

Blood Pressure Levels in Patients with Hypothyroidism or Hyperthyroidism.

Source: Hypertension Research

Hypothyroidism is a complex condition that manifests as a constellation of signs and symptoms caused by low thyroid hormone levels in the body. Hypothyroidism makes one feel like an engine missing a spark plug. The mind and body are sluggish. Digestion is poor, cardiovascular function and mental activity slow down, and muscles weaken. Low basal metabolism causes low body temperature, leaving the hypothyroid individual feeling chilly, with cold hands and feet, most of the time. The old saying, "My get up and go got up and went," aptly describes the person with hypothyroidism.

Hyperthyroidism is just the opposite scenario. The thyroid gland is overactive instead of underactive. It secretes too much thyroid hormone. In this case, more of a good thing is definitely not better. Excess thyroid hormone can cause rapid heartbeat. Body temperature is elevated. The hyperthyroid individual may experience extreme weight loss, in spite of a huge appetite, because they burn up calories too fast. Hyperthyroidism can make a person nervous, emotionally unstable, and unable to sleep.

Blood pressure is the amount of force required for the heart to circulate blood through the body. Systolic blood pressure represents the maximal blood pressure during systole, and diastolic blood pressure the minimum pressure at the end of ventricular diastole. Arterial blood pressure can be defined hemodynamically as the product of cardiac output and total peripheral resistance. Cardiac output is the main determinant of systolic pressure while peripheral resistance largely determines the level of diastolic pressure. Hypertension is a cardiovascular disease characterized by elevation of blood pressure above arbitrary values considered normal for people of similar racial and environmental background.

A meta-analysis was performed to determine whether there was a relationship between subclinical thyroid dysfunction and blood pressure levels and the results were published in the journal Hypertension Research. The scientists retrieved data from MEDLINE and EMBASE and manual searches were undertaken to identify articles that addressed the combined health conditions and were published through 2010. Results revealed a significant difference in both systolic blood pressure and diastolic blood pressure in patients with hypothyroidism. There were no significant differences in systolic blood pressure or diastolic blood pressure in patients with hyperthyroidism. These findings indicate that hypothyroidism is associated with increased blood pressure, while hyperthyroidism is not.¹

1 Cai Y, Ren Y, Shi J. Blood pressure levels in patients with subclinical thyroid dysfunction: a meta-analysis of cross-sectional data. *Hypertens Res.* 2011.