

# Tea and Cancer Risk

This information sheet is about tea and how it influences your cancer risk. It is based on research evidence and has been written for the general public.

## Key Messages

Tea is one of the most widely consumed beverages in the world and overall studies have shown that drinking tea is more likely to be beneficial than harmful as it is a good way to consume fluids and beneficial antioxidants.

In terms of reducing cancer risk the evidence that tea is beneficial is inconclusive.

It is recommended care is taken not to drink tea that is very hot as high temperature foods can increase the risk of cancer of the mouth, throat and oesophagus.

All sorts of different herbal infusions are called tea but 'tea' generally refers to infusions made from the dried leaves of the plant *Camellia sinensis*. Tea has been drunk in Asian countries for thousands of years and worldwide tea is second only to water in consumption. On average New Zealanders drink just under a kilogram of tea per person each year and around 65 percent of adults drink tea on a regular basis.

## Green, black or herbal?

Green tea, most commonly drunk in Asian countries but now increasingly in Western countries, is made by heating the green leaves of

the *Camellia sinensis* plant soon after they are picked, then pressing and drying them. Black tea, which is what New Zealanders usually drink for a 'morning cuppa', is made from the leaves of the same plant but they are withered (oxidised) until they go brown before being rolled and air-dried. The drying of the tea is sometimes called fermentation. Oolong tea is made from leaves which have been partially withered.

Tea has high levels of antioxidants called flavonoids. These flavonoids, which are also contained in fruit and vegetables, are active in the body and considered to be an important part of a healthy diet. Antioxidants help prevent cell damage in the body though exactly how they all work is not fully understood.

Although black and green teas come from the same plant, they contain different types and amounts of flavonoids. How and where the tea is grown, and how it is manufactured and prepared also determines the characteristics and amount of the flavonoids present. Green teas contain more of the simple flavonoids called catechins, while black tea has more complex flavonoids called theaflavins and thearubigins.

The highest concentrations of flavonoids are in hot brewed tea. The longer the tea is brewed, the higher the concentration. Brew tea for at least 3 minutes to allow the flavonoids to be released. Adding milk to tea dilutes the concentration of the flavonoids but does not interfere with how they are absorbed.

Herbal teas, are infusions of the roots, leaves and flowers of a wide range of different plants, are not true teas but also can contain a range of antioxidants. The antioxidants present depend on the type of plants and the parts of the plant used to make the tea.

### Does tea help prevent cancer?

Many people believe the antioxidants in tea, particularly green tea, help protect them from cancers. However, an expert panel from the World Cancer Research Fund, which assessed all of the human studies investigating the connection between tea and cancer, found the results of the studies to be inconsistent. The panel decided there was not enough evidence to make definitive conclusions about the connection.

The panel also looked at the evidence between drinking very high temperature drinks and cancer of the mouth, throat and oesophagus (gullet).

Hot foods and drinks can damage the mouth, throat and oesophagus. It is possible repeated damage like this may lead to cancer. The panel concluded the evidence that very high temperature foods and drinks can cause cancer of the oesophagus was limited and inconsistent. Adding milk to tea helps cool it.

### Other health effects of tea

Generally, tea is considered to be a good way of consuming enough fluids, as the antioxidants are beneficial.

Tea does contain some caffeine but it contains less than coffee. Decaffeination destroys some of the antioxidants.

Adding milk and sugar to tea adds fat and energy. It is best to drink tea with little or no sugar. If you prefer white tea, use low fat milk.