



Hypertension and Exercise

What is Hypertension?

Hypertension (high blood pressure) is a common problem, with over 33% of the adult Australian population having this diagnosis. Blood pressure (BP) is the measure of force of blood against the arterial wall. When this pressure exceeds >140mmHG of Systolic and/or >90mmHg Diastolic, this is referred to as Hypertension. Hypertension is commonly associated with increased incidence of all-cause and Cardiovascular Disease (CVD) mortality, stroke, coronary heart disease, heart failure, peripheral arterial disease and renal insufficiency.

Blood Pressure Category	Diastolic BP-DBP (mmHg)	Systolic BP- SBP (mmHg)
Normal	<80	<120
High- Normal	90-89	120-139
Grade 1 Hypertension (Mild)	90-99	140-159
Grade 2 Hypertension (Moderate)	100-109	160-179
Grade 3 Hypertension (Severe)	≥110	≥180

Causes of Hypertension

- ◆ Physical inactivity (sedentary lifestyle)
- ◆ Smoking
- ◆ Diet - increased sodium/salt
- ◆ Obesity
- ◆ Excessive alcohol consumption
- ◆ Genetics
- ◆ Ageing

References:

Pescatello, L et al.,(2004). Exercise and Hypertension. Medicine & Science In Sports & Exercise
Whelton, P et al., (2018). Correction to: 2017 ACC/AHA/AAPA/ABC/ACPM/

Treatment of Hypertension

Medication is regularly used to manage Hypertension; these medications are commonly referred to as Beta Blockers, Calcium Channel Blockers, Diuretics and Vasodilators. Lifestyle modifications are also recommended to manage and treat Hypertension.

Benefits of Exercise

The American College of Sports Medicine (ACSM) recommends the accumulation of 30 minutes of moderate-intensity aerobic (running, walking, cycling, swimming) exercise on most - but preferably all - days of the week, supplemented with resistance training. Following a single aerobic exercise session, a reduction in acute BP (5-7mmHg) can be observed over several hours. Small decrements in SBP and DBP of 2 mmHg reduce the risk of stroke by 17%, and risk of coronary artery disease by 9% in the general population.

Exercise Considerations with Hypertension

- ◆ Resistance exercise: avoid any heavy weightlifting of an intensive, isometric/static nature
- ◆ Breathe normally (i.e. no breath holding/valsava maneuver).
- ◆ Anti-hypertensive medications such as Beta Blockers and Diuretics may impair the body's ability to regulate body temperature; therefore, individuals who are on these medications should avoid exercising in hot humid environments. Ensure hydration is adequate.
- ◆ Extend exercise cool down – ceasing exercise too quickly can have altered medication effects (vasodilators reduce BP too quickly), promoting hypotension, nausea, and fainting.
- ◆ Individuals with uncontrolled BP should seek medical approval prior to the commencement of exercise programs.

AGS/APhA/ASH/ASPC/NMA/PCNA Guideline for the Prevention, Detection, Evaluation, and Management of High Blood Pressure in Adults: Executive Summary: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines. Hypertension.