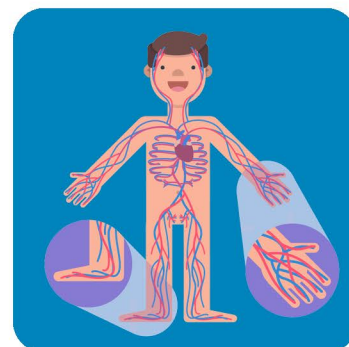


# Exercise and Peripheral Artery Disease (PAD)

Peripheral arterial occlusive disease, also called peripheral artery disease (PAD), is a common circulatory problem in which narrowed arteries restrict blood flow usually to the lower limbs. As the leg don't receive enough blood to keep up with demand this will lead to, most notably, leg pain when walking (claudication). Peripheral artery disease is also likely to be a sign of a more widespread accumulation of fatty deposits in your arteries (atherosclerosis). This condition may be reducing blood flow to your heart and brain, as well as your legs, being a major risk factor for heart attack and stroke.



## In Hong Kong



It is estimated that over 200 million people suffer from PAD worldwide and recognizing it as a prevalent problem among the elderly (aged 75 or older), with about 20 - 30% suffering from this disease. Among Hong Kong elderly people, PAD is also a very common condition with a prevalence of 21.1%. They were mostly asymptomatic, with only a minority that noted pain in their feet.

## Why Can Exercise Help?



PAD patients who attain high levels of physical activity have around 60% reduction of mortality rate when compared to their inactive counterparts. Proposed benefits of exercise for PAD patients include: increase blood flow to the legs (favorable redistribution of blood); reduced blood viscosity; improved endurance; improved walking efficiency; increased daily energy expenditure.

## Exercise Recommendations

### Aerobic Exercise



Stay active on 3 - 5 days per week.



Accumulate 30 minutes or more of continuous or intermittent exercise per day.



Exercise at a low to moderate intensity level and gradually increase the intensity.



Weight bearing exercises using large muscle groups.

### Resistance Training



Exercise at least two times per week.



Exercises at light -moderate intensity or below pain threshold.



1-2 sets of exercise for all major muscle groups (upper and lower limbs).



Body weight exercises, resistance machines or free weight exercises.

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

## Tips for Getting Started

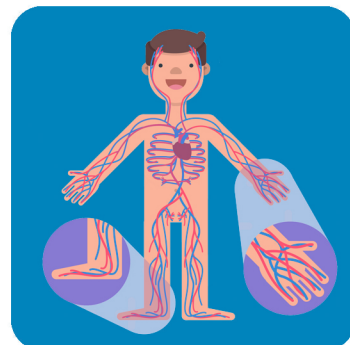
- The best form of exercise is highly individualized while most PAD patients should engage in interval walking, Nordic pole striding, or stair climbing.
- Allow complete recovery (pain subsided) between walking intervals.
- 5-10 minutes of non-weight bearing warm up and cool down should also be adhered.

## References

- 1) Hirsch AT, Haskal ZJ, Hertzner NR, et al. ACC/AHA 2005 guidelines for the management of patients with peripheral arterial disease. Circulation. 2006;113(11):e463-654. American Heart Association. [www.american-heart.org](http://www.american-heart.org)
- 2) Lai, Tin Lok & Ang, Ks & Hu, Hl & Heng, C & Le, K & Lai, K. (2018). Peripheral arterial disease in Hong Kong Chinese elderly.
- 3) National Heart, Lung, and Blood Institute. [www.nhlbi.nih.gov](http://www.nhlbi.nih.gov)
- 4) Peripheral Arterial Disease Coalition. [www.padcoalition.org/wp](http://www.padcoalition.org/wp)

## 運動與周圍動脈疾病

周邊血管疾病(Peripheral artery disease, PAD) 或是周邊血管阻塞性疾病(peripheral artery occlusive disease) 是動脈出現窄化現象的常見血液循環系統問題，一般較多影響患者的雙腿。由於患者腿部沒有足夠的血液供應，故患者於活動時會感受到腿部肌肉的抽痛(或跛行)。而經短暫休息後可得以緩解。導致步行時腿部出現疼痛的主要原因之一是動脈粥樣硬化- 是顯示動脈中脂肪廣泛沉積的一種跡象。



### 本地情況



周邊血管疾病是75歲或以上老年人當中普遍存在的健康問題。全球約有20-30%的人口患有這種疾病。在香港老年人口中，周邊血管疾病也是一種非常普遍的疾病，患病率為21%。

### 運動怎麼可改善？



運動的好處包括：增加腿部的血流量(利於血液重新分配)，降低血液粘度，從而減低動脈窄化的問題。並可增強耐力，提高步行效率，燃燒更多卡路里等，幫助降低動脈脂肪沉積量。達致良好血管健康。

## 運動建議

### 有氧運動



每週運動次數: 目標是維持每週三到五天運動。



運動時間: 每天進行30分鐘或以上連續或間歇運動。



運動強度: 以低中等強度開始，並逐漸提升。



運動模式: 用大肌肉群作持續性運動，如步行或踏單車，對改善下肢周邊血管疾病症狀較為理想。



每週運動次數: 每周至少兩次。安排於非連續日。



每次運動時間: 以大肌肉為主，可組合約 6 個動作，並各完成2-3組，每組8-12次。



運動強度: 中等強度，並逐漸提升。



運動模式: 阻力選擇從輕開始，針對主要肌肉群。

### 開始時注意事項

- 最佳訓練方式應是個別定制的，而大多數周邊血管疾病患者應進行間歇性步行訓練，健走或行樓梯。
- 步行間隔之間應休息並完全恢復（疼痛消退）。
- 訓練前需有5-10分鐘的熱身及訓練後應有5-10分鐘的緩和運動。

### 參考資料

- 1) Hirsch AT, Haskal ZJ, Hertzler NR, et al. ACC/AHA 2005 guidelines for the management of patients with peripheral arterial disease. Circulation. 2006;113(11):e463-654. American Heart Association. [www.americanheart.org](http://www.americanheart.org)
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