

# Statins are safe for children with abnormal cholesterol levels

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Statins are safe for children living with genetically high cholesterol, according to new research from UCL, funded by the British Heart Foundation (BHF) and published in the Journal of Clinical Lipidology. Credit: University College London

The charity says the findings will 'reassure' parents of children with familial hypercholesterolaemia (FH) – an inherited condition that significantly increases the risk of a heart attack in their 40s, 30s or even 20s.

FH is estimated to affect over 56,000 [children](#) in the UK, but currently only around 600 children in the UK have been diagnosed. This means that thousands more are not on treatment and remain unaware of their future risk of heart disease.

The condition causes dangerously high levels of cholesterol in the bloodstream. If left untreated, it leads to a build-up of fatty plaque in the heart's arteries which can result in a potentially deadly heart attack or stroke.

Once diagnosed, FH is easy to treat. NICE recommend that children with the condition should be considered for [statin](#) therapy from as young as 10 years old, alongside [lifestyle changes](#) and dietary advice. But concerns have been raised about how statins could affect young people.

In this study Professor Steve Humphries (UCL Institute of Cardiovascular Science) who identified many of the mutations in UK patients which cause FH, led a team investigating how statins affect children, using the UK Paediatric Familial Hypercholesterolaemia Register.

The researchers looked at child growth, proteins in the liver and muscles, and obesity levels. They found that statins had no impact on the growth of children, and did not lead to damage in the liver or muscles.

Interestingly, obesity rates in children being treated for FH were half what is seen in children without the condition. The researchers attribute the findings to the lifestyle changes and [dietary advice](#) given to children

with FH.

Professor Humphries said: "These findings are incredibly reassuring. Research has shown that children with FH start to develop a build-up of [fatty plaque](#) in their arteries before the age of 10. Statin treatment can not only prevent, but actually reverse this build up. Now, we can offer parents of children with the condition further comfort that the treatment is safe to take from a young age."

Professor Sir Nilesh Samani, Medical Director at the British Heart Foundation, which funded the research, said:

"We already know that the benefit of taking a statin far outweighs any risk for adult patients at high risk of heart attacks. Children with FH are at very high risk of developing early heart attack or stroke because of their increased cholesterol level and lowering their cholesterol is so vital. However we should never assume that drugs that are safe in adults are also safe in children. That is why this research which shows that statins are not causing damage to the organs or affecting growth of children is so important and provides reassurance that they are safe to use in this age group.

"Findings like this also act as impetus to identify the many thousands of people undiagnosed with FH. Despite the evidence for genetic testing, it's rollout across the country is patchy. The BHF is working with the NHS to try and ensure that all families affected by FH are offered the testing that could prevent a potentially fatal [heart](#) attack or stroke."

Kim Hoare, 48, is from Sheffield and has FH. Kim was diagnosed as a result of her family history. Kim is being treated and her cholesterol is now at a healthy level. She has two children, Stan, 16 and Daisy, 13, who both inherited the condition. Stan and Daisy take statins to manage their inherited high cholesterol, and have done since they were 13 and 10

respectively. Stan is 6'4" and Daisy is 5'1", and both are a healthy weight. Talking about the promising results Kim said:

"The results of this study are such wonderful news for our family. I've never doubted whether Stan and Daisy should take their statins – they are life saving drugs. Taking a statin is just part of our daily routine, like brushing your teeth or having a shower. All that really matters is that they are on treatment to stop them having a [heart attack](#) at a young age, so they can live a normal, healthy life."

**More information:** Steve E. Humphries et al. The UK Paediatric Familial Hypercholesterolaemia Register: Statin-related safety and 1-year growth data, *Journal of Clinical Lipidology* (2017). [DOI: 10.1016/j.jacl.2017.11.005](#)

Provided by University College London

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