skull Base](#) Aldo C. Stamm, Wolfgang Draf, 2012-12-06 The diagnosis and treatment of the diseases of the nose paranasal sinuses and skull base have changed dramatically in the past few years transforming rhinology in one of the most exciting and attractive medical fields. The increasing advance in this area has addressed the ENT physicians to keep up with the expanding information in the high tech area of sinus surgery and its expansion into skull base surgery. The intention of this book is to present in a unique way basic information on Anatomy Endoscopy Rhinomanometry Imaging Allergy Nasosinus Infection and Polyposis followed by clinical and surgical chapters written by some of the most experienced rhinosurgeons around the world. We believe that this book will be of value for all levels of Otolaryngology from house officers to experienced surgeons and although principally for Otolaryngologists Radiologists Pathologists Maxillofacial

surgeons Ophthalmologists Neurosurgeons and Infectious Diseases Specialists may find the book of value because of its overlap with their interests We would like to show that both from the technical and conceptual points of view success can be achieved using different techniques and philosophies Certainly both endoscopic instrumentation and the surgical microscope have proved to be of great assistance in nasal and sinus surgery and now image systems are providing further progress

Imaging of Paranasal Sinuses, An Issue of Neuroimaging Clinics 25-4 Varsha M. Joshi, 2016-01-07 Imaging of Paranasal Sinuses is explored in this important Neuroimaging Clinics issue Articles include Current trends in sinonasal imaging Normal anatomy and anatomic variants of the paranasal sinuses on CT Pre treatment imaging in inflammatory sinonasal disease The role of CT and MRI in imaging of fungal sinusitis Imaging approach to sinonasal tumors The role of CT and MRI in imaging of sino nasal tumors The role of CT and MRI in the skull base in evaluation of sino nasal disease Post treatment imaging of the paranasal sinuses following endoscopic sinus surgery Post treatment imaging of the paranasal sinuses following treatment for sinonasal neoplasia and more *Rhinology and Facial Plastic Surgery* Fred J. Stucker, Chris de Souza, Guy S. Kenyon, Timothy S. Lian, Wolfgang Draf, Bernhard Schick, 2009-03-28 Georg von Békésy was awarded the Nobel Prize for his seminal work everyone all over the world In other words it is directed toward work on hearing It was however 43 years later in 2004 that evolving a common scientific language that is spoken uniformly Linda Buck and Richard Axel were awarded the Nobel Prize for and consistently all over the world Universality so that norms their work on olfaction This is indicative of how the science of staging systems etc can be applied anywhere in the world with rhinology is only now coming into its own For quite some time equal validity This can only be achieved through consensus rhinology was thought to be limited in scope It is now appreciated This book contains not only the genesis and pathogenesis of ated that the nose is not only an organ of aesthetic appeal but rhinologic disease but also what all surgeons want and that is one that carries out several important complex functions The operative steps to bring about successful resolution of disease tremendous surge in medical literature in recent times bears with the return of normal function CT Imaging of Nose and Paranasal sinuses A Primer Balasubramanian Thiagarajan, 2021-08-04 When I was rummaging through my things I found a huge treasure trove of CT images I wanted to share them with everyone so that it could be of use With this intention in mind I started cataloging and digitalizing them The collection was so exciting I decided to use all of them in my book This book has been authored with CT images of nose and sinuses from my personal collection Target audience Post graduate students in otolaryngology Practicing otolaryngologists Post graduate students in Radiology Axial coronal and sagittal views of CT nose and sinuses are discussed for various pathological processes Readers will be exposed to the art of viewing CT images sequentially Separate chapters have been devoted to the description of CT anatomy including various anatomical variations Reader will be able to have a clear understanding of how to go about reading a CT sequential images of nose and paranasal sinuses Lot of emphasis is placed on the art of reading coronal sections because this is the actual endoscopic view of the nasal cavity encountered by

the surgeon Towards this end 2 mm sections of coronal CT images have been included with appropriate description Since this book has been authored by an Otolaryngologist the entire content of this book will be from the perspective of an otolaryngologist

Atlas of Oral and Maxillofacial Surgery - E-Book Paul Tiwana,Deepak Kademani,2023-02-02 Enhance your surgical skills with Atlas of Oral and Maxillofacial Surgery 2nd Edition Written by respected international contributors and edited by OMS experts Paul Tiwana and Deepak Kademani the new edition of this practical comprehensive guide is divided into two volumes with eBook access included with the print purchase It offers detailed step by step instructions and more than 2 500 full color illustrations that demonstrate how to plan for and perform oral and maxillofacial surgical procedures safely and efficiently Comprehensive and expanded coverage addresses the broad scope of the specialty ranging from the surgical anatomy of the head and neck to oral surgery implant surgery orthognathic and craniofacial surgery cleft lip and palate craniomaxillofacial trauma head and neck oncology reconstructive procedures TMJ surgery facial cosmetic surgery obstructive sleep apnea and more Comprehensive consistent approach to OMS operative procedures offers practical guidance for the management of patients with oral and maxillofacial disorders with each surgical procedure chapter approximately six to eight pages in length and covering the following topics armamentarium history of the procedure indications for use of the procedure limitations and contraindications technique alternate or modified technique avoidance and management of intraoperative complications and postoperative considerations More than 2 500 images include vibrant modern medical illustrations and clinical photos that make up the heart of each surgical chapter and bring it to life visually Detailed step by step approach shows how to perform OMS surgical procedures safely and efficiently Coverage of alternative and modified techniques addresses options beyond the standard techniques Expert international contributors provide authoritative guidance on the OMS procedures they typically perform NEW Two volume extended edition is easier to navigate and includes extensive updates throughout NEW More than 30 new chapters expand the coverage of implants craniofacial surgery and facial cosmetic surgery plus an all new section discusses obstructive sleep apnea OSA NEW An eBook version included only with print purchase allows you to access all the text figures and references with the ability to search customize your content make notes and highlights and have content read aloud

[Gray's Anatomy E-Book](#),2015-09-25 In 1858 Drs Henry Gray and Henry Vandyke Carter created a book for their surgical colleagues that established an enduring standard among anatomical texts After more than 150 years of continuous publication Gray s Anatomy remains the definitive comprehensive reference on the subject offering ready access to the information you need to ensure safe effective practice This 41st edition has been meticulously revised and updated throughout reflecting the very latest understanding of clinical anatomy from field leaders around the world The book s traditional lavish art programme and clear text have been further honed and enhanced while major advances in imaging techniques and the new insights they bring are fully captured in new state of the art X ray CT MR and ultrasonic images Presents the most detailed and dependable

coverage of anatomy available anywhere Regional organization collects all relevant material on each body area together in one place making access to core information easier for clinical readers Anatomical information is matched with key clinical information where relevant Numerous clinical discussions emphasize considerations that may affect medical care Each chapter has been edited by experts in their field ensuring access to the very latest evidence based information on that topic More than 1 000 completely new photographs including an extensive electronic collection of the latest X ray CT MR and histological images The downloadable Expert Consult eBook version included with your purchase allows you to search all of the text figures references and videos from the book on a variety of devices Carefully selected electronic enhancements include additional text tables illustrations labelled imaging and videos as well as 24 specially invited Commentaries on new and emerging topics related to anatomy

Gray's Anatomy E-Book Susan Standring, 2021-05-22 Susan Standring MBE PhD DSc FRCGS Hon FRCR Hon FRCS Trust Gray's Building on over 160 years of anatomical excellence In 1858 Drs Henry Gray and Henry Vandyke Carter created a book for their surgical colleagues that established an enduring standard among anatomical texts After more than 160 years of continuous publication Gray's Anatomy remains the definitive comprehensive reference on the subject offering ready access to the information you need to ensure safe effective practice This 42nd edition has been meticulously revised and updated throughout reflecting the very latest understanding of clinical anatomy from the world's leading clinicians and biomedical scientists The book's acclaimed lavish art programme and clear text has been further enhanced while major advances in imaging techniques and the new insights they bring are fully captured in state of the art X ray CT MR and ultrasonic images The accompanying eBook version is richly enhanced with additional content and media covering all the body regions cell biology development and embryogenesis and now includes two new systems orientated chapters This combines to unlock a whole new level of related information and interactivity in keeping with the spirit of innovation that has characterised Gray's Anatomy since its inception Each chapter has been edited by international leaders in their field ensuring access to the very latest evidence based information on topics Over 150 new radiology images offering the very latest X ray multiplanar CT and MR perspectives including state of the art cinematic rendering The downloadable Expert Consult eBook version included with your print purchase allows you to easily search all of the text figures references and videos from the book on a variety of devices Electronic enhancements include additional text tables illustrations labelled imaging and videos as well as 21 specially commissioned Commentaries on new and emerging topics related to anatomy Now featuring two extensive electronic chapters providing full coverage of the peripheral nervous system and the vascular and lymphatic systems The result is a more complete practical and engaging resource than ever before which will prove invaluable to all clinicians who require an accurate in depth knowledge of anatomy

Endoscopic Anatomy of the Paranasal Sinuses Peter S. Hechl, Reuben C. Setliff, Manfred Tschabitscher, 1997-05-27 This is the most up to date reference depicting surgical anatomy and thus fulfils an important need It presents a step by step surgical approach from the

anterior nasal spine to the anterior wall of the sphenoid illustrated by brilliant colour photographs Four critical anatomical structures are emphasised as the foundation for a precise approach to surgery of the maxillary anterior ethmoid frontal and posterior ethmoid sinuses In short an anatomical approach which will serve the sinus surgeon at every level of experience and expertise

The Frontal Sinus Stilianos E. Kountakis, Brent A. Senior, Wolfgang Draf, 2016-08-05 This is the only book dedicated solely to frontal sinus disorders It is a richly illustrated and comprehensive mine of information on the anatomy and management of these disorders This updated second edition offers much new information Additional topics include balloon dilation frontal surgery as part of skull base surgery and advances in endoscopic techniques and tools that have occurred since 2004 and have made open osteoplastic procedures almost obsolete The anatomy and surgery of the supraorbital ethmoid cell and its significance in the pathology of frontal sinus disease are also covered Throughout the book particularly important areas of text are highlighted and core messages emphasized Videos of described procedures are available online

Practical Rhinology Nicholas Jones, 2010-09-24 An ideal textbook for trainee and practising rhinologists and otolaryngologists Practical Rhinology provides expert direction on all aspects of rhinology This up to date text addresses the most pertinent aspects of contemporary rhinology and provides a distillation of the current advances in this superspecialty from several of the world's leaders

Endoscopic Dacryocystorhinostomy Nishi Gupta, 2020-10-27 This book explains and elaborates upon the procedure of endoscopic dacryocystorhinostomy in a variety of indications It systematically deals with the anatomy of the lacrimal drainage system covering all aspects of gross endoscopic and radiological anatomy It discusses extensively on the preoperative assessment involving clinical and radiological evaluation as it is a crucial step towards achieving a successful dacryocystorhinostomy It uses a lot of clinical and schematic diagrams of the surgical steps simplifying the layout of the procedure and thus making it very easy for the eye and ENT surgeons to follow the technique The book covers from basic to the most advanced and minimally invasive procedures like dacryoendoscopy and balloon dacryoplasty It also provides a few handy tips for the upcoming young oculoplastic surgeons ENT surgeons and postgraduate students

All Around the Nose Cemal Cingi, Nuray Bayar Muluk, 2019-11-05 This book is designed to provide all the information required for a sound understanding of diseases of the nose and paranasal sinuses and the surgical techniques used in their management After an opening section on basic science clinical and radiological assessment is explained and individual chapters focus on conditions ranging from infectious diseases allergic rhinitis and nasal polyposis to trauma malignancies and skin diseases A wide variety of surgical techniques are then described with the aid of high quality illustrations covering nasal airway procedures and surgical approaches to the paranasal sinuses including diverse endoscopic and image guided procedures nasal reconstruction and endonasal and external rhinoplasty The book is a collaborative project between the new generation of Turkish specialists and well known experts from across the world It will be of value for ENT doctors in all countries as well as for students and trainees and those working in ENT related fields such as maxillo

facial surgery pediatrics allergology neurology infectious diseases and neurosurgery Endoscopic Sinus Surgery
Shashikant K. Kaluskar,2012-12-06 Endoscopic Sinus Surgery examines the surgical techniques for tackling nose and sinus disease With the advent of multi angled endoscopes better optical instruments and imaging techniques the impact of endoscopic sinus surgery has been greatly increased in recent years as it considers the problem at its root cause The book combines a clear practical text with extensive visual material and many colour illustrations All aspects of functional endoscopic sinus surgery are covered including an assessment of the technique and a detailed account of both morbid and endoscopic anatomy which are important to an understanding of the techniques involved Post operative care complications and how to avoid them and radiology of the sinuses are also covered This is an accessible and practical book for the novice which will broaden diagnostic skill and improve patient care The many tips included will also aid established surgeons

Cummings Otolaryngology - Head and Neck Surgery E-Book Paul W. Flint,Bruce H. Haughey,K. Thomas Robbins,Valerie J. Lund,J. Regan Thomas,John K. Niparko,Mark A. Richardson,Marci M. Lesperance,2010-03-09 Through four editions Cummings Otolaryngology has been the world s most trusted source for comprehensive guidance on all facets of head and neck surgery This 5th Edition edited by Paul W Flint Bruce H Haughey Valerie J Lund John K Niparko Mark A Richardson K Thomas Robbins and J Regan Thomas equips you to implement all the newest discoveries techniques and technologies that are shaping patient outcomes You ll find new chapters on benign neoplasms endoscopic DCR head and neck ultrasound and trends in surgical technology a new section on rhinology and coverage of hot topics such as Botox Plus your purchase includes access to the complete contents of this encyclopedic reference online with video clips of key index cases Overcome virtually any clinical challenge with detailed expert coverage of every area of head and neck surgery authored by hundreds of leading luminaries in the field See clinical problems as they present in practice with 3 200 images many new to this edition Consult the complete contents of this encyclopedic reference online with video clips of key index cases Stay current with new chapters on benign neoplasms endoscopic DCR head and neck ultrasound and trends in surgical technology a new section on rhinology and coverage of hot topics including Botox Get fresh perspectives from a new editorial board and many new contributors Find what you need faster through a streamlined format reorganized chapters and a color design that expedites reference

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