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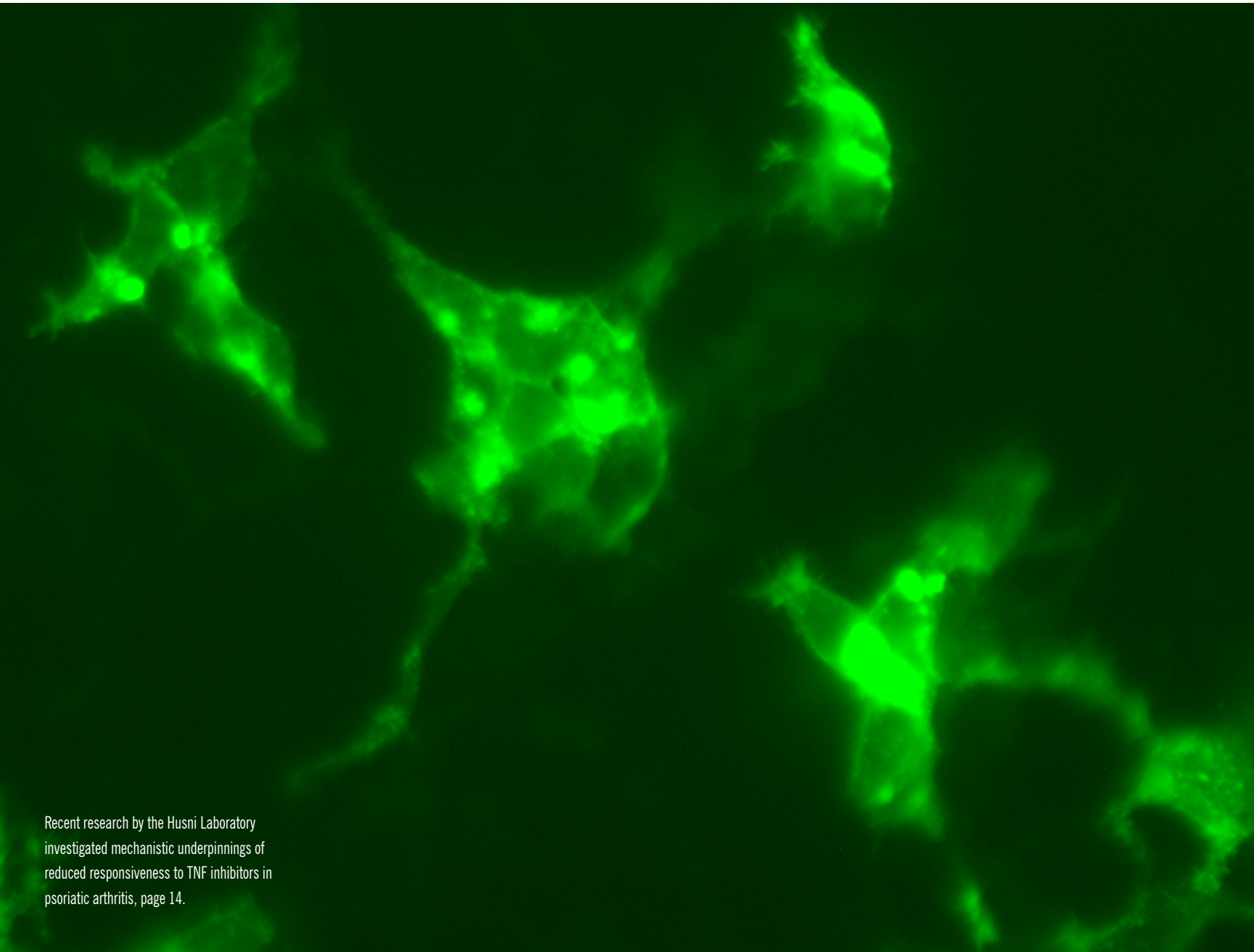
Cleveland Clinic

Rheumatology Connections

An Update for Physicians | Winter/Spring 2026



Recent research by the Husni Laboratory investigated mechanistic underpinnings of reduced responsiveness to TNF inhibitors in psoriatic arthritis, page 14.

From the Chair of Rheumatic and Immunologic Diseases

Dear Colleagues,

Welcome to a new edition of *Rheumatology Connections*. Our articles often speak to the role innovation plays in advancing patient care, but this theme comes through stronger than ever in this edition.

On page 3, we celebrate Dr. Leonard Calabrese's 50 years at Cleveland Clinic with a discussion about his work during decades that have seen truly life-altering advancements in treating rheumatic and immunologic diseases. Len's contributions are invaluable to all of us in the field.

This issue also includes insights from Dr. Cassandra Calabrese (page 5) for those caring for patients with COVID-19 receiving B-cell-depleting therapies. She shares updated insights necessary to manage patients with multisystem rheumatic diseases.

On pages 7 and 12, we share takeaways from our biologics and vasculitis conferences last May and encourage you to watch the free webcasts.

On page 10, Dr. Carol Langford reflects on what she has learned from her year as President of the American College of Rheumatology.

Our ongoing Case Conference series, written in this issue (page 9) by Drs. Adam Brown and Haruki Sawada, examines an unexpected presentation of an increasingly common infectious disease.

The Elaine Husni Laboratory provides new insights (page 14) on a novel mechanistic link between TNFR2 genetic variation and poor response to TNF-α inhibitors in individuals with psoriatic arthritis (PsA). Dr. Husni also has led development and research (page 15) of a lifestyle ecoaching platform designed specifically to help people with PsA manage mental health challenges.

Finally, Cleveland Clinic clinicians have adopted an artificial intelligence-powered scribing tool. The technology has opened up more face-to-face time with patients during clinical visits — a welcome result indeed. I hope you'll have a chance to read about our experience (page 6).

We so appreciate the time you take to catch up on the work we do here at Cleveland Clinic. Please reach out if you see opportunities to collaborate.

Respectfully,

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Save Feb. 28–March 1 for Immunology Conference

Cleveland Clinic's R.J. Fasenmyer Center for Clinical Immunology will present the 14th Annual Basic and Clinical Immunology for the Busy Clinician and Advances in Integrative Immunology February 28 and March 1 at Caesar's Palace NOBU Hotel in Las Vegas.

The conference offers practical, integrative strategies for managing immune-mediated conditions. Sessions will focus on the latest advances in immunology and the role of immunity in aging and chronic disease. CME credits are available.

Visit *clevelandclinicmeded.com/live/courses/clinical/* or scan the QR code for details.

Webcast: CAR-T Cell and Advanced Immunotherapeutics

Cleveland Clinic's special series CAR-T Cell and Advanced Immunotherapeutics for Autoimmune Diseases is free and available via webcast through April 24, 2026.

The program is designed to increase the confidence of front-line clinicians in their understanding of the evolving technologies and clinical aspects of cellular therapies and to inform them of how to access clinical trials for these therapies. CME credits are available.

Visit *clevelandclinicmeded.com/online/clinical25/* or scan the QR code for details.

50 Years of Progress

A conversation with Leonard Calabrese

"I've always been attracted to the seams where immunology meets cardiovascular disease or neurologic disease and beyond. Over my career, the immune system has gone from being considered a somewhat arcane and complex system outside of the mainstream of medical practice to now being hegemonic among all biologic systems. The world's leading causes of death are due to chronic low-grade inflammation. This is at the core of a basic understanding of our diseases and related diseases."

So says Leonard Calabrese, DO, heads Cleveland Clinic's Section of Clinical Immunology. Dr. Calabrese also is director of the R.J. Fasenmyer Center for Clinical Immunology, founded in 2005 as a premier center of clinical research, educational programs and service to the community.

After graduating from medical school at Kansas City University's College of Osteopathic Medicine, he joined Cleveland Clinic, where he completed his internship, residency and rheumatology fellowship before joining the staff.

In honor of Dr. Calabrese's 50 years at Cleveland Clinic, Abby Abelson, MD, Chair of Cleveland Clinic's Department of Rheumatic and Immunologic Diseases, invited Dr. Calabrese to take part in a conversation about the past and future of rheumatology and immunology.

Dr. Abelson: Congratulations, Lenny. We know you're not going anywhere, but we wanted to take this opportunity to reflect on what you've seen over the last 50 years about the development of the department and some of the highlights, joys and challenges.

Dr. Calabrese: Well, this is a moment in time for reflection. When I was here as a medical student, my first rotation was in rheumatology with [Dr.] John Clough, and that was my eye-opening moment. The field of immunology was burgeoning, and we could talk about it in an afternoon and cover most of the field on a chalkboard.

Yet it was fascinating and stimulating and intriguing to me. During my residency, I continued my interest in that area and knew that was for me.

The first part of my career was during HIV and deficiency diseases. The second part of my career was investigating the emergence of biologic therapies. And the last part of my career has been organizing efforts, with a lot of support from so many sources, particularly from Richard Fasenmyer, so that the Center for Clinical Immunology will endure long after I'm not there.

Dr. Abelson: Can you share any vignettes about what patients experienced in rheumatic diseases 50 years ago and that have been really transformed as a result of the scientific work with which you've been involved?

Dr. Calabrese: It's almost unrecognizable what we do now in comparison to what patients had at that time. We had glucocorticoids and methotrexate and penicillin, and a few other therapies, for mild to moderate biologic activity. Every rheumatologist of a certain age had patients who had been harmed by these diseases sitting in their waiting rooms in wheelchairs. Now we are talking about remission. And for the past five years, we have been talking about deeper remission, if not a cure, for certain diseases. It makes me almost want to pinch myself to think how the dialogue and the landscape have changed. And we at Cleveland Clinic have been part of every aspect of this, from clinical trials to the first biologics to CAR T and advanced therapeutic programs.

Dr. Abelson: Your impact has been felt internationally in several areas, and one is your impact on generations of rheumatologists through your varied CME programs. Can you talk a little bit about that?

Dr. Calabrese: With the opening of the R.J. Fasenmyer Center for Clinical Immunology, we immediately made it part of our mission to educate rank-and-file practitioners, who were largely physicians at that time. Now we proudly embrace the education of advanced practitioners so that we can translate the remarkable advances in basic and translational immunology in a way for clinicians who are without laboratory backgrounds in basic immunology or without ongoing exposure to educational programs in a rapidly changing field. That has been our enduring mission from day one.

Twenty-five years ago, we were focused on the introduction of monoclonal antibodies to our field while now we attract faculty who are world leaders in the cutting edges of immunology, including

Continued on next page

advances in translational immunology, the use of big data and beyond. And it's gone from biologics to translational immunology to the prospects of immunologic cures. I am particularly proud of our immunology bootcamp, which is now in its 14th year, where we now focus sessions on the emerging field of evidence-based integrative immunology in the care of patients with immune-mediated inflammatory diseases.

Dr. Abelson: As clinicians in partnering with care for people with lifelong chronic illnesses, emphasizing the importance of empathy and not losing that touching connection with patients has inspired all of us. Can you speak about your work on empathy?

Dr. Calabrese: I became interested in interactions and relationship-centered care with patients who had conditions that had no treatment and had no cure. As a clinical immunologist practicing in the early days of the field, I was often referred patients of high complexity without unifying diagnoses. Many of these patients are now recognized as having myalgic encephalomyelitis/chronic fatigue syndrome. While demanding in terms of time and effort, I found the care of these patients rewarding in many ways. Most of them felt marginalized and unheard before being validated as having a disease shared by a large and growing community.

> **'You can relieve suffering by ... sharing belief in the meaning and reality of their symptoms and letting them know that you're going to care deeply for them during their journey.'**

Even in the absence of curing this disease, we could often heal these patients. There are diseases where people can be healed and not cured, and then people who actually have their diseases cured and not healed, which is an interesting concept. You can relieve suffering by expunging people of guilt by sharing belief in the meaning and reality of their symptoms and letting them know that you're going to care deeply for them during their journey. That has a lot of validity for what we now call post-acute infectious syndromes, like long COVID. I realized that this should be the same message for every single patient in every single setting. It's not enough to just give somebody a pill and get them out the door and be happy.

Deep listening has an important role in patient care. Over the past several decades, we have learned that the basis of this maxim lies in the field of the brain-immune axis. We're actually harnessing our own placebo biology, a phenomenon that used to be considered pejorative

Drs. Calabrese and William Ruschhaupt, mid-1970s.

and associated with trickery. Now we recognize it is a powerful and useful source of biologic therapy, and we want it. We want to figure out how this makes us feel less tired, less painful, more mentally clear — things we all want.

Dr. Abelson: As you look toward the future, what developments come to mind that you think are exciting? This morning, your daughter, Cassie, gave an eloquent review of all the latest updated science on vaccines for our immunosuppressed patients. Her work has many aspects to it. And there are many people doing many exciting things. So what do you see as a bright future for the department and for the field of rheumatology?

Dr. Calabrese: First, I feel that the area of infectious diseases and rheumatic and immune-mediated inflammatory diseases is unequivocally an area of recognized importance and growth. We have been involved since the early days of HIV and its intersection with rheumatic and immunologic diseases through the COVID-19 pandemic and now are engaged at the intersection of primary immunodeficiency diseases and autoimmune complications.

Second, we have made major contributions, and continue to, in the treatment of patients undergoing cancer immunotherapy and immunologic adverse events immunotherapy. We were on the ground floor of this field and have published extensively, and Cleveland Clinic has dedicated tremendous resources to immunotherapy for cancer. We continue to grow this work.

And the third part is the area of integrative immunology, how the immune system has centrality in how we age and what type of diseases we get and how we ultimately die. There is science — serious science — in this emerging field. We want to contribute to that evidence-based learning about what lifestyle has to do with immunologic health and understanding of the brain-immune axis. It just continues to be profoundly exciting to me.

Continued COVID-19 Management for Immunosuppressed Patients

The case for continued vigilance, counseling and antivirals

by Cassandra Calabrese, DO

At the end of 2023, the U.S. Centers for Disease Control and Prevention estimated that 87% of the U.S. population age 16 and older had infection-produced seroprevalence of SARS-CoV-2, and nearly 99% had combination infection- and vaccine-produced seroprevalence. The following January, the World Health Organization declared that COVID no longer presented a pandemic-level threat, and that overall COVID-19 morbidity and mortality had significantly decreased.

These and other changes in the COVID landscape have precipitated a perceived reduction in the dangers associated with infection. However, people with certain conditions remain at high risk for serious illness from COVID-19, especially those being treated with B-cell-depleting therapies (BCDT) for rheumatologic and other immune-mediated diseases.

At Cleveland Clinic, research on COVID-19, including how certain drug therapies affect protections against the virus, has been ongoing since the start of the pandemic. We know that members of select patient populations require continued vigilance and counseling, benefit from early administration of antiviral drugs, and may be appropriate candidates for pre-exposure prophylaxis (PrEP).

Since the start of the pandemic, data have shown that patients on B-cell-depleting drugs have very high risk of hospitalization and death. Even with Omicron variants, which have been generally associated with milder symptoms, we continue to see this patient population disproportionately affected by severe infection. This vulnerable group is likely to continue to need extra support for the foreseeable future.

Information and patient counseling

For more than 25 years, BCDT has been shown to effectively reduce auto-antibody response and associated inflammation at the core of rheumatologic disease, but the mechanism that enables symptom abatement also reduces natural immunity and blunts COVID vaccine response. For practitioners caring for patients receiving BCDT, it is essential to stay current on COVID infection trends and recommendations for antivirals and PrEP, and to share information with patients. Patients need to know they are still vulnerable, and at risk for being

hospitalized and at an increased risk of death. We advise patients on BCDT to be cautious when they're around someone who's sick, consider wearing a mask on an airplane or in crowds, and — most importantly — to call us when they aren't feeling well so we can counsel them on testing and treatments.

Our team recently published research on the effectiveness of outpatient antiviral therapy for patients with immune-mediated diseases who are on B-cell-depleting agents. We show that treatment with nirmatrelvir/ritonavir was associated with lower rates of hospitalization and death from the COVID-19 Omicron variant in this population specifically, reinforcing the importance of triaging these patients for treatment.

Further, we guide BCDT patients on whether and when to receive the COVID vaccine and/or boosters. Although BCDT blunts vaccine response, the vaccine offers some protection. Timing vaccine administration to occur as long as possible after the most recent rituximab dose and two to four weeks before the next dose is ideal for best vaccine response.

A word about PrEP

The U.S. Food and Drug Administration has extended Emergency Use Authorization for pemivibart (Pemgarda®), COVID-19 pre-exposure PrEP, for individuals at high risk of developing serious illness. At Cleveland Clinic, we counsel high-risk patients, most notably B-cell-depleted patients, and refer them to receive PrEP.

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Artificial Intelligence: Embracing Technology That Improves Time With Patients

by Abby Abelson, MD

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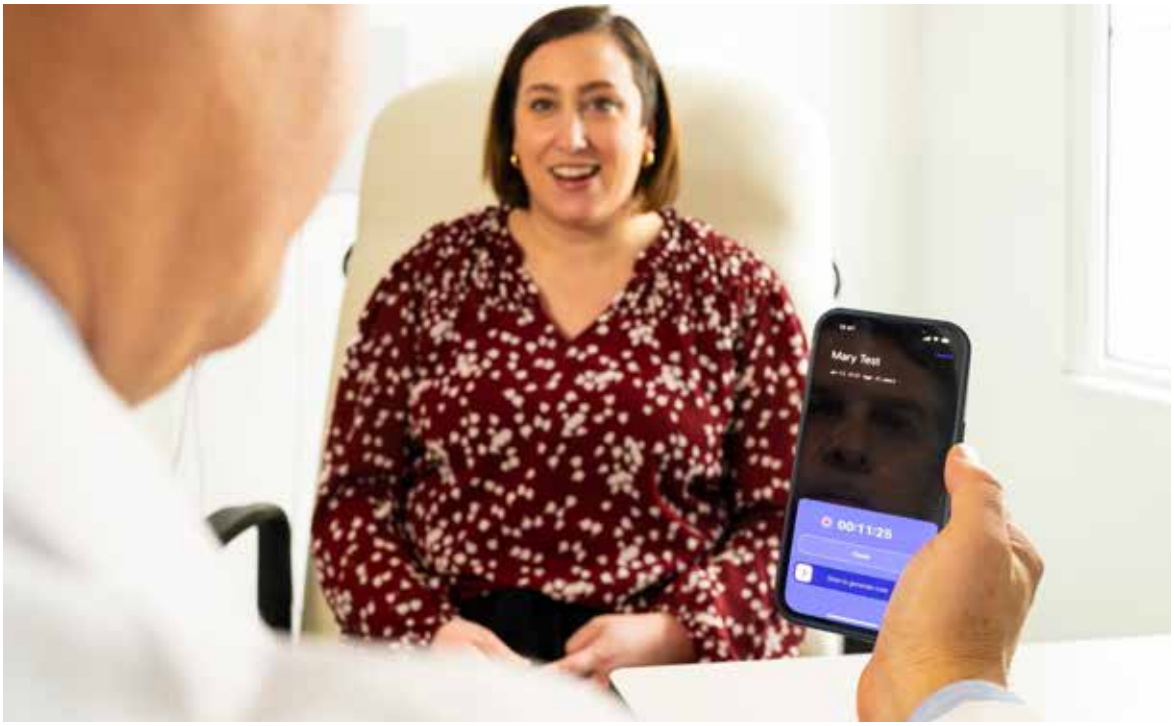

I walk into the exam room and start the visit.

Over 30 years in medicine, I have had the honor of caring for patients with chronic rheumatic diseases and each day opening the door to new patients with multisystem immune-mediated conditions. Time spent with patients at each visit has felt like a gift, but the hours of chart documentation at the end of a clinic day could feel burdensome and stressful.

I have never been a skilled touch typist, so I was always apologizing for the computer work during the visit. When I started out in my career, pen and paper were the "technologies" physicians used for making notes for the medical record. During patient appointments, I was able to jot down the essentials — a few lines of history, brief notes about abnormalities on the physical exam, and my treatment and medicines.

The introduction of electronic medical record (EMR) systems in the 1990s allowed us to capture much more data during patient visits but with a well-known trade-off: less time looking at the person on the exam table and more time looking at the computer. Multiple studies have shown that EMR recordkeeping can account for more than 30% of face-to-face consultation time with patients.

However, through the technology of the artificial intelligence (AI) scribe service that Cleveland Clinic now provides for all outpatient clinicians, I am able to greet the patient, ask permission to use the phone to record confidential notes on the visit, and set down the phone. Then I proceed to look into the patient's eyes and focus on their history and care.

Having had significant skepticism about AI scribing technology at the beginning, I still volunteered to be part of our enterprise's piloting of various products. As a physician leader, I wanted to experience the AI scribe for myself, evaluate how it impacted the patient experience, be sure that it would be a help to our colleagues, be accurate, and know that it would save us documentation time.

My experience has been transformative.

Now I am able to relax, get the patient's entire history, verbally describe the physical exam to the patient, and discuss the problem list, assessment, plans for

testing, and further consultations or referrals. I share considerations and differentials in ways that are accessible to the patient, discuss next steps and solicit their concerns and questions.

The new process under our AI scribing program has become second nature now, but there was a small learning curve. For example, I had to learn to describe the joint and laterality when the patient pointed to a pain location. I had to remember to verbally share observations about mobility. These were small adjustments to make for a significant payoff in efficiency and detail.

The AI scribe generates patient instructions that clearly outline the plan and next steps. I am now able to construct a note within minutes that accurately details the visit, assessment and plans. The tool even reminds me that there were additional issues for the problem list that we discussed, such as medication monitoring, that I previously had not documented, since it seemed second nature to the interaction, but which is important for our patients' care. The program adapts to non-English speakers and documents comments from others in the room, such as family members.

I always read the note carefully and edit before signing it, but the documentation is usually accurate, much faster and more complete.

After the pilot trials of several AI products, Cleveland Clinic offered AI scribe capabilities to all physicians and APPs for outpatient visits. As of mid-2025, over 5,000 clinicians have trained on the technology, 3,500 are active users and they use the scribe for 72% of their visits.

Recent expansions into the ER, and planning for hospital inpatient use, are proceeding. We are working with the vendor to expand specialty-specific chart summary tools, including from other healthcare institutions, pend orders associated with diagnoses, and provide coding assistance and integrate it with other tools.

We have not been required to see patients in less time or otherwise increase productivity with this incorporation of the AI scribe. The positive impact on clinician well-being and life balance has been substantial. I frequently say, I couldn't get along without the AI scribe, and almost all of our colleagues agree!

Visit the Biologic Therapies Summit Via Webcast

No-cost learning and CME credit are part of the mission

The biennial Biologic Therapies Summit took place in Cleveland last spring, but the education continues via webcast through July 9, 2027. The webcasts and continuing medical education (CME) credits are free, thanks to the mission that drives the health system's R.J. Fasenmyer Center for Clinical Immunology at Cleveland Clinic.

Dr. Calabrese (calabrl@ccf.org; 216.444.5258) directs the R.J. Fasenmyer Center for Clinical Immunology and is Vice Chair of the Department of Rheumatic and Immunologic Diseases.

"Many meetings across the country have archived virtual materials available, and a number of them broadcast live virtual presentations," says Leonard Calabrese, DO, Director of the Fasenmyer Center. "We are the only meeting of this type that provides the meeting in person at the lowest cost per credit hour of any national meeting of its kind and also broadcasts it live for free with full CME credit. Our meeting, which has been going on biannually for 25 years, was also one of the first meetings in this educational space to present its content virtually for CME credit, absolutely free. Medical education is expensive, and there are many people who are either too busy to travel or find travel to be a financial burden."

Accomplishing these educational goals has been made possible because of philanthropic support of the R. J. Fasenmyer Center of Clinical Immunology, which Dr. Calabrese has led since its inception.

Clinical immunologists from around the globe are a particular focus among those who benefit, he adds. "We intentionally reach out to rheumatology societies in Europe, Asia, South America and Africa to let them know that this free medical education is available to them."

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The recent conference took place May 8-10, 2025, at the InterContinental Hotel & Conference Center, along with Vasculitis 2025, a separate one-day meeting that focused on emerging care approaches for this family of challenging diseases. New to Biologics this year was a poster session for trainees, who came from across the country. "It's going to be a fixture at all of our meetings, because it brings along the next generation and allows them to interact with world leaders in the field and receive counsel on their work and their careers," says Dr. Calabrese.

Since the inception of the Fasenmyer Center, Cleveland Clinic has been dedicated to excellence in immunologic clinical care, research and education. While a variety of educational opportunities are available worldwide that target different audiences and levels of scientific complexity, Cleveland Clinic tailors its immunologic education efforts for "busy clinicians who practice clinical immunology, and with particular reference to rheumatologists, because rheumatologists have the largest spectrum of immune-mediated immunologic diseases," he says.

Here's a Look at the Session Lineup

To access CME modules for Biologic Therapies Summit XI, visit clevelandclinicmeded.com/online/webcasts/biologic25/

Plenary session

Advances In Basic and Translational Immunology for the Clinical Rheumatologist

Learning objectives: Critically appraise and integrate clinical data on the efficacy and toxicity of CAR T-cell therapies, cellular therapies and other advanced treatments to identify and propose strategies that could lead to long-term remission or cure of immune-mediated inflammatory diseases. Evaluate IL-17 inhibitors and IL-23 in treating immune-mediated inflammatory diseases. Explore and interpret the latest advances in IL-23 inhibitors for IMiDs and assess their potential for treating other inflammatory conditions.

Presentations

Immune Profiling of Patients With Autoimmune Diseases: Defining Metrics of Immune Dysregulation
Deepak Rao, MD, PhD

New Insights Into the Role of EBV in Autoimmune Diseases
William Robinson, MD, PhD

IL-23 — Advances in Basic and Clinical Immunology
Christopher Ritchlin, MD, MPH

The Evolution of Immune Effector Cell Therapies for the Treatment of Autoimmune Diseases
Maximilian F. Konig, MD

Emerging Treatments in IMiDs

Learning objectives: Describe the process by which "safety signals" emerge. Highlight case studies of where this has gone awry. Recommend solutions for a forward-looking safety agenda. Examine the mechanism of action of JAK inhibitors in modulating immune responses, and identify the potential toxicities and adverse effects, particularly infection risks. Critically evaluate emerging therapeutic strategies for difficult-to-treat psoriatic arthritis, rheumatoid arthritis, systemic lupus erythematosus and inflammatory myopathies, and propose innovative approaches to optimize patient outcomes based on current advancements.

Presentations

Signal and the Noise: Safety in Rheumatology
Michael Putman, MD, MSci

PsA
Christopher Ritchlin, MD, MPH

Difficult to Treat RA (D2TRA)
Jack Cush, MD

Emerging Treatments in Lupus Nephritis
Michelle Petri, MD, MPH

Advances in the Treatment of Inflammatory Myopathies
Rohit Aggarwal, MD, MS

Developments in the Prevention and Treatment of Complications From Advanced Therapies

Learning objectives: Investigate and differentiate between infectious complications from biologic therapies and immune-related adverse events associated with checkpoint inhibitor therapies while formulating effective prevention and management strategies.

Presentations

Infectious Complications From Biologic Therapy
Cassandra Calabrese, DO

Immune-Related Adverse Events From Checkpoint Inhibitor Therapy: Targeted Therapies
Noha Abdelwahab Hassan, MD, PhD

Moneyball Rheumatology — Making the Most Out of Our Time and Data for Better Care of Our Patients
Jack Cush, MD

CASE CONFERENCE

Patient's Symptoms Atypical for This Disease on the Rise

by Adam Brown, MD, and Haruki Sawada, MD

A 53-year-old female presented to the hospital with a history of persistent fever. Approximately three weeks before she was admitted, she began experiencing fevers ranging from 100° to 102°F, accompanied by chills and myalgias. These fevers occurred almost daily — initially at night but more recently also in the morning — and were somewhat responsive to ibuprofen and acetaminophen.

About a week after the onset of fever, she developed a red, non-itchy, non-raised rash that started on her chest and back, eventually spreading to her legs and arms. She also reported joint pain in her shoulders, elbows, knees and hips, along with muscle aches in her upper arms.

The patient had a history of atrial fibrillation status post-ablation, hypertension, hyperlipidemia and asthma. On the morning of her hospital admission, she was experiencing increased joint pain, which waxed and waned and was associated with stiffness. There were no significant alleviating or exacerbating factors, and the pain did not respond to ibuprofen. A fever of 104°F had prompted her visit to the emergency department.

A review of systems was positive for nausea, decreased appetite, slight weight loss, headaches, a mild non-productive cough, and a sore throat that resolved after a few days. She denied any recent travel out of state, insect bites, smoking or drug use. She has a dog and had fed a budgie bird but reported no other significant animal exposure. She had visited a drive-through safari park several times over the previous months with the car windows typically closed.

Her physical examination revealed mild tenderness in her elbows, knees and hips without swelling or warmth to the touch, and she exhibited normal range of motion. There were blanching erythematous patches on her chest, trunk, back, upper arms and legs. Laboratory tests showed an elevated white blood cell count and inflammatory markers, with a CRP of 4.3 mg/dL and an ESR of 63 mm/hr. Her kidney and liver function tests were normal, as were complement levels. M protein was positive for IgM lambda. Ferritin was mildly elevated at 267 ng/mL, and ANA was 1:320.

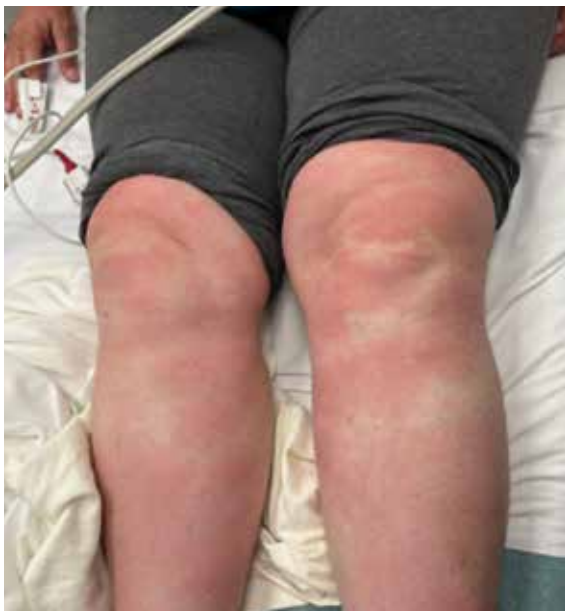
Other autoimmune serologies, including ENA and ANCA, were negative. Computed tomography angiography images of her chest, abdomen and pelvis were unrevealing. These studies were ordered to evaluate for parenchymal lesions such as abscess or aortic involvement, including aortitis.

What is going on with this patient?

From a rheumatologic perspective, we considered an acute viral illness such as parvovirus B19 because of the patient's fevers, anemia and joint pain, although parvovirus more typically causes small joint involvement. Given the rash, fever and positive M protein, we also considered Schnitzler syndrome, although that is typically associated with neutrophilic urticaria, and the M protein is IgM kappa. The patient's normal liver function and only mildly elevated ferritin made adult-onset Still's disease unlikely.

Although a clear infection hadn't been found, our colleagues in Infectious Disease initiated antibiotics, and her fever resolved, suggesting a bacterial infectious etiology. Anaplasma and Babesia PCR testing was negative, as was Rocky Mountain spotted fever IgG.

However, Lyme Western blot for both IgG and IgM were positive.



A non-itchy, non-raised rash, which started about a week after the patient developed fever, started on her chest and back and spread to her legs and arms.

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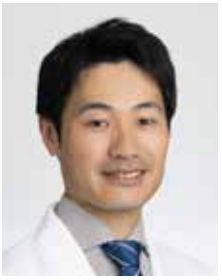

Dr. Sawada is a Fellow in the Department of Rheumatic and Immunologic Diseases.

With antibiotic therapy, her joint pain and rash improved, which supported a diagnosis of Lyme disease in the context of positive serologies. She was treated with a four-week course of doxycycline. The patient's joint pain and fevers resolved with antibiotics, making Lyme disease the most likely diagnosis.

An unusual presentation: commentary

This case illustrates an unusual presentation of Lyme disease. Fever in Lyme disease is typically low grade and occurs in the early localized and early disseminated stages, often alongside erythema migrans or as part of a viral-like syndrome. High or spiking fevers are not typically characteristic of Lyme disease and should prompt consideration of alternative diagnoses or coinfections with other tick-borne pathogens, such as Anaplasma or Babesia, although these were not present in this patient per additional testing.

The rash in Lyme disease is usually erythema migrans, which begins as a single expanding lesion at the tick bite site. In early disseminated Lyme disease, multiple erythema migrans lesions may develop at distant sites, but a true diffuse, non-annular rash is not typical. This patient's generalized rash and high fevers were atypical for Lyme disease. This highlights the importance of considering a broad differential diagnosis and bringing an awareness of the potential for atypical presentations in endemic areas.

Lyme disease cases are on the rise in Ohio, with a significant increase in recent years. In 2023, Ohio reported 1,301 confirmed cases, more than double the 554 cases reported in 2022. Lyme disease vigilance in the region will continue to be important.

Notes

Lantos PM, Rumbaugh J, Bockenstedt LK, et al. Clinical Practice Guidelines by the Infectious Diseases Society of America (IDSA), American Academy of Neurology (AAN), and American College of Rheumatology (ACR): 2020 Guidelines for the Prevention, Diagnosis and Treatment of Lyme Disease. *Clin Infect Dis*. 2021;72(1):e1-e48.

Lyme Disease by Year Figure in Ohio. https://odh.ohio.gov/know-our-programs/zoonotic-disease-program/media/lyme-disease-year-figure

Reflections on a Year as President of the American College of Rheumatology

by Carol A. Langford, MD, MHS

Dr. Langford (langfoc@ccf.org; 216.445.6056) is Director of the Center for Vasculitis Care and Research at Cleveland Clinic as well as Vice Chair for Research, Department of Rheumatic and Immunologic Diseases.

In November 2024, I had the honor of becoming the 88th president of the American College of Rheumatology (ACR). In passing the gavel over to our 89th president, Dr. William Harvey, at ACR Convergence 2025, I have had the opportunity to reflect on the past year, including some of the challenges we have faced as a rheumatology community. While I discussed many of these in my opening session address at ACR Convergence 2025, there are also much broader impressions I was left with regarding the ACR and rheumatology.

The ACR is a not-for-profit professional association committed to advancing the specialty of rheumatology that serves more than 10,000 physicians, rheumatology professionals, researchers and scientists worldwide. Although going into my presidential year I felt I had a good understanding of the ACR, this grew immensely as the year passed. This knowledge came from my fellow volunteers, the dedicated ACR staff and, most importantly, from our members.

The mission of the ACR is to empower rheumatology professionals to excel in their specialty. This is carried out through the projects, programs and activities of the ACR and the Association of Rheumatology Professionals (ARP) as guided by the committees and board of directors. In speaking to these groups about their work and individual times where they saw the ACR mission in action, I saw ways in which the ACR and ARP touched on each aspect of our specialty, offering options impactful for every career goal.

Toward enhancing connections between the ACR and its members, I also had the privilege of writing a monthly article, "The President's Corner," in *The Rheumatologist*, an ACR publication. With much support from colleagues and staff, I endeavored to cover different focus areas across rheumatology. I learned a great deal about the spectrum of activities being offered by the ACR/ARP in writing these articles, which I hope provided useful content and information links to readers.

Carol Langford, MD, MHS, at ACR Convergence 2025. (Photo courtesy of the American College of Rheumatology)

During the past year, I also met one-on-one with ACR members at our educational conferences and at national, state and local gatherings with the goal of understanding their concerns and how the ACR/ARP can play a valuable role in their professional lives. I had insightful discussions with people engaged throughout the entire spectrum of rheumatology — practitioners in small towns bringing rheumatology expertise to their communities, investigators contributing to clinical trials, clinical educators teaching our next generation of residents and fellows, scientists working exclusively within the lab making the next discovery, advanced practice providers delivering time-sensitive care, physical therapists relieving pain and improving function, and pharmacists guiding safe use of medications, just to name a few. This highlighted how each of us has an important contribution to make in rheumatology as we work together to improve the lives of people with rheumatic diseases.

This opportunity to learn from the unique and important perspectives of others is not exclusive to being ACR President and was something I experienced in every single ACR volunteer position in which I served. One of the greatest gifts of participating as a volunteer with the ACR is getting to meet others from diverse backgrounds who share their time and knowledge. The ability to come together through the ACR/ARP and develop ideas toward advancing rheumatology has brought me tremendous professional and personal satisfaction. This exists no matter what volunteer activity you engage in, and it is for this reason that I would encourage everyone to volunteer with the ACR, the ARP or the Rheumatology Research Foundation.

During this year, I was also reminded of the reasons I was first drawn to the specialty of rheumatology during my internal medicine residency. The rapid expansion of knowledge into disease pathogenesis leading to the development of novel treatments combined with the opportunity to offer these treatments to patients with whom we have long-term relationships represent some of the most rewarding aspects of rheumatology. My conversations over the past year with fellows just starting their careers about why they chose rheumatology continued to reflect the appeal of these same attributes, which speak strongly to the values and promise being carried forward by our future generations.

Serving rheumatology as ACR president was a great honor that I will always be grateful to have experienced. The abiding message that this year brought home to me, though, was that each and every one of us can and does make a meaningful difference in rheumatology. Whether that is by caring for patients, conducting research, teaching or through advocacy — all of us contribute to our field. In looking ahead, we must continue to work together to advance knowledge, to extend compassion, and to support each other in times of success and challenge, as these are what represent the foundation and strength of our great specialty of rheumatology.

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There's No Debating the Value of Vasculitis 2025 on Webcast

Does plasma exchange (PLEX) have a role in care for patients with ANCA-associated vasculitis? Last May at Cleveland Clinic's vasculitis conference, nephrologist Ali Mehdi, MD, took part in a debate on the topic, making a passionate case for why PLEX should indeed remain an option for some patients. The procedure has not been shown to reduce the incidence of end-stage kidney disease or death for those with severe AAV, but Dr. Mehdi said some patients can benefit by being able to take a break from dialysis and using PLEX.

"The reality is that a bunch of patients choose PLEX all the time," Dr. Mehdi said. "So I think we just have to talk to our patients and factor in the practical considerations, like do we have PLEX available? Do we need to ship the patient somewhere else to do it? All these have to factor in, but … I don't think the answer is no. I don't think it's yes, either, but somewhere in between."

Opposing Dr. Mehdi in the debate was Alexandra Villa-Forte, MD, a staff physician in Cleveland Clinic's Center for Vasculitis Care and Research. Dr. Villa-Forte leaned on the research so far, which has shown no overall benefit to using PLEX with AAV patients. "There's no data to support the use of plasma exchange," said Dr. Villa-Forte. "You can tell how much effort Dr. Medhi put in [to his argument], but I'm trying to convince you that I don't have to do that. The data will tell itself."

Their lively presentation was part of "Debates in Vasculitis" at Vasculitis 2025: Advances and Controversies. Other debate matchups featured Tanaz Kermani, MD, versus Kinanah Yaseen, MD, on "Biopsy or Imaging in the Diagnosis of Giant Cell Arteritis?" and Michael Putman, MD, versus Adam Brown, MD, on "Should Tocilizumab Be Used in Every Patient With Giant Cell Arteritis?"

The debates were new to the conference this year, part of an ongoing effort to ensure that participants take away information they can use in their own practices.

"This is important in an era when we are fortunate enough to have a variety of therapeutic options," says Rula A. Hajj-Ali, MD, symposium chair and Associate Director of Cleveland Clinic's Center for Vasculitis Care and Research. "We tailor our programming to clinicians in two ways. First, we want to widen their thinking about what is coming down the road with vasculitis. And second, we hope to bring them current management insights. Debates can inform their thinking when they are in front of a patient considering various therapeutic approaches."

The agenda was tailored to include expert faculty appraisals of emergent treatment options in small vessel and large vessel vasculitis. In "Advances in Treatment,"

Top, from left: Susan Mathai, MD, Abby Abelson, MD, and Binita Sapkota, MD
Center: Carol Langford, MD, MHS
Bottom: Rula A. Hajj-Ali, MD

Dr. Hajj-Ali, along with Benjamin Terrier, MD, Carol Langford, MD, MHS, and Michael Wechsler, MC, MMSc, illuminated leading-edge advancements in vasculitis research and treatment. They delivered comprehensive appraisals of emerging therapies and future directions in the management of vasculitides.

"Our conversations underscored the critical importance of these topics, offering invaluable insights that are poised to shape the future of patient care and therapeutic innovation," says Dr. Hajj-Ali.

She delivered an in-depth and thought-provoking presentation that shed light on central nervous system involvement, one of the most challenging manifestations of vasculitis. The discussion underscored the need for continued innovation in this area.

In "Ask the Masters: Challenging Cases in Vasculitis," Ruoning Ni, MD, presented a series of complex cases that pushed the boundaries of clinical understanding. Faculty delved into the nuances of decision-making and shared insights on managing critically ill patients with vasculitis.

Given the general goal of minimizing glucocorticoid exposure in the management of vasculitis, the symposium featured "The Landscape of Glucocorticoids in Systemic Vasculitides: Current and Future Use." Drs. Kermani and Terrier explored current practices and emerging strategies for use of glucocorticoids. Their presentation underscored the importance of balancing efficacy with the need to mitigate the long-term risks associated with glucocorticoid use. Learning objectives included:

- Evaluating the evolving landscape of glucocorticoid therapy
- Reviewing the evidence for their use in conditions such as giant cell arteritis, Takayasu's arteritis and small vessel vasculitides
- Discussing best practices for tapering
- Determining the optimal duration of therapy

In "Diagnostic Modalities in Systemic Vasculitides," the symposium delved deeply into the realm of diagnostic modalities across various vasculitides, highlighting advancements in imaging techniques, pathology and the invaluable role of eye examinations. Led by Kaitlin Quinn, MD, Leal Herlitz, MD, Carmela Tan, MD, and Amy Babiuch, MD, the session underscored the importance of precision in diagnosis, equipping attendees with cutting-edge insights to enhance their clinical decision-making in managing these complex conditions.

For those who couldn't attend the conference, Cleveland Clinic provides the presentations and continuing medical education credits free of charge.

"Every time we present this conference, we advance the understanding of this exciting field and invigorate clinicians who have the privilege of working with this patient population," says Dr. Hajj-Ali. "We are so grateful to be able to expand the reach of that impact by bringing this exceptional faculty and their knowledge to new audiences through the webcast."

Presentations can be heard through July 9, 2027, by visiting clevelandclinicmeded.com and clicking on Webcasts.

Varied Response to TNF Inhibitors in Psoriatic Arthritis: Mechanistic Insights

by M. Elaine Husni, MD, MPH, Unnikrishnan M. Chandrasekharan, PhD, and Chris Sun, BS

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Tumor necrosis factor alpha (TNF-α) inhibitors (TNFi) represent a cornerstone of therapy for psoriatic arthritis (PsA). Yet up to 40% of patients either fail to respond, achieve only partial benefit, or lose therapeutic efficacy over time. The biological basis for this variability in treatment response remains poorly understood, and currently no biomarker exists to guide clinicians in predicting who will benefit from TNFi therapy. Addressing this gap is a major focus of the Elaine Husni laboratory.

TNF-α signals through two receptors, TNFR1 and TNFR2. Interestingly, a single nucleotide polymorphism in the TNFR2 gene (rs1061622) has been implicated in TNFi responsiveness across multiple immune-mediated diseases. This polymorphism results in either a methionine (TNFR2-M, the major allele present in ~80%-95% of the population) or an arginine (TNFR2-R, the minor allele present in ~5%-20%) at amino acid position 196. Patients carrying the TNFR2-R variant have been reported to respond less favorably to TNFi therapy. Despite this important association, the mechanistic underpinnings of the reduced responsiveness remain unknown.

To explore this question, we examined whether the TNFR2-M and TNFR2-R variants differ in cellular localization, a factor that could alter receptor availability for TNF-α binding and downstream signaling. Using cultured human endothelial cells, we expressed GFP-tagged TNFR2-M or TNFR2-R and visualized their distribution with fluorescence microscopy. Strikingly, TNFR2-M localized predominantly at the cell membrane, whereas TNFR2-R was largely retained intracellularly. This difference in receptor trafficking may reduce surface accessibility of TNFR2-R to TNF-α, thereby altering signaling dynamics and ultimately contributing to diminished TNFi responsiveness.

These findings provide a novel mechanistic link between TNFR2 genetic variation and treatment response in PsA. By illuminating how a single amino acid change can influence receptor localization and function, this work highlights a potential pathway for precision medicine approaches in PsA and opens the door to new therapeutic strategies for patients who do not respond to current TNF blockade.

Lab members Raminderjit Kaur, PhD; Vincent Del Signore, BS; Jean Lin, MD; and Shashank Cheemalavagu, MD, contributed to this research.

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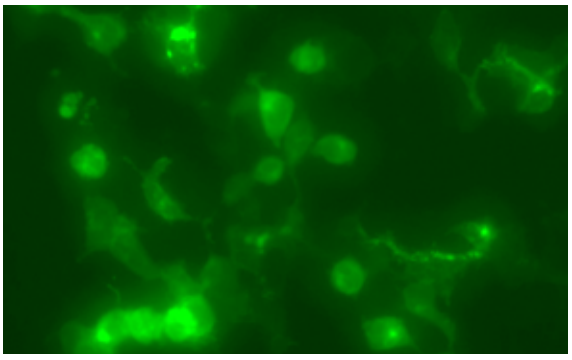

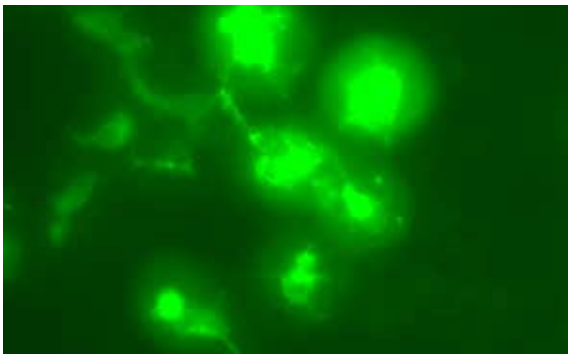

At left, TNFR2-M-GFP primarily localizes in the cellular membrane of endothelial cells. **At right**, TNFR2-R-GFP primarily localizes in the intracellular region of endothelial cells.

Lifestyle eCoaching Shows Promise for PsA-Related Mental Health Needs

by M. Elaine Husni, MD, MPH, and Leonard H. Calabrese, DO

Psoriatic disease is closely associated with increased rates of depression and anxiety, yet addressing the mental health needs of patients with psoriatic arthritis (PsA) remains a persistent challenge. Despite progress in treatments for psoriatic conditions, individuals living with PsA experience mental health challenges at rates significantly higher than the general population.

Lifestyle factors such as sleep, physical activity, stress management and nutrition are understood to play important roles in mental health outcomes, yet programs designed to help patients improve those factors traditionally have not been tailored specifically for those with psoriatic disease.

To address this gap, Cleveland Clinic launched Immune Strength, a lifestyle ecoaching program tailored for the needs of this patient population. This program empowers users to take charge of their mental wellness through self-guided modules and regular support from certified health coaches. The goal is to enable individuals to build practices that enhance disease self-management.

Immune Strength aims to support patients in four areas: stress reduction, sleep improvement, healthy eating and exercise. Users have access to resources and weekly contact with wellness professionals, including mental health counselors, dietitians, sleep experts and physical therapists.

In a recent prospective study, we evaluated the feasibility and preliminary efficacy of Immune Strength among adults with PsA. Participants recruited from our rheumatology clinic and a national patient advocacy group used the program for 10 weeks.

Exclusion criteria included concomitant systemic autoimmune diseases and inability to engage in remote coaching.

The weekly program modules focused on helping participants strengthen four core lifestyle pillars — mindfulness, sleep hygiene, nutrition and exercise — with videos, self-guided exercises and tracking tools, such as sleep logs and food journals.

Certified health coaches used email and phone calls to deliver targeted education, answer questions and gather feedback in real time.

We measured engagement through module completion and coaching session attendance. Patient-reported outcomes

were assessed using validated Patient-Reported Outcomes Measurement Information System (PROMIS) scales. Pain, fatigue and global health were measured at baseline and again post-intervention (week 10).

Of the 143 participants enrolled in the Immune Strength program, the majority completed the 10-week ecoaching intervention and were included in the final analysis. Participants demonstrated statistically and clinically meaningful improvements across several patient-reported outcomes.

PROMIS Global Mental Health T-scores increased from 42.2 to 44.7 ($p < 0.001$) and Global Physical Health scores rose from 39.1 to 41.1 ($p = 0.001$), approaching the minimal clinically important difference commonly cited for these measures. Perceived stress declined from 7.1 to 5.7 ($p < 0.001$), and fatigue scores improved from 60.4 to 57.2 ($p < 0.001$).

Self-efficacy showed notable gains, with symptom-management and medication-management scores increasing by 3.45 and 3.0 points, respectively (both $p < 0.001$).

Most participants reported being satisfied or very satisfied with the program and indicated they would recommend it to others. Collectively, these findings suggest that an online, coach-led lifestyle intervention is both feasible and beneficial, supporting the potential of such an intervention as an adjunct to managing PsA.

Further research is needed to confirm these preliminary outcomes and evaluate long-term benefits.

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