

CROSSROADS

The Official Newsletter of The Premed Scene



Dear medical newsletter readers,

Happy October! Today, we bring to you the most recent news in medical research! This month is Breast Cancer Awareness Month. Ashby Glover is this month's Rising Stars in Medicine writer, talking about Dr. Terrie-Ann Benjamin and her work as a cardiologist. Siri Nikku ends by sharing significant findings about the Respiratory Syncytial Virus.

Please enjoy reading The Premed Scene's October 2024 Medical Newsletter!

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Breast Cancer Awareness Month

By: Ilana Saidov

Breast cancer remains one of the most common types of cancer, affecting millions of women around the globe. In 2022 alone, this devastating disease was responsible for 670,000 deaths worldwide. A recent study from the University of Copenhagen showcased the immense potential of artificial intelligence (AI) in revolutionizing breast cancer care. Specifically, the study discovered that AI technology is more efficient than current methods at predicting breast cancer risk. Using a specific AI algorithm, researchers can identify cancerous cells earlier and provide patients with the most effective treatment. An essential part of assessing cancer risk is identifying dying cells caused by senescence. Senescent cells are unique because they remain metabolically active but have stopped dividing. This state of senescence plays a dual role in cancer dynamics: while it can help suppress cancer development, it can also contribute to inflammation that can lead to tumor growth. The ability to accurately predict breast cancer risk using AI has significant implications for early detection and treatment strategies. Healthcare providers can form screening and intervention plans to address individual patient needs by identifying senescent cells more precisely. This shift towards personalized medicine could lead to earlier diagnoses and improved screening protocols, significantly enhancing overall outcomes for cancer patients.

Source: University of Copenhagen - The Faculty of Health and Medical Sciences. "AI could predict breast cancer risk via 'zombie cells'." ScienceDaily. ScienceDaily, 25 September 2024. <www.sciencedaily.com/releases/2024/09/240925183513.htm>.



Rising Stars In Medicine: Dr. Terrie-Ann Benjamin

By: Ashby Glover

In the field of cardiology, chronic conditions such as congestive heart failure (CHF) need long-term dedication from a patient's cardiologist. Lifestyle changes, remote monitoring, medication, and stabilizing procedures all work together to extend the lives of those with CHF and relieve their pain. Dr. Terrie-Ann Benjamin is a leading figure in cardiology whose work focuses on treating advanced heart failure and supporting her patients.

Dr. Benjamin initially planned to become a forensic pathologist but found that working as a heart failure and transplantation cardiologist resembles her dream of solving medical mysteries. Treatments for congestive heart failure are complex, crafted through analysis of data and evidence, and tailored to each patient.

Congestive heart failure is a particularly devastating condition where the heart struggles to pump blood normally. This can lead to blood and fluid building up in the lungs and other parts of the body. However, a treatment that works for one person may not work for another. It is in this uncertainty that Dr. Benjamin thrives. The challenge of optimizing care for each patient drew her to this area of cardiology and inspired her. She has created a robust clinic support system for her patients at her practice.



"It's important that patients have this support system at our clinic with nurses and doctors who are trained and dedicated to understanding this population. We get to know our patients really well—that's a big piece of them being successful."

-Dr. Terrie-Ann Benjamin

Dr. Benjamin strives to be a leader and mentor in cardiology, both in delivering quality healthcare to patients and in the administration and oversight of the field. Her devoted attention to her patients and emphasis on a clinic support system serve as a role model for the future of cardiology.

Suzy Frisch. "2024 Top Doctors: Rising Stars Edition." Mpls St Paul, 1 April 2024. <https://mspmag.com/health-and-fitness/2024-top-doctors-rising-stars-edition/>
Terrie-Ann Benjamin. "About." LinkedIn. Retrieved 5 November 2024. <https://www.linkedin.com/in/terrie-ann-benjamin-b6a473108>

Respiratory Syncytial Virus

By: Siri Nikku

Respiratory Syncytial Virus (RSV) is a virus that infects the lungs and respiratory tract. Many of us have already been infected by this virus by age two, but it can also infect older adults. RSV symptoms mirror the common cold symptoms and treatment among older adults and older children. However, RSV can cause severe complications within specific groups such as premature infants, elderly adults, people with heart or lung disease, or anyone who is immunocompromised.

Common symptoms of RSV include congested and runny nose, dry cough, low-grade fever, sore throat, sneezing, and headaches. Severe symptoms occur when RSV touches the lower respiratory tract, inducing pneumonia or bronchitis, including fever, severe cough, wheezing, and difficulty breathing. Short and shallow breathing, cough, poor feeding, irritability, and unusual tiredness are severe symptoms for infants. After being infected, most individuals recover in one to two weeks. In severe cases for more high-risk groups, hospitalization, pneumonia, middle ear infection, asthma, and repeated infections are common complications.

COVID-19 and RSV are intricately correlated, as both viruses are respiratory-based and transmitted. Contracting both COVID-19 and RSV simultaneously is a possibility, especially with many of the symptoms overlapping one another. RSV is spread through the air in contact with infected respiratory droplets, entering the host through the eyes, mouth, or nose. RSV can also be transmitted through direct contact, such as shaking hands. To protect yourself, maintain hygiene by sneezing into your elbow and washing hands often. It is crucial, as well, to encourage the RSV vaccine for those in high-risk groups, such as elderly adults and pregnant people.

Source: <https://www.mayoclinic.org/diseases-conditions/respiratory-syncytial-virus/symptoms-causes/syc-20353098>

