



# SERUM TIMES

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## SERUM MEDICAL BULLETIN

### From the desk of the Editor-in-Chief

Dear Readers/Doctors,

We hope things are going well. We are in the festival season, and it will continue for several months. In this issue, we would like to draw your attention to a fundamental fact about the overall health of the Indians. These are the harmful effects of consuming high-sugar and high-sodium items, as well as excessive oil use in cooking. In an article published in The Hindu on Sept 25, 2025, two health experts mentioned that there has been a rising burden of non-communicable diseases, more so obesity, in all age groups. It is known that Indians consume a higher amount of salt.



The recommended limit of the World Health Organization is about five to six grams per day. But an average Indian consumes nearly eight to eleven grams of salt. This is due to the food habits and poverty of Indians, where salty items are more prevalent. Other factors like eating out, which means more oily foods and snacks, sweets, pastry, cakes, also add many harmful items to our food. The high intake of salt may result in hypertension. In India, about 28.1% of adults are affected by this. This, in turn, increases the cardiovascular risks. In the festival season, please be prepared to consume salt, oil, and sugar in a controlled way, and then you can make a habit of consuming these items in a prescribed amount.

An important report - Child Nutrition Report 2025, released by UNICEF, points out 'Feeding Profit: How Food Environments are Failing Children'. It observes that obesity has overtaken being underweight as the prevalent form of malnutrition. The surge in obesity is more pronounced in lower-middle-income countries including India. If it is not controlled, India will account for 11% of the world's obesity burden by 2030.

Another important report has been that India's birth rate is down by 1.9, and that has gone below the replacement rate of 2.1. The birthrate is lowest in Tamil Nadu at 12 per 1000 and highest in Bihar at 25. In states where the birthrate is above the fertility rate are Bihar, UP, Rajasthan, and Chhattisgarh. On the other hand, Delhi, West Bengal, Tamil Nadu, and Maharashtra are much below the replacement rate. It implies that the government policy of birth control has been successful to a large extent.

In this issue, we have discussed two important stories. Story 1 discusses Arthropathy related to joint diseases. It is different from common arthritis. This is characterized by pain, swelling, and stiffness, reduced range of motion in joints, and so on. Story 2 touches upon the new discovery of bacteria, which has a triggering effect for cardiovascular attack. Doctors knew that bacteria were responsible for this. But recently, a team of researchers in Finland has pinpointed the bacteria.

Sanjib Acharya

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## Arthropathy - multidisciplinary care is needed for the treatment strategy

Story 1

Arthropathy is a severe progressive disease process affecting joints. In this case, nerve damage. In many cases, unrecognized injury, repetitive stress hyperaemia, and bone fragmentation occur, leading to destruction of bone and soft tissues, particularly in weight-bearing joints such as feet, ankles, knees, and hips. It is different in one matter from arthritis. Arthropathies can be associated with haematology, i.e., a blood disorder. Or it may be an infection such as Lyme disease.

What are the signs and symptoms of arthropathy?

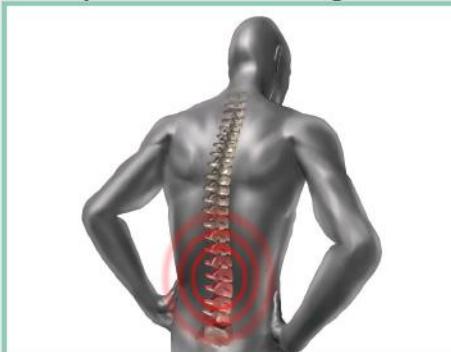
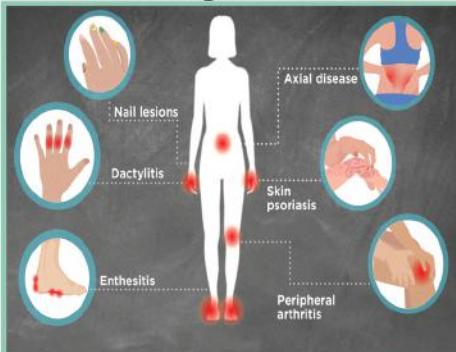
Signs of joint pain depend on the specific disease, and they vary. But common signs are

1) decreased range of motion, 2) stiffness, 3) effusion, 4) pneumarthrosis; it is air in a joint, 5) bone erosion, 6) systemic signs of arthritis such as fatigue. Some arthropathies may be associated with extra-articular or symmetric signs and symptoms. For example, psoriatic arthritis may be associated with dactylitis or nail pitting, skin eruptions, and uveitis. Also, rheumatic arthritis may be associated with fatigue, fever.

Diagnosis of arthropathy

First, patients' history is important as it focuses on chronicity and the history of joint problems. This would help to know the history of flare-ups, aggravating factors, duration, and location, and characteristic (like dull or sharp, or throbbing) and severity of pain. At the same time, a review of risk factors for the various arthropathies may reveal diagnostic clues. Patients' family history will help to know about their joint disease or autoimmune problems.

A blood test is important as it can help identify inflammatory and disease-specific markers and is based on clinical findings obtained from the patients' history and physical examination. Even blood tests, which also aim at detecting extra-articular disease, may offer valuable insight.



In case of suspected crystalline arthropathy or septic arthropathy, laboratory analysis of a synovial fluid aspirate is the most specific diagnostic test. Additionally, X-ray as well as MRI are the most common initial imaging modality for evaluating joint pain and is often useful for suggesting the diagnosis and evaluating the extent of joint damage. Moreover, the differential diagnosis of arthropathy is also very helpful, which includes inflammatory, non-inflammatory, and infectious joint diseases. There are other conditions also.

Some non-pharmacological treatments

Other than medicines, these are very common interventions to give relief. These include exercise, consuming a healthy diet including fibrous food, occupational therapy, physical therapy, reducing alcohol consumption, stopping smoking, surgery, and weight loss.

Additionally, there are several adverse impacts of arthropathy treatments. These include easy bruising or bleeding, GI upset and GI bleeding, allergic reaction, increased risk of myocardial infarction, heart failure & stroke, and toxicity.



## A new study identifies specific bacteria responsible for heart attacks

Story 2

It is already established from previous research that bacterial infections as risk factors for heart disease. It has also been observed that there has been a link between bacterial infections to an increased risk for heart disease. But a new study has recently identified specific bacteria which is found in the mouth and throat, which are known to have been responsible for heart attacks.

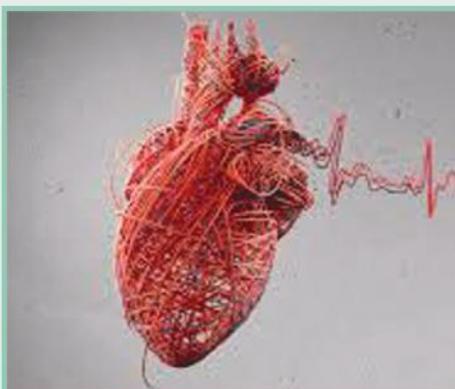
### Meaning of heart attack

A heart attack happens when blood in the arteries is blocked and cannot reach the heart. So, the arterial blockage can be caused by the formation of blood clots. The situation happens partially from cholesterol inside the artery walls. Previous studies observed that bacterial infections from bacteria that have entered the body's bloodstream as a risk factor for heart disease.

It is reported that Pekka J Karhunen, professor of Medicine and Health Technology at Tampere University, Finland also one of the main researchers in the study, wrote the discovery in the Journal of the American Heart Association that they have found bacteria typically found in the mouth and throat, might be a trigger for a heart attack.

### Research methodology

The research team analysed coronary plaque samples from 121 people who died from sudden cardiac death. Out of that 96 people who have undergone surgery to have plaque from their arteries cleaned. The process is known as an endarterectomy. The research team discovered a specific bacterium, known as viridians group Streptococci. It represents types of streptococcus bacteria commonly found in mouth, in saliva and dental plaque. These are the most common bacteria in the coronary plaque samples.



Other experts reportedly said (13th September, Medical News Today) that they had long suspected that inflammation was a key driver of cholesterol plaque formation and plaque rupture, leading to heart attacks. The new research found out how bacteria from the mouth might play a hidden role in driving coronary inflammation.

At the same time, experts also cautioned about this path-breaking discovery and said that the study had limitations. The researchers took a picture aftermath. So, they did not have a great timeline for what exactly was happening in someone's plaque that had led them to have that vascular event.

### How should one be worried about this type of bacterial infection?

According to a cardiology expert (mentioned in the same article) these bacteria live synergistically within the human body, most abundantly in the oral cavity as well as the respiratory and gastrointestinal tracts. The problem arises when they enter the body, via the mouth and can cause other infections.



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## CSR Activities & Events of SERUM throughout October, 2025



Oct 1: SERUM Sharod Samman, 2025



Oct 11: Moments from Bijaya Sammilani, 2025 at Serum Auditorium



Oct 19: Sri Sanjib Acharya was present at the inauguration of Kali Puja organized by Balak Sangha, Ramkanta Bose Street

Oct 19: Sri Sanjib Acharya inaugurated Kali Puja organized by Calcutta Athletic Club, Hemendra Sen Street

Oct 22: Sri Sanjib Acharya participated in the Bhog Prasad distribution of Sarbajanin Sri Sri Kali Puja organized by Amra Sobai (Hawkers Brinda)



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