

# Healthy blood pressure can change minute by minute

## Patient's Query:

**I am a 50-year-old woman who rarely exercises. I recently started exercising and bought a blood pressure monitor. My blood pressure is high in the mornings when I first wake up.**

**Is it normal to have high blood pressure upon waking up of 140/100mm/Hg? It slowly goes back to normal over the course of the day to under 120/80mm/Hg.**

**Should my blood pressure be stable throughout the day or should it go up and down?**

**Also, my resting heart rate five hours after exercise is over 100 beats a minute. How long should it take to go back to my usual resting heart rate of 80 beats per minute?**

**Am I at risk of heart problems?**

## Dr Tan's Advice:

Hypertension, also known as high blood pressure, is a very common condition that affects around one in three Singaporeans.

You have hypertension if your average blood pressure is more than 140/90mmHg.

Blood pressure is represented by two pressure readings.

The "top" value, or the systolic blood pressure, is the pressure within the arteries at the peak of heart contraction and the "bottom" value, or diastolic blood pressure, is the pressure during heart relaxation.

Both the systolic and diastolic values are important and should not be more than 140 and 90 mmHg respectively in someone without hypertension.

Blood pressure of a healthy individual waxes and wanes throughout the 24-hour day and night cycle.

Blood pressure drops during sleep and starts to rise an hour or so before awakening.

Furthermore, healthy blood pressure can change dramatically even minute by minute.

For instance, anger, anxiety or exercise can have a large, sudden but often transient effect on the level of blood pressure.

Occasional raised blood pressure readings of more than 140/90mmHg is normal and does not indicate that you have hypertension.

Only when blood pressure is consistently above 140/90mmHg over a period of days and weeks would you be labeled as having hypertension.

The best time to check your blood pressure is just before you have your breakfast.

Rest for five to 10 minutes, sitting down in a chair with back support, with your legs uncrossed, before recording your blood pressure with your arm resting comfortably on the table.

Record your blood pressure two or three times, a minute apart, and use the average of these readings as your blood pressure.

Repeat this daily for a week and average out the blood pressure readings.

This should represent more closely your average blood pressure and should be less than 140/90mmHg in someone without hypertension.

Recording your blood pressure immediately on waking up, without sitting and resting for a while, may not represent your true blood pressure.

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If your blood pressure drops to under 120/80mmHg for the rest of the day, your average blood pressure would likely be less than 140/90mmHg and hence you are unlikely to have hypertension.

Nevertheless, you should record your blood pressure readings and discuss these with your doctor, as further investigations such as a 24-hour ambulatory blood pressure monitoring can be done to get a clearer picture of your blood pressure pattern and to determine whether you have hypertension.

A heart rate of 100 bpm five hours after exercise would be a bit higher than expected.

Most individuals' heart rate would return to their baseline rate within an hour of exercise. In physically fit individuals, their heart rate would return to normal within 10 to 15 minutes after exercise.

If you are concerned about your high heart rate, you can go see your doctor to have this looked into.

While a heart rate of 100 bpm can still be normal, a treadmill test, echocardiogram, Holter monitor, computed tomography coronary angiogram and blood tests including a thyroid function test, can be done to ensure that your high heart rate is not due to an underlying heart condition.

*Dr Tan's reply was published in The Straits Time Mind Your Body on 9 August 2016.*