

## Covid, flu, pneumonia among vaccines essential for adults with heart disease

Adults with cardiovascular disease must be immunised against conditions such as Covid-19, influenza, respiratory syncytial virus (RSV), pneumonia, herpes zoster (shingles), and other diseases, according to new recommendations released by the American College of Cardiology (ACC). The guidance also provides detailed evidence for each vaccine recommendation and answers to frequently asked questions to guide conversations between clinicians

and patients. "Vaccination against communicable respiratory diseases and other serious diseases is critical for people with heart disease, but barriers exist to ensuring people are educated on which vaccines to get, how often to get them, and why they are important," said Paul Heidenreich, chair of the CCG writing committee. "With this document, we want to encourage clinicians to have these conversations and help their patients manage vaccina-

tion as part of a standard prevention and treatment plan," Heidenreich added. People with heart disease have a higher risk of infection when exposed to a respiratory virus and a higher risk of adverse outcomes, including hospitalisation and death. Studies have shown that vaccines are highly effective in reducing these risks; however, a recent study showed that only 30 per cent of primary care physicians are assessing their patients' vaccination status at clinic visits.

An annual flu vaccine is recommended for all adults to reduce cardiovascular morbidity, cardiovascular mortality, and all-cause death. However, nasal versions of the vaccine are not recommended in patients over 50. Pneumococcal vaccine, recommended for adults 19 or older with heart disease, can protect against pneumonia, bacteremia, and meningitis, and the related risk of hospitalisation and death. The ACC also recommended heart patients



receive the seasonal Covid vaccine, and the RSV vaccine for adults 75 or older and for adults aged 50–74 with heart disease. This, it said, will protect against lower respiratory disease that can result in hospitalisation and death. Current guidance recommends a single dose, rather than annual vaccination. The Concise Clinical Guidance (CCG) mainly

focuses on respiratory vaccines but also offers guidance based on emerging evidence that other vaccines -- such as the herpes zoster (shingles) vaccine, which may offer cardiovascular protective benefits. The shingles vaccine is recommended for adults 50 or older to protect against the increased risk of stroke and heart attack when infected.

## WHO-recommended spatial repellants effective for tackling malaria: Study

Spatial repellents -- called a "spatial emanator" can prevent mosquito bites and offer significant protection against malaria, according to a study.

Researchers from the University of California-San Francisco, US, said that spatial repellents are a relatively new class of insecticide that can be disseminated on something the size of a sheet of paper, offering protection for up to a year against mosquitoes that spread malaria, as well as dengue, West Nile, yellow

fever, and Zika.

In a systematic review, appearing in the journal eBioMedicine, the team analysed more than 25 years of data on some 1.7 million mosquitoes.

The findings showed that this "spatial emanator" distributes chemicals through the air and can prevent more than one out of every two mosquito bites.

The analysis comes just as the World Health Organization (WHO) recently recommended

the use of spatial emanators, the first new vector control product class available in more than 40 years. Spatial emanators can be used day and night, and do not require heating or electricity, making them easy to use in remote areas in Africa, South America, and Southeast Asia, where malaria is prevalent.

"We finally have a new way to protect against mosquito bites, especially one that fills in some of the gaps of our existing methods," said Ingrid Chen, Associate Professor of epi-

demiology and biostatistics at UCSF.

"It's lightweight, affordable, and easy to use, so it can be used to help save lives in all parts of the world," added Chen.

Malaria killed 597,000 people in 2023, the vast majority of whom were children under five years old in sub-Saharan Africa. Malaria has not been endemic to the U.S. since the 1950s, although locally transmitted cases occasionally occur in places like Florida and Texas.

## Falling Sick Frequently? Nutritionist Suggests Zinc As The Immune Boost You Might Be Missing

As temperatures drop, many of us are more susceptible to coughs, colds and sneezing bouts, even if we avoid cold foods and drinks. While Vitamin C is often praised for its immune-boosting properties, the role of Zinc in supporting immunity is just as crucial but less commonly recognized. Known as an "immune system equalizer," Zinc plays a significant role in strengthening the body's defences, helping it fight off infections more effectively. Incorporating Zinc rich foods or supplements into your diet can be a proactive step in staying healthy during cold and flu season.

"Most people are deficient in the mineral zinc and

therefore they keep falling sick very frequently. They have frequent cough, cold, infections," Nutritionist Anjali Mukerjee says in an Instagram video. She describes Zinc as an "immune system equalizer" and informs that it supports immunity. "We all need zinc. It supports the body in such a way that it does not allow the immune system to either over-react or under-react," she says.

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## Air Pollution: Follow These Tips For Better Respiratory Health During Festive Season

Air pollution typically rises during festive seasons, especially Diwali, due to increased use of fireworks, which release harmful gases and particulate matter into the atmosphere. Combined with other seasonal factors like lower wind speeds and cooler temperatures, this can lead to smog and poor air quality, especially in densely populated urban areas. The pollutants from firecrackers such as sulphur dioxide, carbon monoxide, and particulate matter pose respiratory health risks. While festivities are a time for joy and celebration, taking steps to protect respiratory health can help mitigate the negative effects of pollution during these times. Keep reading as we share tips to help protect you from air pollution.

9 Tips to help protect your respiratory system during festive season

1. Stay indoors during peak pollution hours Avoid going outside during peak pollution hours, typically in the evening when firecrackers are most commonly set off.

Staying indoors during these times reduces your exposure to air pollutants, helping protect your respiratory health. If you must go out, try to minimise the time spent outside.

2. Use air purifiers at home

Air purifiers equipped with HEPA filters can remove harmful particles and pollutants from indoor air. Using an air purifier in your home, especially in frequently used rooms, can create a cleaner environment for breathing, reducing respiratory stress caused by external pollution.

3. Wear a protective mask outdoors

Wearing an N95 or N99 mask when stepping outside can significantly reduce inhalation of airborne pollutants. These masks filter out fine particulate matter, like PM2.5, which can otherwise penetrate deep into the lungs and cause respiratory issues. Make sure your mask fits properly for maximum protection.

4. Include antioxidant-rich foods in your diet

Foods high in antioxi-

dants, such as berries, nuts, and leafy greens, can help combat oxidative stress caused by pollution. Antioxidants neutralise free radicals generated from pollutant exposure, strengthening your immune system and supporting respiratory health.

5. Practice deep breathing exercises indoors

Regular deep breathing exercises, like pranayama, can strengthen lung capacity and promote lung detoxification. Practicing these exercises indoors, away from polluted air, helps clear out any pollutants trapped in the respiratory system and improves lung function over time.

6. Stay hydrated Drinking plenty of water helps keep mucous membranes in the respiratory tract moist, making it easier to filter out pollutants and irritants. Hydration also supports the body's natural detoxification processes, flushing out toxins from exposure to pollution.

7. Limit firecracker usage Minimising the use of firecrackers during Diwali not only helps

reduce pollution but also sets an example for sustainable festivities. Many cities and communities are encouraging green celebrations, and by choosing quieter alternatives, you can contribute to a cleaner, healthier environment.

8. Use nasal rinses to clear airways

Rinsing your nasal passages with a saline solution can help flush out any pollutants and allergens that may have been inhaled. Nasal rinses keep your airways clear, reduce irritation, and are especially helpful if you've been outdoors for extended periods.

9. Keep indoor plants to purify the air

Indoor plants like spider plants, peace lilies, and snake plants naturally absorb certain toxins and improve indoor air quality.

Having these plants in your living space can create a healthier environment by reducing some airborne contaminants. Keep these tips in mind for better respiratory and overall health during this time.

## Study explains why diabetes drives more aggressive breast cancers



People with Type 2 obesity-driven diabetes tend to have more aggressive breast cancers. A new study showed that blood factors drive breast can-

cer aggression. Researchers at Boston University, US, showed that tiny particles in the blood -- known as exosomes -- get altered by

diabetes. These exosomes can reprogramme immune cells inside tumours, making them weaker and allowing the cancer to grow and

spread more easily.

"Breast cancer is already challenging to treat, and people with type 2 diabetes have worse outcomes, but clinicians don't fully understand why," said corresponding author Gerald Denis, Professor at BU.

"Our study reveals one possible reason: diabetes changes the way the immune system works inside tumours. This could help explain why current treatments, like immunotherapy, don't work as well in patients with diabetes. Knowing this opens the door to better, more personalised treatments for

millions of people," Denis added.

In the study, researchers used tumour samples from breast cancer patients to grow 3D tumour models in the lab. Known as patient-derived organoids, these models contain the immune cells originally found in the tumour. These mini tumours were treated with blood exosomes from people with and without diabetes, but also without any cancer.

Then, researchers analysed the organoids using single-cell RNA sequencing to see how the exosomes affected

the immune cells and the tumour itself.

"This is the first study to directly link exosomes from people with type 2 diabetes to suppressed immune activity inside human breast tumors," Denis said.

The patient-derived organoid system is the first to preserve original immune cells from human tumours, letting scientists study tumour-immune interactions in a lab setting that closely mimics real life.

In addition to breast cancer, this study may also be relevant to other cancers affected by immune suppression and metabolic disease.

## EDUCATION PLUS

### What lies beyond the classroom



The curriculum in Management schools must inculcate job skills and competencies in students as organisations are eyeing for candidates with exceptional skills and the competition is immense. Case study analysis and live projects with industry is a great way to

enhance strategic problem-solving skills. Students at ITM Business School hail from Kashmir to Kanyakumari and the new environment, the educational rigour they experience teaches them to combat any stressful situation. It is said that a caterpillar must experience the journey out of the cocoon on its own to become a beautiful butterfly and this holds true for management students who have to feel the grind during their Management education to be corporate ready. Learning at the B School should be beyond the classroom and even the syllabus, it has to be life & career skills.

Create industry connect

Corporates pick up management students after a through selection process that tests every skill and capabilities. Even the emotional intelligence of the students is tested through psychometric tests, so one can imagine the kind of preparation the students ought to gear up to. There is no escape from fudging ones' emotional state, the truth alone speaks. Management students have to realise that the selections by corporates is out of hundreds and thousands of students from varied colleges spread across India. The wide choice that companies enjoy in selecting the right candidate is what prompts B Schools to innovate and create the best learning for their students. ITM came out of its conventional two months internship realising that corporates want the students to have prior understanding of the corporate culture, be more savvy at work, have real on the job training and have a broad understanding of business before they enter into the corporate world.

Be part of Events and Extra-curricular Activities

The various extra-curricular activities in colleges provides ample opportunities for students to improve their team skills, planning, organising, problem solving and leadership skills. Students must never shy away from challenges that give them a chance to face huge crowds and competitions that make them stronger whether they win or lose.

Clubs, Committees and Alumni interactions to enhance interpersonal skills

Becoming members of various clubs like the Book club, Debate club, Music Club, Sports Club etc makes them pursue their hobby and at the same time a chance to develop interpersonal skills. Alumni interactions is a great way to develop networking skills and alumni can be great mentors for the students.

Be aware of Daily News

Reading the newspaper is very important for every management student. Nowadays there are news apps available which can give updates of the industry and the ever-changing world. The students' current news awareness talks volumes about the students' curiosity for learning, their general knowledge and connect with the environment.

Develop Skills through Group discussions and Thought Enhancing Activities

Testing skills through Group discussion and making it an elimination round has become common with most corporates. GDs bring out communication skills, analytical skills, knowledge, team skills and presentation skills, all at one go! Basically, students must know to make a mark even in a crowd of disjointed opinions. Well prepared students who have participated in several group discussions will have an edge over the others.

Aptitude and attitude are criteria that corporates want the youngsters to possess. Mathematical proficiency, logical reasoning and verbal ability, though have been entry points for management programs, students have to constantly upgrade to the expectation of corporates through regular practice.

Conclusion- Conscious Preparation

A plethora of activities other than class room learning is essential for varied skills that companies are seeking in the ideal candidate. There is wealth of information that students gain in the two years of Management Education, but to get the best out of the exposure, students have to be alert and conscious about picking up every practical skill which is hidden in the extra curricular activities, that is what we call holistic learning!

## Importance of teacher training

It is important to understand that teaching is an evolving skill because a good teacher like a good student keeps on learning within the framework of information. Teaching and learning go hand in hand & teaching is truly lifelong which makes it important for schools to invest immensely in professional development of staff.

Professional Development is the need of the hour and continuous teacher training/enhancement is necessary for teachers to equip themselves & cater seamlessly to the 21st century learner.

It is a known fact those students who have well informed teachers tend to perform far better than their peers. Therefore, it is very important that the school management /leadership team pay attention to professional development of staff.

Training of staff must centre on subject-specific training and generic training that lead to the holistic development of all those concerned. Teacher training is important for both experienced and those teachers who are novice to the teaching profession. Teachers must get a hang of innovative pedagogy, interactive assessment techniques and use of differentiation in the classroom to enliven the teaching-learning process. It's important that teachers be aware of the different kind of learners under their care and ways of dealing with them-that's where good teacher training comes to play. Good teacher training leads to positive learning environments and in turn this leads to happy children who are more than willing to come to school.

Mentoring and coaching too, form a part of teacher training which helps teachers learn from best practices and analyze and reflect on their teaching.

Thus, ongoing Professional Development is critical part of the teaching-learning process. Good teacher training puts emphasis on updating teachers with latest research in the education field.

It's important that teachers know how children learn, it's important that teachers know up-and-coming technology tools for enhancing the classroom experience. Teachers must learn to collaborate, innovate and reflect and that's where professional development comes to play. Learn, unlearn & relearn is the only pathway to be a successful & outstanding teacher. Therefore, why questions our though processes and say Yes to professional development- that's how important it is...