Exercise and Hypertension

Hypertension, or elevated blood pressure, is a condition in which the blood vessels have persistently raised pressure. The higher the pressure, the harder the heart has to pump. Blood pressure reading is presented as systolic/diastolic blood pressure in mmHg. Hypertension is one of the significant risk factors leading to serious medical conditions such as heart, brain, kidney and other diseases. Also known as "silent killer", most people are unaware of the problem, as it may have no warning signs or symptoms. For this reason, it is essential to monitor blood pressure regularly.

In Hong Kong

The total prevalence of hypertension was 28% (26% for females and 30% for males) in 2014/15 among persons aged 15-84, with 48% of them being undiagnosed before the PHS. The total prevalence of hypertension increased steadily with age from 5% among those aged 15-24 to 65% among those aged 65-84.

Why Can Exercise Help?

Regular physical activity makes the heart stronger. As the heart can pump more blood with less effort, the force on arteries decreases, and hence, lower blood pressure. Regular aerobic exercise reduces resting blood pressure and blood pressure during daily activities. Exercise reduces blood pressure by an average of 6-7mmHg.

Exercise Recommendations

Aerobic Exercise

- Stay active on most days of the week, reaching for 5 - 7 days.
- At least 30 minutes continuous or intermittent with a minimum of 10 minutes bouts on moderate intensity.
- Prolonged and rhythmic activities using large muscle groups such as walking, cycling, or swimming.

Resistance Training

- 2-3 days per week, non-consecutive days.
- Exercises at a moderate to vigorous intensity with proper progression.
- 2-4 sets of 8-12 reps of major muscle group exercises.
- Body weight exercises, exercise machines or free weights exercises.

A combination of aerobic and resistance training leads to to the BEST health outcomes

Tips for Getting Started

- Measure your blood pressure before exercise. With a resting systolic blood pressure of ≥ 180 mmHg or a resting diastolic blood pressure ≥ 110 mmHg, you should postpone exercising and seek medical advice.
- Chest discomfort, irregular heart rhythm or abnormal breathlessness when exercising may indicate underlying heart disease.
- Avoid breath holding (i.e. Valsalva maneuver) while engaging in resistance exercise. It can result in extremely high blood pressure responses causing dizziness and even fainting.

References

1) https://www.chp.gov.hk/en/healthtopics/content/25/35390.html
2) http://www.acsm.org/all-blog-posts/certification-blog/acsm-certified-blog/2019/02/27/exercise-hypertension-prevention-treatment
3) https://www.chp.gov.hk/archive/epp/files/DoctorsHanbook_ch7.pdf

運動與高血壓

高血壓是指血壓水平持續性上升的一種慢性疾病。血壓是當心臟收縮時，血液泵入動脈時對血管壁所加諸的壓力，心臟泵壓越大，血壓就越高。高血壓是一種不容忽視的健康問題，可能會引發心臟、大腦、腎臟和其他疾病。由於高血壓沒有任何先兆，養成量度血壓的習慣能有效預防高血壓及其併發症的出現。

本地情況

根據一項2014/15年的調查，15-84歲人口中高血壓的總患病率為27.7%，患病率隨年齡增加，從15-24歲人士的5%，上升至65-84歲人士的65%。

運動怎麼可改善?

恆常運動習慣可強化心臟，心臟用更少的泵壓泵出更多的血液，因此降低推向血管壁的壓力。有效的恆常運動可降低靜止血壓，平均降低6-7毫米汞柱。

運動建議

有氧運動

每週運動次數: 每天盡量保持活躍，建議每周維持5-7次。

運動時間: 每天累積最少30分鐘連續或間歇（至少10分鐘）運動。

運動強度: 中強度。

運動模式: 任何長時間使用大肌肉作連續、有節奏的運動（如步行，騎自行車或游泳）。

阻力訓練

每週運動次數: 每周2-3次，隔天進行。

每次運動時間:每次完成2-4組，每組8-12次。

運動強度: 中強度。

運動模式: 徒手訓練，自由重量，器械訓練。

開始時注意事項

- 運動前應先量度血壓，如靜態收縮壓高於200毫米汞柱或靜態舒張壓高於110毫米汞柱，不宜開始運動，並應尋求醫護人員意見。
- 運動時如感到胸口不適、心律不整或呼吸異常可能反映心臟的問題，應停止運動。
- 進行阻力運動時應保持呼吸順，閉氣可觸發血壓反應而導致頭暈，甚至昏厥。

參考資料

1) https://www.chp.gov.hk/en/healthtopics/content/25/35390.html
2) http://www.acsm.org/all-blog-posts/certification-blog/acsm-certified-blog/2019/02/27/exercise-hypertension-prevention-treatment
3) https://www.chp.gov.hk/archive/epp/files/DoctorsHanbook_ch7.pdf