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Marinating 'may cut cancer risk'

A boozy marinade may be healthy

Marinating a steak in red wine or beer can cut down the number of cancer-causing agents produced when it is fried or grilled, research suggests.

Meat cooked in this way contains relatively high levels of cancer-causing compounds called heterocyclic amines (HAs).

However, Portuguese researchers found HA levels in steak were lower if it was steeped in alcohol before cooking.

Details of the research are highlighted in New Scientist magazine.

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Dr Kat Arney

Cancer Research UK

However, experts said the effect on health was likely to be minimal.

The high temperatures associated with frying and grilling convert the natural sugars and amino acids found in meat into HAs.

Previous research has shown that an olive oil, lemon juice and garlic marinade cut HA levels in chicken by as much as 90%.

The latest research, by a team at the University of Porto and published in the Journal of Agricultural and Food Chemistry, focused on the effect of an alcohol marinade.

They found six hours of marinating in beer or red wine cut levels of two types of HA by up to 90% compared with unmarinated steak.

Beer was more efficient at reducing levels of a third type of HA, cutting levels significantly in four hours, while wine took six hours to achieve a similar effect.

Sugars

The researchers believe the key could be water-retaining sugars found in beer and wine.

These sugars - which are more abundant in beer than wine - may block the movement of water-soluble molecules within the steak to the surface, where high heat converts them into HAs.

The researchers also found that tasters preferred the smell, taste and appearance

of beer-marinated steak.

Scientists have found 17 different HAs resulting from the high temperature cooking of meat.

One study showed a strong link between stomach cancer and consumption of cooked meats.

People who preferred their beef medium-well or well done were more than three times more likely to suffer stomach cancer as those who ate rare or medium-rare beef.

Other research has suggested an association between eating fried, grilled or barbecued meats and an increased risk of bowel, pancreatic and breast cancer.

Dr Kat Arney, senior science information officer at Cancer Research UK, said: "We know that regularly eating large amounts of red or processed meat increases your cancer risk.

"It may seem appetising to marinate steak in beer or wine, but this will have a minimal impact on the effect of the meat on your cancer risk and the best way to reduce your risk of cancer from eating red and processed meat is to eat less of it overall.

"Cancer Research UK recommends that a healthy diet should include plenty of fibre, fruit and vegetables and limited amounts of red meat and alcohol."