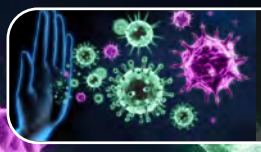
HEART NEWS

...NHI Dialogue

Vol. 64 No. 2 Since 1963 Health Magazine of All India Heart Foundation & National Heart Institute April – June 2025



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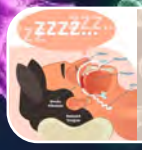

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Health Magazine of :

All India Heart Foundation
&
National Heart Institute

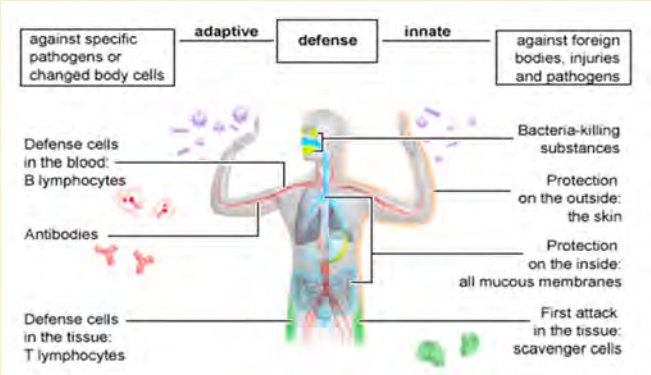
For Private Circulation Only

Immunity: The Key to a Healthy Life

Definition: What is Immunity?

Immunity is the body's natural defence mechanism that protects against infections, diseases, and harmful foreign invaders like bacteria, viruses, and toxins. It is a complex network of cells, tissues, and organs, primarily led by the immune system, which detects and eliminates threats to maintain overall health. Immunity can be classified into two main types:

1. **Innate Immunity –** The body's first line of defence, which includes physical barriers like skin and mucous membranes & the immune cells that respond immediately to infections.
2. **Adaptive Immunity –** A specialized response developed over time, where the body remembers previous infections and provides long-term protection through antibodies.



Role of Immunity in Daily Life

Immunity plays a crucial role in our everyday health and well-being. It helps us to fight infections, heal wounds, and recover from illnesses. A strong immune system:

- Prevents frequent infections like cold, cough & flu.
- Helps in faster recovery from injuries and diseases.
- Protects against chronic diseases and even some cancers.
- Supports mental and physical well-being, keeping energy levels high.
- Reduces allergic reactions and inflammatory disorders.

Features of Low Immunity

- When the immune system is weak, the body becomes vulnerable to infections and diseases. Common signs of low immunity are frequent colds, coughs, and flu, slow wound healing, difficulty in recovering from illnesses, digestive problems like diarrhoea. It may also cause skin infections and rashes, Increased allergies and inflammation.

Causes of Low Immunity

1. **Nutritional Deficiencies:** Lack of vitamins (A, C, D, E, B6, B12), minerals like zinc, iron, and selenium in diet and protein deficiency which affects the antibody production
2. **Chronic Stress & Lack of Sleep:** Stress hormones (cortisol) suppress immune function & inadequate sleep reduces white blood cell activity
3. **Poor Gut Health:** Imbalance of gut microbiota & chronic digestive issues like leaky gut syndrome affects immune response
4. **Sedentary Lifestyle:** Lack of exercise weakens immune response
5. **Chronic Illness & Medical Conditions:** Diabetes, cancer, kidney disease, HIV/AIDS and autoimmune disorders like lupus, rheumatoid arthritis
6. **Frequent Use of Medications:** Long-term use of antibiotics, steroids, and immuno-suppressants Radiation exposure from devices
7. **Unhealthy Lifestyle Choices:** Like smoking and excess alcohol consumption
8. **Aging:** Natural decline in immune function with age
9. **Exposure to Environmental Pollution:** Environmental pollution is a major threat to human health, impacting various bodily functions, including the immune system. Here's how pollution affects immunity:

I. **Air Pollution and Immunity: Air** pollution from vehicle emissions, industrial waste, and burning fossil fuels contains harmful pollutants like particulate matter (PM2.5 and PM10), carbon monoxide, sulphur dioxide, and nitrogen oxides. These pollutants **damage lung immunity, inflame the immune system, increase allergy risk** & **weaken adaptive immunity –** Long-term exposure reduces the body's ability to produce antibodies against pathogens.

II. **Water Pollution and Immunity:** Contaminated water containing heavy metals (lead, arsenic, mercury), pesticides, and bacteria affects immune function.

III. **Soil Pollution and Immunity:** Soil contaminated with pesticides, industrial waste, and plastic pollutants can enter the food chain, affecting immunity:

IV. **Noise Pollution and Immunity:** Chronic exposure to loud noise from traffic, industries, and urban life affects immunity by increasing stress hormones (High cortisol levels) & by disrupting the sleep.

Diseases Caused by Low Immunity

A weakened immune system increases the risk of various infections and diseases, including:

1. **Common Infections –** Frequent colds, flu, pneumonia, and urinary tract infections. Other severe infection like Tuberculosis, hepatitis, and chronic viral infections.
2. **Opportunistic Infections –** Diseases like HIV/AIDS, where the immune system is so weak that even minor infections become life-threatening.
3. **Cancer –** A weak immune system may fail to detect and destroy abnormal cells, leading to cancers like leukaemia and lymphoma.
4. **Autoimmune Disorders –**Autoimmune diseases occur when the body's immune system mistakenly attacks its own healthy cells, tissues, and organs. Normally, the immune system defends the body against harmful invaders like bacteria and viruses. However, in autoimmune diseases, it fails to distinguish between self and non-self, leading to inflammation and damage. The common examples of autoimmune disorders are rheumatoid arthritis, lupus, and type 1 diabetes.
5. **Low Immunity & Heart:** A weak immune system not only increases the risk of infections but also has a significant impact on heart health. Chronic inflammation, frequent infections, and an inability to fight harmful agents can lead to cardiovascular diseases. Here's how low immunity affects the heart:

i. **Increases Inflammation in Blood Vessels:** A weak immune system fails to regulate **inflammation**, which may increase the risk of **atherosclerosis**, where fatty deposits build up in arteries, narrowing blood flow and increasing the risk of heart attacks and strokes.

ii. **Higher Risk of Viral & Bacterial Infections Affecting the Heart:** Viral infections like influenza, COVID-19, and herpes can cause **myocarditis**, while bacterial infections like streptococcus & staphylococcal can lead to **endocarditis**, damaging heart valves and function.

iii. **Weakens the Heart's Defence Against Stress:** Low immunity reduces the body's ability to manage **oxidative stress**, which damages heart tissues and may increase the risk of heart failure.

iv. **Increases Blood Clotting Risks:** Chronic immune system dysfunction can trigger excessive **blood clot formation** leading to heart attacks or strokes.

v. **Poor Healing After Cardiac Events:** A weak immune system slows down **tissue repair**, making recovery from heart attacks, surgeries, or other heart conditions more difficult.

How to Boost Immunity Without Medicines

A strong immune system can be naturally enhanced through a healthy lifestyle. Key methods include:

- **Healthy Diet –** Eating fresh fruits, vegetables, whole grains, nuts rich in omega3 fatty acids and seeds provides essential vitamins and antioxidants that strengthen immunity.
- **Regular Exercise –** Physical activity improves circulation and stimulates immune cell production.
- **Adequate Sleep –** Sleeping 7–9 hours per night helps the body repair and maintain immunity.
- **Hydration –** Drinking plenty of water flushes out toxins and keeps the immune system active.
- **Sunlight Exposure –** Getting sunlight boosts Vitamin D levels, which is essential for immune function.
- **Stress Management –** Chronic stress weakens immunity; meditation, yoga, and deep breathing help manage stress.

How Yoga & meditation boosts Immunity:

1. *Reduces Stress & Cortisol Levels*: Chronic stress weakens immunity by increasing cortisol, a stress hormone that suppresses the immune response. Yoga, through deep breathing and mindfulness, reduces stress and helps maintain a balanced immune function.
2. *Improves Blood Circulation & Lymphatic Drainage*: Yoga postures stimulate blood

circulation, ensuring that oxygen and nutrients reach immune cells effectively. It also enhances lymphatic drainage, which helps remove toxins and fight infections.

3. *Strengthens the Respiratory System*: Pranayama (breathing exercises) increases lung capacity, clears toxins from the respiratory tract, and improves oxygenation, reducing the risk of respiratory infections like colds, flu, and pneumonia.
4. *Enhances Gut Health*: A strong immune system is linked to a healthy gut. Yoga improves digestion, reduces inflammation, and balances gut microbiota, which plays a key role in immunity.
5. *Stimulates the Endocrine System*: Yoga balances hormones and improves the function of the thymus and adrenal glands, which are essential for immune regulation.

Best Yoga Poses for Immunity

1. **Bhujangasana (Cobra Pose)** – Opens the chest, improves lung function, and boosts circulation.
2. **Dhanurasana (Bow Pose)** – Strengthens the digestive system and detoxifies the body.
3. **Matsyasana (Fish Pose)** – Expands the lungs and improves respiratory immunity.
4. **Viparita Karani (Legs Up the Wall Pose)** – Enhances lymphatic drainage and relieves stress.
5. **Trikonasana (Triangle Pose)** – Stimulates digestion and strengthens the immune response.

Best Pranayama for Immunity

1. **Kapalabhati (Skull-Shining Breath)** – Detoxifies the body and clears the respiratory system.
2. **Anulom Vilom (Alternate Nostril Breathing)** – Balances energy and reduces stress.
3. **Bhastrika (Bellows Breath)** – Increases lung capacity and oxygen levels.
4. **Ujjayi (Ocean Breath)** – Improves concentration and relieves anxiety, boosting immune strength.

Meditation & Immunity: Regular meditation calms the mind, reduces inflammation, and strengthens immunity by enhancing the body's ability to repair and heal itself.

How to Boost Immunity with Medicines: In cases where additional support is needed, medical interventions can help strengthen immunity:

- **Vaccinations** – Protect against serious diseases like influenza, hepatitis, and pneumonia.
- **Vitamin & Mineral Supplements** – Supplements like Vitamin C, D, zinc, and probiotics enhance immunity.
- **Herbal Remedies** – Natural boosters like turmeric, ginger, echinacea, and ashwagandha support immune function.
- **Immunotherapy** – Used for individuals with autoimmune disorders or severe allergies to regulate immune responses.
- **Antiviral & Antibacterial Medications** – Help combat infections when immunity is compromised.

Conclusion

Immunity is the foundation of good health, helping us fight infections and stay energetic. While some factors affecting immunity are beyond our control, a balanced diet, exercise, sleep, and stress management through yoga & meditation can naturally strengthen it. When necessary, medical support can further enhance immune function. By making conscious lifestyle choices, we can build a strong immune system and lead a healthy life.

– Dr. Y. K. Arora
Sr. Consultant Cardiology
NHI, New Delhi

Snoring:
An Epidemic That Needs to Be Silenced

The rise of sleep disorders is a growing concern, with snoring being one of the most alarming symptoms. If you are a heavy snorer and often feel sluggish or drowsy during the day, you may be experiencing obstructive sleep apnea. This syndrome, characterized by loud snoring and fragmented sleep, is more common than many realise.

According to Dr. Partha, a senior consultant pulmonologist and sleep disorder specialist, this condition is widespread. Anyone who is gaining weight, feeling sluggish, and experiencing habitual snoring should seek evaluation. Sleep apnoea can lead to serious health complications, including cardiovascular issues and uncontrolled diabetes mellitus.

It is essential to address this silent epidemic to improve overall health and quality of life.

What is Sleep Apnoea?

Sleep apnoea is a common but serious sleep disorder where a person's breathing repeatedly stops and starts during sleep. The most prevalent type is **Obstructive Sleep Apnoea (OSA)**, which occurs when the muscles in the throat relax too much, blocking the airway. This leads to interrupted sleep and lower levels of oxygen in the blood, causing symptoms such as loud snoring, choking, or gasping for air during sleep, and excessive daytime sleepiness.

Symptoms of Sleep Apnoea

- Loud, chronic snoring
- Episodes of breathing cessation during sleep, often witnessed by another person
- Sudden awakenings accompanied by gasping or choking
- Morning headaches
- Excessive daytime sleepiness and fatigue
- Difficulty concentrating and mood changes

Treatment for Sleep Apnoea

Treatment for sleep apnoea aims to restore normal breathing during sleep, alleviate symptoms, and improve overall health. Options include:

1. **Lifestyle Changes:**

- **Weight Loss:** Excess weight can contribute to the obstruction of the airway, so losing weight can help alleviate symptoms.
- **Exercise:** Regular physical activity can improve sleep quality.
- **Avoiding Alcohol and Smoking:** Both can worsen sleep apnoea by relaxing the muscles that control the airway.

2. **Continuous Positive Airway Pressure (CPAP):**

- This is the most common and effective treatment for moderate to severe obstructive sleep apnoea. A CPAP machine delivers a steady stream of air through a mask that keeps the airway open during sleep.

3. **Oral Appliances:**

- These devices are worn in the mouth and help keep the airway open by repositioning the jaw or tongue. They are mainly used for mild to moderate cases.

4. **Surgery:**

- Surgical options may be considered when other treatments are ineffective or inappropriate. Surgery aims to remove or shrink tissue, reposition the jaw, or implant devices that stimulate the airway muscles.

5. **Positional Therapy:**

- This involves training the patient to sleep in a position that keeps the airway open, such as sleeping on their side.

6. **Treatment of Underlying Medical Conditions:**

- Addressing issues such as nasal congestion or other related medical problems can improve symptoms of sleep apnea.

Early diagnosis and treatment of sleep apnea are crucial for preventing complications and improving quality of life. If you suspect you or a loved one may have sleep apnea, it is important to consult a healthcare professional for proper evaluation and management.

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Guillain-Barre syndrome: India faces outbreak of creeping paralysis

Last month, a school teacher in the western Indian city of Pune found her six-year-old son upset about homework.

"I had erased some words and asked him to write them. I assumed he was angry and that's why he was not holding the pencil properly," she told the Indian Express newspaper.

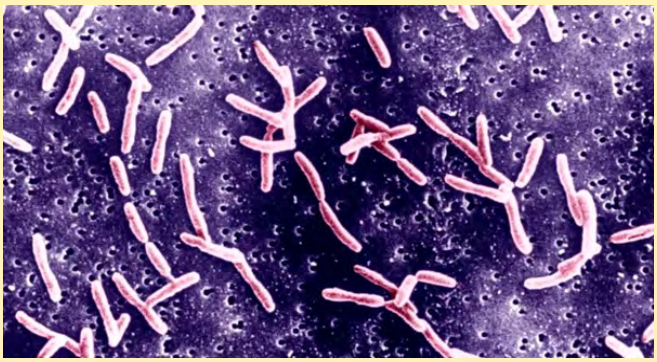
She never imagined his struggle to hold a pencil was the first sign of Guillain-Barré Syndrome (GBS), a rare disorder where the immune system attacks nerve cells, causing muscle weakness and paralysis.

Within days, the boy was in intensive care, unable to move his arms or legs. As his condition worsened, he lost the ability to swallow, speak, and eventually breathe, requiring ventilator support. He is now recovering.

The boy is among around 160 reported cases of GBS since early January in Pune, an education and IT hub, ringed by industrial towns and villages. There have been five suspected deaths. Currently, 48 patients are in intensive care, 21 on ventilator, and 38 have been discharged, according to official figures.

GBS begins with tingling or numbness in the feet and hands, followed by muscle weakness and difficulty moving joints. Symptoms worsen over two to four weeks, typically starting in the arms and legs. The reported mortality rate varies between three and 13%, depending on severity and quality of health care support.

The outbreak in Pune is being traced to a pathogen called campylobacter jejuni, a leading cause of foodborne infections, and the biggest driver of GBS worldwide. The link between the two was discovered in the 1990s in rural China, where the pathogen was common in chickens, and GBS outbreaks occurred every monsoon as children played in water contaminated by chicken or duck droppings.



GBS is not entirely uncommon in India. Monojit Debnath and Madhu Nagappa, of Bangalore-based National Institute of Mental Health and Neurosciences (NIMHANS), studied 150 GBS patients over a five year period between 2014 and 2019.

Their findings showed 79% of the patients had evidence of prior infections, with a third testing positive for campylobacter. Notably, co-infections were more common, occurring in 65%, suggesting a complex interplay of bacteria and viruses.

More recently, outbreaks linked to the pathogen have been reported from all over the world. In the first seven months of 2023, Peru reported over 200 suspected cases and at least four deaths of GBS, prompting the government to declare a national health emergency and strengthen public health measures. Two-thirds of the cases were linked to campylobacter.

In countries with good hygiene, fewer GBS cases are linked to campylobacter, with respiratory infections being a major contributor, say experts. There have been other triggers as well. In 2015 Brazil reported a cluster of GBS cases linked to the Zika virus. Vaccines can rarely trigger GBS, but one Covid vaccine was reportedly linked to a few hundred GBS cases in the UK in 2021.

"Campylobacter is endemic with hundreds of thousands of cases taking place all the time. It is always existing in the environment," Hugh Willison, a professor of neurology at University of Glasgow told me.

Yet, it is not easy to develop GBS, scientists say.

There's a specific strain of campylobacter, which has a sugar-coated outer layer, and in rare cases, its molecular structure matches the coating of human nerve cells.

When the patient's immune system attacks the bacteria, it may end up targeting the nerves as well – a process called molecular mimicry – leading to GBS. However, a small fraction of campylobacter strains have this nerve-like coat.

"In Pune, a strain of campylobacter with this molecular feature is likely to be circulating, and a surge in infections with this strain consequently leads to a higher number of GBS cases," says Prof Willison.

Most experts estimate that about one in 100 campylobacter strains carry the GBS risk, and one in 100 people infected with such a strain develop GBS, making the overall risk roughly one in 10,000.

That creates what Prof Willison describes as an "immunological Russian roulette", triggering an "acute neurological tsunami" that surges through the peripheral nervous system. Once the immune response subsides, the attack wanes – but the body still needs time, medical care, and support to repair the damage.

What makes things worse is that there is no cure for GBS.

In GBS, the body produces antibodies against campylobacter, which then attack the nerves. Physicians use "plasma exchange", a process that filters blood to remove the harmful antibodies, along with intravenous immunoglobulin (IVIG), a therapeutic antibody derived from normal blood, to help reduce the severity of the disease.

The other challenge is that there is no single test to diagnose GBS. The diagnosis, say physicians, is mainly based on clinical features. It presents itself as a form of paralysis which can be also caused by polio, viruses or rare neurological disease.

"The diagnosis is a constellation of clinical features. Misdiagnosis or no diagnosis or late diagnosis can happen easily," says Prof Willison.

India's uneven public health system presents a challenge, as doctors in rural areas may struggle to diagnose GBS. One reason, possibly, why the World Health Organization (WHO) teams are in Pune, is collaborating with federal and state health workers to trace, test, and monitor cases, and analysing trends to support effective treatment.

Authorities say they have surveilled more than 60,000 houses, picked up 160 water samples for tests, and asked people to drink boiled water and eat fresh and clean food, and not have "stale food and partially cooked chicken or mutton".

While most cases of GBS around the world come from undercooked poultry, it can also spread through water, similar to cholera or salmonella, experts say.

Contaminated water used for washing or preparing street food makes it easy for the bacteria to spread. Clearly, in Pune, a campylobacter strain with the distinctive molecular feature is circulating, affecting a large number of people.

What is not clear is whether this has been due to large scale contamination of water supply or a lot of people consuming infected poultry. "We appeal to people not to panic," says a health department advisory. But in the face of uncertainty, it is easier said than done.

Guillain-Barré Syndrome (GBS)

Guillain-Barré Syndrome (GBS) is a rare neurological disorder in which the body's immune system mistakenly attacks the peripheral nerves, leading to muscle weakness, numbness, and, in severe cases, paralysis.

Diagnosis of Guillain-Barré Syndrome

GBS is primarily diagnosed based on clinical

symptoms, neurological examination, and certain tests:

1. Clinical Symptoms and Physical Examination:

- Rapid onset of muscle weakness (usually starts in the legs and progresses upwards).
- Loss of reflexes.
- Numbness or tingling sensations (paresthesia).
- Difficulty with facial movements, speaking, or swallowing in severe cases.
- Breathing difficulties in advanced cases.

2. Diagnostic Tests:

- **Lumbar Puncture (Spinal Tap):**
  - Elevated protein levels in cerebrospinal fluid (CSF) without a significant increase in white blood cells.
- **Nerve Conduction Studies (NCS):**
  - Slowed nerve conduction velocity, indicating nerve damage.
- **Electromyography (EMG):**
  - Assesses muscle response to nerve stimulation, showing reduced electrical activity in affected nerves.
- **Blood Tests:**
  - To rule out infections or other causes of weakness.
- **MRI or CT Scan:**
  - Used to rule out other neurological conditions.

Treatment of Guillain-Barré Syndrome

There is no cure for GBS, but early treatment can improve recovery and reduce complications.

1. Hospitalization & Supportive Care:

- Most patients require hospitalization for monitoring, especially for breathing difficulties.
- Some may need mechanical ventilation if respiratory muscles are affected.

2. Specific Therapies:

- **Plasmapheresis (Plasma Exchange):**
  - Removes harmful antibodies from the blood.
  - Most effective when started early.
- **Intravenous Immunoglobulin (IVIG):**
  - Provides healthy antibodies to neutralize harmful ones.
  - Preferred treatment in many cases due to ease of administration.

3. Symptomatic Treatment:

- **Pain Management:**
  - Pain due to nerve inflammation can be treated with painkillers like NSAIDs, gabapentin, or pregabalin.
- **Physical Therapy & Rehabilitation:**
  - Helps regain strength and movement.
  - Prevents muscle atrophy and joint stiffness.
- **Respiratory Support:**
  - If breathing is compromised, mechanical ventilation may be needed.
- **Blood Pressure & Heart Monitoring:**
  - GBS can affect autonomic nerves, leading to BP fluctuations and heart rate abnormalities.

Prognosis & Recovery:

- Most people start recovering within weeks to months, but full recovery may take 6 months to 2 years.
- Around 80% of patients recover completely, but some may have lingering weakness or nerve damage.
- Severe cases may result in long-term disability.

– Dr. Adarsh Kumar
Sr. Consultant Internal Medicine, NHI

"It is health that is real wealth. And not pieces of gold and silver."

Social Evils and Their Impact on Health

In societies across the globe, certain social practices continue to persist, despite their negative implications on health. These social evils are often inculcated in cultural or traditional values, having a profound consequences on physical and mental health, particularly in the context of infectious diseases, chronic conditions, and psychological distress. Among the most significant social evils affecting health are social smoking, child marriage, purdah culture (veiling), and polygamy. These practices do not just hinder the progression of society towards health but they also endanger the physical well-being of individuals, especially vulnerable groups such as children, women, and the youth.

Social / Group Smoking

One of the most prominent health-related social evils is social or group smoking. This practice is often viewed as a social activity, especially in elder generations, who take it as a form of bonding or cultural pride. However, the risks associated with smoking are both grave and far-reaching. Smokers are not only at risk of developing chronic respiratory disorders like Chronic Obstructive Pulmonary Disease (COPD) and emphysema but also face a higher likelihood of heart disease and cancer, particularly lung cancer.This also increases the susceptibility of getting infectious diseases like pulmonary tuberculosis in people who share hookah in a collective gathering. Furthermore, group smoking often leads young individuals to perceive it as a "rite of passage" or a status symbol, further ingraining its dangerous grip on society. The impact on self-health is also undeniable.

This habit of social smoking has a growing prevalence of passive smoking exposure especially to children, who are most vulnerable to the harmful effects of smoke. Not only that children learn habit of smoking at an early age when they see their elders enjoying this group activity.

Currently younger people say for example school or college going students generally go to a hookah joints in nearby areas and enjoy smoking hookah preferably the flavoured and nicotine ones in metropolitan cities. This has become a growing concern in big cities like Delhi, Mumbai, Bangalore, Gurugram and many other metropolis cities.

Scene From Community Hookah Smoking.

Smoking accelerates aging process leading to early graying of hair. Ultimately, social smoking practices are wreaking havoc on the health of future generations, laying the foundation for chronic illnesses and early death.

Child Marriage

Inspite of several steps taken by Government of different states social evil like child marriage is still being practiced in different parts of India. The health risks associated with early marriages are devastating, particularly for young girls who get married before they are biologically or emotionally ready for motherhood. Early marriages often lead to early pregnancies, with deleterious effects on maternal health and well-being.

A major consequence of early motherhood is the high risk of cervical cancer, one of the leading causes of cancer deaths among women. The World Health Organization (WHO) has highlighted the association between early sexual activity, multiple pregnancies, and a higher risk of getting HPV (Human Papillomavirus) infection, which is an important cause of cervical cancer. In addition to the risk of cancer, young girls who marry early often face complications during childbirth, such as obstructed labor, which can result in severe hemorrhaging, infections, and even death.

Purdah Practice / Veiling

In certain cultures, particularly in conservative societies, women are expected to adhere to the Purdah culture, which involves wearing veils(Ghunghat) or other forms of dress that cover the body, particularly the face. While purdah is sometimes seen as a symbol of cultural practice, the implications for health are profound and should not be overlooked.

The most immediate health concern arising from the purdah culture is the lack of exposure to sunlight, which is essential for the natural production of Vitamin D. Vitamin D plays a crucial role in the body, aiding in calcium absorption and promoting bone health. Prolonged lack of sunlight can lead to vitamin D deficiency, which in turn contributes to various health conditions.Moreover, wearing heavy and restrictive clothing, often associated with purdah, can impair mobility and lead to increased risks of falls, fractures, and injuries.

Polygamy/ Multiple sexual partners

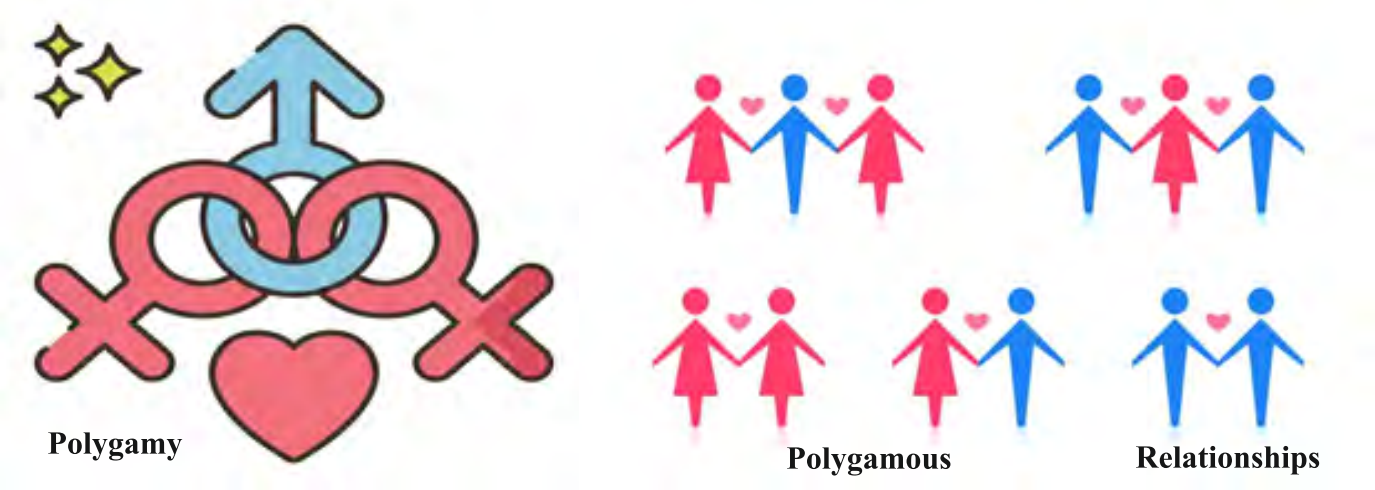
Polygamy, the practice of having multiple spouses or sexual partners poses serious health risks, particularly for women . One of the most significant concerns is the increased susceptibility to sexually transmitted diseases (STDs), including HIV/AIDS.

In polygamous households, where one male partner may have multiple wives, the risk of disease transmission is heightened due to the increased number of sexual partners. This creates a breeding ground for the spread of infections, as the chances of exposure to STDs multiply. Women in polygamous relationships may face a higher risk of contracting diseases, as their male partners may have multiple sexual contacts, unknowingly or knowingly transmitting infections to their wives.

The younger generation may have more liberal or open attitudes toward sex and relationships. With growing access to information through the internet and social media.Many young people are exploring their sexuality at younger ages and are more likely to have multiple partners.

However, despite the increasing openness about sexuality, there may still be gaps in understanding the risks associated with unprotected sex. Young people may underestimate the potential consequences of multiple sexual relationships or may not fully understand how STDs can affect long-term health.Peer pressure and social norms can play a significant role in shaping sexual behavior. Young people may feel pressure to engage in sexual activities or have multiple partners to fit in or gain social validation.

Additionally, the portrayal of sexual freedom and multiple partners in pop culture or social media can normalize behaviors without emphasizing the risks involved, such as contracting STDs.



Conclusion

The above social evils like social smoking/hookah practice, child marriage,purdah / veiling, polygamy and multiple sexual partners need to be eliminated from the society in order to control the respiratory disorder like COPD pulmonary tuberculosis and other related NCDs (Non Communicable Diseases),cervical cancer, complications at the time of birth,vitamin D deficiency and STDs. A concerted effort to create massive awareness about harmful practices among all sections of the society is urgently called for.

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World Health Day 2025:
Embracing Holistic Health for a Better Future

Every year World Health Day is celebrated on 7th April since 1958, such a day focuses on global health concerns and is sponsored by the World Health Organization (WHO). As with any awareness celebration, it encourages looking deeper into the meaning of health and its varied issues.

World Health Day is a gentle reminder that real health isn't just about treating sickness—it's about caring for the whole person, right from the start. True well-being means feeling good in body, mind, and spirit. It's about making sure women and children get the care, support, and love they need to grow and thrive. It's about learning from both science and the timeless wisdom of older traditions that saw health as balance and harmony. We must focus our attention towards health and well-being of our children.

This year's theme, Healthy Beginnings, Hopeful Futures, invites us to imagine a world where every child gets a strong, healthy start and every person has the chance to live a full, meaningful life. By focusing on early support, fair access to healthcare, emotional and spiritual wellness, and positive parenting, we're building a healthier, more hopeful future. So today, let's recommit to kindness, compassion, and care—because when people grow, communities also thrive.

WHO chooses a theme every year that represents a current public health priority, directing local and international initiatives for community engagement, policy development, and awareness-raising.

This observance aims to raise awareness of important global health issues and encourage action to enhance everyone's health and well-being. It acts as a spur for discussion, instruction, and the adoption of laws meant to make communities healthier.

Healthy Beginnings, Hopeful Futures is the theme of this year's World Health Day, a powerful reminder of the importance of investing in health from the very start of life. Every child deserves a healthy beginning, and every individual deserves the opportunity to live a full, healthy life. Early access to nutrition, clean water, vaccinations, and quality healthcare lays the foundation for stronger, more resilient communities. This year, the World Health Organization calls on governments, organizations, and individuals to prioritize health equity, especially for vulnerable populations. By supporting maternal care, child wellness, and mental health initiatives, we can shape a future where everyone has the chance to thrive. A healthier world begins today—with awareness, action, and hope for the generations to come.

WHO's Definition of Health and. Vis a-Vis our Ancient Definition

The World Health Organization defines health as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity." When it was introduced back in 1948, this definition was groundbreaking—it expanded the view of health beyond just not being sick. But today, many see it as a bit limited. It doesn't take into account other important aspects of well-being, like spiritual health, which plays a big role in our daily life. For many people around the world, feeling connected—to nature, community, or a higher purpose—is just as important to their health as their physical or mental state. A more complete view of health recognizes all of these dimensions. Ancient Indian systems like Ayurveda define health (Swasthya) as a state where the body, mind, and soul are in harmony, and the biological elements (doshas), digestive fire (agni), and bodily tissues (dhatus) function in balance:

समदोषः समाग्निश्च समधातुमलक्रियः ।
प्रसन्नात्मेन्द्रियमनाः स्वस्थ इत्यभिधीयते ॥

Ancient knowledge system considers health as a dynamic state of balance rather than a static condition. It emphasizes prevention, mindfulness, lifestyle discipline, and the interconnectedness of human beings with nature—a perspective increasingly validated by modern science.

Women and Children: Pillars of Health and Development

Women and children are the heartbeat of families, communities, and entire societies. When a woman is healthy, she's more likely to raise healthy children—and those children grow up to shape stronger, more resilient communities. Yet, despite

their vital role, women and children often face some of the greatest barriers to health, especially in low- and middle-income countries.

Women's health concerns—especially around reproduction and heart health—are too often overlooked or dismissed. Social expectations, economic limitations, and cultural barriers can prevent women from getting the care they need. But when we invest in women's health through education, nutrition, and access to care, the ripple effects benefit everyone.

Children, meanwhile, are our most vulnerable and impressionable. Their well-being depends on the care and support they receive early on. Creating a safe, nurturing environment for children isn't just an act of love—it's a promise to the future.

Maternal Health and Intrauterine Growth

A child's health journey begins in the womb. Maternal health is a powerful determinant of fetal and newborn health. Several conditions can influence intrauterine growth, including:

- **Malnutrition:** Poor maternal nutrition leads to low birth weight, stunted growth, and susceptibility to infections. Children borne from malnourished mothers tend to develop diabetes or cardiovascular disease in later life.
- **Smoking or tobacco consumption:** Smoking during pregnancy limits oxygen supply to the fetus, increasing the risk of premature birth, birth defects, and respiratory issues. Smoking by parents exerts diabetes effect on children through passive smoking. It has been seen that children learn their first lesson of smoking or tobacco use from their parents. It has also been reported that children borne from smoking mothers develop of psychological aberrations in later life.
- **Diabetes and Hypertension:** These can cause complications like preterm delivery, macrosomia, or IUGR (intrauterine growth restriction), all of which pose risks for both mother and baby. Children borne from diabetes parents tend to develop diabetes often compared to non-diabetic mothers.
- **Familial/Genetic Conditions:** Congenital heart disease, metabolic disorders, or chromosomal abnormalities can significantly affect intrauterine development of the fetus. Familial hypercholesterolemia, homocysteinemia are few other examples which run in the family and pose cardiovascular risks.

That's why prenatal care needs to be more than just occasional check-ups—it should be proactive, compassionate, and truly comprehensive. Expecting mothers deserve regular medical visits, guidance on healthy eating, support for their mental well-being, and help making positive lifestyle choices. These aren't luxuries—they're essentials for both mother and baby.

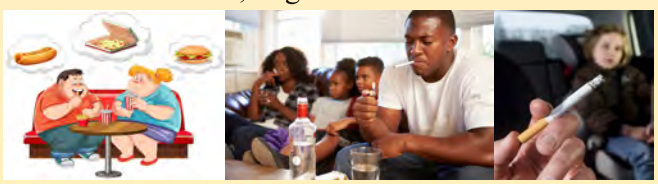
We also need to raise awareness on a larger scale. Reproductive health shouldn't be a taboo topic or something only a few have access to. Through education campaigns and expanded health programs, we can reach more women, especially in underserved areas, ensuring they have the knowledge and care they need. When we support women before, during, and after pregnancy, we're laying the foundation for healthier families and stronger communities.

The First Few Years: Foundation for Life

The first five years of a child's life are truly life-shaping. It's a time when the brain grows at an incredible pace, and the foundations for language, learning, emotions, and social skills are laid. What children experience in these early years can echo throughout their entire lives—affecting their health, their success in school, and even how they relate to others.

Simple, everyday things—like loving attention, healthy meals, play, emotional connection, and shared stories—go a long way in helping young minds thrive. When children are surrounded by love, stability, and strong role models who teach kindness, honesty, and discipline, they grow into confident and resilient individuals.

But when these needs are unmet—through neglect, stress, or abuse—the impact can be deep and lasting. That's why supporting parents, ensuring access to quality childcare, and intervening early when needed are some of the most important investments we can make for a healthier, brighter future.



Parental Behavior and Its Influence on Children

Children imitate what they see. Parental behavior significantly shapes a child's habits, values, and self-image. Harmful practices such as smoking, alcohol consumption, and frequent junk food consumption set negative examples. They normalize unhealthy behaviors that children are likely to adopt later in life.

Smoking or drinking in front of children not only exposes them to harmful substances but also diminishes the authority of advice to avoid such behaviors. A household diet lacking fruits, vegetables, and regular meals disrupts a child's metabolism and contributes to obesity and poor academic performance.

Lack of a structured routine—irregular sleep, absence of physical activity, chaotic meal times—impacts a child's physical and mental development. Additionally, early and excessive exposure to screens, especially smartphones and tablets, is linked to attention disorders, sleep issues, and delayed speech and motor skills.

Parents must recognize the powerful role they play as role models. Adopting a healthy lifestyle, engaging in active play, reading, and limiting screen time can dramatically improve a child's developmental trajectory. Support systems like parenting workshops, community health programs, and school-based interventions can empower parents with the knowledge and tools they need.

Children future hope of our nation,
Health their birthright so is education,
Awareness first step of prevention,
Educate early lay strong foundation.[1]

– Dr. Sagnik Chakraborty
DrNB Resident, Cardiothoracic surgery
National Heart Institute

References:

1. Dwivedi S, Iyer Akshita Health Aphorisms, Heart News. Issue Oct-Dec 2024. Vol no. LVII. Pg 17-18.

Health Aphorisms

1. **Smoking is breathing fire, inhaling numerous poisons, inviting various illnesses, committing yourself to death.**
2. **Too much screen and junk make your health sunk.**
3. **Obesity, health adversity.**
4. **Smoking, alcohol, and stress, cause for cardiac distress.**

बच्चों को मोबाईल मत दें

1. बच्चों को मोबाईल मत दें,
   जेहन न उनका दूषित कर दें,
   आँखें टेढ़ी, आसन गड़बड़,
   लत में डूबे, सेहत हड़बड़।
२. बच्चों को मोबाईल देकर,
   बीजारोपण लत का मत कर ,
   दृष्टि वक्र हो, मन विकृत हो ,
   विपदा के आकर में क्यों कर?
3. बच्चों को मोबाईल देना,
   बचपन उनसे वंचित करना ,
   कृत्रिम दुनियां में धकेलना,
   लती बना, बीमार बनाना।
4. रखिये मोबाईल अति दूर,
   विकिरण, व्यसन, व्यथा से दूर।

संकेत : जेहन–बुद्धि, आसन–बैठने, लेटने, चलने, सोने का ढंग, हड़बड़–हमेशा जल्दी में / उतावली में, बीजारोपण–आदत डालना, वक्र दृष्टि–टेढ़ी नजर, विकृत–खराब, विपदा–मुसीबत, आकर–समूह / खान, विकिरण–मोबाईल से उठने वाली हानिकारक तरंगें / किरणें से दूर, व्यसन–लत, व्यथा–बीमारी

– डॉ॰ श्रीधर द्विवेदी

Lessons we must learn from recent premature deaths in medical fraternity.

Nature treats everyone alike,
Emperor or pauper,
Doctor or commoner,
Flout rules penalty alike.

Last few weeks we have seen multiple premature deaths among medical fraternity. Most of them were sudden; few albeit due to chronic illness due to avoidable reasons. It is said that doctors more often than not make the worst defaulters. Have a look at some of these cases: A- 32 yrs. old, a regular sportsman, collapses during ward round. Coronary angiography revealed left anterior descending 100% stenosis. He died later. His only negative point was his chronic smoking habit. Another senior faculty, in his early fifties, becomes unconscious during community feast. He dies while being taken to hospital. His smoking, alcohol and central obesity made him prone to such a catastrophe. In yet another case a 59-yr -old talented faculty who had long standing diabetes with triopathy, continued his dietary indiscretions, smoking and booze despite a diabetic foot ultimately succumbed to septicemia and multi organ failure. We recently lost a senior faculty on account of undetected lung carcinoma for a long time. This came to light when x-ray chest was taken for his chronic cough which revealed mitotic lesion and CT showed metastatic deposits in brain. By the time it was detected it was perhaps too late and ultimately, we ultimately lost him. He was an avid smoker. We thus see the continuous flagrant violation of basic health rules under the imaginary pretext as if doctors have been given immunity from Lord Almighty. As if nothing will happen to you because you are from healing profession. The bitter truth is that everyone gets punished if he violates the basic tenets of health.

As per our ancient knowledge system (AKS) the basic health rules to stay healthy are : appropriate diet , adequate exercise, proper discharge of one's duties, going to bed at appropriate time and getting up early morning (युक्ताहार विहारस्य युक्त चेष्टस्य कर्मसु , युक्त स्वप्ना व बोधस्य योगों भवति दुखहः / श्रीमद्भगवद्गीता,अध्याय ६ / श्लोक १७). If one critically examines above six tenets of health as prescribed in Srimadbhagwadgita compares them with American Heart Association's (AHA) Life's Simple 7 rules which are: exercise, check on your weight, knowledge about your cholesterol, no smoking , plant based diet ,keep your blood pressure in check, knowledge about one's own sugar; these seven points are complementary to Srimadbhagwadgita prescription of healthy lifestyle. During the Mahabharat times there was no tobacco around so there is no mention of smoking in the shloka mentioned above. Elevated cholesterol, high blood pressure and elevated sugar are the result of our faulty diet, disordered sleep rhythm and sedentary lifestyle. Adding fuel to the fire is current day mobile mania which has played havoc with sleep rhythm and exercise schedule of young generation. The result of such a lifestyle is obesity in adolescence, diabetes in young, silent hypertension and coronary artery disease in young which may be fatal sometimes, early mouth cancer and chronic obstructive pulmonary disease. Quite realizing the grave health risk of such lifestyle AHA has come out with 'Life's Simple 7 rules which we must follow if we wish to live long and stay healthy.

– Dr. Shridhar Dwivedi
Senior Consultant Cardiologist and Academic Head
National Heart Institute, New Delhi -110065

Table: Some Recent Deaths

S. No	Name	Age/Sex	Presentation	Diagnosis	Risk Factors (RF)
1.	Resident Medicine	32 Yr/M	Collapsed in ward while taking round	CAG - LAD 100% block	Smoking,though a Badminton Player
2.	Pathologist	50 Yr/M	Collapsed during a community lunch	SCD	Smoking + Alcohol + Central obesity
3.	Practicing Surgeon	72 Yr/M	Carcinoma Lung extensive metastasis	Multi organ failure	Smoking + Alcohol
4.	Practicing Psychiatrist	65 Yr/M	Sudden Death	SCD	No Obvious RF, No Alcohol
5.	Practicing Cardiologist	70 Yr/M	T2 DM, CAD, CKD	T2 DM, CAD, CKD	Sportsman Alcohol
6.	Community Medicine faculty	59 Yr/M	T2DM, diabetic foot , septicemia	T2DM septicemia	Central Obesity, Smoking and Alcohol
7.	Retired Professor	65 Yr/M	Abdominal malignancy with secondaries	Multi organ failure	Smoking, Alcohol
8.	Practicing Cardiologist	60 yr/M	Sudden Death	CAD	Stress, Obesity
9.	Practicing Physician	50 yr/M	Death due to hanging	Suicide	Depression
10	Anesthetist	35 Yr/F	IV, Anesthetic Drug	Suicide	Stress

Abbreviations: CAD- Coronary artery disease, CAG- Coronary angiography, CKD- Chronic kidney disease, M- male, F- female, LAD- Left anterior descending, SCD-Sudden cardiac death, T2 DM-Type 2 diabetes mellitus)

Cardiac Biomarkers

What are cardiac biomarkers?

Cardiac biomarkers are substances that are released into the blood when the heart is damaged or stressed. Measurements of these biomarkers are used to help diagnose acute coronary syndrome (ACS) and cardiac ischemia, conditions associated with insufficient blood flow to the heart. Tests for cardiac biomarkers can also be used to help determine a person's risk of having these conditions or to help monitor and manage someone with suspected ACS and cardiac ischemia.

The root causes of both ACS and cardiac ischemia are usually the buildup of plaque in artery walls and hardening of the arteries (atherosclerosis). This can result in severe narrowing of the arteries leading to the heart or a sudden blockage of blood flow through these coronary arteries.

- Cardiac ischemia is caused when the supply of blood reaching heart tissue is not enough to meet the heart's needs. When not enough blood gets to the heart, it can cause pain in the chest (angina), shortness of breath, sweating, and other symptoms. Typical angina occurs when the coronary arteries have been gradually narrowed over time. The pain starts when a person is active, making the heart work harder, and is quickly relieved by rest or by drugs that increase blood flow to the heart, such as nitroglycerine.
- ACS is caused by rupture of a plaque that results from atherosclerosis. Plaque rupture causes blood clot (thrombus) formation in coronary arteries, which results in a sudden decrease in the amount of blood and oxygen reaching the heart. A sudden decrease in the supply of blood to the heart can cause prolonged chest pain called unstable angina, often occurring at rest or not relieved by rest or nitroglycerine.When blood flow to the heart is blocked or significantly reduced for a longer period of time (usually for more than 30-60 minutes), it can cause heart cells to die and is called an acute myocardial infarction (AMI or heart attack). This leads to death of the affected portion of heart muscle with permanent damage and scarring of the heart and sometimes can cause sudden death by causing irregular heart contractions (arrhythmia). Unstable angina and AMI are together called acute coronary syndrome since they are both due to a very acute decrease in blood flow to the heart.

The symptoms of ACS and cardiac ischemia can vary greatly but frequently include chest pain, pressure, nausea, and/or shortness of breath. Though these symptoms are most often associated with heart attacks and angina, they may also be seen with non-heart-related conditions.

It is important to distinguish heart attacks from angina, heart failure, or other conditions that may have similar signs and symptoms because the treatments and monitoring requirements are different. Cardiac biomarker tests are ordered to help detect the presence of ACS and cardiac ischemia and to evaluate their severity. Increases in one or more cardiac biomarkers in the blood can identify people with ACS or cardiac ischemia, allowing rapid and accurate diagnosis and appropriate treatment of their condition.

For ACS, prompt medical intervention is crucial to prevent death and to minimize heart damage and future complications. Cardiac biomarker tests must be available to a health practitioner 24 hours a day, 7 days a week with a rapid turn-around-time. Some of the tests may be performed at the point of care (POC) – in the emergency department or at a person's bedside. Usually, multiple cardiac biomarker tests are done over several hours to ensure that a rise in blood levels is not missed and to estimate the severity of a heart attack.

About Cardiac Biomarkers

The Tests

Only a few cardiac biomarker tests are routinely used by physicians. The current biomarker test of choice for detecting heart damage is troponin. Other cardiac biomarkers are less specific for the heart and may be elevated in other situations such as skeletal muscle injury.

Current cardiac biomarker tests that may be used to help diagnose, evaluate, and monitor individuals suspected of having acute coronary syndrome (ACS) include:

- **Troponin (I or T)** — this is the most commonly ordered and most specific of the cardiac markers. It is elevated (positive) within a few hours of heart damage and remains elevated for up to two weeks. Rising levels in a series of troponin tests performed over several hours can help diagnose a heart attack.
- **High-sensitivity troponin** — this test detects the same protein that the standard test does, just at much lower levels. Because this version of the test is more sensitive, it becomes positive sooner and may help detect ACS earlier than the standard test. The hs-troponin test may also be positive in people with stable angina and even in people with no symptoms. When it is elevated in these individuals, it indicates an increased risk of future heart events such as heart attacks. This test may not be available in all labs.
- **Creatine kinase (CK) and CK-MB** — in the U.S., CK has been largely replaced by troponin. It may sometimes be used to help detect a second heart attack that occurs shortly after the first. CK-MB is one

particular form of the enzyme creatine kinase that is found mostly in heart muscle; it rises when there is damage to the heart muscle cells and may be used in follow up to an elevated CK and / or when the troponin test is not available.

- **Myoglobin**—this test may be used along with troponin to detect a heart attack early, but in the U.S., it is used less frequently.

Other biomarker tests that may be used include:

- **hs-CRP**— this test may be used to help determine risk of future heart attacks in people who have already suffered one in the past.
- **BNP (or NT-pro BNP)** — although usually used to recognize heart failure, an increased level in people with ACS indicates an increased risk of recurrent events.

On the horizon: several biomarkers are being investigated for their potential use in helping to evaluate people for ACS. These are currently only used in research settings and are not available in clinical practice.

General lab tests are frequently ordered along with cardiac biomarkers to evaluate a person's general health status and the current status of the individual's kidneys, liver, electrolyte and acid/base balance, blood sugar, and blood proteins. They may include:

- Blood gases
- Comprehensive metabolic panel (CMP) or basic metabolic panel (BMP)
- Electrolytes
- Complete blood count (CBC)

Table:- Biomarkers used for diagnosing and monitoring acute coronary syndrome

These tests are used to help diagnose, evaluate, and monitor people suspected of having Acute Coronary Syndrome (ACS).						
Marker	**what it is**	**Tissue source**	**Reason for Increase**	**Time to Increase**	**Time Back to Normal**	**When/How Used**
Cardiac Troponin	Regulatory protein complex; two cardiac-specific isoforms: T and I	Heart	Injury to heart	3 to 4 hours	Remains elevated for 10 to 14 days	Diagnose heart attack, risk stratification, assist in deciding management, assess degree of damage
High-sensitivity cardiac troponin	Same as above, just measures the same protein at a much lower level	Heart	Injury to heart	Within 3 hours of onset of symptoms	Same as above	Same as above; may also be elevated instable angina and people without symptoms and indicates risk of future cardiac events (e.g., heart attacks)
CK	Enzyme; total of three different isoenzymes	Heart, brain, and skeletal muscle	Injury to skeletal muscle and/or heart cells	3 to 6 hours after injury, peaks in 18 to 24 hours	48 to 72 hours, unless due to continuing injury	Frequently performed in combination with CK-MB; sometimes to detect second heart attack occurring shortly after the first
CK-MB	Heart-related isoenzymes of CK	Heart primarily, but also in skeletal muscle	Injury to heart and/or muscle cells	3 to 6 hours after heart attack, peaks in 12 to 14 hours	48 to 72 hours, unless new or continuing damage	Less specific than troponin, may be ordered when troponin is not available
Myoglobin	Oxygen-storing protein	Heart and other muscle cells	Injury to muscle and/or heart cells	2 to 3 hours after injury, peaks in 8 to 12 hours	Within one day after injury	Used less frequently; sometimes performed with troponin to provide early diagnosis

Table:- Biomarkers used for prognosis

These tests may be used to evaluate risk of future cardiac events.			
Bio Marker	**What it is**	**Reason for Increase**	**When/How Used**
hs-CRP	Protein	Inflammation	May help determine risk of future cardiac events in those patients who have had a heart attack
BNP and NT-pro BNP	Heart hormone	Heart failure; increased risk of another heart attack	Usually used to recognize heart failure, but an increased level in people with ACS indicates an increased risk of recurrent events

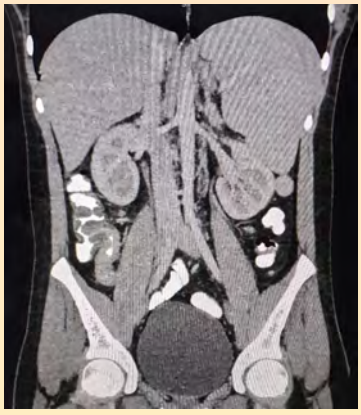
– Dr. Rachna Singh
HOD Laboratory & Blood Bank
National Heart Institute

PICTURES SPEAK FOR THEMSELVES

Case 1: A 22 years old young boy presented with high grade persistent fever with rigor and splenomegaly. Fever was followed by severe diarrhoea, tenderness in right iliac fossa and appearance of pinkish macules subsiding at their own (Rose Spot). CECT abdomen showed circumferential wall thickening in distal ileum and ileocaecal region with submucosal edema, surrounding fat stranding and reactive mesenteric lymph nodes. A differential diagnosis of Enteric fever and Ileocaecal Tuberculosis was made. Blood culture grew Salmonella typhi. Patient responded fully to ceftriaxone therapy.

(Courtesy: Dr. S. Dwivedi, Dr. Anshika Gulati)

Rose Spot

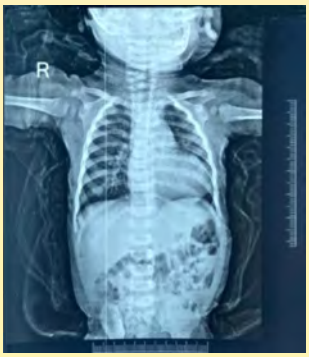


CECT Abdomen

Case 2: Six month old baby girl presented with complaints of poor weight gain, irritability while feeding since 3 months. Clinical possibility of co-arctation of aorta with CCF was made. An X-ray chest and CT aortogram was done which revealed severe coarctation and PDA. Coarctation was cut, PDA was excised and a daflon graft was put in. Patient improved considerably.

(Courtesy: Dr. G. N. Lone, Dr. Anshika Gulati and Dr. Kunal Ghosh)

Severe coarctation of aorta with a PDA.

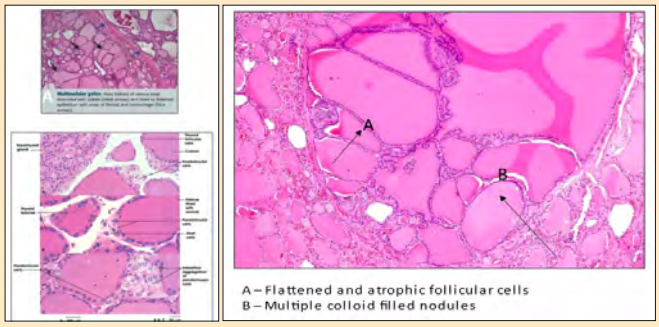


X Ray Chest PA

CT Aortogram

Case 3: A 36 years old lady with no known comorbidities, presented with dysphagia for (solids > liquids), neck pain, right sided neck mass since 4-5 months. Ultrasound of thyroid showed a well-defined heterogenous predominantly hyperechoic nodular lesion at right upper lobe measuring about 1.6x1.0x1.4cm and at mid pole 2.2x1.1x1.7 and well-defined heterogenous echotexture lesion with few cystic areas in left lobe. FNAC was done which showed cytologically possibility of benign lesion on smears possibly a colloid goitre. Subtotal thyroidectomy was done which confirmed the diagnosis.

(Courtesy: Dr. Anshika Gulati, Dr. Rachna Singh)



Case 4: A 62 year old male presented with abnormal swelling in left submandibular region and a discharging post auricular sinus (Fig). Swelling was firm to hard ,non-tender. He was a chronic heavy smoker. CT neck revealed Ill-defined mass lesion in anterior triangle on left side of neck showing heterogenous post contrast enhancement and few non enhancing areas of necrosis, with locoregional infiltration (Fig). Ultrasound guided breast biopsy was done which has revealed poorly differentiated keratinizing squamous cell carcinoma.

(Courtesy: Dr. T. Mazumdar, Dr. S. Dwivedi, Dr. Anshika Gulati, Dr. Rachna Singh)

CT-Neck

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