

Fitness

HOT WEATHER NO BARRIER FOR TRAINING

Various strategies help athletes to improve their performances while competing in high temperatures

NEW YORK • There are many ways to cope with exercising in hot weather. But one of the most effective may be, surprisingly, to soak in long, hot baths in the days beforehand, according to a new study of how best to prepare for athletic competitions in the heat.

When it is hot, our hearts labour to shunt more blood to the skin, which allows internal heat to dissipate but also leaves us feeling fatigued and potentially at risk of heat illnesses, ranging from nausea to heatstroke.

Scientists and coaches have come up with many ways to help athletes cope. Some involve a process known as precooling, which entails drinking icy beverages or applying ice to the skin before exercise, on the assumption that we can better

withstand high temperatures outside by lowering our body's internal or skin temperature beforehand.

Other strategies emphasise heat acclimation, which is the slower process of adapting to high temperatures over the course of days or weeks: Your body changes in many ways, including starting to sweat earlier and more profusely, which helps to reduce the build-up of internal heat and ease the demands on your heart.

However, few studies have compared the benefits of acclimation and precooling, or have examined whether you gain extra benefits from combining both.

So for the new study, which was published in May in the Journal of Strength and Conditioning Research, scientists at the University of Brighton in England and other institutions invited nine recreational runners who were not heat-acclimated to their laboratory and set the temperature to 32 deg C.

The scientists asked the runners, who included one woman, to com-

plete a simulated 5km race at top speed on a treadmill in the sweltering room. They had to repeat that race on three subsequent visits.

Before one of these, the runners pre-cooled their skin by thrusting an arm into a vat of cold water and also donned cooling vests and athletic underwear fitted with ice packs.

After 20 minutes, they doffed their ice packs and ran again.

Then the scientists began formally acclimating them to the heat. They did this by dialling up the temperature to almost 37 deg C and having their volunteers pedal an exercise bicycle for about 90 minutes, at an increasingly vigorous pace – which they did for five consecutive days. Afterwards, the runners repeated their 5km treadmill race.

Finally, during a last visit, the runners, still heat acclimated, pre-cooled as they had before with frozen undergarments and a chilly arm plunge and ran again.

The scientists then simply compared their times. As expected, the runners were slowest in their first run, when they had not prepared for the heat at all.

After precooling, however, they were significantly faster, improving by almost 4 per cent.

They were even speedier after four days of acclimation, reducing their time by more than 6.5 per cent

6.5%

The reduction in time achieved by runners who followed set procedures in laboratory tests in England.

compared with their first run.

Interestingly, they gained little more by combining acclimation and precooling. Their times in that final run were barely faster than after acclimation alone.

The upshot of these results is that “you will receive a bigger bang for your buck from acclimating to the heat rather than by temporarily cooling yourself down” with chilled clothing and such, said Carl James, who led the study while at the University of Brighton.

On the other hand, precooling can be a useful stopgap measure when temperatures suddenly rise and you do not have time to acclimate before a looming competition, he said. “Throw your ice vest and cooling shorts into the freezer” and wear them for about 20 minutes before your event, he advises.

Acclimation demands far more time and planning.

During your first workouts in summer heat, he says, reduce the time you spend outside and go at a gentler pace than normal, slowly ramping up your effort as the exertion begins to feel more tolerable. Drink plenty of water, too, he says, since you will start to sweat more profusely.

Or, alternatively, “lie in a hot bath, heated to at least 40 deg C, for 30 minutes after a 30-minute run,” he said, which can amplify your body's adaptations to the heat without requiring more time outside in the high temperatures.

But James said even careful acclimation or precooling will not make you immune to heat illness.

“Headaches, nausea, dizziness and muscle cramping are all indicators of heat illness, at which point you should slow down and seek shade,” he said. NYTIMES

HotBods

Text and pictures by Jamie Koh



Seah Hao Yu, 23
Student

Height: 1.7m Weight: 65kg

Exercise regimen: I focus on calisthenics because I enjoy the process of challenging myself to progress to different stages for the exercises. I work out three to four times a week for 45min to 1hr depending on my schedule. In addition, I run one to two times a week (4-5km runs or interval training) to maintain my cardiovascular fitness.

Diet: I aim to have high protein and vegetable content for my meals. I do not go out of the way to keep to a strict diet but I will try my best to avoid fast food and sweet drinks. On days that I work out, I will have a cup of milk before I sleep to aid in my recovery.



Shermaine Tan, 24
HR executive

Height: 1.62m Weight: 52kg

Exercise regimen: I am addicted to high intensity interval training workouts. I schedule them into my morning routines at least three times a week. Other than that, I typically do strength training in the gym about two to three times a week followed by yoga as a stretch and cool down.

Diet: I need to drink at least 3 to 4 litres of water a day. This is to flush out toxins in the body. On top of that, I avoid fast food and do not take carbonated drinks.



Clinic helps participants run clear of potential problems

Nicholas De Silva

More than 30 participants gathered at Singapore Management University's B3 Bistro yesterday for the second Straits Times Run clinic.

Orthopaedic specialists Dr Andy Wee and Dr Lim Kay Kiat from the Mount Elizabeth Hospital group conducted the clinic.

Over two lectures, the doctors covered the following topics: injury-free training, the runner's foot, as well as common running injuries around the knee and danger.

Preventive measures such as identifying appropriate running shoes according to foot type and progressive training were also highlighted.

Participants listened, jotted down notes and fielded questions



during the clinic. For Neha Das, who will be taking part in her first ever race in the ST Run 5km category, the clinic was an eye-opener.

Said the 32-year old: “It was really informational for somebody like me who's new to running. It was helpful to get to know what to watch out for when we are training.



I also got to clear up misconceptions I've heard from my friends with the experts.”

For Ramachandran Rajesh, who described himself as an active runner, the clinic served as a timely refresher.

“It reminded me on the importance of rest. Closer to the race we tend to concentrate only on running and we don't care about resting,” said the 46-year-old IT professional.

Said Dr Wee, a former national youth squash athlete: “We want them (the runners) to stay injury-free when they train. We also want to make sure that as they continue their running, they recognise when they should seek medical treatment because we see a lot of running enthusiasts who run through their pain with persistent symptoms in their knees and feet.”

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Above: ST Run participants preparing for the July 16 event by taking part in a 15km training run. ST PHOTO: ALPHONSUS CHERN

Left: Dr Lim Kay Kiat giving tips to participants of the ST Run clinic on how to stay injury-free. Fellow orthopaedic specialist Dr Andy Wee (back, left) also addressed the 30-strong group. ST PHOTO: DAVE LIM

Run with Mok at final clinic

National marathoner Mok Ying Ren will be conducting the third and final running clinic for Straits Times Run participants on Sunday at Suntec City from 3.30pm.

The two-time SEA Games gold medallist will be sharing his experience clinching Singapore's first marathon gold at the 2013 Games as well as tips for race day.

Participants will also get the rare

opportunity to train alongside Mok, who will wrap up the session with a 20-minute run.

Dr Dinesh Nair from the Mount Elizabeth Hospital group will kick off the clinic by giving a talk entitled A Runner's Life: How to Catch a Heart Attack Before It Catches You.

Participants can also collect their race entry packs on the same

day at the Suntec City North Atrium. Collection of race entry packs is available from 11am to 8pm between Thursday and Sunday.

Sunday's running clinic wraps up a host of fringe activities to help participants gear up for race day, ranging from training runs to a body combat workout. ST Run participants interested in Sunday's

clinic can register for free through their participant accounts. Successful applicants will be notified via e-mail.

The ST Run is into its fifth edition and will take place on July 16.

Nicholas De Silva

• For more information, please visit www.straitstimesrun.com