

# Quitting smoking drops heart attack risk to levels of never smokers

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Quitting smoking reduces the risk of heart attack and death to the levels of people who have never smoked, reveals research presented at ESC Congress 2013 by Dr. James K. Min and Dr. Rine Nakanishi from the USA.

Dr Min said: "Smoking is an established risk factor for cardiovascular disease. Studies have identified that quitting smoking can reduce heart attacks and death but have not examined the relationship of this salutary effect on the presence and severity of [coronary artery disease](#) (CAD). Our study aimed to find out what impact stopping smoking had on the risk of cardiovascular events, death and the severity of CAD."

The prospective CONFIRM (Coronary CT Evaluation for Clinical Outcomes: An International Multicenter Study) registry of 13,372 patients from 9 countries in Europe, North America and East Asia examined the risk of major adverse [cardiac events](#) in 2,853 active smokers, 3,175 past smokers and 7,344 never smokers.

Both active smokers and past smokers had a higher prevalence of severely blocked coronary arteries compared to non-smokers. This was determined using coronary computed tomographic angiography (CCTA), a non-invasive imaging technique that enables direct visualisation of the coronary arteries. Active and past smokers had a 1.5-fold higher probability of severe stenoses in 1 and 2 major [heart arteries](#), and a 2-fold increased probability of severe stenoses in all 3 major heart arteries.

Dr Min, who is director of the Institute of Cardiovascular Imaging at the New York-Presbyterian Hospital and the Weill Cornell Medical College, said: "Our results show that quitting smoking does not reduce the amount of disease smoking causes in the coronary arteries, but it does reduce the risk of heart attack and death to the levels of non-smokers."

After 2.0 years of follow-up, 2.1% of the study patients experienced heart attacks or death. Rates of heart attack or death were almost 2-fold higher in active smokers compared to never smokers. Past smokers had the same rates of heart attack or death as never smokers, despite having a higher prevalence, extent and severity of CAD (see figure). The findings in both active and past smokers persisted even when they were matched with non smokers who were similar in age, gender and CAD risk factors.

Dr Min said: "Our study was the first to demonstrate that the presence and severity of coronary blockages do not go away with quitting smoking, but that the risk of [heart attack](#) and death does. Future studies are being pursued to determine how this protective effect may occur."

He continued: "Numerous questions remain and require further study. For example, will the severe blockages observed in patients who have quit smoking provoke adverse events after 2 years (the duration of the present study). Further, does the duration of smoking or the number of cigarettes smoked per day affect the severity of CAD or the prognosis related to [quitting smoking](#). Our team and several others are pursuing such investigations."

Dr Min concluded: "It's never too late to quit smoking. This study clearly shows that stopping smoking lowers the risk of heart attacks and death to the level of never [smokers](#)."

Provided by European Society of Cardiology

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