

# AN APPLE A DAY KEEPS THE DOCTOR AWAY (AT LEAST IF YOU EAT THE SKIN THAT IS)

An apple a day really could keep the doctor away—as long as you don't throw away the peel.

The chemical behind the apple skin's waxy shine is being credited with a host of health benefits from building muscle to keeping the lid on weight. Ursolic acid also keeps cholesterol and blood sugar under control, meaning an apple a day could do wonders for all-round health. Researcher Christopher Adams said: 'Ursolic acid is an interesting natural compound. It's part of a normal diet as a component of apple peels. They always say that an apple a day keeps the doctor away...'

The importance of apple peel was discovered after Dr Adams, a U.S. expert in how hormones affect the body, set out to find a drug that stops muscles from wasting, keeping pensioners strong as they age and cutting their risk of hard-to-heal fractures. He said: 'Muscle wasting is a frequent companion of illness and ageing. It prolongs hospitalisation, delays recoveries and in some cases prevents people from going back home. It isn't well understood and there's no medicine for it.'

'In order to remedy the situation, Dr Adams, of the University of Iowa, studied the genetic changes that occur when muscles waste or atrophy. He checked a pool of 1,300 chemicals for one that would counter the changes—and hit on ursolic acid. The researcher then supplemented a normal diet in mice with small amounts of the compound and subjected them to a battery of health tests. The creatures' muscles got bigger and their grip became stronger. The benefits didn't end there. The mice fed the apple peel chemical had lower levels of cholesterol and other blood fats blamed for

clogging up the arteries and damaging the heart, and had around a third less body fat. It is thought that ursolic acid enhances the effects of insulin and insulin-like growth factor 1, two hormones key to muscle growth. It is particularly concentrated in apple peel but is also found in cranberries and prunes and in basil, oregano and thyme.

Dr Adams said: 'We know that if you eat a balanced diet like mom told us to eat you get this material. People who eat junk food don't get this.'

'He added that the goal is to establish whether apple peel is as good for humans as it is for mice and work out how many apples we might need to help make muscles bulge and waistlines shrink. If large amounts of ursolic acid are required, it is likely that people will have to take it in concentrated form, either as a supplement or a drug. Reporting his findings in the journal *Cell Metabolism*, Dr Adams said: 'Given the current lack of therapies for muscle atrophy, we speculate that ursolic acid might be investigated as a potential therapy for illness-related and age-related muscle atrophy.' Obesity and diabetes might also be in its grasp, he added. Other recent research has credited an apple a day with keeping the undertaker away—at least in flies. Fruit flies given an apple extract lived 10 per cent longer and found it easier to walk, climb and move about as they aged.

Researchers who questioned women about their diets found that those who regularly ate apples were around 20 per cent less likely to suffer heart attacks and strokes.

—DR. CHRISTOPHER ADAMS

