

2026

PULMONARY HIGHLIGHTS



with Cardiology Spotlight



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Breathing Science is Life.[®]

THE TUCHMAN FAMILY

DIVISION OF PULMONARY,
CRITICAL CARE AND SLEEP MEDICINE



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National Jewish Health acknowledges The Tuchman Family Foundation and Debra and Ken Tuchman for their generous gift to establish The Tuchman Family Division of Pulmonary, Critical Care and Sleep Medicine. For more than 25 years, Debra and Ken Tuchman and the Tuchman Family have been committed to National Jewish Health through board service and as outstanding advocates for the institution.



Dear Colleague,

At National Jewish Health, advancing medicine has always required more than a single area of excellence; it demands collaboration, discovery and an unwavering commitment to the whole patient through multiple disciplines. This year's *Pulmonary Highlights with Cardiology Spotlight* reflects that philosophy, showcasing how research, innovation and multispecialty care come together to drive progress in respiratory health, as well as in many other areas.

Our leadership in pulmonary medicine is built on a foundation of discovery science. Researchers and clinician-scientists work side by side to deepen understanding of complex lung and immune diseases, translate findings into new therapies and continually raise the standard of care. This close connection between the laboratory and the clinic helps innovation move swiftly from discovery to real-world impact for our patients.

Equally essential is our integrated, multispecialty model of care. Pulmonologists collaborate daily with experts in immunology, cardiology, gastroenterology, radiology and other specialties to address the full spectrum of patient needs. This coordinated approach enables us to care for individuals with complex, overlapping conditions — often those who have exhausted options elsewhere — while delivering outcomes that reflect both precision and compassion.

Education remains central to our mission. Through training, mentorship and the sharing of knowledge across disciplines, National Jewish Health continues to shape the next generation of clinicians and scientists while extending our influence well beyond our campus.

Together, these efforts define who we are: a collaborative, innovative institution dedicated to advancing care through discovery, multispecialty excellence and education. We are proud to share the stories, research and progress highlighted in this publication, and grateful to the teams whose work continues to shape the future of pulmonary medicine, as well as the strength of a multispecialty approach.

A handwritten signature in black ink, appearing to be 'Kevin K. Brown'.

Kevin K. Brown, MD
Chair, Iris & Michael Smith
Department of Medicine
National Jewish Health

A handwritten signature in black ink, appearing to be 'Irina Petrache'.

Irina Petrache, MD
Chief, The Tuchman Family
Division of Pulmonary, Critical Care
and Sleep Medicine
National Jewish Health

Insights: The State of Medicine

Collaboration is key to delivering excellence in multispecialty care and is foundational to how leadership addresses opportunities and challenges.



Recently, **Glenn Hirsch, MD**, (left) chief of the Division of Cardiology; **Irina Petrache, MD**, chief of The Tuchman Family Division of Pulmonary, Critical Care and Sleep Medicine; and **Kevin Brown, MD**, chair of the Iris & Michael Smith Department of Medicine, discussed achievements and advances in health care over the past year, while also looking forward to the future.

Looking at this past year, what advancements in medicine stood out most to you?

Dr. Petrache: I would highlight the continued move toward personalization in complex lung and vascular disease. Integrating well-phenotyped clinical cohorts with multiomics platforms and bioinformatics is advancing our understanding of disease subtypes and opening new therapeutic avenues.

At the same time, artificial intelligence (AI)-enabled analysis of routine clinical data, particularly imaging, is showing promise for earlier detection and improved risk prediction without adding burden for patients or clinicians. There has also

been meaningful progress in prevention, including broader adoption of lung cancer screening.

Dr. Hirsch: The acceleration of AI across medicine has been remarkable. AI is rapidly being integrated into diagnostics, risk prediction, drug discovery and clinical workflows, including documentation and administrative processes.

Wearable technologies are also becoming more sophisticated and accurate, supporting chronic disease management and early detection of conditions like atrial fibrillation and hypertension. Looking further ahead, advances in areas such as 3D bioprinting of organ tissue and expanded applications of next-generation immunotherapies, including CAR-T therapies for solid tumors, point to transformative possibilities.

Dr. Brown: The expanding benefits of GLP-1 agonists were also striking — improving cardiovascular outcomes in patients with obesity and heart failure and potentially offering benefits for sleep-disordered breathing and airway disease. These advances reflect a broader trend toward more effective, targeted therapies.

Which new treatments or advances showed the most promise?

Dr. Brown: We saw important progress across pulmonary medicine, including new therapies for non-cystic fibrosis (CF) bronchiectasis, targeting chronic, neutrophil-driven inflammation rather than just managing infections. A breakthrough was the 2025 Food and Drug Administration approval of brensocaticib, which significantly reduces pulmonary exacerbations.

There are also recent advances in biologics for chronic obstructive pulmonary disease (COPD), including FDA approvals of dupilumab and mepolizumab for managing eosinophilic, exacerbation-prone or inadequately controlled COPD.

Dr. Petrache: There were therapeutic successes demonstrated in chronic lung disease with new approved treatments, as well as pipeline drugs, for pulmonary hypertension and COPD, which offer hope for individuals with these conditions. We continue to celebrate and learn from the tremendous successes of cystic fibrosis transmembrane conductance regulator (CFTR) modulator therapy in CF.

Dr. Hirsch: In cardiovascular medicine, small interfering RNA therapies targeting lipoprotein(a) are especially promising, with dramatic reductions observed in early studies. Advances in transcatheter valve repair and replacement, as well as leadless pacemakers and defibrillators, are also improving outcomes while reducing procedural risk and recovery time for patients.

How can multispecialty care influence outcomes?

Dr. Hirsch: Coordinated multispecialty care is essential for patients with complex disease. This begins with detailed intake processes and longer initial visits, allowing teams to develop accurate

diagnoses and cohesive care plans that are carried forward collaboratively with patients and families.

Dr. Brown: Exactly. Patients rarely have a single explanation for their symptoms. Our focus is on treating the whole person, addressing overlapping conditions, and improving function and quality of life, which requires close collaboration across specialties.

Dr. Petrache: At its best, multispecialty care is foundational rather than sequential. It allows for more accurate and timely diagnoses for patients with overlapping pulmonary, cardiac, immune and sleep-related conditions. The result is also faster treatment decisions, better long-term management, and strong alignment between clinical care and research.

What are your biggest sources of confidence or concern when it comes to the future of complex disease care?

Dr. Brown: Every year, we see innovative approaches to patient care and research. I am optimistic about the quality and dedication of our colleagues across the country.

Dr. Petrache: I remain concerned about ongoing instability and uncertainty surrounding research funding. However, there remains a strong pipeline connecting research discovery to clinical application and that is key to moving forward.

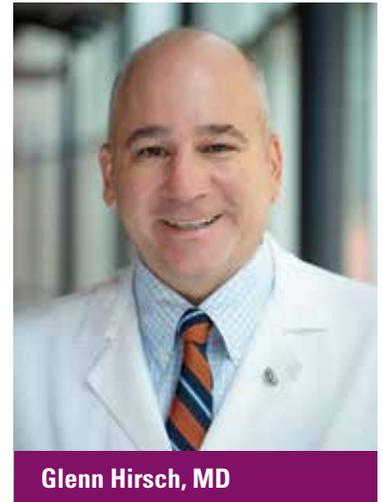
Dr. Hirsch: I'm confident that our ability to characterize disease more precisely and treat it more effectively will continue to advance. At the same time, fragmentation in the health care system and evolving payment models remain challenges that can limit access and affordability if not addressed thoughtfully.

Dr. Brown: In the end, we have a dedicated team of researchers and doctors, with an organization supporting all of us that is dedicated to advancing care. Those are advantages that have stood the test of time and that will continue to help drive us to move forward, discovering new ideas and new solutions.

The Future of Cardiology: Precision Imaging Meets Preventive Medicine

Cardiovascular care is experiencing a rapid evolution, driven by deeper insight into disease biology, more sophisticated imaging and a growing emphasis on prevention as a clinical imperative. At National Jewish Health, **Glenn Hirsch, MD**, chief of the Division of Cardiology, describes a program that is deliberately aligning these advances to improve how risk is identified, communicated and managed — particularly for patients with complex or overlapping cardiopulmonary conditions.

Dr. Hirsch frames the progress around two priorities: sharpening diagnostic precision and strengthening prevention at scale. Imaging plays a central role in both.



Glenn Hirsch, MD

The Advantages of High-Tech Cardiac Imaging

While traditional cardiac testing has focused on functional assessments and indirect measures of risk, newer approaches allow clinicians to see coronary disease more directly and to characterize it more meaningfully. Coronary CT angiography, combined with advanced post-processing, can go beyond a simple determination of whether a vessel is obstructed to quantify overall plaque burden and, in some cases, identify features associated with higher risk of rupture and future events.



Christopher Dyke, MD

Dr. Hirsch emphasized that many of these advances depend less on new scanning protocols and more on how existing images are analyzed. “It’s actually more about post-processing,” he said, describing how software can evaluate contrast-filled vessels and assess plaque within the vessel wall. In select cases, this additional analysis can help determine whether an anatomically significant narrowing is likely to impair blood flow — information that historically required invasive testing. “Normally you would have to put a wire in the coronary artery to measure that kind of element,” noted Dr. Hirsch.

“New technology allows us to go beyond simple anatomy,” added **Christopher Dyke, MD**, an expert in cardiac imaging. “Photon-counting CT represents a fundamental shift, capturing individual X-ray photons rather than the average signals, which dramatically improves spatial resolution and tissue characterization. We’re able to do this at a lower, radiation dose as well, so you’re getting sharper images with higher confidence and lower radiation.”

Advances in the cardiac MRI technology employed at National Jewish Health are also bearing fruit, particularly when it comes to cardiopulmonary diagnoses. “It’s essentially the gold standard for right ventricular volumes and right ventricular function,” explained Dr. Dyke. “We can better risk-stratify patients for pulmonary hypertension, while also characterizing tissue and detecting inflammation. In this way, our program offers advanced imaging at the intersection of heart and lung disease.”

Empowering Prevention

Cardiologist **Andrew Freeman, MD**, sees the diagnostic advances in cardiology as most powerful when paired with a modern, prevention-first approach.

“We are in a new generation of understanding for therapeutic targets in the prevention of coronary disease,” Dr. Freeman said. “We usually target multiple modifiable pillars, including lipid management, blood pressure, glucose, antiplatelet or anticoagulant strategies when appropriate, and inflammation. In all of these areas, we’re seeing new therapies and interventions.”

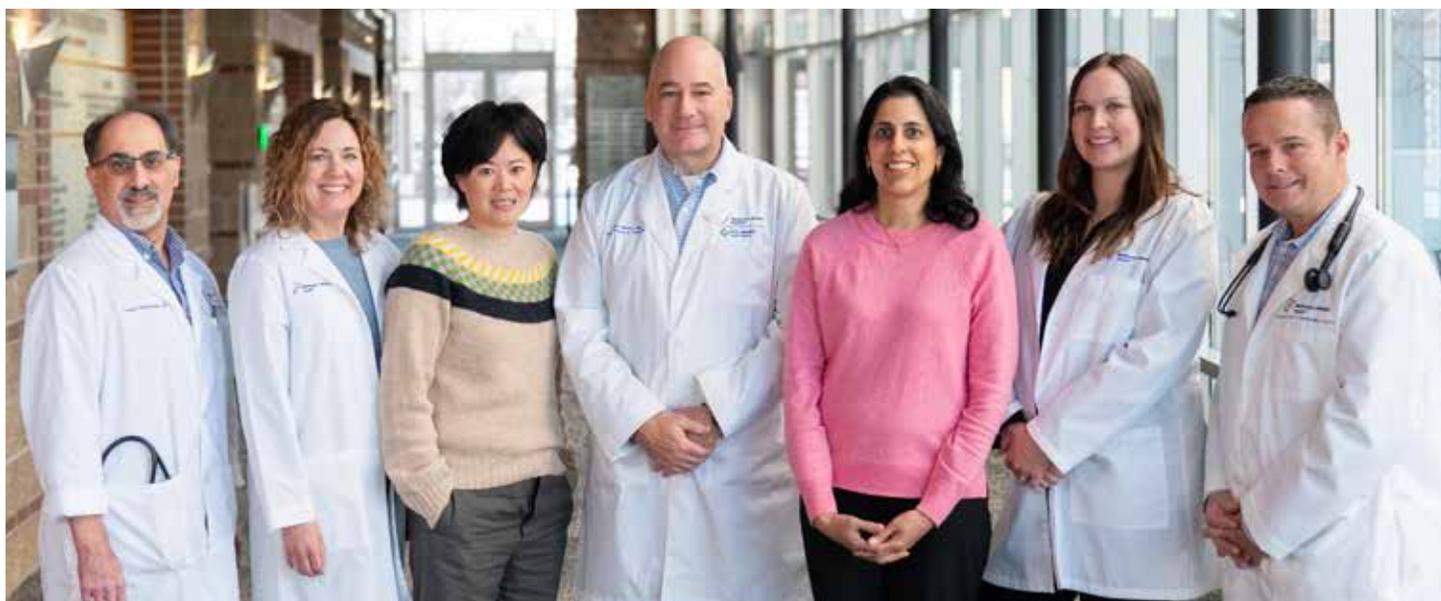
For instance, Dr. Freeman highlighted new developments in medications, such as CETP inhibitors and Lp(a) specific drugs, which target lipoprotein risk factors for heart disease. “Lipoprotein (a) is an issue we’ve known about for a long time,” said Dr. Freeman. “And now, for the first time in history, we have a medication that targets this type of protein, which one in five people have worldwide, as it’s mostly genetic in nature. The confirmatory studies indicating improved outcomes are due as early as this year.”

Dr. Freeman also pointed to new therapeutic targets related to triglycerides, which are typically associated with diet-related heart disease. “When we talk about triglycerides, we’re usually thinking about white carbs, sweets, sugars, alcohol, fatty foods, the things we eat around the holidays,” said Dr. Freeman. “But there are a number of people who have what’s called chylomicronemia that are not always genetically tested. These people have persistently high triglycerides. And now we have a variety of drugs coming out that will be approved for hypertriglyceridemia, which will be used to decrease the risk for future cardiovascular events.”

By combining upcoming medications with the recent addition of GLP-1 regimens, which have already proven effective for patients experiencing weight problems and cardiovascular disease, cardiologists can provide preventive treatments that combine the best pharmaceuticals with proven lifestyle changes. “We’re at a point where we can significantly move the needle on many of these cardiovascular issues,” said Dr. Freeman. “There’s a lot of optimism here about the future of heart care for our patients.”



Andrew Freeman, MD



From left: **Howard Weinberger, MD; Megan Woolard, ANP-BC; Darlene Kim, MD; Glenn A. Hirsch, MD; Minisha Kochar, MD; Sarah Mendon, PA-C; Andrew Freeman, MD.** Not Pictured: **Ankie Amos, MD; Christopher Dyke, MD; Chris Fine, MD; and Raphael Sung, MD.**

CLINICAL EXPERTISE

Patients from across the nation and around the world come to National Jewish Health for comprehensive evaluations, diagnoses and treatment plans. Our pulmonologists collaborate with their colleagues in cardiology, gastroenterology, oncology, immunology, rheumatology and radiology to provide a unique, comprehensive approach to care for every patient.

Advanced Diagnostic Laboratories

We provide unparalleled expertise in immune and respiratory disease to our clinical, biotech, pharmaceutical, public health and diagnostic partners. Our CLIA- and CAP ISO 15189SM-certified laboratories have decades of experience developing immunology, complement, infectious disease and therapeutic drug monitoring tests.

Allergy and Immunology

Our nationally recognized experts use the latest testing and treatments to diagnose and manage allergies, immune deficiency and dysregulation disorders and other immune-related conditions, which can impact respiratory health. The Atopic Dermatitis Research Network recognizes us as its Leadership Center and as one of six clinical research centers in the nation.

Asthma

Thorough upper and lower airway evaluations in our multiday adult and pediatric asthma programs help us phenotype patients and understand complicating factors, from aspiration to allergies, vocal cord dysfunction and inhaler techniques. Our faculty members lead numerous National Institutes of Health studies and industry-sponsored clinical trials.

Behavioral Health

Teaching patients to manage behavioral health issues, such as anxiety and depression that often accompany chronic respiratory diseases, is an integral part of our whole-patient approach. We also have cessation programs, such as QuitLogix[®] and My Life, My Quit[™], that help adults and young people quit using tobacco and vaping.

Bronchiectasis

National Jewish Health doctors have evaluated and treated bronchiectasis for decades. With innovative anti-inflammatory agents entering the pipeline, our scientists are constantly investigating new ways to improve outcomes. Doctors also are pursuing aggressive treatment programs designed to minimize or prevent the occurrence of bronchiectasis.

Cardiology

Our cardiologists treat all forms of heart disease and are experts in the heart-lung connection. They work closely with pulmonologists to treat the cardiac causes and consequences of lung disease, including cardiac sarcoidosis and other rare conditions. We also have expertise in cardio-oncology, which balances heart care with cancer treatment, along with advanced cardiac imaging capabilities, including a state-of-the-art photon counting CT scanner.

Chronic Beryllium Disease

National Jewish Health has more experience with the diagnosis and treatment of chronic beryllium disease than any other health care organization in the world. We developed the first diagnostic blood test for beryllium sensitization, which continues to be the gold standard diagnostic tool, and we emphasize early detection, monitoring and intervention.

Chronic Obstructive Pulmonary Disease (COPD)

We are advancing pulmonary medicine with COPDGene[®] and other studies to diagnose and phenotype COPD, striving to individualize therapies for chronic bronchitis, bronchiolitis, emphysema and bronchiectasis. In addition, we are a leading center for the diagnosis and management of alpha-1 antitrypsin deficiency and offer clinical trials for those with this condition.

Cystic Fibrosis

The largest and most experienced adult cystic fibrosis program in the nation is based at National Jewish Health. Our team of pulmonologists, nurse coordinators, respiratory therapists, registered dietitians, psychologists and social workers provides ongoing treatment for more than 600 adults annually. We also offer clinical trials to evaluate new cystic fibrosis therapies.



Jeffrey King, MD
Chief, Gastroenterology Division

Gastroenterology

National Jewish Health offers a comprehensive gastroenterology program dedicated to diagnosing and treating the full spectrum of gastrointestinal diseases. Our physicians have special expertise in GI motility disorders, pulmonary-related GI conditions, liver disease, inflammatory bowel disease, irritable bowel syndrome, GERD and esophageal disorders, pancreatic disease, biliary disorders and functional disorders of the gut, as well as GI cancer screening and malignancies.

The program provides advanced diagnostic and therapeutic services, including colonoscopy for screening, surveillance and diagnosis, with an adenoma detection rate of 65% — well above the national benchmark. Patients benefit from sophisticated reflux testing, advanced imaging such as endoscopic ultrasound and state-of-the-art tools like FibroScan® for noninvasive liver assessment.

Exercise and Breathing Performance

We evaluate exercise intolerance and treat exercise-related respiratory problems in a state-of-the-art exercise physiology lab. Innovative, on-site therapists aid in treating specific problems and guide using exercise as medicine to empower patients of any athletic level to exercise at their fullest capacity.

Imaging

The Sturm Institute for Advanced Biomedical Imaging and Diagnostics at National Jewish Health is recognized around the world for thoracic imaging expertise. Our highly experienced team of radiologists and technicians performs imaging studies on more lungs than any other facility. Patients have access to state-of-the-art imaging equipment, including new photon counting CT technology. Our experts provide interpretations of imaging test results and consultations to help doctors nationwide make accurate and timely diagnoses.

Interventional Pulmonology

Our interventional pulmonologists offer a wide spectrum of minimally invasive diagnostic, therapeutic and palliative airway procedures for pulmonary nodules, lung cancer, airway obstruction and more. We also insert airway stents and perform bronchial thermoplasty for severe asthma. Our specialists work closely with thoracic surgeons to individualize therapeutic options for those with severe emphysema, employing bronchoscopic lung-volume reduction and intrabronchial valve placement.

Mycobacterial Infections: TB and NTM

National Jewish Health began as a hospital for destitute tuberculosis (TB) patients more than 125 years ago, and today, we provide consultations and manage nontuberculous mycobacterial (NTM) infections, which are on the rise in the U.S. Our unique experience with thousands of complex mycobacterial infections gives us a deep knowledge of personalized antibiotic regimens and surgical options.

Occupational Health

We provide comprehensive diagnosis and evaluation for work-related diseases, while delivering nationally renowned programs for beryllium workers and miners. Our team works regularly with employers, unions, industry, state and local governments, federal regulators and others to provide occupational health and safety programs that reduce and prevent work-related lung diseases. We also have nationally renowned experts in metal allergy testing.

Pediatrics

National Jewish Health *for Kids* physicians are nationally recognized leaders in the diagnosis and treatment of asthma, eczema, vocal cord dysfunction and other pediatric pulmonary diseases. Our Covid Assessment Program and Pediatric Day Program offers multiday evaluations, education and management plans for children with severe pulmonary, atopic and immune diseases.

CLINICAL EXPERTISE (CONTINUED)

Pulmonary Hypertension

Cardiologists, pulmonologists, rheumatologists, physical therapists and other specialists on our pulmonary hypertension team collaborate to provide comprehensive and sophisticated outpatient and inpatient services. The program is accredited by the Pulmonary Hypertension Association and includes detailed diagnostic procedures, such as right-heart catheterization with cardiopulmonary exercise testing, allowing precise phenotyping and treatment of complex patients.

Pulmonary Pathology

Our vast pathology experience examining lung tissue and recognizing respiratory diseases contributes to our unparalleled diagnostic capabilities, which generate consultation requests from around the country.

Pulmonary Physiological Services

Our state-of-the-art pulmonary physiology laboratory is one of the oldest and largest in the

country. We offer many unique tests, including cardiopulmonary exercise tests with full metabolic testing, along with arterial line, lactate levels and cardiac data. Our lab can perform continuous laryngoscopy with exercise tolerance tests to evaluate exercise-induced respiratory distress.

Pulmonary Vascular Biology

From basic to clinical research, our team provides key information for many of the diseases we treat. Primary research areas include investigation of pulmonary vascular and right heart function in chronic lung disease, nutritional and exercise interventions in pulmonary hypertension, and gender differences in lung disease. We perform deep phenotyping by collecting lung, heart and skeletal muscle tissues and using new, cutting-edge approaches, such as genomics and proteomics, to study pulmonary, vascular and right heart function in great detail.

Rare Lung Disease

As a national pulmonary referral center, we have extensive

experience diagnosing and managing a variety of rare lung diseases, including pulmonary alveolar proteinosis, lymphangiomyomatosis and eosinophilic syndromes that most pulmonologists rarely see.

Sarcoidosis

Our experience with thousands of sarcoidosis patients has helped us better define and address the multi-organ nature of the disease. We are one of 55 centers named by the Foundation for Sarcoidosis Research and World Association for Sarcoidosis and other Granulomatous Diseases as a Sarcoidosis Center of Excellence. This designation provides formal recognition of our team's commitment to meet the needs of sarcoidosis patients and of our efforts to keep abreast of advances and findings in the field.

Scleroderma

Our Scleroderma Program is designated a Scleroderma Foundation Research Treatment Center. Our multidisciplinary team of specialists in rheumatology,

Oncology



Jeffrey Kern, MD
Chief, Oncology Division

The oncology program at National Jewish Health brings together expert medical oncologists, hematologists, pulmonologists, thoracic radiologists, gastroenterologists and surgeons to provide coordinated care for all adult cancers, including those affecting the lungs, head and neck, blood, and digestive system.

The program is distinguished by its focus on innovation, prevention and careful monitoring across the full continuum of cancer care. Lung cancer screening helps identify and follow patients at high risk, while cardio-oncology expertise supports cardiovascular health before, during and after cancer treatment. Patients also benefit from access to emerging therapies, including newly approved immunotherapy agents such as bispecific T-cell engagers for select lung cancers. Through close collaboration across specialties and thoughtful integration of advanced treatments, the oncology team delivers precise, patient-centered cancer care.

interstitial lung disease, pulmonary hypertension, cardiology and gastroenterology ensures that our patients receive comprehensive care, advanced diagnostic and treatment options, and access to scleroderma clinical trials, nutritional counseling and specialized pulmonary and physical rehabilitation programs.

Sleep Medicine

Our comprehensive Sleep Center is one of the oldest in Colorado and is accredited by the American

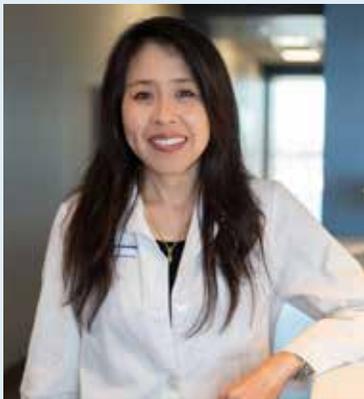
Academy of Sleep Medicine. A multidisciplinary team of pulmonologists, psychologists, respiratory therapists and polysomnographic technologists collaborates to address clinical, educational and research activities for a wide spectrum of sleep disorders.

Wellness and Prevention

Our Wellness and Prevention Clinics are home to innovative programs where wellness and longevity are at the core. We

offer Concierge Medicine, a membership-based primary care program that provides personalized, precision medicine to promote health and prevent illness. In early 2026, we added an Executive Health program designed for busy people who want a comprehensive health exam tailored to their schedule and wellness goals. This fee-for-service program is available to individuals, as well as businesses that want to invest in their executive teams.

Neurology



Jinny Tavee, MD
Chief, Neurology Division

National Jewish Health provides a focused, integrated neurology program dedicated to diagnosing and treating complex neuromuscular, neuropsychological, metabolic and respiratory-related neurologic disorders. Our specialists care for patients with conditions such as amyotrophic lateral sclerosis (ALS), myasthenia gravis, neuropathy, sarcoidosis and other disorders that are often difficult to diagnose and manage.

The program is distinguished by cutting-edge diagnostics and multidisciplinary care. Advanced capabilities include neuromuscular ultrasound and EMG of the diaphragm to evaluate breathing-related weakness. In addition to our multidisciplinary ALS Care Center, we offer specialized testing for conditions such as Parkinson's disease and Alzheimer's disease. Additional services include a developing acute headache infusion clinic and a comprehensive brain health program for patients concerned about memory and cognitive changes.

How to Refer

National Jewish Health specialists welcome the opportunity to work with physicians throughout the country and around the globe. To refer a patient, please use the numbers below or fill out the referral form on our website.



800.652.9555

303.270.2153

[njhealth.org/referrals](https://www.njhealth.org/referrals)

Accessing Patient Records

National Jewish Health has made it easier for referring providers to access patient records electronically. If your organization is on Epic, you can get patient records through Care Everywhere. Organizations on another EMR can request to set up an **EpicCare Link** account that will allow them to view patient records. To receive instructions on how to request an EpicCare Link account, please email physicianrelations@njhealth.org.

SPECTRUM OF SUPPORT

Advanced Imaging, Expert Interpretation

While advanced imaging has become an essential part of diagnosing and managing complex pulmonary and cardiovascular disease, at National Jewish Health, technology is only part of what defines quality care. The real differentiator is how advanced tools are paired with deep subspecialty expertise in thoracic imaging.

Chair of the Department of Radiology **Seth Kligerman, MD**, noted how newer systems, including a photon-counting CT with submillimeter spatial resolution, are enabling clinicians to visualize anatomy with unprecedented clarity. For example, doctors can now identify lung nodules faster and with greater accuracy than ever before, and in cardiac imaging, the combination of cardiac MRI with advanced post-processing can assess plaque burden and composition, helping clinicians

better understand not just the degree of narrowing, but the biological characteristics that influence risk.

“Radiologists are at the core of any imaging program,” said Dr. Kligerman. “While state-of-the-art equipment improves image quality, it is expert interpretation that determines how useful those images are to pulmonologists and cardiologists.” The National Jewish Health Radiology group is composed entirely of subspecialty-trained chest imagers, including a deep and focused expertise in interstitial lung disease and airway disorders. That specialty has a direct clinical impact.

“We get a lot of patients and study requests that come from nonspecialized programs. Unfortunately, they have often had suboptimal interpretations of their imaging or basic testing. We are able to provide a much



Seth Kligerman, MD

more detailed approach to imaging that allows us to help make the correct diagnosis that significantly changes the patient's treatment. And that happens all day, every day here,” said Dr. Kligerman, underscoring how advanced imaging, when combined with a more experienced eye, becomes a powerful driver of precise, patient-centered care.

Chronic Care Management



Stephen Frankel, MD

The **National Jewish Health Chronic Care Management™** program provides ongoing, personalized support for patients living with complex, long-term respiratory and related conditions. Designed to extend care beyond clinic visits, the program connects patients with a dedicated care team that helps coordinate treatment plans, manage symptoms and navigate medications and follow-up care. Through regular check-ins, education and proactive monitoring, the program helps patients stay engaged in their health and address concerns before they become urgent.

“By focusing on continuity, education and coordination, the program supports better outcomes, reduces avoidable complications and empowers patients to take an active role in managing their health,” said **Stephen Frankel, MD**, executive vice president of Clinical Affairs.

SPECTRUM OF SUPPORT

Interventional Pulmonology Care Expanding

National Jewish Health continues to expand its interventional pulmonology program with a focus on minimally invasive options for patients with advanced lung disease, including the recent launch of a bronchoscopic lung volume reduction (BLVR) program for select patients with severe COPD.

Interventional pulmonologist **Sohini Ghosh, MD**, describes BLVR as an option for patients who remain highly symptomatic despite optimized medical therapy. The procedure, which has been available nationally for several years, uses endobronchial valves placed via bronchoscopy to reduce hyperinflation in the most diseased portions of the lung,

improving respiratory mechanics without the need for surgical resection. “The goal of the procedure is to reduce patients’ symptoms and help them be more functional day to day,” Dr. Ghosh said.

Since launching the program in December of 2025, the interventional pulmonology team has been actively evaluating patients referred from across the institution, reflecting close collaboration with the National Jewish Health broader pulmonary faculty. According to Dr. Ghosh, this multidisciplinary approach is central to determining which patients are most likely to benefit and ensuring continuity of care before and after the procedure.



Sohini Ghosh, MD

Looking ahead, the program aims to extend its reach beyond the immediate region, creating referral pathways and outreach for patients in underserved areas who lack access to advanced interventional pulmonary care.

Personalized Pathways to Tobacco Cessation

Tobacco use remains one of the leading causes of preventable disease, yet quitting is rarely a one-size-fits-all journey. At National Jewish Health, tobacco cessation is approached as a part of the continuum of care, recognizing that each individual’s path to quitting is shaped by unique medical, behavioral and social factors.



Alex Hurst

Since 2002, the National Jewish Health tobacco cessation program has led and managed comprehensive quitlines and cessation initiatives, supporting nearly 3 million people in their quit attempts nationwide. The program is the largest provider of quitline services in the U.S., operating in 26 states.

A personalized approach is especially critical given that approximately 40% of adults who smoke also live with one or more behavioral health conditions, which can make quitting more challenging.

One example of innovation in reaching people is **My Life, My Quit™**, a nationally recognized, youth-focused tobacco and vaping cessation program that provides free,

confidential coaching for teens and young adults. In the past year, the program launched a new phone mobile app expanding access and increasing engagement by delivering personalized coaching, digital tools and ongoing encouragement directly to youth participants. This program is also available in 26 states.

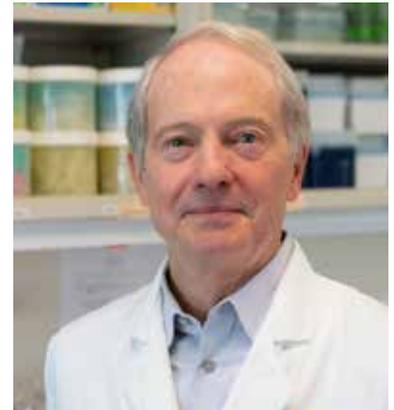
“By understanding the whole person, including behavioral health needs, we can provide support that leads to meaningful and lasting change,” said **Alex Hurst**, executive director of Health Initiatives.

RESEARCH LEADERSHIP

Research Remains on Front Line of Care

Research is foundational to exceptional patient care and central to the mission of National Jewish Health. As a national leader in medicine, National Jewish Health sets the direction for discovery that shapes practices far beyond our campus, influencing standards of care worldwide.

“Research and care here are inseparable and highly collaborative. Physician-scientists, researchers, clinicians and specialists across disciplines work together to translate discoveries from the laboratory into meaningful advances at the bedside,” said **Gregory Downey, MD**, executive vice president of Academic Affairs and provost at National Jewish Health. “Collaboration allows us to address the whole patient, recognizing how conditions intersect and tailoring care accordingly.”



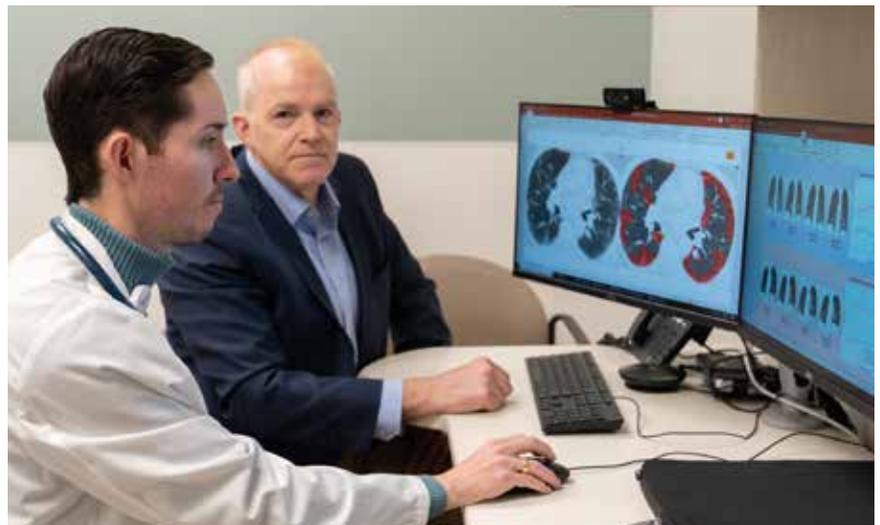
Gregory Downey, MD

How Artificial Intelligence Is Empowering Clinical Imaging

The latest wave of artificial intelligence (AI) technology is already producing significant results in clinical imaging, serving not as a replacement for physician expertise but as a tool to enhance diagnostic accuracy and consistency.

For instance, chest CT interpretation can be a daunting exercise in scale and detail. A single scan may include hundreds of images, all of which must be reviewed carefully for items such as pulmonary nodules. “Even experienced subspecialists in chest imaging can miss lung nodules,” according to radiologist **Seth Kligerman, MD**. “This is where AI can be a big help.”

At National Jewish Health, AI development has focused heavily on lung disease, along with cardiovascular issues such as stenosis. **Stephen Humphries, PhD**, director of the Quantitative Imaging Laboratory, leads work on task-specific algorithms that quantify lung fibrosis on high-resolution CT scans. “AI enables objective measurement of complex patterns like lung fibrosis that are very difficult to quantify visually,” he explained.



Joey Pryor, MD, and Stephen Humphries, PhD

For clinicians tracking interstitial lung disease (ILD), these granular insights are particularly valuable. Pulmonologist **Joey Pryor, MD**, who recently led a study on AI analysis and ILD published in the *American Journal of Respiratory and Critical Care Medicine*, explained how quantitative CT analysis captures changes that may elude visual comparison. “We’re looking at such fine detail when we’re comparing CT scans that it’s difficult to visually identify small changes on scans taken months apart,” said Dr. Pryor. “Using the quantitative CT scans and AI analysis definitely gives us an advantage.”

In the coming years, doctors hope to use AI to produce a perfect harmony of data and physician experience, with human-led, compassionate care prioritized above all.

RESEARCH LEADERSHIP

A New Chapter in Immunology and Genomic Medicine

National Jewish Health welcomed internationally recognized physician-scientist **Derek Abbott, MD, PhD**, as the Cecil and Ida Green Chair of the Department of Immunology and Genomic Medicine. A leader at the forefront of genetics and immunology, Dr. Abbott brings world-class expertise and a distinguished record of high-impact research that has shaped understanding of inflammatory and autoimmune disease.

“I am honored to assume this leadership role and to join an institution with such a profound legacy of scientific excellence,” said Dr. Abbott. “I look forward to building on that foundation and advancing research that meaningfully improves patient care around the world.”

Dr. Abbott joined National Jewish Health from Case Western Reserve University School of Medicine, where he served for nearly two decades as a professor of medicine in the Department of Pathology. His laboratory is widely known for its innovative work mapping key genetic and molecular pathways that drive inflammatory and autoimmune conditions, using these insights to inform drug development and improve therapeutic outcomes.

“National Jewish Health is meeting today’s research challenges with bold commitment,” Dr. Abbott added. “As investigators, it’s our responsibility to bring equally bold science that moves the field forward and translates discovery into better care for patients.”



Derek Abbott, MD, PhD



Sarah Rhoads, MD

Biologic Therapies Expand Treatment Options for Eosinophilic COPD

Biologic therapies are increasingly being investigated as targeted treatment options for patients with eosinophilic chronic obstructive pulmonary disease (COPD), a phenotype characterized by type 2–driven inflammation and elevated blood eosinophil counts. Traditional COPD management has relied primarily on bronchodilators and inhaled corticosteroids, which do not directly address the underlying immunologic mechanisms contributing to disease heterogeneity and exacerbation risk in this population.

Recent clinical trials and analyses suggest that biologics targeting key inflammatory pathways may reduce exacerbation frequency, improve disease control and decrease systemic corticosteroid exposure in carefully selected patients. These findings support a biomarker-informed approach to COPD management, aligning treatment strategies with inflammatory

endotypes rather than symptom burden alone. At National Jewish Health, Pulmonologist **Sarah Rhoads, MD**, and colleagues are currently leading a clinical trial on the use of rademikibart, a novel anti-IL4 receptor target to interrupt COPD exacerbations in individuals with eosinophilic COPD.

“Through integrated clinical care and research, we are defining how these targeted therapies can be used safely and effectively,” said Dr. Rhoads.

CLINICAL RESEARCH – SELECTED OPEN TRIALS

Asthma

AIM4: Testing Dupilumab with Other Asthma Treatments

Principal Investigator:
Rohit K. Katial, MD

Researchers in the AIM4 study want to know if dupilumab, an injectable medication currently used for atopic dermatitis, when used alongside an inhaled asthma treatment, can help people with uncontrolled asthma reduce the frequency of their symptoms.

Controlling Adolescent Asthma Flare-Ups with Combination Rescue Inhalers

Principal Investigator:
Ronina Covar, MD

In adults with asthma, adding an inhaled corticosteroid called budesonide into albuterol rescue inhalers helps relieve asthma symptoms and prevent flare-ups. Researchers in the ACADIA study are investigating if this treatment also helps adolescents with asthma reduce their symptoms.

Atopic Dermatitis

Treating Atopic Dermatitis with Skin Bacteria

Principal Investigators:
Donald Leung, MD, PhD; Mark Boguniewicz, MD
Many varieties of bacteria live naturally on human skin. Researchers in the national TIME-2 study want to find out if one of these bacteria, called *Staphylococcus hominis* or *S. hominis*, can safely and effectively help reduce symptoms of atopic dermatitis.

Bronchiectasis

Potential New Treatment for Non-CF Bronchiectasis

Principal Investigator:
Charles L. Daley, MD

Non-cystic fibrosis bronchiectasis (NCFBE) is a chronic, progressive lung disease that leads to damage to lung structures, chronic cough and shortness of breath. Currently, no treatments are specifically approved for this condition, and management focuses on reducing exacerbations and addressing symptoms. Researchers are investigating a new investigational inhaled drug called ensifentrine that may be able to help treat NCFBE.

Cystic Fibrosis

Discovering New Ways to Treat Modulator-Ineligible CF

Principal Investigator:
Jennifer L. Taylor, MD, MSCS

While CFTR modulators have helped many people with cystic fibrosis (CF) manage their symptoms, not every person with CF can benefit from these therapies. In this study, researchers are trying to better understand how different types of CF symptoms impact people so they can help guide the next generation of CF treatments to better help those who are not able to take or do not tolerate CFTR modulators.

EGPA

Potential New Treatment for EGPA to Reduce Need for Oral Steroids

Principal Investigators:
Michael Wechsler, MD, MMSc,
Vamsi Guntur, MD, MSc

Eosinophilic Granulomatosis with Polyangiitis, or EGPA, is a rare autoimmune condition that affects small blood vessels throughout the body. Current treatments mostly rely on oral corticosteroids to reduce inflammatory symptoms, sometimes accompanied by medication that suppresses the immune response. Researchers in this clinical trial want to determine if a new investigational treatment called NS-229 can help people with EGPA experience remission of their symptoms or reduce the need for oral steroids.

Lung Cancer

New Combination Treatment Options for Non-Small Cell Lung Cancer

Principal Investigator:
Laurie Carr, MD

Researchers with the national COPERNICUS study are evaluating an investigational combination of treatments that may be able to help better target advanced non-small cell lung cancer with specific gene mutations. The results of the study will help improve treatments for people with lung cancer in the future.

To view all of our open clinical trials and learn more about our research, visit njhealth.org/clinical-trials.

ASPIRE: Potentially Slowing Lung Fibrosis in IPF

Principal Investigator:

Joshua J. Solomon, MD

Idiopathic pulmonary fibrosis (IPF) is a progressive disease characterized by scar tissue formation in the lungs, a process which impairs gas exchange and causes patients to feel shortness of breath. Current treatment options are limited and can have notable side effects that adversely affect patient quality of life. Researchers continue to assess if novel treatments can help slow or halt lung scarring in IPF patients, with the goal of improving patient quality of life.

This study is investigating buloxibutid as a potential primary treatment for IPF. Buloxibutid is an angiotensin II type 2 (AT2) receptor agonist for alveolar epithelial cells, and appears to be a promising target to decrease profibrotic signaling in the lungs over time, opening a novel treatment path for IPF.



Pulmonologist Joshua Solomon, MD, is evaluating a medication to impact the rate of lung scarring in IPF.

Nontuberculous Mycobacteria (NTM)

Potential New Medication for Hearing Loss from Antibiotic Use

Principal Investigator:

Charles L. Daley, MD

People infected with nontuberculous mycobacteria (NTM) often need intravenous (IV) antibiotic treatment. One of the most common IV antibiotic treatments involves amikacin, which is an effective treatment for NTM, but it can cause hearing loss in some cases. Researchers are investigating a new medication called ORC-13661 to determine if it can prevent or lessen hearing loss in NTM patients who are being treated with IV amikacin.

Pulmonary Fibrosis

AURORA Study: Preventing Further Lung Damage in IPF

Principal Investigator:

Evans Fernández, MD, MS

Idiopathic pulmonary fibrosis, or IPF, causes scarring in the lungs, making it more difficult to breathe. The cause of IPF is currently unknown, but it is believed to be related to a continuous injury response in the lungs that does not switch off. The study medication, known as CAL101, targets a protein called S100A4 that is wrongly activated in IPF and contributes to scar tissue buildup.

Pulmonary Hypertension

Detecting PAH by Retinal Scan

Principal Investigator:

Tim Lahm, MD, ATSF

Pulmonary arterial hypertension (PAH), is a serious condition where blood pressure in the lungs is unusually high, forcing the heart to work harder. The current best way to diagnose PAH is right heart catheterization, an invasive procedure which is not typically approved just for early diagnosis. The delay in diagnosis leads to worse health outcomes, so researchers are investigating a new way to potentially detect PAH earlier using a retinal scan to measure blood pressure in the eyes.

Scleroderma

LCI Testing: Possible Tool for Identifying ILD Risks in Scleroderma Patients

Principal Investigators:

Richard Meehan, MD, FACP; Mehrnaz Maleki Fischbach, MD; Lauren Zell-Baran, PhD, MPH

Scleroderma is an autoimmune condition where the body's own immune system attacks the skin and other tissues, causing thickening and hardening. One of the areas the disease can target is the lungs, where thickening and inflammation can lead to lung scarring (fibrosis), which ultimately can cause interstitial lung disease (ILD). Researchers are evaluating a specific type of lung function test called the Lung Clearance Index (LCI) to determine if it can help identify which scleroderma patients are at risk of developing ILD.

FRONTIERS OF PULMONARY SCIENCE

National Jewish Health researchers conduct basic, translational and clinical research that advances the frontiers of science and medicine, including more than 450 peer-reviewed scientific journal articles published this year. Here is some of the groundbreaking discovery science being done at National Jewish Health.

Independent and Interactive Effects of Viral Species on Early-Life Lower Respiratory Tract Illness

Max Seibold, PhD, and colleagues at National Jewish Health revealed that, while a wide range of viruses can cause lower respiratory tract illnesses (LRIs) in infants, certain viruses and viral combinations dramatically increase the risk of severe disease. The findings come from the Puerto Rican Infant Metagenomic and Epidemiologic Study of Respiratory Outcomes (PRIMERO), which followed more than 2,000 children from birth to age two between 2020 and 2024. The study found that respiratory syncytial virus (RSV) infections conferred the highest risk of severe lower respiratory illness in infants, increasing the odds of serious illnesses nearly ninefold.

Journal of Infection. 2025 Oct;91(4):106616.

One-Year Change in Quantitative Computed Tomography Is Associated with Meaningful Outcomes in Fibrotic Lung Disease

Matthew Koslow, MD; David Baraghoshi, PhD; and researchers at National Jewish Health have shown that subtle increases in lung scarring, detected by an artificial intelligence-based tool on CT scans taken one year apart, are associated with disease progression and survival in patients with fibrotic interstitial lung disease. The results suggest that computer-based image analysis may provide an earlier, more objective way to identify patients at highest risk for worsening disease. The new study used a deep learning method called data-driven textural analysis (DTA). Developed by the Quantitative Imaging Laboratory at National Jewish Health, DTA provides a precise measurement of the extent of lung fibrosis on CT scans. Researchers found that increases in DTA fibrosis scores over one year were strongly associated with subsequent lung function decline and a higher risk of death or lung transplant.

American Journal of Respiratory and Critical Care Medicine. 2025 Oct; 211(10): 1775-1784.

Silicosarcoidosis: Histologic and Clinical Features of an Occupational Granulomatous Disease

Cecile Rose, MD; Jeremy Hua, MD; and their collaborators in Colorado, Illinois, Taiwan and Israel have introduced a new term to the medical lexicon: silicosarcoidosis. This novel designation describes cases where patients' lung tissue exhibits overlapping features of both silicosis and sarcoidosis, two serious pulmonary diseases linked to occupational exposure to respirable crystalline silica (RCS) commonly found in construction, mining and engineered stone fabrication. The research analyzed 35 patients from the United States, Israel and Taiwan with confirmed sarcoidosis and long-term occupational exposure to RCS. Lung tissue analysis revealed that the majority of these patients exhibited classic features of both silicosis and sarcoidosis.

American Journal of Industrial Medicine. 2025 Jun; 68(6): 491-507.

Accurate Identification of Pathogenic Mutations Conferring α_1 -Antitrypsin Deficiency by a Novel Multiplexed Molecular Assay

Yongbao Wang, PhD, and researchers with the Advanced Diagnostic Laboratories have developed a groundbreaking molecular diagnostic test capable of accurately diagnosing a major genetic cause of COPD known as alpha-1 antitrypsin Deficiency (AATD). The novel 23-SNP alpha-1 antitrypsin (AAT) assay, as described in a recent study published in *CHEST Pulmonary*, significantly improves the speed and precision of AATD diagnosis by identifying multiple genetic mutations associated with the disease. The test addresses a long-standing challenge in the medical community. The study validated the assay using 373 biological samples, demonstrating its ability to detect 20 pathogenic mutations in the SERPINA1 gene, responsible for AAT protein production, as well as two normal variants and an additional variant that is still being studied.

CHEST Pulmonary. 2025 Mar; 3(1): 2949-7892.

Impact of Cystic Fibrosis Transmembrane Conductance Regulator Modulators on Maternal Outcomes During and After Pregnancy

Jennifer L. Taylor, MD, and colleagues evaluated the effects of CFTR modulator use on pregnancy outcomes in individuals with cystic fibrosis (CF). Conducted across 11 U.S. adult CF centers, including National Jewish Health as one of the two lead sites, the study analyzed data from 307 pregnancies between 2010 and 2021. A class of drugs called CFTR modulators improve CFTR protein function in people with CF, vastly improving the lung health, weight and quality of life. The main goal of the study was to determine how CFTR modulators impact maternal health during and after pregnancy.

CHEST. 2025 Feb; 167(2): 348-361.

One-Year Change in Quantitative Computed Tomography Is Associated with Meaningful Outcomes in Fibrotic Lung Disease

Stephen Humphries, PhD, was the senior author on research with colleagues at National Jewish Health showing that subtle increases in lung scarring, detected by an artificial intelligence-based tool on CT scans taken one year apart, are associated with disease progression and survival in patients with fibrotic interstitial lung disease. The findings show that computer-based image analysis may provide an earlier, more objective way to identify patients at the highest risk for worsening disease.

American Journal of Respiratory and Critical Care Medicine. 2025 Oct; 211(10): 1775-1784.

Response to Biologics Along a Gradient of T2 Involvement in Patients With Severe Asthma

Eileen Wang, MD, and colleagues followed more than 3,600 people with severe asthma to understand why treatments work differently for different patients. Researchers looked at key markers of inflammation in the blood and airways and found that asthma falls along a spectrum, from very low to very high inflammation, rather than fitting neatly into “high” or “low” categories.



Eileen Wang, MD

Biologic medicines improved asthma control and lung function, while reducing attacks for patients across the spectrum, but people with higher levels of inflammation benefited the most. For those with lower levels, the medicines still helped but were less effective, showing that new treatments are needed for this group. These findings indicate doctors may soon use a “spectrum” approach to better personalize asthma care.

Journal of Allergy and Clinical Immunology in Practice. 2025 Sep 2:S2213-2198(25)00822-0.

Noteworthy New Research Awards

National Jewish Health has a long history of discovery science. Today, we lead research that changes the way the world identifies the mechanisms, diagnosis and treatment of respiratory, cardiovascular, rheumatologic, autoimmune, inflammatory and immunologic diseases. Here are the new National Institutes of Health projects funded in 2025.

Research Projects and Primary Investigators

Role of the SFTA2/ADGRF5 signaling axis in alveolar homeostasis. **James Bridges, PhD**

Evaluating regimen efficacy using transcriptomic patterns of Mycobacterium tuberculosis injury and adaptation: high dimensional pharmacodynamics as a steppingstone to rational regimen design. **Camille Moore, PhD**

Common and distinct metabolic pathways of pulmonary sarcoidosis phenotypes and endotypes.

Shu-Yi Liao, MD, MPH, ScD

Integrative Metabolomics of Sarcoidosis Diagnosis and Progression. **Shu-Yi Liao, MD, MPH, ScD**

Exploring the Void: Advances in Parenchymal Destruction in Emphysema. **Eszter Vladar, PhD**

EDUCATION – Academic Training

Our physicians and scientists are thought leaders in their fields who elevate the standard of patient care while teaching the next generation of health care professionals through fellowships, training and continuing medical education. National Jewish Health is an accredited teaching affiliate of the University of Colorado School of Medicine, where our physicians and scientists have faculty appointments. Residents from nearby Intermountain Health Saint Joseph Hospital are also regularly trained on our campus.

Clinical Fellowships at National Jewish Health:

Based at National Jewish Health:

- Adult Allergy and Immunology
- Adult and Pediatric Sleep Medicine
- Mycobacterial Disease
- Pediatric Allergy and Immunology

Based at University of Colorado School of Medicine with rotations at National Jewish Health:

- Adult Pulmonary and Critical Care Medicine
- Cardiothoracic Radiology
- Infectious Disease
- Pediatric Pulmonary Medicine
- Rheumatology

In collaboration with the Colorado School of Public Health, National Jewish Health offers fellowships in:

- Occupational and Environmental Medicine
 - Offered as a one-year fellowship or a two-year residency

Postdoctoral Fellowships

Numerous opportunities exist for postdoctoral training in laboratories in the Department of Biomedical Research, the Division of Cell Biology and the Department of Medicine. National Jewish Health

has a robust discovery and translational research enterprise, placing it in the top 6% of institutions funded by the National Institutes of Health.

Graduate Education

Students enrolled in one of the PhD programs offered by the Graduate School of the University of Colorado School of Medicine have the opportunity to perform their thesis research in the laboratories of the faculty at National Jewish Health.

Residents and Medical Students

Residents and medical students at the University of Colorado School of Medicine have rotations at National Jewish Health in a variety of specialties, including pulmonology, cardiology, allergy and gastroenterology. In addition, our faculty members train residents in internal medicine and family medicine at locations across our system, including students from Intermountain Health Saint Joseph Hospital and Rocky Vista University.

National and International Visiting Fellows

National Jewish Health hosts visiting fellows from pulmonary and critical care training programs throughout the country and around the world for rotations in various subspecialty areas of pulmonary medicine and exercise physiology.

Department of Medicine Grand Rounds

The Iris & Michael Smith Department of Medicine (DOM) Grand Rounds at National Jewish Health offers weekly presentations covering the latest in research, clinical care and other pertinent topics. Each seminar is presented by either an expert from the institution or from around the world and has featured speakers from the National Institutes of Health.

DOM Grand Rounds are open to researchers, clinicians, advanced practice providers, nurses and alumni, along with all other health care workers and non-clinical staff members at National Jewish Health, including affiliates and interested community members. Continuing medical education credits are offered to health care professionals.

To learn more or request enrollment in DOM Grand Rounds, please email Kanao Otsu, MD, at otsuk@njhealth.org

EDUCATION – Continuing Medical Education

Building on the expertise of the world-renowned faculty at National Jewish Health, our Office of Professional Education creates innovative educational opportunities for physicians, pharmacists, nurses and other health care providers to develop and enhance their knowledge and competency related to the diseases that we treat and research. Accredited with commendation from the Accreditation Council for Continuing Medical Education, we are committed to excellence in education that translates directly to improved patient care.

Upcoming Live Events:

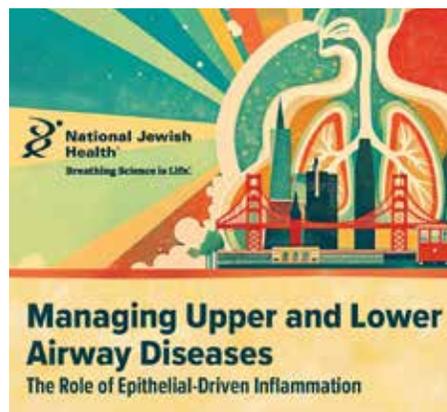
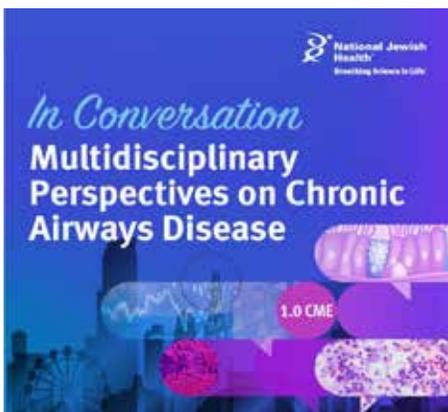
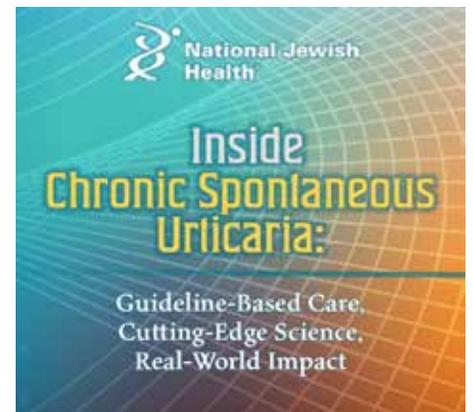
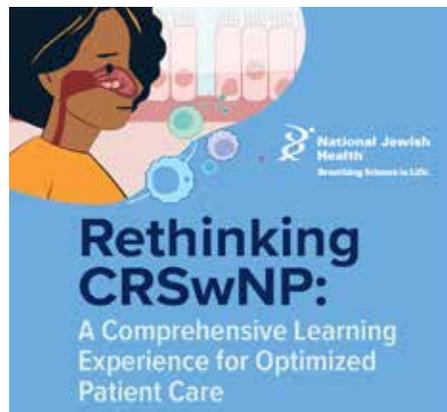
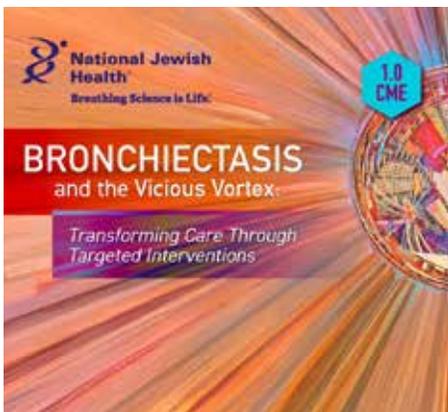
62nd Annual Denver TB Course – March 25-27, 2026 (Hybrid Event)

NTM & Bronchiectasis Conference for Health Care Providers – September 9-11, 2026 (Hybrid Event)

NTM & Bronchiectasis Patient and Family Conference – September 12, 2026 (Hybrid Event)

22nd Annual Respiratory Disease Young Investigators' Forum – October 8-11, 2026 | Denver, CO

Online Courses: Ongoing registration



To register for upcoming events, view our online courses and learn more about the National Jewish Health Office of Professional Education, visit njhealth.org/CME, call 800.844.2305 or email proed@njhealth.org.

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STRONG COLLABORATORS IN RESEARCH AND CARE

National Jewish Health works to advance care and science through unique collaborations with medical and research partners across the nation, including a more than 50-year relationship with academic partner the University of Colorado School of Medicine and UHealth in Denver. This relationship serves as a platform to create opportunities for joint research, collaborative care and education programs, along with training for medical students. The organizations offer regular interaction through Grand Rounds and other medical and research programs.

Respiratory Institutes and Partner Relationships

The unique Respiratory Institute® model developed at National Jewish Health continues to bring our multidisciplinary, team-based model of care to patients, while providing a shared platform for expanded research. This approach to care and research has been a key factor in several partnerships.

Our collaboration with Saint Joseph Hospital, a part of Intermountain Health, includes an inpatient Respiratory Institute that contains a dedicated 36-bed unit and offers expanded research opportunities between the institutions. In addition to the focus on respiratory care, the partnership launched an innovative program for lung cancer screening, diagnosis and treatment, along with the expansion of the cardiac critical care program.

In 2014, National Jewish Health formed a Respiratory Institute with Mount Sinai in New York City. The goal was to provide state-of-the-art, multidisciplinary, outcomes-driven care in a network dedicated to elevating respiratory care and research within a collaborative environment. That concept was later continued with the addition of Jefferson Health in Philadelphia using the Respiratory Institute model. The Institutions have worked together on a variety of projects, including developing protocols for the treatment of patients with respiratory disease and launching programs together to further research in a variety of areas.

In addition, we continue a respiratory therapy training program, operating in both Philadelphia and Denver. The program was developed and launched in 2023 as a collaboration between National Jewish Health and Thomas Jefferson University.



SELECTED 2025 PUBLICATIONS

In 2025, National Jewish Health faculty published more than 450 articles in peer-reviewed scientific and medical journals. Included below is a selection of noteworthy articles.

ASTHMA

Overview of Biologics Targeting Type 2 Inflammation in Respiratory Disease.

Stevens WW, **Wechsler ME**, Carr T. *J Allergy Clin Immunol Pract*. 2025 Dec 19: S2213-2198(25)01181-X.

High airway TSLP in asthma associates with type 2 inflammation, mucus plugging and airway remodeling.

Khanna K, Tang M, **Jackson ND**, Johansson MW, Bleecker ER, Castro M, Comhair SA, Denlinger LC, Erzurum SC, Hastie AT, Moore W, Israel E, Levy BD, Jarjour NN, Mauger DT, Phillips BR, Sumino K, Wenzel SE, Woodruff PG, **Seibold MA**, Fahy JV; National Heart, Lung, and Blood Institute Severe Asthma Research Program-3. *J Allergy Clin Immunol*. 2025 Dec 13:S0091-6749(25)02175-X.

Choosing the Right Biologic for the Right Patient With Severe Asthma.

Couillard S, Jackson DJ, Pavord ID, **Wechsler ME**. *Chest*. 2025 Feb;167(2):330-342.

Transient Early Blood Eosinophil Increases Do Not Affect Dupilumab's Long-Term Efficacy in Patients with Moderate-to-Severe Asthma.

Pavord ID, Lugogo NL, Castro M, Papi A, Bourdin A, **Wechsler ME**, Côté A, Chapman KR, Xia C, Soliman M, Pandit-Abid N, Jacob-Nara JA, Sacks H. *J Allergy Clin Immunol*. 2025 Nov 14:S0091-6749(25)01127-3.

Applying Precision Medicine to the Heterogeneity of Asthma Attacks.

Celis-Preciado CA, Ben Hamou Kuijpers E, Ramakrishnan S, Howell I, **Wechsler ME**, Akuthota P, Couillard S. *Chest*. 2025 Nov 13:S0012-3692(25)05695-8.

What is the Asthma Impairment and Risk Questionnaire and how can it help patients with asthma? A plain language summary of publications.

George M, Chippis BE, **Beuther DA**, McCann W, Reibman J, Wise RA, Zeiger RS, Gilbert I, Eudicone JM, Gandhi HN, Coyne KS, Harding G, Cutts K, Ross M, Murphy KR. *Thor Adv Respir Dis*. 2025 Jan-Dec;19:17534666251384465.

Anti-cytokine biologics for asthma in adults.

Israel E, **Wechsler ME**, Jackson DJ, Moore WC. *Lancet*. 2025 Nov 8;406(10516): 2282-2294.

A critical look at the lexicon, parameters, and limitations of asthma remission definitions.

Jackson DJ, Akuthota P, **Lega Hoyte FC**, Pavord I, **Katial RK**, Smolen J, Rogers L, Jackson DJ, **Wechsler ME**. *J Allergy Clin Immunol*. 2025 Sep;156(3S):S7-S14.

Functional Variant Discovery Identifies a Novel Genetic Link Between SPRY2, Wood Smoke, and Asthma.

Gupta A, Dahlin A, Macario A, **Gally F**, Weaver MR, **Guarino S**, **Kahn L**, Sanford L, Gruca MA, Cho MH, Dowell RD, Weiss ST, **Sasse SK**, Gerber AN. *Am J Respir Cell Mol Biol*. 2025 Sep 29;10.1165/rcmb.2024-05870C.

The Effect of Benralizumab and Mepolizumab on Use of Oral Glucocorticoids in Patients With Eosinophilic Granulomatosis With Polyangiitis.

Nair PK, Hellmich B, Bourdin A, Jayne DRW, Roufosse F, Khalidi N, Börjesson Sjö L, Fan Y, McCrae C, Necander S, Rodríguez-Suárez E, Shavit A, Walton C, Merkel PA, **Wechsler ME**. *Arthritis Rheumatol*. 2025 Sep 22.

Discontinuation of Oral Glucocorticoids and Achievement of Remission in Patients With Eosinophilic Granulomatosis With Polyangiitis Treated With Benralizumab or Mepolizumab.

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(Names in bold indicate National Jewish Health authors.)

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SELECTED 2025 PUBLICATIONS (Continued)

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Protecting the Future of Medical Innovation: Balancing Fiscal Responsibility with the Need for National Institutes of Health and Federal Health Funding.

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(Names in bold indicate National Jewish Health authors.)

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INTERSTITIAL LUNG DISEASE

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RECOGNITION

National Jewish Health is the nation's leading respiratory hospital and the expert in collaborative, multispecialty care. Since our founding in 1899, our mission has remained steadfast: to heal, to innovate and to educate as a premier institution dedicated to improving lives.

Today, we continue to fulfill that mission with unmatched pulmonary expertise and internationally respected physician-scientists who bring extraordinary skill to routine illnesses as well as the most complex cases from around the world. Every day, we care for patients with rare conditions that many clinicians may encounter only a handful of times in their careers.

Our pulmonary specialists work seamlessly with leaders in cardiology, gastroenterology, allergy, immunology, oncology, neurology, radiology and other disciplines to understand each patient fully and deliver answers few others can provide. This collaborative, multispecialty approach is at the heart of the exceptional outcomes we achieve.

Our enduring commitment to excellence has earned National Jewish Health its longstanding reputation as the leader in pulmonary medicine. Grounded in science, driven by compassion and dedicated to service, we continue to bring knowledge, innovation and renewed possibility to every patient who turns to us.



For the 29th consecutive year, National Jewish Health was named a top respiratory hospital in the nation by *U.S. News & World Report* in its 2025-26 ranking of best hospitals in the nation and has earned recognition in many other external listings.

National Jewish Health is in the top 6% of institutions funded by the National Institutes of Health, in terms of absolute dollars. This is a tremendous achievement for a specialty hospital.

Breakthroughs in Research

National Jewish Health is responsible for many of the important scientific advances that have shaped the landscape of pulmonary science today, including:

IgE, the molecule responsible for allergic reactions. This discovery has become the basis for many new treatments for asthma and allergies.

The T cell receptor gene, which plays a crucial role in recognizing foreign invaders and orchestrating an immune response. Identifying this gene opened the door to understanding how bodies fight viruses, bacteria and cancer.

Superantigens, extremely powerful bacterial toxins associated with particularly virulent diseases such as toxic shock syndrome and Legionnaires' disease.

Combined chemotherapy for tuberculosis, a crucial tool for fighting tuberculosis. National Jewish Health physicians were among the nation's thought leaders to develop it.

Mechanisms of apoptosis, which help us understand how the body effectively removes and recycles up to two billion cells a day and resolves inflammation in the lungs, was helped by the pioneering efforts of our faculty.

Allergies to artificial joints, a common cause of failure, which can be detected by a blood test developed by National Jewish Health researchers.



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