

A Universiti Malaysia Sabah (UMS) sports column by Stephanie Chok, Mohamad Nizam Nazarudin, Mohamad Razali Abdullah, Pathmanathan K. Suppiah and Hasnol Noordin.

Running for health – scientific, theory and practical

A complete fitness program should include the basics of aerobic exercise, strength training and stretching or flexibility. For many people, running is the preferred form of aerobic exercise, offering physical, emotional and financial advantages.

Running requires little equipment; running can be done nearly anywhere and running burns more calories than any other exercise because it is a weight bearing exercise compared to swimming or cycling which are non-weight bearing exercises. Other types of exercise can burn a lot of calories too.

It is important to choose exercise activities that you enjoy so that you will be motivated to work out regularly. Running is the most effective exercise activity for burning calories.

However, the number of calories you will burn depends on the speed and duration of your running and on your body weight. The more your weight, the more energy your body must exert to keep moving and the more calories you will burn.

For example, in a 60-minute period a 70kg person will burn about 560kcal when jogging at eight kilometres per hour and about 945kcal when running at 13 kilometres per hour.

A 90kg person will burn even more calories in 60 minutes, burning 730kcal when running at eight kilometres per hour and 1,230kcal running at 13 kilometres per hour. To lose fat, you must burn more calories than consumed from food and drink over a period of time.

Health and fitness benefits of running

Cardiorespiratory fitness or aerobic fitness is the ability of your heart to pump stronger and more efficiently and your muscles to use oxygen more efficiently. As you get more fit, your heart will pump more blood and oxygen with each beat and your muscles will extract or consume more oxygen.

For instance, if you have 100 oxygen molecules floating



"I used to be 100kg; after all the hard work, now I'm 75kg and able to join races and guess what, I even got top 10 in a Triathlon Race," John, 33, tourist guide.

around in your bloodstream, a conditioned muscle might consume 80 molecules, whereas a deconditioned muscle might only consume 30, or even fewer than that. In fact, elite distance runners can be as much as three times more efficient at consuming oxygen than inactive or sedentary individuals.

Running improves your aerobic fitness by increasing the activity of enzymes and hormones that stimulate the muscles and the heart to work more efficiently.

The American College of Sports Medicine (ACSM) report makes it clear that many significant health benefits are achieved by going from a sedentary state to a minimal level of physical activity, programs involving higher intensities and/or greater frequency or durations provide additional benefits.

For example, it was shown in one study that individuals who ran more than 80 kilometres per week had significantly greater increases in HDL cholesterol (the good fat) and significantly greater decreases in body fat, triglyceride levels, and the risk of coronary heart disease than individuals who ran less than 15 kilometres per week.

In addition, long-distance runners have a nearly 50% reduction in high blood pressure and more than a 50% reduction in the use of medications to lower blood pressure and plasma



"I love running and my mommy will always make us run during weekends before we are allowed to watch cartoons," NurIqmal, 11, student.

cholesterol levels.

How much running do I need to do?

ACSM recommends that all healthy adults should do the following: 1. Frequency of training: three to five days per week. 2. Intensity of training: 55/65%-90% of maximum heart rate. 3. Duration of training: 20-60 minutes of continuous or intermittent cardio or aerobic activity. 4. Modes of activity: any activity that uses large muscle groups, which can be maintained continuously, and is rhythmical and aerobic in nature (for example, walking, hiking, running-jogging, cycling, aerobic dance/group exercise, rope skipping, rowing, stair climbing, swimming and various endurance game activities or a combination of two or more exercises)

Programs for running

The simplest thing to do is to get out there, and jog or run for five to 10 minutes. Pace yourself, slow down if you are out of breath, and keep moving. For beginners, Stephanie Chok, a lecturer from



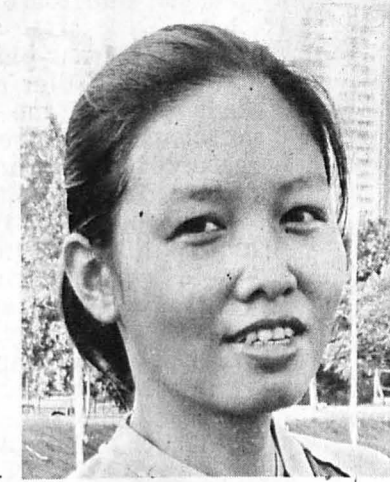
"Besides keeping myself healthy, I love the camaraderie and it is the greatest way for me to release stress," Karen, 29, student.

School of Education & Social Development, Universiti Malaysia Sabah (UMS) suggests a five-minute out, five-minute back program.

From your starting point, jog five minutes, turn around, and jog back for five minutes. She said of course not everyone can jog for 10 minutes as a start, and that's okay. Try an informal interval-training method as a way to get started if jogging continuously for 10 minutes is beyond your ability. Keep in mind that the most important thing is just to get started even if it is from the baby steps. You can always add more later on.

Here's an interval plan that will get you started.

1. Select the amount of time that you plan to jog, let's say, 30 minutes.
2. Start with a five-minute brisk walk to warm up.
3. When you feel ready, start to jog slowly. If you're out of breath, walk slowly until you catch your breath and continue to jog slowly again.
4. Repeat this series of walking or jogging intervals for 30 minutes, or whatever duration you intend



"I used to be 90kg and now I'm 53kg, being around with physically active people, somehow influenced me to venture into running," Michelle, 29, student (ex-flight stewardess).

to do. 5. If you stick with this method, you will find in over time that there's no problem for you to increase the jogging intervals and decrease the walking intervals until you can jog for the entire 30 minutes.

Where to run?

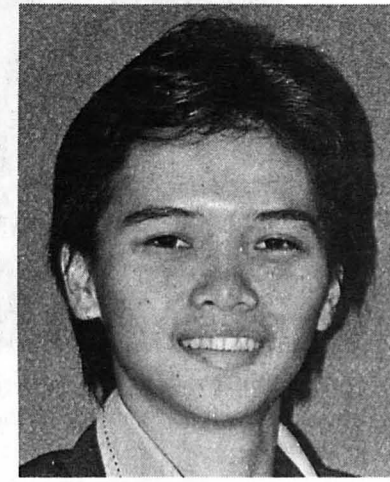
The good news is that you can run just about anywhere. Find a track or a trail or a route on the street near where you live or work.

Running in another city when you're travelling is a great way to see new sites and check out your environment.

Jogging in parks like Likas Lake, Likas Stadium Track, Tun Fuad Park, Penampang Stadium Track, Perdana Park, Inobong Trail, Salt Trail and seashores like Tanjung Aru Beach are the best way to keep you safe from vehicles, and not to mention, it's FREE! With the different terrains and environment and people surrounding, you might just get the boost of motivation that you need.

You might also consider joining our local running club such as the Kota Kinabalu Running Club (KKRC).

Look up for them at



Stephanie Chok, a lecturer and former national triathlete.

www.facebook.com/KotaKinabaluRunningClub if you are interested for group runs which takes place every Sunday at 5am.

The camaraderie of running with others is nice; it can be fun, motivating, and help you stick with it if you are struggling in some way.

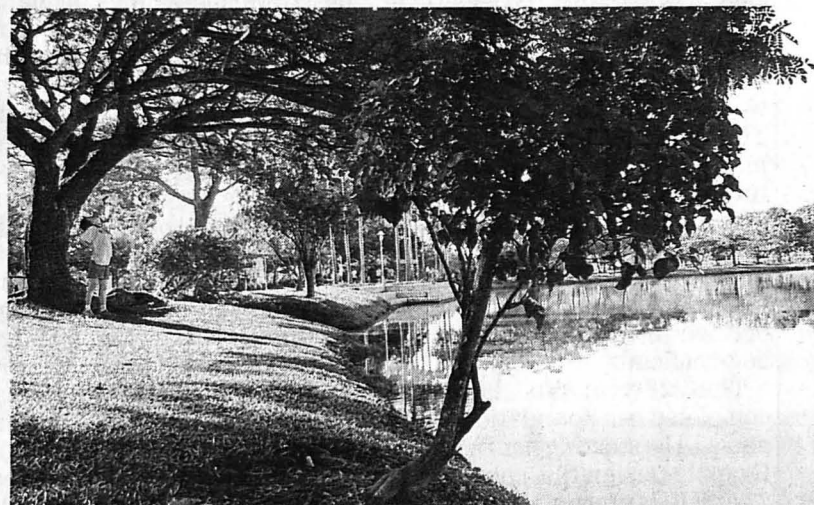
When you think you're ready, you might consider running in organized races. Road races is a great way to stay motivated, to monitor your progress, and collect cool T-shirts and a finisher medal as a reward for your success.

Road races come in many distances. There are 5km, 10km, half marathon (21km), and the marathon (42km). Most beginners should start with shorter races to get the feel of it and then tackle the longer ones.

If you are new to running, it will be very hard at first. Do not give up! I promise that the reward will be worth your effort! Schedule jogging into your weekly routine, and make sure that you do it regularly. Hopefully, after a while, you will find the joy of running as much as I do.

So, let's sum up the benefits of jogging:

- It burns approximately 500-700 kcal/hour.
- It is something that you can do almost anywhere (even on vacation or in your backyard)
- It is a good activity to do with family and friends, consider social running, because running alone can be unexciting
- It is a quick and easy way to get in a workout (just walk out of your front door)
- It is a good way to explore new neighbourhoods/trails
- Running promotes healthy diet (you can't run with a full 'Nasi Briyani' in your stomach)
- There are various ways to keep going (Indoor-outdoor, Interval training, Hills-flat, Trails-street)
- It can be addictive (which makes it a great activity for maintaining weight loss)
- It is easy to see and track your progress (which can be fun and motivating)
- It is the best way to release stress
- It's free of charge.



Likas Lake and Tanjung Aru beach (right) are among the popular jogging spots in Kota Kinabalu.

