



Before the Board

HNI Innovations

Medical breakthroughs in the HNI:

- First larynx reinnervation procedure (1977)
- First successful larynx transplant (1998)
- Major surgical role in first near-total face transplant (2008)
- First live telemedical care in otolaryngology (2011)
- Developed perforator flap for short stay repair of osteoradionecrosis of mandible



The Mission and Mastery of The Head and Neck Institute

Michael Benninger, MD (OTO'88)
Chair, The Head and Neck Institute

The mission of the Head and Neck Institute (HNI) is "To be the world leader and innovator in the care of patients with disorders of the head and neck, exemplified by excellence in education and research." Toward those goals, Institute staff has dedicated itself to principles of professionalism, the pursuit of excellence and enhancing the patient experience." Dr. Benninger gave an HNI overview.

HNI is divided into specialties including Otolaryngology, Audiology, Speech Language pathology, Oral Surgery, Dentistry and Advanced Practice, each staffed with experts in their fields. Among the medical breakthroughs accomplished by HNI innovators are: the first larynx reinnervation procedure (1977); the first successful larynx transplant (1998); the first live telemedical care in otolaryngology (2011); and, the development of the perforator flap for short stay repair of osteoradionecrosis of the mandible.

About 4,500 new Cleveland Clinic patients have their first contact through the HNI each year," said Dr. Benninger. It handles 70,000 visits and 6,600 surgical cases annually. Scholarly activities are encouraged, with many on staff producing articles for publication, book chapters, presentations and national and international meetings, and numerous officers in national and international societies.

Collaborations are common with Taussig Cancer Center, Neurology and Physical Therapy units, among others. Reconstructive techniques in endoscopic skull base surgery and facial reconstruction can be treated within HNI, too, Dr. Benninger said.

The HNI is one of the key specialty areas within the Center for Performance Medicine, where singers, actors, politicians, dancers, athletes and instrumentalists receive care. Live streaming technology and live distance evaluations are now also part of the HNI toolbox.

Helping Graduates Move On

Christine S. Moravec, PhD (RES'89)
Department of Molecular Cardiology
Director, Research Education and Training Center, LRI
Assistant Dean for Basic Science Education, CCLCM
Director of Graduate Education, CCLCM

A main goal for the Lerner Research Education and Training Center (RETC) is to provide unparalleled research training experience for its graduate students and postdoctoral fellows. The center's unofficial slogan is; "Every trainee deserves World-Class training." The training makes for a better researcher, but also enhances job opportunities. RETC emphasizes career development by offering postdoctoral fellows exposure to seminars and short internships. Skills improvement can be honed through interacting with mentors, authoring scientific articles and research grants, and exposure to career opportunities outside of academic settings.

Graduate students obtain their PhD through partnerships with Case, Cleveland State, Kent State and the University of Akron. Coursework is offered at the universities while research is done at Cleveland Clinic with an LRI scientist or physician scientist. PhD students receive an annual stipend and full tuition, provided by their Lerner Research Institute (LRI) advisor and / or the university. The translational Molecular Medicine PhD program is the only PhD program offered completely at Cleveland Clinic, and LRI has just started a new track in its program for residents and fellows in clinical training programs.

A goal for next year – and beyond – is to strengthen the relationships between LRI and the clinical institutes, leading to even more translational research.

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Exploring New Pathways

Sudipta Biswas, PhD
Department of Molecular Cardiology
Alumni funded Grant Recipient

As an Alumni Association grant recipient, **Sudipta Biswas** used her \$1,000 to attend the American Heart Association's Arteriosclerosis, Thrombosis and Vascular Biology and Peripheral Vascular Disease Scientific Sessions recently in Nashville, Tennessee. "In the conference I gave a talk in the plenary session, as I was selected one of four finalists for the Kenneth M. Brinkhous Young Investigator Prize in Thrombosis."

She said the award gave her the opportunity to show her team research to the scientific community and helped to attend several scientific sessions to keep herself updated with new research findings in her field. The research was entitled "TLR2 Plays A Key Role In Accelerated Thrombosis Associated with Hyperlipidemia."

Technically, the team studies demonstrated a cross-talk between innate immunity and integrin activation signaling pathways in platelets and revealed that TLR2 plays a key role in platelet hyperreactivity and prothrombotic state in hyperlipidemia. The Scientific Sessions are organized by the American Heart Association for a target audience of cardiologists and vascular surgeons.

What Are My Chances, Doc?

Michael Kattan, MBA, PhD (CCF'04)
Chair, Department of Quantitative Health Sciences
The Dr. Keyhan and Dr. Jafar Mobasser Endowed
Chair for Innovations in Cancer Research

Chairman **Michael Kattan** is a man who loves numbers and has dedicated his career to trying to make them as valuable and as meaningful to the medical profession and its patients as possible.

He framed his messages around the same emotional question most doctors receive: "What are my chances, doc?" Doctors usually respond in different ways, Kattan said. "I'm not in the business of guesswork." "I can give you a range." "I can refer you to the literature." Kattan asked, "Wouldn't it be great if we could answer that question with a lot more

Strides in Liver Transplantation

Cristiano Quintini, MD (CCF'06)
Staff Physician in Liver Transplantation and
Hepatobiliary Surgery
Director, Liver Transplant Program

Ischemia Reperfusion injury (IRI) represents a huge barrier to successful organ transplantation, but a new method of combating it is being studied within Cleveland Clinic's Liver Transplant program.

A lack of oxygen can lead to cell death and recruit inflammatory cells that trigger further damage. To decrease IRI, organs are often flushed with preservation solution and kept cold. In addition, while this strategy works for the vast majority of organs, steatotic grafts, older livers and those that experienced prolonged preservation perform poorly after cold storage and lead to organs that need to be discarded.

With a waiting list that exceeds supply, every organ counts. However, with normothermic, ex-vivo machine perfusion, both ischemia and cold injury can be successfully addressed. Providing O₂ to the ex-vivo organ at physiologic temperatures allow for a better preservation method, better organ assessment and better organ repair and intervention. Studies are under way to investigate the promising methodology further, including its applicability to other organs, such as the kidney, intestine and pancreas.

Looking forward, the field of liver transplantation will be revolutionized by the use of innovative preservation technology, said Dr. **Cristiano Quintini**. "And Cleveland Clinic is well positioned to lead this effort."

specificity? After all, the patient is going to use that answer to make some pretty important decisions, such as whether he, or she, should even bother to have an operation."

Thankfully, said Kattan, it's the science of statistics to the rescue. His unit has developed a methodology that takes into

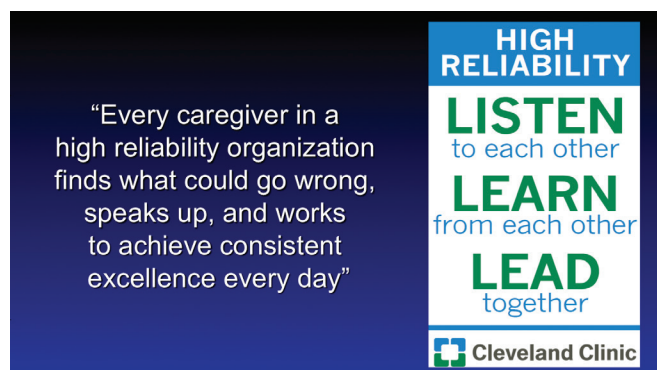
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account a number of details specific to the individual patient. The result is much more personalized and accurate prognosis.

It is just one way in which the department's 90 biostatisticians, bioinformaticians, computational biologists, epidemiologists, outcomes researchers, analysts, database developers and programmers work in a wide range of clinical areas to help answer questions and solve problems with great precision. Just a few of the areas the department specializes in are: Clinical Trial Design, Biostatistics, Epidemiology, Statistical Genetics, Outcomes Research and Database Development.

The Department is available to all Cleveland Clinic physicians, researchers, and support staff.



Keeping Cleveland Clinic and its Patients Safe

Aaron Hamilton, MD, MBA, FACP, FHM (CCF'10)
Medical Director, Patient Safety and Clinical Risk

Reducing both the potential for and actual harm to patients, employees and visitors is a top priority of Cleveland Clinic and a number of programs exist to address those risks. Among them are:

Safety Culture and High Reliability

Cleveland Clinic's approach to high reliability in healthcare focuses on listening to each other, learning from one another and leading change together. This highlights the importance of creating a culture of speaking up when caregivers see something that could go wrong and then working to improve. We have taken tremendous strides in this area and have proven results showing that we are above national benchmark and

have had year-over-year improvement in every safety domain surveyed annually with all caregivers.

Disclosure of Medical Errors

Cleveland Clinic supports full transparency and disclosure to patients and families when there is a verified medical error that impacts a patient. We have developed internal training and simulation for physician and nursing leaders to better understand these skills. We also have a supportive clinical risk management team for "just in time" coaching and support.

Shaping our future

We are engaging with our students, trainees and faculty to create a generation of caregivers who are qualified, engaged, and motivated to teach, assess and practice high quality, safe, equitable, and high value care to patients – particularly in the setting of the rapidly evolving, high-cost pressure healthcare environment.

A House Staff Report

Sara Hogan, MD – PGY 4
House Staff Association President
Skype Call with Laura D'Addese, MD – PGY 6
Chief Pediatric Cardiology Fellow – Alumni funded Grant Recipient

The Cleveland Clinic House Staff Association (HSA) is the representative body of Cleveland Clinic residents. We work to promote the well-being, interests and education of Cleveland Clinic residents. The HSA also promotes resident involvement on various committees that are designed to help improve patient care and experience, as well as to enhance the work environment for all.

Activities for residents are also sponsored by the HSA, such as educational seminars and outings to sporting, fine arts and volunteer events. HSA grants go toward medical missions, fitness programs, education opportunities and professional development activities.

The HSA receives five grants a year from the Cleveland Clinic Alumni Association that go toward the sponsorship of activities not otherwise provided by programs or departments, Dr. Hogan explained. The Board was connected to one such grant recipient, **Laura D'Addese, MD (PGY 5)** who is in Italy to learn more about the differences among nations' medical practices.

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HEC Building: On Time, On Budget

James B. Young, MD (CCF'95)
Professor of Medicine and Executive Dean,
Cleveland Clinic Lerner College of Medicine of
Case Western Reserve University
Chair of the Cleveland Clinic Endocrinology &
Metabolism Institute

Progress on the new Health Education Center (HEC) campus is moving along, on time and on budget. The campus, which is slated to open in summer of 2019, is designed so that students can share ideas, use the latest technology and engage in interprofessional learning. At the same time, the individual schools that will be housed on the campus will maintain their separate, unique identities.

"This is not simply a state-of-the-art building, it is a state-of-the-future building," said Dr. **James B. Young**. He itemized how the facility will be equipped with high-technology at every turn, from life-streaming guest lecturers from across the world to lightning-like, electronic research that eliminates the need

for book-based libraries. There will be three-dimensional imaging that will make obsolete the need for human cadavers for anatomical study, and classrooms can quickly be adapted to different sizes to accommodate student populations.

Then, Dr. Young smiled and said, "Don't all of you in this room wish you were going to medical school today to take advantage of all this facility has to offer?" Board members later joined Dr. Young for a tour of the building, now taking shape.

Alumni Relations Update

At the Alumni Board business meeting that followed formal presentations, **Conrad H. Simpfendorfer, MD, FACS (S'04, MIS'05, S/HEP'06)**, President of the Alumni Association, welcomed new board members and **Pauline Kwok, MD (TRS'95, DR'00, ABI'01)**, Secretary of Alumni Membership, explained members' new job responsibilities and expectations.

Tara Fenner, Assistant Director of Alumni Relations, and **Katie Eurich**, Development Associate, detailed the benefits of being an alumnus and the services available to them through the Association, such as helping to organize meetings, draft messages and much more.

Khalidoun G. Tarakji, MD, MPH (IM'04, CARD'09, CARD/E'11), Alumni Network Project Manager, said the institution is only a short time away from seeing a valuable and easy-to-use application designed to help authorized users to locate Cleveland Clinic-trained doctors anywhere across the world. It is called The Alumni Network. The project, envisioned, pursued and funded by the Alumni Association, is expected to be a great aid to doctors when it comes to referring patients to doctors trained here, which is a frequent patient request.

Gary H. Dworkin, MD (CATS'92), Philanthropy Committee Chair and a Past President of the Alumni Association, and **Mindy Stroh**, Director, Alumni Relations, briefed the Board on progress with the Association's efforts to have built a dramatic, inter-active history wall on campus which memorializes the institution's famed past. The project has reached the fund-raising stage and announcements are to come soon on what happens next. Additionally, Dr. Dworkin updated members on the group's Centennial Legacy Society fund-raising. He also offered his own appraisal that the Association continues to grow ever more active – and successful – as it pursues a variety of Cleveland Clinic endeavors.