

1. 閱讀下列文獻之摘要，請問此一文獻的重要性？（5%）若你工作單位的病人族群與此相似，請問你會想做一個什麼樣的研究？請寫出中英文題目（5%）、研究設計和方法？（10%）。

Ettefagh L, Maleki M, Panahi A, Abdi M, Oskuie ME, Kermanshahi TZ, Jamaloo M, Bakhshandeh H. The Prevalence of Impaired Glucose Metabolism in Patients Referred to Cardiac Rehabilitation. *J Cardiopulm Rehabil Prev.* 2012 Dec 7. [Epub ahead of print] PubMed PMID: 23221808.

The aim of this study was to assess the prevalence of impaired glucose metabolism in patients who attended hospital-based cardiac rehabilitation. **METHODS:** We performed a single-group cross-sectional study. In a 7-month period, from September 2010, the study was conducted in a cardiac rehabilitation setting at a university hospital. Overall, 273 patients, with an established diagnosis of ischemic heart disease, who were referred to the cardiac rehabilitation center, were included. The primary outcome measure was the prevalence of impaired glucose metabolism. We also compared cardiovascular disease risk profile among participants. **RESULTS:** One hundred twenty-one participants (44%) had diabetes mellitus, of which, for 80 patients the diagnosis was previously established. Among the whole study population, 52 patients (27%) had normal glucose levels. Of the 193 patients without previous diagnosis of diabetes, 41 (21.2%) had diabetes, 14 (7.3%) were mild cases of diabetes, 49 (25.4%) had isolated impaired fasting glucose according to the American Diabetic Association criteria, 27 (14%) had isolated impaired fasting glucose consistent with the World Health Organization (WHO) definition, and 51 (26.4%) showed impaired glucose tolerance. The WHO fasting criteria alone would have left 15 patients (37.5%) with undiagnosed diabetes mellitus. **CONCLUSION:** Impaired fasting glucose and impaired glucose tolerance did not identify the same patients. It seems that both fasting plasma glucose and oral glucose tolerance test are necessary in the diagnosis of impaired glucose metabolism in patients with coronary artery disease.

2. 請敘述心血管疾病患者阻力訓練之運動處方的原則。（10%）
3. 對心臟復健工作人員而言，女性之冠狀動脈疾病患者相較於男性患者，可能有哪些相異的特質？（10%）

見背面

4. 請閱讀下列文獻摘要後，簡述你對阻塞型睡眠呼吸中止症的瞭解，包括診斷、病因、盛行率、臨床徵狀、危險因子等。(20%)

Obstructive sleep apnea (OSA) is characterized by repetitive episodes of complete and partial obstructions of the upper airway during sleep. The diagnosis of OSA requires the objective demonstration of abnormal breathing during sleep by measuring the respiratory disturbance index (RDI, events per hour of sleep), i.e. the frequency of apnea (complete upper airway obstruction), hypopnea (partial upper airway obstruction) and arousals from sleep related to respiratory efforts. OSA is defined by combining symptoms and an RDI ≥ 5 or by an RDI ≥ 15 without symptoms. The apnea-hypopnea index (AHI), the frequency of apnea and hypopnea events per hour of sleep, is widely used to define OSA (many clinical and epidemiological studies use this metric). In the general adult population, the prevalence of OSA defined by ≥ 5 apnea and hypopnea events per hour of sleep associated with excessive sleepiness is approximately 3-7% in men and 2-5% in women. The prevalence of OSA is much higher, e.g. $\geq 50\%$, in patients with cardiac or metabolic disorders than in the general population. Risk factors for OSA include obesity (the strongest risk factor), upper airway abnormalities, male gender, menopause and age (the prevalence of OSA associated with a higher risk of morbidity and mortality increases with age and peaks at approximately 55 years of age). OSA is associated with symptoms during sleep (snoring, choking and nocturia) and wakefulness (excessive sleepiness, fatigue and lack of energy) and with sequelae such as psychological changes, alterations in the quality of life, and social, familial and professional performance including vehicle and industrial accidents. The identification of OSA may be a difficult task for the clinician, even in populations in which OSA is highly prevalent such as patients with cardiovascular disorders because they may not present the cardinal signs of the disease, e.g. excessive sleepiness and obesity. Guidelines have been developed to tailor OSA therapy to patients according to the results of their disease evaluation and their preferences.

5. 根據阻塞型睡眠呼吸中止症的特徵，你認為這類患者容易併發心血管疾病的機轉包括哪些?(10%)

接次頁

過去研究針對非小細胞型肺癌患者在接受手術後進行有氧運動訓練，進步幅度多在 15% 以下，依據閱讀完下面文章節錄片段，請回答：

6. 患者在接受手術後，經有氧運動訓練而增加 $\dot{V}O_{2peak}$ 的機制為何？（5%）
7. $\dot{V}O_{2peak}$ 進步幅度與其他族群比較偏小的可能原因為何？（10%）
8. 除了有氧訓練，如何改善運動訓練計畫設計可以提高 $\dot{V}O_{2peak}$ 進步的幅度？（請敘述包括計畫內容及可能的機制）（15%）

The reasons for the relatively modest improvement in $\dot{V}O_{2peak}$ in non-small cell lung cancer (NSCLC) relative to other clinical populations (i.e., ~15%-20% improvement in $\dot{V}O_{2peak}$ following traditional aerobic training recommendations) remain to be elucidated. An obvious potential explanation is a ventilator limitation or inadequate gas exchange following removal of a substantial portion of lung parenchyma. However, several elegant studies have demonstrated that $\dot{V}O_{2peak}$ is not limited by ventilation or diffusion capacity suggesting that exercise-induced adaptations (or lack thereof) in the other organ components of the O_2 cascade are responsible. $\dot{V}O_{2peak}$ in NSCLC patients is likely principally governed by poor cardiovascular O_2 delivery and oxidative capacity as well as unfavorable fiber type distribution and muscle atrophy/weakness similar to the limitations to exercise described in patients with chronic obstructive pulmonary disease (COPD). Major contributors to skeletal muscle dysfunction in NSCLC likely include direct skeletal myopathy (from the use of oral corticosteroids), deconditioning (from physical inactivity), and high levels of systemic inflammation (from underlying disease and therapy).

試題隨卷繳回