

# Cellphone calls during blood pressure readings may skew results

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Interruption can cause spike in systolic pressure, study found.

(HealthDay)—New Italian research offers some cautionary advice for patients with high blood pressure: The next time you take a blood pressure reading, turn off your cellphone.

The reason: Answering a cellphone call during a reading may cause a temporary but significant spike in blood pressure, rendering the results inaccurate and misleading.

"The cellular phone has burst into our everyday life, and is often an indispensable [communication tool](#) for business and social relations," said study author Dr. Giuseppe Crippa, head of the hypertension unit at Guglielmo da Saliceto Hospital in Piacenza, Italy. "[Now] we know that the radio-frequency field generated by mobile phones does not affect

blood pressure, and should not increase blood pressure in subjects suffering from hypertension.

"But what is the effect of the noise generated by the phone ringing and of the intrusion into our life of an unscheduled [phone conversation](#)?" Crippa asked. "In our study, we have shown that blood pressure, particularly systolic blood pressure, increases quickly and significantly in this situation."

The study authors said one in three Americans (and 1 billion people worldwide) currently struggles with [high blood pressure](#).

Those grappling with keeping their high blood pressure under control often are instructed to either come in for routine readings taken by a health care professional, or to use one of many at-home monitoring kits that give [patients](#) the option of taking their own readings on a regular basis.

To explore the question of how cellphones might affect such readings, the authors focused on 49 Italian women with an average age of 53, all of whom were taking medication to control high blood pressure.

After discussing their general cellphone usage habits, all underwent two sets of multiple [blood pressure readings](#), each set registering six readings at one-minute intervals. All the readings took place in a physician's office, where patients were left alone (in what the researchers described as a "comfortable" setting) after the first reading.

During one of the two readings, an investigator disabled caller ID and anonymously called each patient's cellphone three times, with a patient's response to at least one of the calls being deemed sufficient for testing purposes.

The result: By comparing readings taken with and without incoming calls, the team found that patients' systolic numbers (the top figure in a blood pressure reading, indicating blood pressure as the heart contracts) went up "significantly" whenever the patients answered their phones.

Patients who had indicated relatively heavy routine cellphone usage (30 or more calls per day), however, experienced a less steep rise in their systolic numbers during incoming calls. Since heavy users tended to be younger, the team theorized that a greater cellphone comfort level among younger patients may protect them from the cellphone dynamic.

Incoming calls had no impact on patients' diastolic numbers (the bottom figure in a reading, indicating blood pressure while the heart is at rest), nor did patients' overall heart rates shift when the cellphone rang.

The team concluded that patients should be advised to turn off their cellphones whenever and wherever they have a blood pressure reading, to ensure accuracy.

"It is noteworthy that the great majority of the patients recruited for this survey were not used to turning off the mobile phone, even during a medical examination, and easily answered the calls even when an automated device was measuring blood pressure," Crippa said.

"Therefore, we believe that it is important to advise patients that the unnecessary and exaggerated use of cellphones can increase, at least temporarily, their blood pressure," he said.

Dr. Gary Schwartz, a professor of medicine at the Mayo Clinic College of Medicine in Rochester, Minn., said the issue is not the disturbance of a cellphone call, but rather any disturbance in general.

"I wouldn't look at this study and say cellphones are bad for you,"

Schwartz said. "But American Heart Association standards call for the need to be quiet, whether you're getting your blood pressure measured at a doctor's office or at home.

"Just engaging in conversation, whether or not it's on the phone, can raise the numbers and give an inaccurate reading," he said. "It's the same principle behind why we don't measure a person's [blood pressure](#) while they're playing tennis. What we want is for patients to be quiet and at rest."

Crippa and his colleagues are scheduled to present their findings Wednesday at the American Society of Hypertension annual meeting in San Francisco. Research presented at medical meetings should be viewed as preliminary until published in a peer-reviewed journal.

**More information:** For more on blood pressure monitoring at home, visit the [American Heart Association](#).

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