

CROSSROADS

THE OFFICIAL NEWSLETTER OF THE PREMED SCENE

DEAD READERS,

Wishing all of you the happiest end of April! With April showers comes May flowers...and The Premed Scene's new monthly medical newsletter!

We begin with Siri Nikku's article about this month's Rising Star in Medicine- Aletha Maybank! Learn more about Aletha's work in fighting for equity in healthcare. Next, Ilana Saidov talks about new treatment for skin cancer. I later address how chatbots can be beneficial for interactions with patients. Finally, Siri ends by talking about PCOS.

I hope you enjoy the medical newsletter for this April. Till next month!

Aprile Bertomo

RISING STARS IN MEDICINE: ALETHA MAYBANK

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Most Influential Minority
Executives in Healthcare Awards
2022

ALETHA MAYBANK
American Medical Association

FIERCE

RISING STARS IN MEDICINE: ALETHA MAYBANK

BY: SIRI NIKKU

When people hear of the American Medical Association (AMA), people do not usually hear of the people behind this organization. Dr. Aletha Maybank is the chief health equity officer and senior vice president. She has a bachelor's degree from John Hopkins University and a master's in public health from Columbia University Mailman School of Public Health. Dr. Maybank is currently a pediatrician and a preventative medicine/physical health physician.

She joined AMA in April 2019 and her main goal is to fight against racial injustice in the health system and eliminate other structural inequalities in medicine. Dr. Maybank is especially proud of the release of the AMA Organizational Strategic Plan to Embed Racial Justice and Advance Health Equity, which is a three-year plan of how to instill the first steps of action and accountability to address systemic racism in healthcare.

Dr. Maybank started from humble beginnings with her first job working at Hershey Park handing out pretzels. Her first clinical job was as a pediatric resident at Einstein. Before she joined AMA, Maybank was the founding deputy commissioner for the Center for Health Equity at the NYC Department of Health and Mental Hygiene. This center became recognized by NYC leadership, the Centers for Disease Control and Prevention, and the World Health Organization. Dr. Maybank worked well at having equity at a smaller but close-knit level like nearby neighborhoods. She also contributed significantly as the founding director of the Office of Minority Health in the Suffolk County Department of Health Services.

Along with working in several departments to make a difference, Dr. Maybank has been an educator, teaching various medical and public health students about topics associated with health inequities, public health leadership and management, community organization, and physician advocacy and support. In 2012, Dr. Maybank and a group black women physicians who were leaders co-founded "We Are Doc McStuffin", which is a movement that was started by Disney Junior character Doc McStuffins. While Doc McStuffins may have been just a Disney Junior character, Dr. Maybank and her group wanted to portray how important it was to have diversity in medicine and have physicians who looked like their patients to ensure health equity for all.

References

<https://www.fiercehealthcare.com/special-reports/fierce-healthcares-2022-most-influential-minority-executives-healthcare>

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AN INNOVATIVE APPROACH TO SKIN CANCER

BY: ILANA SAIDOV

A team of oncologists and plastic surgeons at Shaare Zedek Medical Center in Jerusalem discovered a new treatment for cancerous skin tumors. It is intended for various skin cancer tumors such as basal cell carcinoma, squamous cell carcinoma, melanoma, and even metastatic liver, pancreas, or bone tumors. The current treatment option for benign tumors is surgery. However, surgery is not always an option which is why a new approach is required. The technique combines electrochemotherapy with a low dose of chemotherapy directly into the tumor or through the vein, along with damage to the cell membrane of the tumor through an electric current. Since the current is delivered to the tumor tissue in a targeted manner, physicians can selectively introduce chemotherapy. This innovative treatment is not only more effective, but it also causes fewer side effects than alternative treatment options.

This treatment approach to skin cancer is currently used in 200 different European centers as it has proved its effectiveness in past clinical studies. Dr. Yoav Gronovich, director of the plastic surgery department, commented, "From today, we will be able to provide patients with cancerous skin tumors with treatment that improves their health and quality of life and allows them to receive effective treatment with fewer side effects." Overall, this treatment offers a new wave of hope for cancer patients with nonsurgical tumors.

Source:

Israeli plastic surgeons perform innovative skin cancer treatment. The Jerusalem Post | JPost.com. (n.d.). Retrieved April 25, 2023, from <https://www.jpost.com/health-and-wellness/article-740208>

ARTIFICIAL INTELLIGENCE FOR HUMAN HEALTH BY: APRILE BERTOMO

Technology has rapidly evolved over the years, bringing about incredible innovations that have the capacity to greatly impact the world as we know it. One specific branch of technology that has become increasingly widespread is artificial intelligence. Artificial intelligence has proven beneficial in a variety of ways, from assisting with activities of daily living and chores in one's household to impacting education, businesses, and agriculture as a whole. The varying uses for artificial intelligence have prompted researchers to look into how it may be instituted in the realm of human health.

In a recent study conducted by Ayers et al., 2023, the researchers specifically aimed to address how chatbot systems often incorporated into artificial intelligence systems can be used for the purpose of improving patient experiences. The researchers specifically looked into whether an artificial intelligence chatbot system, ChatGPT, could provide individuals asking questions about their health with answers that were of similar quality to those of healthcare providers.



To find an answer to this question, Ayers et al., 2023 performed a cross-sectional study in which they compiled a list of 195 different exchanges in which healthcare providers answered questions asked by users on the public forum platform Reddit. Following this, the researchers inputted these same questions in ChatGPT, ultimately compiling the list of responses. After this compilation, the researchers provided both the human and artificial intelligence responses to a panel of healthcare professionals. These physicians were tasked with evaluating the better of the two responses per question. These healthcare professionals scored each response not only on the premise of quality but also on the level of empathy evoked.

Ultimately, it was found that ChatGPT brought forth responses to the provided questions that were of both higher quality and that displayed greater empathy. Although such results may be disheartening, the researchers concluded that the results could be beneficial for physicians. If incorporated in actual clinical settings, the chatbot system could be used in combination with physician input in order to provide better care for patients while also limiting feelings of burnout among healthcare providers.

Works Cited:

Ayers JW, Poliak A, Dredze M, et al. Comparing Physician and Artificial Intelligence Chatbot Responses to Patient Questions Posted to a Public Social Media Forum. *JAMA Intern Med.* Published online April 28, 2023. doi:10.1001/jamainternmed.2023.1838



AN OVERVIEW OF POLYCYSTIC OVARIAN SYNDROME (PCOS)

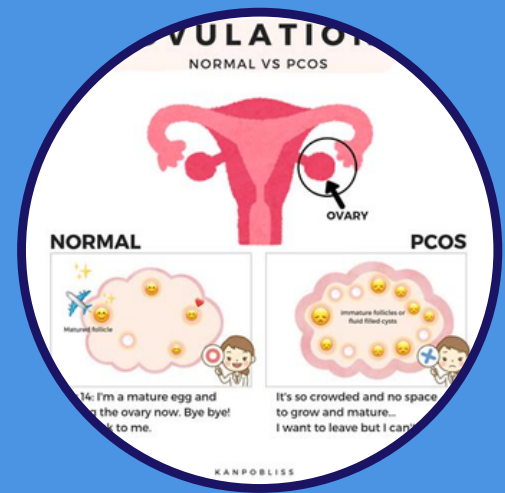
BY: SIRI NIKKU

Polycystic ovarian syndrome (PCOS) is a condition that occurs when the ovaries secrete an excess of androgens, which are male sex hormones usually present in women and assigned female at birth (AFAB) in small amounts. Some people have cysts while others do not.

Ovulation is a process that involves an egg leaving the ovary to be fertilized by sperm; if the egg is not fertilized, it is removed through having a period. However, sometimes there might be a lack of the production of the hormone needed to ovulate, leading to cysts developing. These cysts make hormones called androgens, which often cause many of the symptoms of PCOS.

Some common symptoms of PCOS include missed periods, irregular periods, or extremely light periods; large ovaries with cysts; excess body hair on the chest, stomach, and back; weight gain; acne or oily skin; infertility; small patches of extra skin on the back of the neck, in armpits, and underneath the breasts; weight gain around the abdomen; and thinning hair.

Diagnosis of PCOS is conducted through a health care provider asking about a patient's medical history and symptoms. There is also often a physical exam, which includes a pelvic exam to examine the health of the reproductive organs inside and outside of the body. However, the symptoms can sometimes be a result of other health conditions that aren't PCOS, resulting in other tests like an ultrasound and blood test. For the ultrasound, sound waves and a computer are utilized to produce images of blood vessels, tissues, and organs; in this case, an ultrasound would be used to look at the ovaries and see if there are any cysts. Blood tests involve observing any high levels of androgens and any other hormones. Blood glucose, cholesterol, and triglyceride levels are also examined.



While a hormone level higher than usual might not be a big deal, PCOS complications involve type 2 diabetes, high blood pressure, issues with the heart and blood vessels, and uterine cancer. As mentioned in the symptoms section, there are often difficulties with getting pregnant.

Treatment for PCOS is based on a multitude of factors of the patient such as age, the severity of symptoms, and general health. If a patient wants to become pregnant in the future, treatment can include a change in diet and exercise as well as medications to induce ovulation. Having a healthy diet and an increase in activity can help with losing weight, decreasing blood glucose levels, and using insulin better. For the medications to induce ovulation, there can be problems with overstimulation of the ovaries, leading to pelvic pain. For those who do not plan on being pregnant, there are birth control pills, which can influence menstrual cycles and decrease androgen levels and acne. Diabetes medication can also be used since this is utilized to decline insulin resistance and androgen levels as well as aiding in ovulating more regularly.

While PCOS cannot be cured, the symptoms and health problems can be handled effectively with a mixture of treatments regardless of whether a patient wants to be pregnant or not in the future.

References

<https://www.hopkinsmedicine.org/health/conditions-and-diseases/polycystic-ovary-syndrome-pcos>