

# Health Matters

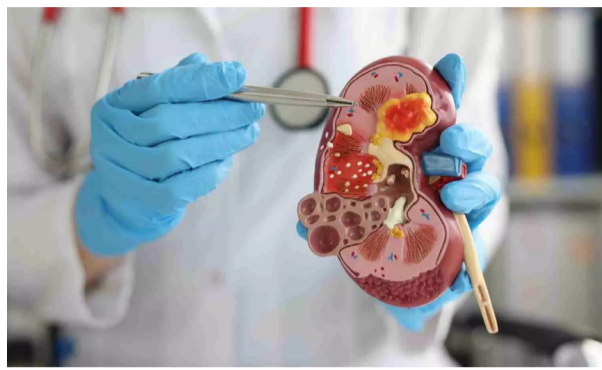
## New method predicts condition of kidney disease

New method developed by researchers from Aarhus University could be a significant step in the treatment of chronic kidney disease. The method can predict the progression of the disease, which could ensure better and more targeted treatment and reduce the need for frequent hospital visits.

Researchers from Aarhus University have developed a new method to predict which patients with chronic kidney failure are at risk of losing kidney function

over time. The method is based on an analysis of acid-base balances in urine samples, which can reveal early signs of acid buildup - a condition that can be harmful to kidney function.

"We discovered that the balance between different acid-base elements in urine samples from patients with chronic kidney disease differs significantly from healthy individuals. This led us to develop a calculation model where the relationship between several of the urine's



acid-base elements could be associated with kidney function and disease progression over time," explains Mads Vaarby Sørensen, PhD and researcher

at the Department of Biomedicine, Aarhus University.

The new method allows doctors to detect acid buildup earlier than what is possible with current

blood tests.

According to Mads Vaarby Sørensen, existing biomarkers can only measure acid buildup when it is severe enough to affect the blood's acid-base balance.

The new acid-base score can reveal imbalances in the urine much earlier in the process.

Another advantage of the new method is its precision.

"Our method has been tested in several independent cohorts and has proven to be very accurate, even when we analyse urine samples from the same patients over a longer period," explains Peder Berg, MD and postdoc at the Department of Biomedicine, Aarhus University.

The method has the potential to change how patients with chronic kidney disease are monitored and treated.

It can distinguish between patients with stable kidney function and those who rapidly lose kidney function.

Chronic kidney disease affects more than ten percent of the adult population and places significant demands on healthcare resources.

"The new method could potentially reduce the need for frequent check-ups for stable patients and free up resources for those with more aggressive disease progression," says Samuel Svendsen, medical resident at the Department of Nephrology at Aarhus University Hospital.

## Gene editing to fuel new cancer therapy

Mayo Clinic researchers mined the molecular foundations of cancer and uncovered a new reason chimeric antigen receptor (CAR-T cell therapy) fails in some patients. This discovery has fuelled new strategies that incorporate antibodies and gene editing to improve the outcome of this breakthrough treatment for patients. The research by Saad Kenderian, MB, ChB, a consultant in haematology at Mayo Clinic, was published recently.

"This is a very exciting discovery that offers new hope of overcoming challenges of CAR-T cell therapy that many cancer patients experience," says Dr. Kenderian, senior author. "We describe for the first time a mechanism causing the resistance and failure of CAR-T cells, which lies within a protein routinely made by the engineered cells. This research puts us on a new path for improving the longevity of CAR-T cell therapy."

CAR-T cell therapy is a regenerative immunotherapy in which a person's T cells are collected from the body and genetically modified in the lab to target proteins on tumors. The engineered T cells are returned to the patient, where they act as a living drug that continually harnesses the power of the immune system to recognize and destroy tumors.

CAR-T cell therapy is an emerging treatment for blood cancers, putting some B-cell lymphomas and leukemias into complete remission. However, this potential game-changing treatment works very well in only about one-third of cancer patients. One of the main



drivers of failure is T-cell exhaustion. That condition occurs when CAR-T cells weaken, losing their ability to multiply, target and eliminate cancer cells. T-cell exhaustion causes relapse in many patients within a year of receiving CAR-T cell therapy.

In search of new solutions, Dr. Kenderian's team analyzed pre-infusion CAR-T cells from patients treated with CAR-T cell therapy. They compared data from patients who went into remission to those whose CAR-T cell therapy failed. They also studied how CAR-T cells killed lymphoma, leukemia and multiple myeloma tumors grown in laboratory mice. They compared the results of mice who responded well to CAR-T therapy to those that did not.

The team documented an elevated amount of the protein interleukin-4 (IL-4) in both the human and mice samples of CAR-T cell exhaustion. IL-4 is a protein that regulates inflammation and immunity. In moderation, the IL-4 protein acts as a catalyst that activates the body's immune system against cancer. This study found the supercharged CAR-T cells sometimes make too much IL-4.

"We discovered CAR-T cells make proteins that are not always helpful to patients. Too much of an IL-4 protein overloads cells and can cause cell

exhaustion," says Carli Stewart, a Ph.D. student within Mayo Clinic Graduate School of Biomedical Sciences and first author. "This finding prompted us to explore strategies to modify or eliminate the IL-4 protein and study whether that would recharge CAR-T cells and restore their ability to stop cancer."

The team used clustered regularly interspaced short palindromic repeats (CRISPR) gene-editing technology to explore genetic function and interaction in CAR-T cell therapy. CRISPR was a key tool in singling out the overabundance of the IL-4 protein in dysfunctional CAR-T cells. CRISPR acts as "molecular scissors" to precisely cut and alter a person's genes. In this case, researchers used the high-tech tool to knock out or modify the IL-4 protein causing CAR-T cell dysfunction.

"After applying the CRISPR gene-editing technology to remove the IL-4 protein from the cell, our team documented a significant improvement in the ability of CAR-T cell therapy to recognize and kill cancer," says Dr. Kenderian.

Researchers also tested monoclonal antibodies to block or neutralize the IL-4 protein. They found that it also rejuvenated CAR-T cells and their ability to block cancer.

## Light pollution new Alzheimer's risk factor

Outdoor light at night could be a significant risk factor in Alzheimer's disease, according to new research from Rush.

While light pollution is associated with increased risk of some disorders and diseases, this is the first time it had been associated with Alzheimer's disease. The study was conducted at Rush University System for Health.

"Our research shows that there is an association in the U.S. between Alzheimer's disease prevalence and exposure to light at night, particularly in those under the age of 65," said lead investigator, Robin Voigt-Zuwala, PhD, an associate professor at Rush.

"Nightly light pollution - a modifiable environmental factor - may influence risk for Alzheimer's."

While legislation in



some states aims to reduce light pollution, levels of nighttime light remain high in many parts of the country.

In studying light pollution maps, researchers looked at the lower 48 states and incorporated medical data associated with Alzheimer's disease risk factors and divided the groups by light intensity.

In the five groups, they found that light intensity was correlated with Alzheimer's disease prevalence even when some well-established

disease factors were not.

While the cause is unknown, higher nighttime light intensity was associated with a greater Alzheimer's disease prevalence than any other risk factor examined in the study for those under the age of 65, suggesting that younger people may be more sensitive to the effects of light exposure at night.

"Certain genes can influence early-onset Alzheimer's, and these same genes may cause increased vulnerability to the effects of nighttime

light exposure," Voigt-Zuwala explained.

"Additionally, younger people are more likely to live in urban areas and have lifestyles that may increase exposure to light at night."

Exposure to light influences the body's natural sleep-wake pattern, which is called a circadian rhythm.

Exposure to light at night can disrupt a person's circadian rhythm, which can promote inflammation and make a person less resilient and more prone to disease.

Researchers did not examine light inside the home at night or how it might impact health.

Voigt-Zuwala said, "The good news is that simple changes can be made with minimal effort to reduce exposure to light at night - adding black out curtains or sleeping with an eye mask."

## Adoption of surgical robotic technology pivotal in addressing gynaecological disease: Dr. Preetha Reddy

Chennai, Aug 19: Dr. Preetha Reddy, Vice Chairperson of Apollo Hospitals, emphasized that the adoption of advanced medical technologies, such as robotic-assisted surgery, is crucial in addressing the growing burden of gynaecological diseases on India's healthcare system. Speaking at Asia-Pacific's largest gynaecological conference, Dr. Preetha Reddy delivered a special address during the live surgery workshop at Apollo Proton Cancer Centre in Chennai. "To fully harness the transformative potential of advanced technology in gynaecological practices, we must commit to expanding training programs and fostering collaborations that elevate surgical proficiency. I am confident that this APAGE conference, in collaboration with Apollo Hospitals and leaders in surgical technology, will inspire many to embrace similar partnerships for the betterment of our healthcare ecosystem," she added.



Speaking at the event, Dr. Kurian Joseph, Chairman of Organising Committee, APAGE said, "It is with immense pleasure that we gather here at the 24th Annual Congress of APAGE. The participation of 500 national delegates and international delegates made this conference a huge success and remarkable event with the exchange of scientific knowledge and surgical skills. As robotic-assisted surgery becomes more prevalent with significant advancements in the field of gynaecology, international conferences like these will give opportunities for healthcare professionals to network, share thoughts about the latest innovation and clinical practices".

Highlighting the need to train more surgeons in robotic-assisted surgery, Dr. Arnold Advincula, Minimally Invasive Gynaecologic Surgeon at Columbia University Medical Centre, New York, United States said, "The increasing incidence of gynecological disorders in India presents a significant health challenge for women. Advanced surgical interventions are crucial to effectively manage and address these evolving needs of patients.

As new-age technologies emerge and we integrate them into clinical practice, there is a need for the healthcare ecosystem to address the existing skill gap by investing in comprehensive education and familiarization programs. These initiatives will help surgeons achieve proficiency in cutting-edge technologies like robotic-assisted surgery."

"The conference offered insightful sessions on managing the breadth of complex benign and malignant gynaecologic pathology through various minimally invasive approaches. Surgeons also had the opportunity to gain hands-on experience in performing fertility-sparing reproductive surgeries in using advanced robotic systems such as the da Vinci", he added.

Dr. Meenakshi Sundaram, a leading gynaecologist at Apollo Hospitals said, "With keynote lectures, panel discussions, live surgical demonstrations and hands-on workshops, the conference cultivated a dynamic learning environment for the attendees, significantly contributing to their professional development and career growth. The conference served as an invaluable opportunity for all participants to learn from the experts in the industry, from beginners learning the fundamentals of minimally invasive surgeries to robotic surgeons advancing their skills and techniques. As more surgeons undergo training in robotic-assisted surgery through familiarisation programs at these conferences, India will see a wider adoption of the technology. Consequently, more patients will benefit from enhanced access to advanced treatments that offer better patient outcomes with less blood loss, and faster recovery."

## Study links diet to increased heart disease

Cardiovascular diseases are the leading cause of mortality in Western Europe, accounting for one third of deaths in 2019. Diet is thought to be responsible for around 30% of such deaths. Nutrition-related prevention policies therefore constitute a major public health challenge for these diseases.

In an article, researchers from the Nutritional Epidemiology Research Team (CRESS-EREN), with members from Inserm, Inrae, Cnam, Université Sorbonne Paris Nord and Université Paris Cité, in collaboration with researchers from the International Agency for Research on Cancer (WHO-IARC), report an increased risk of cardiovascular diseases associated with the consumption of foods that rank less favourably on the Nutri-Score scale (new 2024 version) within the European cohort EPIC. A total of 345,533 participants from the cohort, spread across 7 European countries and followed for 12 years, were included in the analyses.

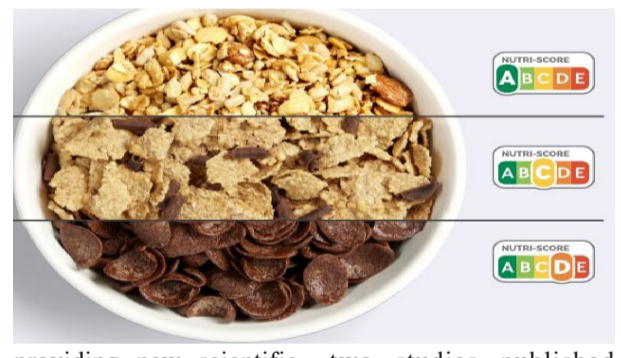
Officially adopted in France in 2017 (and in 6 other European countries since), the Nutri-Score aims to provide rapid information on the nutritional quality of foods and drinks to help and encourage consumers to compare them and choose those that offer a better nutritional quality. In parallel, it encourages

manufacturers to improve the nutritional quality of their products.

The Nutri-Score has 5 categories, ranging from A (dark green - higher nutritional quality) to E (dark orange - lower nutritional quality). An algorithm ranks each product according to its levels - per 100 g - of energy, sugars, saturated fatty acids and salt (to limit) and proteins, fruits, vegetables and pulses (to favour).

A number of studies published in international scientific journals have shown the validity of Nutri-Score in characterising the nutritional quality of foods and its efficacy in guiding consumers towards more nutritious choices (over 140 publications). In particular, links between the consumption of foods with a less favourable Nutri-Score (lower nutritional quality) and an increased risk of cardiovascular diseases have so far been observed in French studies (SU, VI-MAX and NutriNet-Santé cohorts). Studies in France, UK, Spain and Italy have also seen similar associations with an increased risk of various chronic diseases as well as higher mortality.

In this new study, the researchers focused on the latest version of the Nutri-Score algorithm (updated in 2024, see box), linked to the risk of cardiovascular diseases, in a large population spread across 7 European countries, with the aim of



providing new scientific evidence for validating the Nutri-Score on a European scale. It follows

two studies published in 2018 and 2020 in the same population on cancer risk and mortality.

**Kotak Mahindra Bank** Online E - Auction Sale Of Asset

**KOTAK MAHINDRA BANK LIMITED**

Regd. office: 27 BKC, C-27, G-Block, Bandra/Kurla Complex, Bandra (E) Mumbai, Maharashtra, Pin Code- 400051, Branch Office: Kotak Mahindra Bank Limited #185, 2nd Floor, Mount Road, Anna Salai, Chennai 600 006. (Land Mark: Citroen Car Showroom And Next To Thousand Lights Metro Railway Station)

**Sale Notice For Sale of Immovable Properties**

E-auction sale notice for sale of immovable assets under the securitisation and reconstruction of financial assets and enforcement of security interest act, 2002 under rule 8(5) read with proviso to rule 9(1) of the security interest (enforcement) rule, 2002. Subsequent to the assignment of debt in favour of Kotak Mahindra Bank Limited by "PNB Housing Finance Limited (hereinafter referred to as "PNBHF") the authorised officer of PNB Housing Finance Limited (hereinafter referred to as "PNBHF") has taken the possession of below described immovable property (hereinafter called the "Secured Asset") mortgaged/charged to the secured creditor on 05.04.2019. Notice is hereby given to the borrower (s) and guarantor (s) in particular and public in general that the bank has decided to sell the secured asset through e-auction under the provisions of the sarfaesi act, 2002 on "As is where is", "As is what is" and "Whatever there is" basis for recovery of Rs. 145,76,974/- (Rupees One Crore Forty Five Lakh Seventy Eight Thousand Nine Hundred Seventy Four Only) outstanding as on 08.11.2018 along with future applicable interest till realization, under the loan account No. HOU/CHE/01630443 & HOU/CHE/0516298959; loan availed by Mr. R. Sivakumar & Mrs. K.P. Poushpa as per below details.

Particular	Detail
Date of Auction	15.10.2024
Time of Auction	Between 12:00 pm to 1:00 pm with unlimited extension of 5 Minutes
Reserve Price	For Property No.1- Rs. 24,00,000 /-(Rupees Twenty Four Lakh Only)
	For Property No.2- Rs. 24,00,000/- (Rupees Twenty Four Lakh Only)
Earnest Money / Deposit (EMD)	For Property No.1- Rs. 2,40,000 /-(Rupees Two Lakh Forty Thousand Only)
	For Property No.2- Rs. 2,40,000/- (Rupees Two Lakh Forty Thousand Only)
Last Date For Submission of EMD with KYC	14.10.2024 up to 5:00 p.m. (IST)
Description of Asset	<b>Property No.1: Schedule A-</b> All that piece and parcel of vacant land measuring an extent of 2 acres and 75 cents or thereabouts out of the total extent of 3 acres and 49 cents, comprised in survey No.110/3, situated at No.8, Ayyanchery Village, Chengalpattu Taluk, Kancheepuram District, bounded on the North by: Government Waste Land, South by: Land in Survey No.110/4, East by: remaining land belongs to T. Gajendran in survey No.110/3 including the common passage, West by: Baba Nagar Extension Layout Park and Passage situated within the registration district of Chennai South and Sub-registration District of Guduvanchery. <b>Schedule-B:</b> 588sq.ft., undivided share of land out of schedule 'A' mentioned property, together with Residential Flat bearing No. 229, in third floor measuring 1176sq.ft., (inclusive of common area) with car parking, flat in the name of "Sai Engineers Apartments", situated at No.8, Ayyanchery Village, Chengalpattu Taluk, Kancheepuram District. <b>Property No.2: Schedule A-</b> All that piece and parcel of the vacant land measuring an extent of 2 acres and 75 cents or thereabouts out of the total extent of 3 acres and 49 cents, comprised in survey No.110/3, situated at No.8, Ayyanchery Village, Chengalpattu Taluk, Kanchipuram District, The Land Being: North by: Government Waste Land, South by: Land in survey No.110/4, East by: remaining land belongs to T. Gajendran in survey No.110/3 including the common passage, west by: Baba Nagar Extension Layout Park and Passage situated within the registration district of Chennai South and Sub-registration District of Guduvanchery. <b>Schedule-B:</b> 588sq.ft., undivided share of land out of schedule 'A' mentioned property, together with residential flat bearing No. 529, in third floor measuring 1176sq.ft., (inclusive of common area) with car parking, flat in the name of "Sai Engineers Apartments", situated at No.8, Ayyanchery Village, Chengalpattu Taluk, Kancheepuram District.
Known Encumbrances	NIL

The borrowers' attention is invited to the provisions of sub section 8 of section 13, of the act, in respect of the time available, to redeem the secured asset. Borrowers in particular and public in general may please take notice that if in case auction scheduled herein fails for any reason whatsoever then secured creditor may enforce security interest by way of sale through private treaty, in case of any clarification/requirement regarding assets under sale, bidder may contact Mr. Vishal Adishesan (+91 9941016600), Mr. Rajender Dahiya (+91 8448264515), Bidder May Also Contact The Bank's Iv No. (+91-9152219751) For Clarifications. For detailed terms and conditions of the sale, please refer to the link <https://www.kotak.com/en/bank-auctions.html> provided in the bank's website i.e. [www.kotak.com](http://www.kotak.com) and/or on <http://bank.auctions.in/>

Place: Chennai, Date: 18.09.2024. Authorized Officer: Kotak Mahindra Bank Limited