

Women smokers 13 times more likely to have a major heart attack than non-smoking peers

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Women smokers under the age of 50 are nearly 13 times more likely to suffer a major heart than non-smokers even if they are fit and healthy, according to new research led by Sheffield Teaching Hospitals NHS Foundation Trust.

New research, presented by cardiologists from the South Yorkshire

Cardiothoracic Centre, showed that female smokers under 50 have the highest risk of suffering a major [heart](#) attack compared to both non-smokers and male smokers in the same age group. Young [male smokers](#) (aged under 50 years) had an eight-fold risk of suffering a heart attack than non-smokers of the same age – which is significantly lower than [women](#) smokers.

The study is the first to highlight the difference gender can have on causing smokers to have a major, life-threatening heart attack when other risk factors, such as high blood pressure, high cholesterol and diabetes, are absent.

The research was led by Sheffield Teaching Hospitals NHS Foundation Trust in partnership with the University of Sheffield, and drew on data from 3,000 patients who had a STEMI (heart attack).

Dr Ever Grech, Consultant Interventional Cardiologist at Sheffield Teaching NHS Foundation Trust, said: "The finding that women under 50 had a significantly greater likelihood of a major heart attack than men of the same age was a surprise, as there is a general belief that cyclical female hormones provide a degree of cardiovascular protection.

"However, our study indicates that if women smoke, this protection is easily overridden. This study also showed that when hormonal protection is no longer present in post-menopausal women, there was an even greater gender difference in [heart-attack risk](#) between male and [female smokers](#)."

While women under 50 ran the highest risk, the difference in risk between males and females is greatest in older smokers between 50 and 64. Women in this age group were 11 times more likely to have a heart attack whereas men of the same age were 4.6 times more likely than their non-smoking peers. Dr Grech added: "The reasons for the gender

differences in heart attack risk across all age groups are unclear and likely to be complex. One possible theory is that female coronary arteries are smaller in calibre and may be more prone to complete blockage when blood clots form over pre-existing fatty deposits in the artery wall. There may be other factors too, but the end result is a very serious and life-threatening heart-attack event. Our previous study has shown that 50 per cent of these are directly attributable to smoking and are therefore readily preventable."

Irrespective of age or gender, smokers were found to be five times more likely to have a serious heart attack than their non-smoking peers. This study also found that current smokers were on average 10 years younger than former or non-[smokers](#) when they suffered a [heart attack](#).

The research was presented at the American College of Cardiology's Annual Scientific Sessions in Washington DC, a world-leading cardiology conference, by Dr Ever Grech and University of Sheffield medical student James Palmer, in March 2017.

Provided by Sheffield Teaching Hospitals

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