



Tuesday, January 25, 2011 17°C 59%

SECTIONS

- Top News
- Local
- Business
- China
- ViewPoint
- CityTalk
- World
- Sports
- People
- Central Station
- Weekend Spree

FEATURES

- Money
- Technology
- Health & Beauty
- Education
- Motoring
- Property
- Home Décor
- Travel

BREAKING NEWS



POTSHOT



Technology

PRINT SAVE EMAIL

Shaping up the high-tech way

Paul Cheung

Tuesday, January 25, 2011

Most people associate marathons with sports or even Greek mythology. But modern-day marathons can also be associated with technology.

One of the most effective ways to get in shape is to organize training based on your heart rate. According to research by sports scientists, an individual's maximum heart rate is derived by subtracting their age from 220 (for men) or 226 (for women). For example, a 50-year-old man will have a maximum heart rate of around 170, while a woman of the same age will be about 176.

There is no best single training plan. Rather, each person should devise an appropriate training plan classified into different zones according to the individual's maximum heart rate.

The first zone is called the Healthy Heart Zone, where your heart beats at 50 to 60 percent of its maximum rate. This is the time when you warm up and start to gradually increase the training intensity. As your heart rate goes up to 60 to 70 percent of the maximum rate, you start to burn calories from fat. This is called the Fitness Zone and for anybody who wants to lose weight, this is where exercise starts to become effective.

When your heart rate is further increased by 10 percent, you move into the Aerobic Zone. This is when your target for endurance improvement is likely to be achieved.

Continue exercising and you will reach the Anaerobic Zone. In this high-intensity zone, the body will produce an increased amount of lactic acid, and your endurance can be further improved.

The last zone is the Red Line, which means your heart rate has reached 90 to 100 percent of your maximum. You can only stay in this zone for a very short time.

While you will want to know your heart-rate performance, you don't want to be pulled out during training to have it measured manually. That's where technology makes things easier.

To measure heart rate accurately in strenuous training or races, you can wear a heart-rate monitor which usually consists of a chest strap and a watch. The signal measured by the chest strap is sent via Bluetooth technology to the watch.

The athlete can then view the data and adjust his or her running speed accordingly. In addition, after setting the highest and lowest heart rates, the monitor can compare the heart rate to the original set values. This can help prevent the runner from undergoing too much body stress, or indicate that it is necessary to work harder to avoid undertraining.

In summary, time and speed may not be the best measure of performance. It is cardiovascular performance that really matters. To be well prepared for an upcoming marathon, a scientific training plan should be developed and applied accordingly to maximize training efficiency.

Paul Cheung is a professor of electrical and electronic engineering at the University of Hong Kong. He is also convener of the HKU marathon team.



ADVERTISEMENT

TODAY'S The Standard Flip the pages

The Standard TERROR BLAST ROCKS MOSCOW AIRPORT

MEMBER LOGIN

LIBERAL STUDIES ESSAY WRITING COMPETITION 2010-11

Available on the App Store

AASTOCKS.COM Real-time Quote Discount futures