american rhinologic society
nose news

NOSE NEWS JUNE 2014

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SAVE THE DATE! ARS AT AAOHNS SEPTEMBER 20, 2014 ORLANDO, FL

Roy Casiano, MD, FACS
President Elect and Program Chair

Is rhinology a part of your practice?

Are you coming to the AAO-HNS in Orlando 2014?

Reasons for you to attend the American Rhinologic Society Fall Meeting on Saturday, September 20, the day prior to the start of the AAO-HNS…

Meeting Highlights…

- Panels:
  - Allergic Fungal Rhinosinusitis: Is it Really Different?
  - Rhinology Past, Present, and Future: Emerging Technologies, Promising Medical Therapies, New Directions in Research, and Scope of Practice
  - Pediatric Rhinology: Endoscopic Endonasal Surgery for non-CRS Conditions
  - My Most Challenging Case and How I Handled It
- Film FESStival: Featuring this year's most educational, novel, rare and exciting cases in short 3-minute videos with lively discussion by a panel of experts
- Guest Speaker: 10th Annual Kennedy Lecture – Claus Bachert, MD
  - *Endotypes of Chronic Rhinosinusitis and Therapeutic Consequences*
- Satellite Symposia:
  - Olympus Breakfast Symposium
    - "From the OR to the Office: How I Treat Turbinates, Bleeding, and Polyps"
    - Saturday, September 20, 2014 6:55-7:55 AM
    - *(This is a non-CME event sponsored by Olympus. It is neither sponsored by, nor endorsed by, the ARS.)*
  - TEVA Symposium
    - 4-corners Session: "Advances in Aerosol Therapy for Patients with Allergic Rhinitis"
    - Saturday, September 20, 2014 5:00-6:30 PM
    - *(This is a non-CME event sponsored by TEVA. It is neither sponsored by, nor endorsed by, the ARS.)*
- Internationally renowned rhinologists, discussing their personal pearls and pitfalls with a variety of medical and surgical treatments.
- Interactive format, video presentations, and insightful, lively discussions about new technological innovations, and discoveries.
- The latest in cutting-edge research from around the globe.
- Explore the exhibits and latest technological advancements with our industry partners.
- AND MORE……..

Click here for more info.

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PRESIDENT'S MESSAGE

Tim L. Smith, MD, MPH

Thank you for your interest in the American Rhinologic Society and our initiatives. Several years ago, the ARS strategically planned to grow in scope and reach, and to actively recruit otolaryngologists from across the country who have some portion of their practice in rhinology. We know that there are **5500 otolaryngologists performing sinus surgery in the US**. We want to attract them all to membership in the ARS. In addition, we greatly appreciate the generosity of our corporate partners in support of our organization and its endeavors. It is only through these strong partnerships that we are able to realize our goals of excellence in education, training, research, and patient advocacy. On behalf of the entire Board of Directors, I am proud to say that these partnerships are stronger than ever with aligned strategic goals.

Rick Chandra, Kevin Welch and Jim Palmer are working hard to complete the program for the **3rd Annual Summer Sinus Symposium** in Chicago July 18-19, 2014. This course has experienced incredibly rapid growth after its inaugural year and we honestly do not know where the ceiling is. The SSS is the **finest Sinus Course in the world** and you do not want to miss it. I anticipate more than 500 participants in 2014!

Roy Casiano (President-Elect) and his program committee of over 60 ARS members are developing the **ARS at AAO-HNS** program. Some of the panel ideas I have heard that sound very interesting:

- ARS Film FESStival: Highlighting Interesting and Entertaining Videos from Endoscopic Surgeons Around the Country!
- New Developments in the Office Treatment of CRS

We are excited about the direction of the ARS and ask you to join us in our mission at www.american-rhinologic.org/membership!

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RHINOLOGY PERSPECTIVES: WORK-UP OF CSF RHINORRHEA...A NEURORADIOLOGIST'S VIEW

Patricia Hudgins, MD, FACR

Cerebrospinal fluid (CSF) rhinorrhea and otorrhea have increased in incidence in our busy Head and Neck Radiology practice, due to increase in complex craniofacial surgical procedures and the obesity epidemic. Fortunately, the imaging recommendations have evolved with the increase in leaks, and accurate imaging options are now available.

The initial step for any patient with suspected CSF leak is to collect fluid for ß2 transferrin testing. This protein, found almost exclusively in CSF, can be collected by the surgeon or the patient. When positive, there is unequivocally a leak.

The next step is a high-resolution multi-detector computed tomographic (CT) study, without intravenous iodine contrast and without intrathecal contrast, obtained supine, from foramen magnum to top of the frontal sinuses, at slice thickness less than 1 mm, and preferably at 0.625 mm. This allows for the highest resolution reformations in any plane. Images should be reconstructed at bone algorithm, to allow detection of subtle skull base defects. Virtually all CT vendors currently offer this option for CT.

In our experience, high-resolution CT is often the only radiologic study needed, as many patients have only one potential site for leak. The imaging findings are a skull base defect above a sinus, middle ear, or mastoid complex. If the leak is active there is usually a fluid level or mucosal swelling. If there is a positive ß2 transferrin assay, and a single bone defect with fluid, the work-up is done. Any soft tissue at the bone defect may represent a cephalocele, so a magnetic resonance (MR) study of the brain and skull base can be obtained prior to repair.

The site of leak can often be predicted by history, especially prior sinus, skull base or temporal bone surgery, craniofacial trauma, or unilateral mastoid or middle ear opacification. The cribriform plates, middle turbinate lateral lamella, ethmoid roof, and superolateral sphenoid sinus walls are the most common sites of leak.

When more than one potential site of leak is present on the CT, a cisternogram is often helpful. In our practice we increasingly rely on MR cisternography with intrathecal gadolinium. In the US, intrathecal gadolinium contrast is currently off-label use, but this test has been done safely elsewhere, without complications. We consent the patient for off-label use of gadolinium and for a lumbar puncture done under fluoroscopic guidance. Initial MR images the day of the study are obtained, before the LP, and include fat-saturated T1 axial, coronal, and sagittal sequences. The LP is done in the fluoroscopy suite, and if intracranial hypertension is suspected, opening pressure is measured. Five cc's of CSF is collected, mixed with 0.5 ml of gadopentetate dimeglumine contrast, and replaced in the lumbar thecal sac. The LP needle is withdrawn and the fluoro table is tilted head down to facilitate cranial flow of contrast. Any provocative maneuvers that exacerbate the leak are performed by the patient. After about an hour, axial images are obtained and checked to be sure there is contrast present. If so, the full study is repeated, and compared carefully to pre-cisternogram images. If there is no contrast on the study, or if no leak is seen, delayed images are obtained after several hours. Rarely, if there is no leak on the delayed images the patient is rescanned the following day.

With careful physical exam, thorough history, and experienced radiologists most skull base defects can be detected on CT and surgical repair planned.

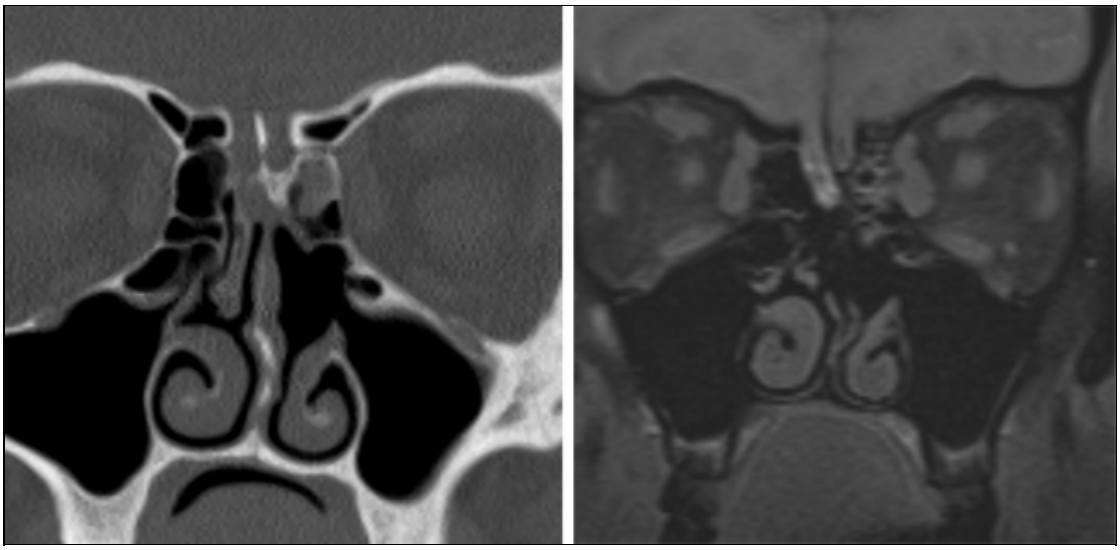

Figure 1: 45 yr old woman with prior left sided CSF leak at cribriform plate, repaired. Now with right-sided rhinorrhea. (Left) Coronal sinus CT shows defect at right cribriform plate, with soft tissue filling the olfactory groove. (Right) Coronal fat saturated T1 weighted MR image after intrathecal administration of 0.5 ml gadolinium contrast shows high signal intensity CSF pooling in the olfactory groove, confirming the site of the leak.

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THE ARS: A HISTORICAL PERSPECTIVE

Eugenia Vining, MD

This fall the American Rhinologic Society celebrates its 60th Anniversary Scientific Meeting. Founded in 1954 at a meeting at Johns Hopkins Hospital in Baltimore, Maryland, the early ARS was truly the culmination of many years of hard work and dedication of Dr. Maurice Cottle and his collaborators.

Beginning 10 years earlier, Dr. Cottle held his first course in rhinology at the Illinois Masonic Hospital. The courses began as a collaboration with Dr. Samuel Foman, a Facial Plastic surgeon from New York. The content emphasized the maxillary–premaxillary approach to nasal surgery with the goal of improving both nasal structure and function. Each course took place over 10 consecutive days, incorporating lectures, cadaver dissections, live surgery, and postoperative visits with patients. (Figure 1) Typically the days lasted from 8am to 10pm and included some time for food and fellowship in the evenings. Much like our meetings today, the courses would either precede or follow national or international otolaryngology meetings.

Figure 1. Dr. Maurice Cottle lecturing at Yale in 1957. Live dissections were a part of the rhinology courses at that time. The patients who had been operated on during the week are seated at the front of the lecture hall with their nasal dressing in place.

In October of 1954 a course was given at Johns Hopkins Hospital. It was here that Dr. Ralph Riggs from Shreveport, LA announced that the preliminary legal steps had been taken to form a society devoted to the investigation, study and teaching of all medical and surgical phases of rhinology and its associated sciences. Of the 39 charter members, 18 would eventually go on to serve as presidents of the ARS. Thirty eight of the 39 would go on to be awarded the Golden Head Mirror, our society's highest honor, given for meritorious sharing in the service of Rhinology.

The first 30 years of our society were led by many of these founding members and not surprisingly, many of our subsequent leaders were mentored by these men. Dr. Cottle was also instrumental in the founding of both the European Rhinologic society and the International Rhinologic Society in 1964.

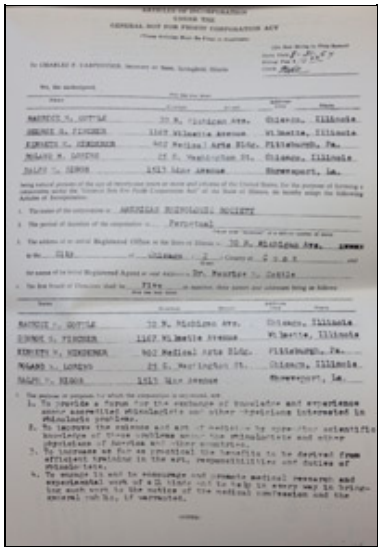

Figure 2. A copy of the articles of incorporation for the American Rhinologic Society. (Click image to enlarge.)

The subsequent 30 years of the ARS have been dominated by techniques and knowledge gained through the lenses of both the rigid nasal telescope and the binocular microscope. Procedures have expanded to include the skull base and our understanding of the pathophysiology of sinonasal disorders has helped identify numerous inflammatory mediators. The ARS has certainly evolved; however, we continue to be lead by active and dedicated members who care and advocate for our patients in an ever-changing health care environment.

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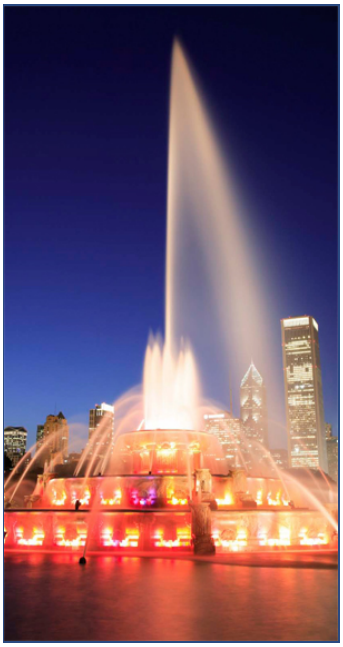
SUMMER SINUS SYMPOSIUM 2014… IT'S ALMOST HERE!



Rakesh Chandra, MD
James Palmer, MD
Kevin Welch, MD
Jivianne Lee, MD
David Poetker, MD
Rod Schlosser, MD

The 2014 ARS Summer Sinus Symposium in Chicago (July 18-19, 2014) is promising to be a memorable course, with a diverse and distinguished faculty who reflect a variety of geographies, rhinologic subspecialties, and practice models. Private and academic otolaryngologists will learn and discuss new ways to broaden their practice horizons, incorporate novel technologies, and interact with experts. The program will feature panel discussions encompassing the full array of rhinologic conditions -- from allergy to plastics, from balloon dilation to extended endoscopic sinus and skull base surgery. Pediatric and Eustachian tube disorders, as they impact the rhinologist, will also be addressed. Also, prepare for some lively debates about the roles of sleep apnea, reflux, and sublingual immunotherapy in rhinologic disease.

The program will be structured as a combined session on day 1 and in the morning of day 2, where the afternoon will include three parallel breakout sessions among which participants are free to mingle. Day 1 will feature two demonstration dissections – performed by Jim Palmer and Vijay Anand - using perfused specimens that highlight vascular anatomy, the latest in endoscopic visualization and stereotactic navigation, and all of the latest powered instrumentation and dilational technologies. David Kennedy will enlighten us with a keynote address: "Wisdom is borne through errors: Lessons I have learned." On Friday night, enjoy breathtaking views from the Signature Room on the 95th floor of the Hancock Tower.

Time is running out! Register for this course today! First time meeting attendees get 50% off the price of registration, and those who sign up to be members of the ARS receive discounted membership fees.

For more information, visit www.american-rhinologic.org/ars_courses.

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INTERNATIONAL FORUM OF ALLERGY & RHINOLOGY UPDATE

David W. Kennedy, MD

A new iPhone/iPad app For A Thriving International Forum of Allergy and Rhinology (IFAR) journal.

Now well established as the only monthly journal focused on disorders of nose and airways, IFAR has demonstrated a rapidly rising impact factor. Earlier this year, Wiley introduced their 'Anywhere Article' technology to IFAR, but now an exciting new free app is available for the Journal. The anywhere article introduced earlier is a new format, combining the ease of reading of a PDF document with the functionality inherent in HTML and adapting the content to mobile devices, such as smartphones and tablets. Please try this format by going to the website and clicking on enhanced HTML, and enjoy some of the advanced features available with IFAR articles.

However the most exciting and revolutionary change, one which will likely affect the way in which you read the journal, has also just arrived. I strongly encourage you to download this free app from the Apple store and start to enjoy IFAR on your iPhone or iPad. The app provides excellent functionality, allowing the reader to store articles of interest, and even e-mail specific figures and place them into PowerPoint presentations. For those in academic institutions, it will also be very helpful to our students who strongly prefer the online format. We believe that this app will be a major satisfier for our readership, both nationally and internationally and a major advantage for IFAR over other publications that do not have such options. Indeed, I would be surprised if this enhanced electronic access is not the way that the majority of journals are accessed in the years ahead.

Over the past year, manuscript submissions to the Journal have increased by approximately one third. There has been a significant surge in international manuscript submissions and yet the average time to first decision has been reduced significantly. For this effort, I owe a deep debt of gratitude for this to the Associate Editors, Editorial Board and all our reviewers. The average time to first decision has now been reduced to under 30 days, and IFAR remains committed to also providing detailed reviews with appropriate constructive criticism to its authors. Additionally, with the advent of monthly publishing of the print version of the Journal, and careful management to reduce the backlog of submissions, the time to print publication has also been significantly reduced.

Please would you take a moment to ensure that your institution also subscribes to the IFAR. If you cannot access the Journal through the institution, it would be very helpful if you would contact the librarian and see if it can be made available for those in your hospital or university who are currently not members of the AAOA or ARS.

Again, I would like to thank everyone who has worked so hard to make this Journal the success that it has become.

Respectfully submitted,
David W Kennedy M.D.

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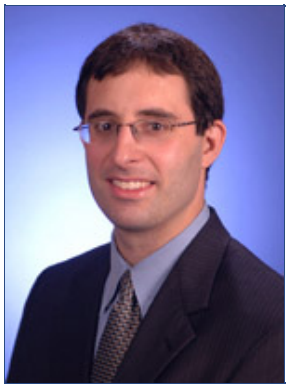
PATIENT ADVOCACY CORNER: ARS POSITION STATEMENTS ON NASAL ENDOSCOPY AND BIOMATERIALS



Seth M. Brown, MD, MBA

This year continues to be interesting from a policy standpoint. We continue see changes related to the Affordable Care Act, both on statewide and national levels and recently saw ICD-10 pushed back another year; anticipated release of October 2015. The ARS patient advocacy committee, with the support of the ARS Board of Directors has put out two new position statements in response to member concerns and payer comments.

First is the development of a position statement on nasal endoscopy. In 2013 nasal endoscopy underwent a 12% positive adjustment in RVUs, likely due to the increased cost of technology, as the increase was in the practice expense component of the RVUs. The new ARS statement supports the use of nasal endoscopy to evaluate the inside of the nose and sinus passages, using either a rigid or flexible scope, with or without the use of decongestants and topical anesthetics and with or without the use of a monitor or recording equipment.

Secondly, we drafted a new statement on the use of biomaterials in sinus surgery. As technology continues to advance within our field, the ARS firmly supports new technology that has proven benefit to our patients. In the new era of health care, we anticipate that new technology, which adds additional cost to procedures, will be a reimbursement challenge. Our intention is to critically evaluate new technology and allow our members to use and get reimbursed for new technology when clinically appropriate. We feel that the use of FDA approved devices in sinus surgery is not investigational and the use of these devices should be up to the operating surgeon.

Please visit our website for access to these and additional position statements.

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CASE OF THE QUARTER: NATURAL KILLER (NK)/T-CELL LYMPHOMA OF THE NASAL CAVITY

Henry P. Barham, MD
Vijay R. Ramakrishnan, MD

A 51-year-old Korean female presented with a 17-month history of progressive nasal obstruction and midface swelling. She had seen multiple providers, initially for a small white lesion on the inside of the left nasal vestibule. Anterior nasal cavity edema developed despite several courses of antibiotics. An otolaryngologist eventually evaluated the patient and labeled this a “midline destructive lesion”, and a nondiagnostic biopsy was performed, however tissue cultures were reported positive for pan-sensitive S.aureus and negative for fungus. She was referred to an infectious disease physician who performed additional laboratory testing for anti-smooth muscle antibody, anti-mitochondrial antibody, ACE, c-ANCA, p-ANCA, ANA, and RF, which were all negative. Due to continued progression of disease on oral and topical antibiotics, repeat biopsy was performed and demonstrated atypical lymphoid infiltration, but genetic analysis was unable to diagnose lymphoma. Her symptoms progressed to black eschar formation and loss of sensation of the nasal tip, and she was referred to our institution.

Physical examination demonstrated diffuse thickening and induration of the nasal dorsum, tip, malar area, and maxillary soft tissue. Her nasal examination demonstrated a large septal perforation and abundant nasal crusting. The nasal tip and columella were covered in a black eschar, which was insensate, but the surrounding tissue was exquisitely tender (Figure 1).

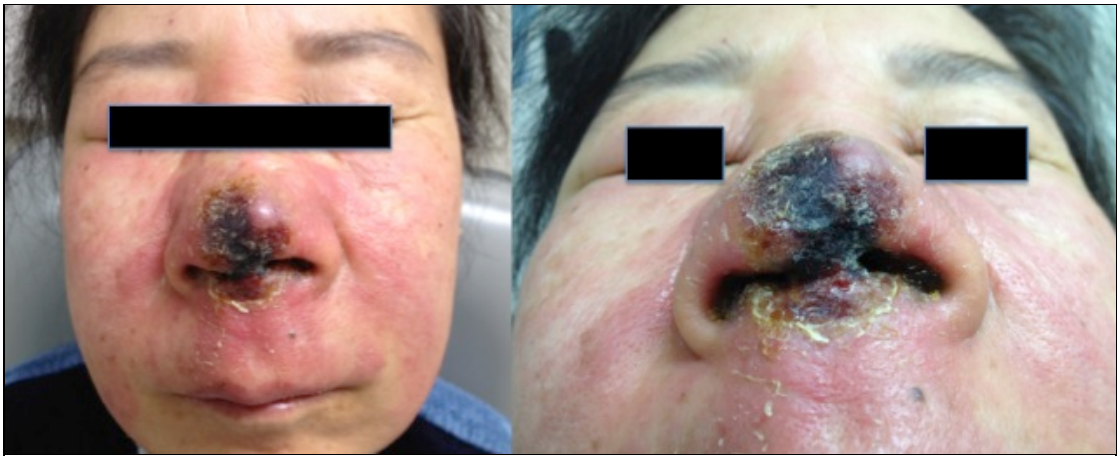

Figure 1: Anterior and basal views on presentation.

Endoscopic exam under anesthesia and biopsy were performed in the operating room (Figure 2).

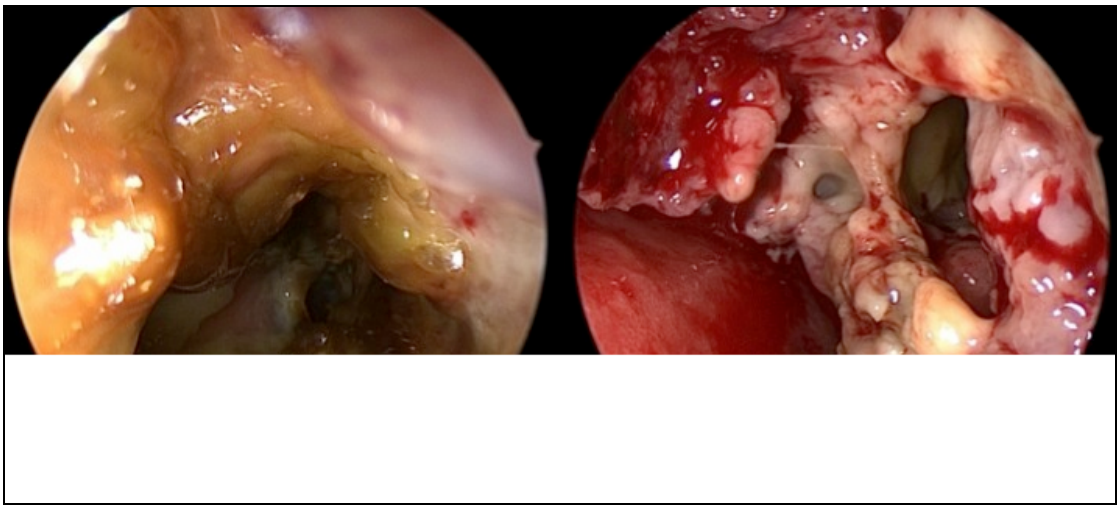

Figure 2: Left nasal cavity exam shows crusting, necrosis, and a large septal perforation (left). After debridement, necrosis and irregular tissue around the perforation are seen from the right nasal cavity (right).

Aggressive biopsy of irregular tissue, including the margin of necrosis and normal appearing mucosa, was performed. Histologic examination showed cellular atypia, extensive necrosis, inflammatory infiltrate, and vascular invasion (Figure 3).

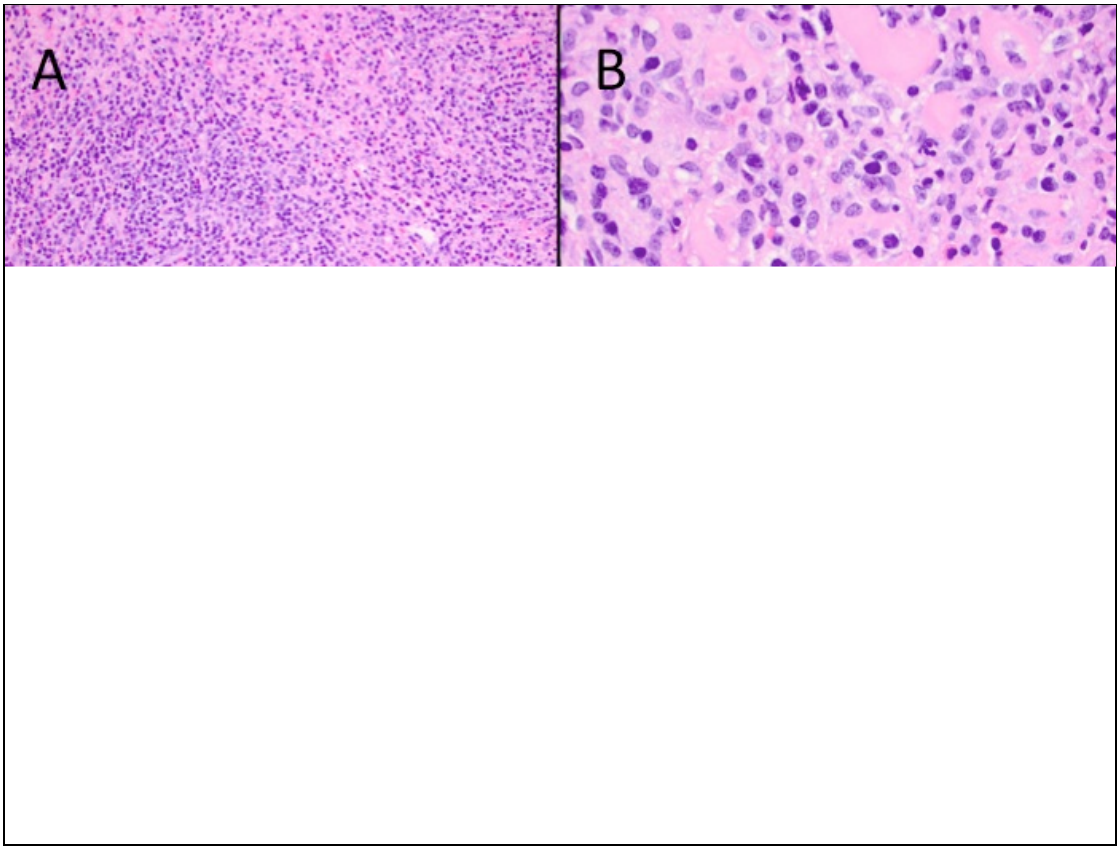

Figure 3: Histological examination demonstrated: A) Diffuse infiltration of medium-sized tumor cells in a background of scattered small reactive lymphocytes and eosinophils. B) High power view shows atypical tumor cells with irregular nuclei and fine chromatin. C) Angioinvasion of tumor cells, infiltrating the vascular wall and obliterating the lumen. D) Tumor-associated coagulative necrosis.

Positive staining for CD3, granzyme B, and EBER-ISH was diagnostic for NK/T-cell lymphoma (Figure 4).

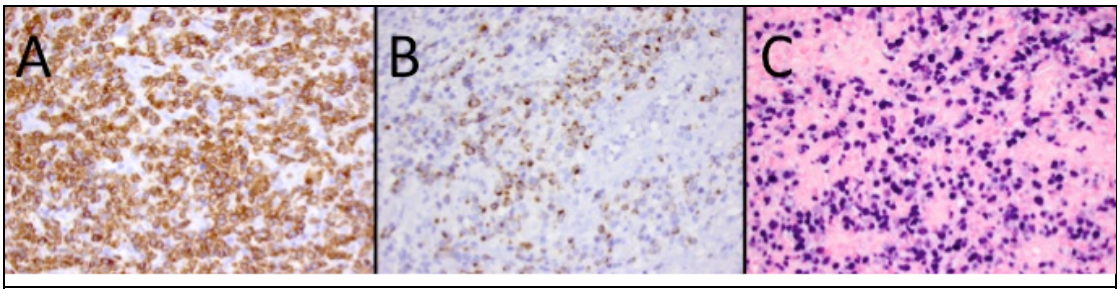

Figure 4: The diagnosis is made with positive staining for: A) CD3; B) granzyme B; C) EBER-ISH.

She was treated with radiation therapy and chemotherapy (BEAM: carmustine, etoposide, cytarabine and melphalan) with autologous stem cell transplant. After successful completion of therapy with no evidence of disease on follow-up exam and PET scan, a nasal defect was present, which was subsequently reconstructed with a paramedian forehead flap and auricular cartilage graft (Figure 5).

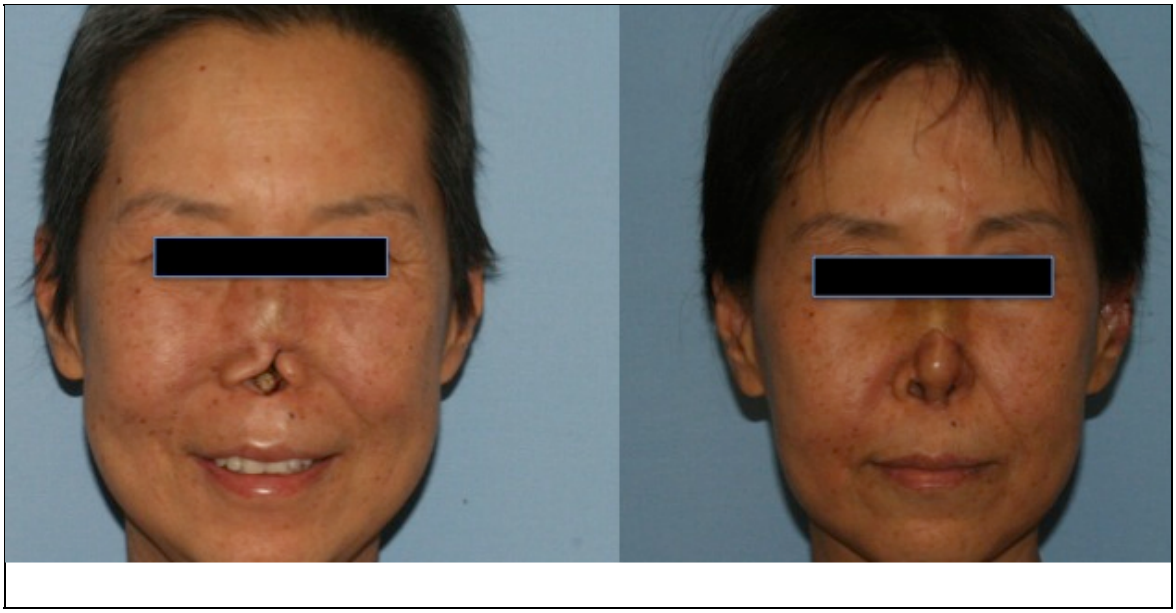

Figure 5: Post-treatment photo demonstrating loss of tip and septum; 8 months post-reconstruction.

Extranodal NK/T-cell lymphoma (formerly known as angiocentric T-cell lymphoma) is a rare type of non-Hodgkin's lymphoma that occurs most commonly in Asian & Central or South American populations. The nasal type can affect the soft tissue envelope, nasal cavities, or paranasal sinuses. Common symptoms include swelling of the nose and face, nasal discharge, epistaxis, and nasal obstruction. The diagnosis of extranodal NK/T-cell lymphoma is often challenging, with an average delay in diagnosis of over 1-year, with such delays associated with poorer prognosis. The most common causative factors for delayed diagnosis are non-diagnostic biopsies (insufficient specimen size, massive necrosis, large number of inflammatory cells, and poor atypia), suggesting that if suspicion is high, aggressive repeat biopsies are indicated. Once the diagnosis is confirmed, treatment consisting of combined chemotherapy and radiation is instituted.

As illustrated by this case, concerning lesions that do not improve with initial medical therapy should raise suspicion for rare, but serious, pathology. Necrotic or destructive lesions of the nose or pharynx should be evaluated for the possibility of NK/T cell lymphoma. In such cases, large biopsies that incorporate the necrotic and viable areas should be obtained, and evaluated with special stains such as EBER-ISH.

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RESEARCH COMMITTEE UPDATE

Noam Cohen, MD, PhD

Once again, rhinologic research demonstrated substantial interest as reflected in the number of grant submissions reviewed at the 2013 CORE study section review. ARS received 21 grants, one of the strongest showings for a sister society, and slightly more than we received last year. This year we had the first offering of the combined ARS/AAOA grant as well as the traditional New Investigator and Resident grants. We had four proposals in the resident grant mechanism that were all worthy of funding of which 2 will be funded through the AAO-HNS Resident Grant mechanism. I would like to congratulate this years ARS grant recipients:

ARS/AAOA Combined Grant
Zach Soler MD, Medical University of South Carolina
"Sleep dysfunction in chronic rhinosinusitis"

ARS Young Investigator
Justin Turner MD, PhD, Vanderbilt University
"Regulation of inflammation by deubiquitinases in chronic rhinosinusitis"

ARS Resident Research Award
Nyall London MD PhD, Johns Hopkins University
"Targeting ARNO-Arf6 to stabilize barrier dysfunction in chronic rhinosinusitis"

Beth Cottrill MD, University of Pennsylvania
"Characterization of sinonasal solitary chemosensory cells"

ARS Resident Grant funded via the Academy Resident Grant mechanism

Eugine Sansoni MD, Oregon Health Sciences University / Medical University of South Carolina
"Genetic variations in bitter taste receptors and sinonasal infection"

Ameila Clark MD, Stanford University
"A randomized controlled trial of bevacizumab for HHT-related epistaxis"

These awards will be officially acknowledged at the Academy meeting in Orlando on September 23rd at 10:30 – hope to see you all there supporting our young rhinologic researchers.

I would also like to extend my thanks and acknowledge the ARS members who spent substantial time and effort in reviewing the grants and serving on the CORE study section (Ben Bleier, Brad Woodworth, Amber Luong, Jayant Pinto, Bruce Tan, Rod Schlosser, Murray Ramanathan, Vijay Ramakrishnan, Jonathan Ting). We hope to maintain this strong interest in rhinologic research and see even more applications next year.

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Flexibility Matters

Sinus Symptom Relief
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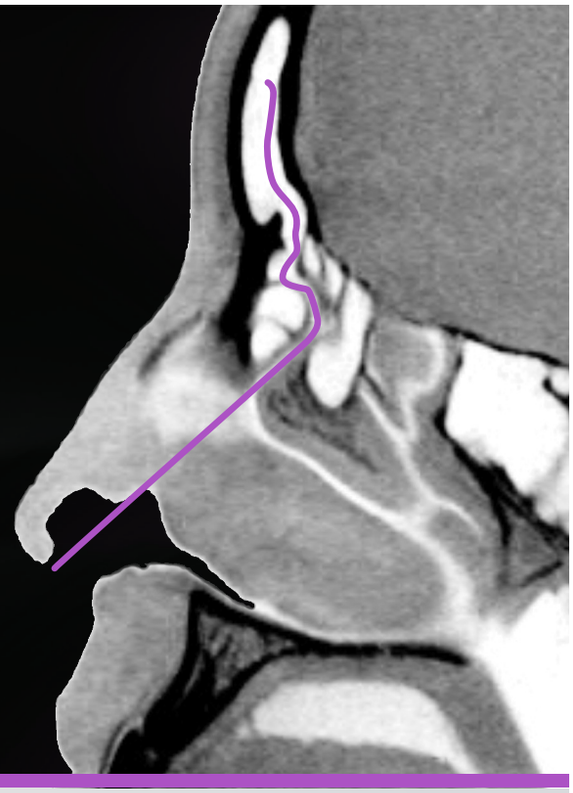

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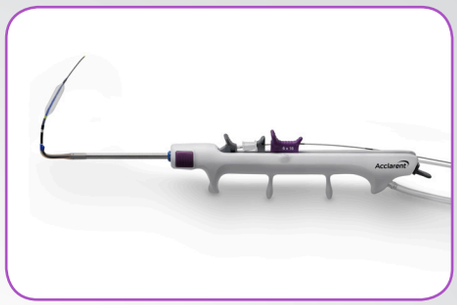
The image shown is a single 2D slice of anatomy. The actual path of the Relieva Luma Sentry™ into the frontal sinus may differ.



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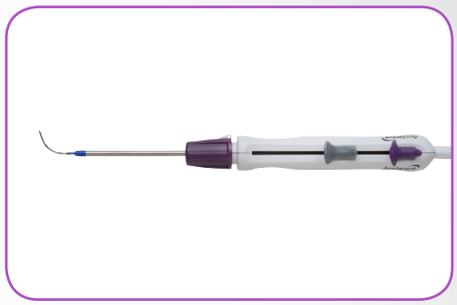

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INDICATIONS FOR USE

The Relieva® Spin *Balloon Sinuplasty* System is intended to provide a means to access the sinus space and to dilate the sinus ostia and spaces associated with the paranasal sinus cavities for diagnostic and therapeutic procedures. For children aged 17 and under, Relieva® Spin *Balloon Sinuplasty* System is intended to dilate sinus ostia and spaces associated with the maxillary sinus for diagnostic and therapeutic procedures.

For patients aged 18 and older, the Relieva Scout™ Sinus Dilation System is intended to provide a means to access the frontal sinus space and to dilate the frontal recess, frontal sinus ostia and spaces within the frontal sinus cavity for diagnostic and therapeutic procedures. In addition, the device is intended to illuminate within and transilluminate across nasal and sinus structures.

The Relieva Luma Sentry™ Sinus Illumination System is intended to provide a means to access the sinus space for diagnostic and therapeutic procedures in conjunction with other nasal and sinus products. It is also intended to illuminate within and transilluminate across nasal and sinus structures.

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For more information, call 866-620-7615 or visit **www.EntellusMedical.com**

1738-130 rB 10/2013

INTRODUCING THE NEW

DIEGO® ELITE

THE MULTIDEBRIDER®

EFFICIENCY & CHOICE

The DIEGO ELITE MULTIDEBRIDER delivers multiple options for ENT Surgery

- Standard, Bipolar and Monopolar Blades
- Unique “Toggle Stop” and “Declog” features
- Distal suction increases visualization with fewer clogs and instrument changes
- Optimized tissue dissection for sinus, turbinate and tonsil & adenoids

For More Information or to Schedule an Evaluation, Please Call 800.773.4301

OLYMPUS®

Your Vision, Our Future

THE DIEGO® ELITE MULTIDEBRIDER® GIVES YOU MULTIPLE WAYS TO DO SURGERY:

Standard Blades

- Type A blades provide optimized tissue dissection.
- Rotatable blades now available for frontal and maxillary cases.
- Distal Suction increases visualization with fewer clogs and instrument exchanges.

Bipolar Blades

- Improved coagulation performance versus PK® diego.®
- Significantly shorter OR time versus standard blades.
- Available for sinus, turbinate and tonsil & adenoid blades.

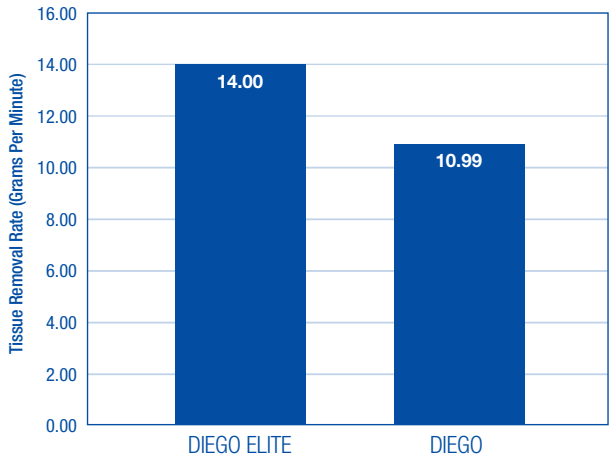
Monopolar Blades

- Monopolar coagulation at your fingertips is one option to control bleeding.
- Equivalent monopolar performance to standard OR generators.
- Available for both sinus and tonsil & adenoid blades.

DIEGO® ELITE PROVIDES 27% FASTER TISSUE REMOVAL[1] COMPARED TO DIEGO®

- Minimal clogging
- Reduced instrument exchanges
- Optimized tissue dissection

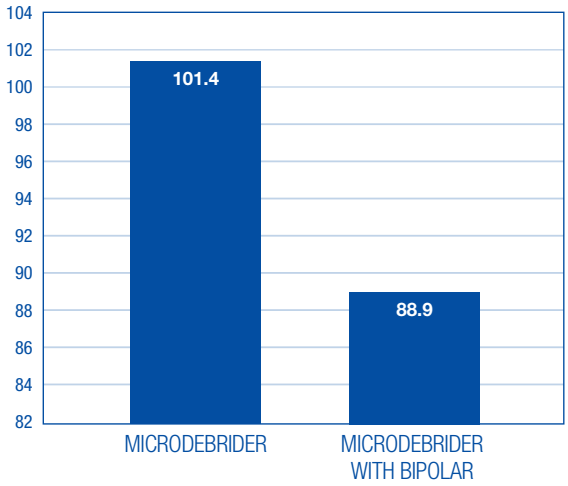
CUTTING PERFORMANCE: DIEGO ELITE vs DIEGO



12% FASTER PROCEDURE TIME WHEN USING BIPOLAR[2]

- Significantly shorter OR time
- More cost effective
- Faster procedure times

MEAN PROCEDURE TIME (MINS)



1. Data on file
2. Sindwani, R., Kumar, N. Bipolar microdebrider may reduce intraoperative blood loss and operating time during nasal polyp surgery. Ear Nose Throat Journal. 2012 Aug;91(8):336-44.

For more information, please contact an Olympus ENT representative at 800.773.4301

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