Boosting your metabolic rate

INCREASING metabolic rates has been of interest to many, especially among weight-conscious individuals. Understanding metabolism is crucial in guiding us to obtain an optimal metabolic rate. Metabolism is the conversion of energy intake i.e., food consumption into products including energy and waste products. Increasing the rate of conversion is believed to burn off body fat. But is this true?

MSU Medical Centre (MSUMC) health screening and wellness specialist Dr Faridah Mohd Zin explains, "Our body consumes energy in four pathways: basal metabolism, food thermogenesis, non-exercise activities thermogenesis (NEAT) and exercise activities thermogenesis (EAT). More than half of the body's metabolism is used as basal metabolism, which supports the function of vital organs such as the heart, kidneys, brain and others (about 60%).

The thermic effect of food has the lowest contribution which involves the energy needed to change the food we eat into substances that are "edible" by our cells i.e., glucose (about 10%). Increasing the metabolic rate would mean increasing the energy-burning rate of the body which theoretically could be increased by optimising the NEAT, EAT, thermic effect of food and body metabolism.

NEAT is simply the energy consumed when performing daily activity. Optimising daily activities such as cooking while standing or pacing around the room while on the phone has been shown to increase metabolic rates. Since these activities will naturally be done every day, enhancing the energy burned through this pathway could be regarded as an opportunity that should not be missed. Moreover, NEAT is found to be associated with improvement in overall health and helps in body fat reduction.

EAT is the body's energy consumption through structured exercise which primarily includes cardiovascular, strengthening, flexibility and balance. Furthermore, each type should have specific criteria in terms of frequency, intensity, time and types (FITT approach) to achieve different exercise objectives. For example, in maintaining fitness, a total of 150 minutes of cardiovascular exercise per week is recommended while a longer duration is needed for body weight reduction.

Food thermogenesis contributes the least to body energy consumption. High lean protein and whole food use more energy in the metabolism compared to other types of food and processed food. Although eating the former would induce higher thermogenesis hence a higher metabolic rate, the contribution made in the increment of daily body metabolism is the lowest.

> "More than half of the body's metabolism is used as basal metabolism."
>
> Dr Faridah Mohd Zin

The major factors contributing to the basal metabolic rate include sex, height, age, ethnicity, body composition and genetic factors. While the body compositions are mainly composed of the vital organs, bones, body fat and muscle mass, the latter two are the only factors that can be intentionally changed.

Total body fat is composed of essential and storage fat. Storage fat is mainly deposited under the skin as subcutaneous fat, or around the body organs as visceral fat. The latter has been strongly linked to an increased risk of cardiovascular diseases including heart attack and stroke. Energy consumption of more than required would be stored in the body as fat. Hence, a negative balance between energy intake and consumption is essential to force our body to use up the storage fat as a source of energy, leading to weight reduction. Since storage fat originates from food intake, altering an individual's diet is crucial for achieving the desired body fat level.

Dr Faridah Mohd Zin.

Increasing muscle mass would increase the ability of the body to use up energy. The American College of Sports Medicine recommends regular resistance training exercises as the key to building and keeping muscle. Men and women should participate in muscle-strengthening activities that work the major muscle groups (legs, hips, back, chest, abdomen, shoulders and arms) at least two times each week. Examples of muscle-strengthening activities include lifting weights, using resistance bands, doing push-ups and some types of yoga. Even everyday activities such as gardening, playing with your kids and carrying groceries can strengthen muscles.

Although resistance training is an important part of a complete exercise regimen, consuming the appropriate amount and type of protein to maintain and build muscle is just as important. On top of that, a healthy balanced diet is crucial to ensure adequate macro- and micro-nutrients needed for a healthy body.

Body metabolism happens continuously, allowing ongoing opportunities to maximise its effect. Body fat is a way for our body to store unused energy. Hence, optimising the body's metabolism while consuming less than the daily energy requirement will force the body to burn stored fat for energy. Consistently maintaining this negative energy balance will gradually reduce unwanted fat.

Rising cases of heart attacks among the young

HEART attacks are no longer an "old man's disease." "Malaysia has one of the youngest rates of heart attack in South-East Asia," Damansara Specialist Hospital consultant cardiologist Dr Effarezan Abdul Rahman says.

"We are one of the most obese countries in the region. Smoking rates are still high among young people. And now, conditions like high blood pressure, cholesterol and diabetes, which used to appear later in life, are being diagnosed much earlier," she explains.

Dr Effa recalls patients as young as 19 who presented with heart attacks, often linked to smoking or a strong family history. What makes it worrying, she said, is that heart disease can creep up without obvious signs. "You might look fine, feel fine and still be at risk. Some people only discover it when it's too late."

The growing popularity of fun runs and marathons is encouraging, but she sees risks too. "It is great to see more people exercising. But sometimes, someone who has never trained suddenly decides to run because their friends are doing it. If your heart is not ready, even climbing a few flights of stairs can trigger something serious."

An endurance athlete, marathon runner and *Ironman* finisher herself, Dr Effa has seen firsthand how discipline, training and preparation make all the difference. "Exercise, eat well, manage stress, sleep enough, and most importantly, know your health status. That is the real starting line."

Her advice is simple: get a health check before pushing your limits, especially if you are over 30. "Know your blood pressure, cholesterol and blood sugar levels. Train gradually, stay hydrated and don't exercise on an empty stomach."

Stress and diet also play a role. "When you are stressed, you are most likely not eating properly, you sleep less, and you might smoke more. Over time, it becomes a cycle that raises your risk," she shares. "And of course, Malaysians love food. We always tell our patients to fill the plate with vegetables and protein, as well as keep the carbohydrate portions smaller. Once in a while, it is fine to enjoy favourites like *kuah banjir* rice or *teh tarik*, but not every day."

> "Know your blood pressure, cholesterol and blood sugar levels. Train gradually, stay hydrated and don't exercise on an empty stomach."
>
> Dr Effarezan Abdul Rahman

Smoking and vaping remain major concerns. "Smoking is the number one red flag for heart disease," Dr Effa stresses. "For the lungs, we already know vaping is harmful. For the heart, the evidence is still growing, but the signals are worrying."

Dr Effarezan Abdul Rahman.

She reminds that even second-hand smoke carries risks. "The safest step is to keep your distance."

She also cautions that many patients delay screening until symptoms appear. "The challenge is that heart disease may progress silently. Early checks allow us to detect risks before they become critical."

Heart disease may be one of Malaysia's greatest health challenges, but it is also one where awareness and timely care can make a real difference. Damansara Specialist Hospital's commitment to Care for Life means helping patients move beyond treatment towards healthier, stronger futures.

■ For more information, call 03-7718 1000 or visit *kpjhealth.com.my/damansara.*

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Heart monitoring goes digital

OVER the past three decades, deaths attributed to cardiovascular diseases have seen a significant increase of 60% globally. This is why early detection and effective management are crucial for reducing the risk associated with these conditions.

In recent years, wearable fitness technology has emerged as a powerful tool in the battle against cardiovascular diseases. These devices, ranging from smartwatches to fitness trackers have revolutionised heart monitoring by providing individuals with real-time data about their cardiovascular health.

Many wearables track daily steps to help users maintain an active lifestyle.

Advancements in wearable fitness technology

● **Continuous heart rate monitoring** – Modern wearables are equipped with optical sensors that continuously monitor heart rate throughout the day. This data helps individuals and healthcare professionals identify irregularities or spikes in heart rate, which may indicate potential heart problems.

● **ECG/EKG integration** – Some high-end wearables now feature electrocardiogram (ECG or EKG) capabilities. Users can take ECG readings using their smartwatches, providing a more comprehensive view of their heart's electrical activity. This feature is particularly useful for detecting arrhythmias and atrial fibrillation.

● **Blood pressure monitoring** – Wearables are evolving to include blood pressure monitoring functionality. A blood pressure monitoring device can also track daily activities, including counting steps, measuring the distance covered and calculating calories burned.

● **Sleep tracking** – Poor sleep quality can contribute to heart problems. Wearables can track sleep patterns including disruptions in breathing during sleep, enabling users to identify potential issues and seek medical advice.

● **Physical activity monitoring** – Regular physical activity is essential for heart health. Wearables provide insights into daily step counts, active minutes and exercise intensity. This helps users stay motivated to maintain an active lifestyle.

Early detection of cardiovascular issues

● **Arrhythmia detection** – Wearable ECG monitors can detect irregular heart rhythms such as atrial fibrillation, which often go unnoticed but can increase the risk of stroke and other heart-related complications. Alerts can prompt users to seek medical attention.

● **Blood pressure trends** – Tracking blood pressure trends over time can help individuals and healthcare professionals identify hypertension (high blood pressure), a significant risk factor for heart disease.

● **Stress management** – Wearables often include stress-tracking features that monitor heart rate variability and stress levels. Chronic stress is associated with heart problems, and early detection allows for intervention and lifestyle changes.

Management of cardiovascular health

● **Personalised health insights** – Wearables collect a wealth of data, which can be used to provide users with personalised health insights. These insights can help users make informed decisions about diet, exercise and lifestyle changes to improve their heart health.

● **Data sharing with healthcare professionals** – Many wearables allow users to share their health data with healthcare providers. This allows doctors to monitor patients remotely, adjust medications and provide timely interventions based on real-time data.

● **Behavioural change support** – Wearables can offer motivational features such as goal setting, reminders and social sharing to encourage users to adopt heart-healthy behaviours.

While challenges remain, the potential for improving cardiovascular health through wearable technology makes it an invaluable tool in the digital age. However, users need to complement wearable data with regular medical check-ups and consultations with healthcare professionals for a comprehensive approach to heart health.

Smartwatches enable users to monitor their heart rate for any irregularities.

Understanding heart disease names

THE world of medicine can be confusing, especially for those unfamiliar with its terminology. Many diseases were named using foreign languages like Greek or Latin, or occasionally after the person who first discovered them. Today, however, it is less common for diseases to be named after animal species, population groups or the geographical locations of their first discovery. Instead, names are mostly derived from describing their appearance and the symptoms they cause. Here are some of the more curious conditions that may afflict the human body's most hardworking organ.

Takotsubo cardiomyopathy

Also known as broken heart syndrome or apical ballooning syndrome, takotsubo cardiomyopathy was first reported in Japan in 1991. It is a temporary heart condition that is often triggered by stressful situations and extreme emotions. The condition was named after the left ventricle of affected patients, which takes on a shape resembling a Japanese octopus trap, known as a *takotsubo*. The syndrome happens in women more often than in men. People with takotsubo cardiomyopathy may experience sudden chest pain or shortness of breath, both of which are symptoms similar to those of a heart attack. While the causes of the condition remain unclear, the prognosis or likely outcome of this condition is generally favourable as the symptoms are treatable, and most individuals recover within one month.

Tetralogy of Fallot

This is a rare condition present at birth that was first discovered by Frenchman Étienne-Louis Arthur Fallot in 1888. The "tetra" in tetralogy refers to four defects of the heart and its blood vessels that commonly occur together. This complex heart defect affects the normal blood flow through the heart. However, patients seem to live normal lives after undergoing the required corrective surgery. The exact cause of this heart defect remains unknown, but it is thought to be caused by a combination of genetic and environmental risk factors, such as the mother's diet during pregnancy.

Pericarditis

Pericarditis refers to the inflammation of a sac-like tissue that covers the heart, called the pericardium. While the cause of the inflammation often remains unknown, it is commonly induced by viral infections. Most cases are mild and will recede on their own. However, more severe cases may lead to an abnormal accumulation of fluid – pericardial effusion – in which increasing pressure affects heart functions negatively.

Aortic regurgitation

Also known as aortic insufficiency, the condition refers to the leaking of blood flow back into the main pumping chamber of the heart, the left ventricle. It is caused by the aortic valve, one of the four main valves of the heart. In this condition, the aortic valve does not close tightly during the diastolic stage of the cardiac cycle when the heart muscle relaxes. This creates flow in two directions during the relaxation of the heart to refill with blood and causes the left ventricle to hold more blood. Over time, this results in the enlargement of the ventricle, which can weaken it.

Ventricular septal defect

A hole in the heart, present at birth. Ventricular septal defects are the most common birth defects, with about one in every 500 babies born with it. The condition is usually considered non-life-threatening as smaller holes typically close as the child grows, usually during infancy or early childhood. However, significant heart lesions can be remedied with transcatheter treatment to avoid life-threatening complications such as irregular heartbeats.

Most heart disease names now stem from the appearance and symptoms they cause.

The heart is the hardest-working organ in the body so, it is vital to take care of it throughout our lives.

Heartburn

While the word 'heartburn' may appear dangerous and threatening, it is actually caused by the stomach's digestive acid rising up the oesophagus tube. It appears in the form of a burning sensation in the chest. The pain is commonly mistaken as coming from the heart, thus its name. It may also be mistaken for angina, a discomfort in the chest.

While medical terminology can be confusing, it is essential to consult your physician for clarification on any concerns or a condition's implications. It is recommended to carry out heart check-ups every two to four years. For patients with high-risk factors, physicians may recommend more frequent monitoring.

Relax your way to wellness

YOUR heart deserves more than just cardio. The all-new Gintell S5 Pro Massage Chair can help boost wellness by enhancing blood circulation, alleviating physical tension, and reducing stress levels. In today's fast-paced world, stress and fatigue can silently take a toll on your heart. The Gintell S5 Pro offers a powerful way to unwind each day, easing strain on the cardiovascular system while promoting deep relaxation and recovery. Invest in your heart health with every session. A relaxed body leads to a healthier heart.

Crafted with a sophisticated black and brown leather finish, the S5 Pro Massage Chair blends style and functionality to complement any modern living space. The S5 Pro Massage Chair features 8D Twin Rollers that protrude 13 to 15 cm, allowing precise humanised spot massage on the upper back (neck and shoulders) and lower back (spine and waist) simultaneously. This innovative design mimics professional masseuse techniques using a combination of intelligent traditional massage techniques. This dual massage roller provides more coverage and deeper relief, ensuring a highly effective massage session.

It also features Thermal Knee Therapy with intelligent heating airbags that gently compress around the knees and calves, delivering soothing warmth to boost blood circulation, ease joint stiffness, and relieve muscle tension. It's the perfect solution for those with chronic knee discomfort or tired, aching legs, especially for elderly users.

With the Gintell Super APPs OS, users can now control the massage chair directly through their smartphone. Users can customise their preferred massage settings, such as the intensity, massage angle, or switch programmes with just a few taps.

The Gintell S5 Pro Massage Chair provides the ideal massage experience.

The S5 Pro Massage Chair incorporates the Magic Touch Reflex. Using synchronised rollers and airbags, these massage rollers target acupressure points on the feet, calves, knees and legs, providing overall relief of soreness, improving blood circulation, easing muscle tension and enhancing leg mobility.

The AI Voice Control feature allows users to operate the chair with simple voice commands, while the AI VI-Memory system lets them easily customise and set their preferred massage programmes, ready to activate with just one tap whenever they want. This thoughtful, user-friendly design is especially helpful for the elderly, ensuring a truly hassle-free experience.

Featuring built-in surround Bluetooth speakers, it elevates users' relaxation with Brain Relief Therapy sessions. These massage programmes automatically play soothing ambient music to enhance relaxation. Users can also choose to stream their favourite hits and enjoy a deeply immersive, spa-like journey right at home.

Whether you're unwinding after a long day or simply prioritising self-care, the Gintell S5 Pro Massage Chair is your personal wellness companion, offering a luxurious, therapeutic experience at home like never before. Alongside this launch, Gintell is also introducing a limited special edition massage chair – Gintell Mickey Fantasia Massage Chair, with only 1,000 units available across South-East Asia. Retailing at RM23,988, this exclusive model is a premium investment in long-term health, comfort, and overall well-being, available for a limited time only during the official launch.

■ Gintell is offering a promotion starting from RM1,988. For further enquiries or pre-orders, call 016-7500 998, log on to *www.gintell.com* or visit your nearest Gintell showroom to experience the Gintell S5 Pro Massage Chair firsthand.