Question 82 - respiratory
A 58 year old man with a 20 year history of heavy habitual snoring and observed apnoeas presents with worsening daytime somnolence. On examination, he is obese (BMI of 38kg/m2 <20-25>) and has a very narrow upper airway. A polysomnography study is abnormal with an apnoe-hypopnoea index (AHI) of 82/hour and an arousal index of 75/hour.

For which of the following outcomes is he at the highest relative risk compared to someone without this disorder?

A. Stroke  
B. Motor vehicle accident  
C. Myocardial infarction  
D. Hypothyroidism  
E. Hypertension

Answer: B

Clues to diagnosis of obstructive sleep apnoea: obesity, snoring and narrow airway, daytime sleepiness and diagnostic criteria
- Temporary and intermittent cessation of airflow but persistent respiratory effort
- Apnoea: cessation of airflow > 10 sec
- Hypopnoea: > 50% decrease in amplitude of breathing > 10 sec +/- EEG evidence of arousal +/- drop SaO2 by 3%
- AHI
  - Total number of apnoeic and hypopnoeic episodes/ total sleep time
  - > 15 if no symptoms
  - > 5 if with symptoms (he certainly qualifies!)
- Arousal index
  - Number of awakenings + EEG shifts > 3 sec to lighter sleep stage/ total sleep time

A. & C. & E. Corrected for an obese 58 year old man, the cardiovascular and HT risk (and thus AMI + CVA) is independently higher in someone with OSA
D. Hypothyroidism (and other endocrine diseases eg acromegaly) can predispose someone to OSA but someone with OSA does not have a relative increased risk of having the endocrine disorder because of OSA.
B. Thus the answer is this because the relative MVA risk is 5-15 x increased (in addition sleep deprivation in general is the 2nd leading cause of MVAs in the United States alone)