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CC NEW Clinical Center News September/October 2024

Pathologist Dr. David Kleiner Traces the Discovery and First Treatment for Fatty Liver Disease

Nearly a third of the world's population is affected by steatotic liver disease, a disorder characterized by liver fat, inflammation, cellular ballooning, and fibrosis (or scar tissue) that progressively degrades liver function.

The disease has become increasingly common as the world's population grows more obese and diabetic and can remain undetected for decades before symptoms appear.

Dr. David Kleiner, an esteemed pathologist and a senior research physician at the National Cancer Institute, offered an inside view of 25 years of groundbreaking research.

Winner of the 2024 NIH Distinguished Teacher Award, Kleiner presented the 20th Annual John Laws Decker Memorial Lecture at the NIH Clinical Center in June, a highlight of the Clinical Center's Grand Rounds Great Teachers Series.

Kleiner shared his insights as a pathologist deeply involved in efforts to understand the little-known disease and discover treatments, tracing the history of the disease and the research innovations and clinical trials that led to the first drug approval to treat the disease earlier this year.

Pointing to a landmark 1980 paper

by Juergen Ludwig in the Mayo Clinic Proceedings, Kleiner noted a key contribution—Ludwig gave the disease a name: non-alcoholic steatohepatitis.

(Also known as fatty liver disease, the disease was renamed in 2023. Its iterations are now referred to as metabolic dysfunction-associated steatotic liver disease [MASLD] and metabolic dysfunction-associated steatohepatitis [MASH].)

"Anyone who has an illness that does not have a name will tell you how important it is to treating a disease," Kleiner said.

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Clinical Center Launches New Website



Patients Students, Fellows and Others Researcher & Physicians

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We provide hope through pioneering clinical research to improve human health.



3 Ways You can Join a Study



You can explore an extensive registry of publicly supported clinical studies conducted mostly in Bethesda, MD, and find a study that fits your sympton



can call our Office of Patient Recruitment at 800-411-1222 and speak with one our Information Specialists or email our Information Specialists at



You can search the NIH Clinical Center's research studies to see if you or someone you know qualifies for a research study.

To learn more about the development of the new website go to cc.nih.gov/news.

Experience the site by visiting cc.nih.gov.



What I Do Hannah Huth

Portraits of NIH Clinical Center staff and the work that inspires them.

Hannah Huth is completing her final year of medical school at the University of Tennessee Health Science Center. I'm currently a medical student studying to become a pediatric oncologist. I came to NIH through the Medical Research Scholars Program. It's a year-long research immersion program for future clinicianscientists.

While I was here, I joined a research project led by James Anibal. He is an NIH Oxford-Cambridge Scholar who is completing his PhD at Oxford University. James has such an incredible and unmatched understanding of AI and the computational side of it, so I was thrilled to be able to bring a deeper understanding of the clinical aspect to this project.

Overall, the project is a big one. It aims to use AI and large language models to analyze people's voice recordings on a mobile phone application to screen for disease. That's the big picture goal, but that is still a ways off. At the moment, we're focused on the data collection components. I've looked at how we might design the data collection and the clinical partnerships we might form to make that successful. It's still a work in progress. But we have trials currently underway in Vietnam, Rwanda, Baltimore, Washington, D.C., and Memphis, Tennessee.

In medicine, we used to play catch up with disease and put all our money and research into therapeutics. Now there is a massive emphasis on biomarkers, early ways to detect diseases. Most biomarkers are being evaluated in urine or blood samples with patients who have a higher socioeconomic status and live closer to high-revenue hospital systems.

So it becomes really exciting when we start to think about the ways we can do this from an iPhone—inexpensively and at scale. We want this app to be a tool for people around the world who can't get to the hospital easily or can't afford to. People who might be sitting at home with diabetes or Parkinson's or Alzheimer's or other diseases or viruses and not know it. No one ever thought that diabetes would cause changes in your voice. That sounds crazy, but it's true. So what other diagnoses can we look at that might have these implications?

My start in medicine came from being a patient. I've had four craniopharyngioma brain tumors. I was misdiagnosed and experienced delayed treatment. My family had no medical experience or expertise at all. Back then, AI didn't exist. But now we can use AI to facilitate diagnostics and that overall patient experience, within the hospital and beyond. That's been my approach in my very short career so far in medicine—to see a problem clinically and solve it with technology.

As told to Sean Markey

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COMMENTARY

A Roadmap to Improve Communication in the ICU

Three years ago, David Lunter came to the NIH as part of a lymphoma clinical trial. He didn't know at the time, but he was committing his remaining weeks to the Venetoclax, Ibrutinib, Prednisone, Obinutuzumab, and Revlimid (ViPOR) clinical trial study. While it did not help him, this protocol significantly extended the life of almost every participant and went on to also be used to treat more difficult cancers, with higher-than-expected success rates.

David's wife Marcy, who accompanied him to provide support and comfort, also established ongoing relationships with the NIH Clinical Center focusing on communication with patients and their families.

Since her family's experience was mainly in the Intensive Care Unit (ICU), her outreach started there but led to participation in the NIH Clinical Center's Patient Advisory Group (PAG). Through the PAG committee there are many insightful, committed, caring and reflective staff members who took the banner of excellence that characterizes this institution and are determined to raise it higher.

It might have been anticipated



David Lunter talks to his granddaughter, Caraline Lunter

that a health care organization of international renown would look at the glowing family responses to everything they do well, every need they successfully meet, every survey with excellent ratings and say that's enough.

But rather than resting on laurels, the staff listened, reflected, considered, discussed and formulated questions of their own. How can we heighten the level of connection to our patients and families? How can we consistently display the caring we feel? How can we keep our families fully informed? How can we offer meaningful two-way communication? Ultimately staff said, "Let's not be locked into our own views and assumptions."

Read full story online at cc.nih.gov/news.

By Marcy Mager, member of the Clinical Center's Patient Advisory Group, Dr. Anthony Suffredini, Deputy Chief, Critical Care Medicine Department and Tamara Williams, RN, Nurse Manager, Critical Care Unit

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An international expert on chronic liver disease, Kleiner's role in the story began 18 years later, during the first workshop on non-alcoholic steatohepatitis (NASH) in 1998. Convened by the National Institute of Diabetes and Digestive and Kidney Diseases, the workshop led to the establishment of the NASH Clinical Research Network in 2000.

Kleiner helped lead the network's Pathology Committee, which among other key contributions, developed a scoring system for microscopic analysis of liver biopsies.

The system converted visual observation data on liver cell fat, ballooning, inflammation, and scaring (or fibrosis) into numerical data open to statistical analysis.

It enabled hundreds of NASH CRN



Dr. David Kleiner receives 2024 NIH Distinguished Teacher award from Dr. Ejiofor Ezekwe

and extramural research studies, allowing researchers and physicians to assess and track progression of the disease and providing the foundation for clinical trials. Read full story online at cc.nih.gov/news.

—Sean Markey

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The NSO Returns with a Powerful and Resounding Performance

On September 4, The National Symphony Orchestra returned to the NIH Clinical Center with another unforgettable performance.

Under the baton of conductor Steven Reineke, a 60-piece orchestral ensemble filled the North Atrium with an exquisite hour-long program. Featuring works by Coleridge-Taylor, Beethoven, Vivaldi, and Koussevitzky, among others.

Highlights included performances by William Gerlach and Michael Harper on trumpet, as well as a solo by Ira Gold on contrabass.

Co-presented by the Foundation for Advanced Education in the Sciences and the NIH Clinical Center, this special event marked the 12th year of the NIH-Kennedy Center Sound Health partnership, a showcase of the powerful connection between music and well-being.

—Yvonne Hylton



Steven Reineke, Conductor of the National Symphony Orchestra

New Evening Concert Series Tailored to CC Patients

The NIH Patient Library presents Tiny Twilight Concerts

The NIH Patient Library has launched an evening concert series that brings the power of music to patients, staff, and visitors after hours. The new series takes place on the 7th floor of the Clinical Center, just outside the 7th floor patient library.

Marie Kaplan, the Librarian behind the concert series initiative, said she is committed to offering a musical experience to the hospital community, distinct from the popular Music in the Atrium concert series. The performances feature talented student musicians from The Tacy Foundation and showcase classical and contemporary music for cello, violin and piano selected to help listeners unwind and find peace at the end of the day.

For more information on the concerts, please email: patientlibrary@cc.nih.gov.

—Janice Duran



Tacy Foundation student cellist

Clinical Center News

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Thoughts? Let us Know! ccpressgroup@cc.nih.gov

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