

# South Asian patients require three times as much repeat angioplasty as white Europeans

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South Asian patients with coronary artery disease were almost three times as likely to be readmitted to hospital for further interventional treatment to arterial plaque than their White European counterparts, according to research in the December issue of IJCP, the *International Journal of Clinical Practice*. They were also more likely to present as an emergency and require urgent treatment.

Researchers carried out a five-year follow-up study of 1,158 patients who had received percutaneous [coronary intervention](#) (PCI) at a UK hospital, comparing 293 South Asians and 865 White Europeans. PCI, which is often known as [angioplasty](#), is carried out to remove the cholesterol-laden plaque that has built up in the [arteries](#) leading to the heart, making them narrower and reducing [blood flow](#).

"When we compared the number of further procedures the patients underwent, we found that the South Asian patients were three times as likely to need further procedures than their White European counterparts" says lead author Dr Chetan Varma, from the Department of Cardiology at City Hospital, Birmingham, UK. "Despite this, there were no long-term differences in the all-cause [death rates](#) between the two ethnic groups."

The researchers studied consecutive patients who had received PCIs at the hospital between April 2002 and December 2004, following them for between 47 and 65 months. High-risk cases were excluded to remove confounding effects. The majority of the patients were men (72%) and

the South Asian patients were of Indian, Pakistani, Bangladeshi and Sri Lankan origin.

Key findings of the study included:

- South Asian patients tended to be younger than White European patients (62 versus 66 years), more than twice as likely to have diabetes (40% v 16%), but less likely to be smokers (16% v 39%).
- The extent of the [coronary artery disease](#) and the location of the index coronary vessel lesion when the first PCI procedure was carried out was similar in both ethnic groups.
- A total of 111 patients required repeat revascularisation. Of these, 94 had a repeat PCI and 17 underwent coronary artery bypass grafting. South Asian patients were almost three times as likely to be readmitted for PCI (15.7% v 5.5%) or coronary artery bypass grafting (2.7% v 1.0%).
- Following the initial procedure, South Asian patients also required more PCI for treatment of non-index [lesions](#) (24.2% v 8.9%). After controlling for baseline clinical and procedural characteristics, South Asian ethnicity was a significant independent predictor of target lesion revascularisation, with levels approximately three times higher (18.4% v 6.6%).
- The patients were followed up for a median of 54 months. During this period 12% of the patients died, but there was no statistically significant difference in the two groups when it came to all-cause death.
- Social deprivation was three times higher among South Asian patients (10.2 v 3.3 points) as measured by the Carstairs index, which is based on key census indicators. The hospital's catchment area includes areas with unemployment rates of twice the national average and the second lowest average earnings in

England and Wales.

- Each one point increase in the Carstairs social deprivation score was matched by a 5% increase in the risk of long-term, all-cause death.
- Further analysis (Cox regression) showed that age, history of heart attacks, social deprivation score and creatinine levels before treatment were independent predictors of long-term, all-cause death in the whole study group.

"[South Asians](#) develop symptomatic coronary artery disease at an earlier age and also have a higher prevalence than White Europeans" concludes Dr Varma. "PCI can be used for symptomatic relief in stable angina and to improve prognosis in acute coronary syndrome."

"Despite needing more urgent hospital treatment and experiencing worse social deprivation, South [Asian patients](#) have a long-term death rate similar to White Europeans. However, they are three times as likely to require repeat treatment following PCI, due to further narrowing of the arteries leading to the heart."

**More information:** Differences between South Asians and White Europeans in five year outcome following percutaneous coronary intervention. Toor et al. International Journal of Clinical Practice. 65.12 pp1259-1266. (December 2011). [doi: 10.1111/j.1742-1241.2011.02776.x](#)

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