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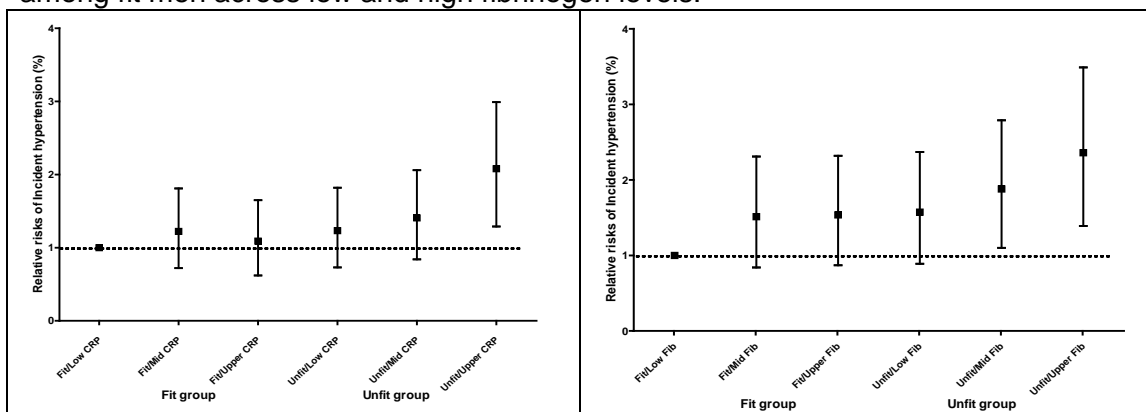
**CARDIORESPIRATORY FITNESS, INFLAMMATION, AND THE RISK OF INCIDENT  
 HYPERTENSION IN MEN**

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**Objectives** Markers of inflammation are positively associated with incident hypertension, whereas improvements in cardiorespiratory fitness (fitness) reduce inflammatory markers and incident hypertension. Whether the joint effects of inflammatory markers and fitness with incident hypertension have not been fully explored. We investigated the associations of inflammatory markers and fitness with incident hypertension in 2475 normotensive men, aged 20 to 76 years. **Methods** We measured C-reactive protein (CRP) and fibrinogen levels and classified them as tertile categories. Fitness was directly measured by peak oxygen uptake using expired gas analysis during the maximal exercise testing. We further divided fitness as fit and unfit categories based on age specific of the median value of peak oxygen uptake in each decade. Hypertension was defined as systolic and diastolic blood pressure  $\geq 140/90$  mmHg at follow-up examination. **Results** During an average of 4 years of follow-up (1-11 yrs), there were 266 (10.7%) incident hypertension. There was a direct association between CRP and incident hypertension, and between fibrinogen and incident hypertension (all  $p < 0.001$  for trend). After adjustment for age, BMI, SBP, TC, HDL-C, TG, glucose, HR, VO<sub>2</sub>max, smoking, and alcohol consumption, the adjusted RR (95% CI) for incident hypertension in those in the upper tertile versus lower tertile were: CRP, 1.41 (95% CI, 1.03-1.93); and fibrinogen, 1.48 (95% CI, 1.08-2.02). Moreover, unfit men had 1.4 times (95% CI, 1.09-1.85) the risk of incident hypertension compared with fit men. In the joint analysis, unfit men with high CRP had 1.96 times (1.96 (95% CI, 1.29-2.99) and unfit men with high fibrinogen had 2.2.times (95% CI, 1.39-3.49) greater risk of developing incident hypertension as compared with fit men with low CRP or fit men with low fibrinogen counterparts (reference group). However, fit men with high CRP had similar RR (95% CI, 0.63-1.66) of incident hypertension than did fit men with low CRP. Similarly, there was no RR difference (95% CI, 0.87-2.32) among fit men across low and high fibrinogen levels.



**Conclusions** High levels of inflammation are associated with incident hypertension. However, high levels of cardiorespiratory fitness attenuate the risk of developing incident hypertension across high levels of inflammatory markers.