

**TEA UP FOR A HEALTHY LIFETSYLE**

Tea is the most commonly consumed beverage in the world after water. In fact, in the UK it has been drunk for more than 400 years. Today, more than 80 per cent of British adults drink tea and of the tea consumed in the UK, 95 per cent of this is black tea.[[1]](#footnote-1) From a scientific stance, there is now a huge body of evidence recognising the important role of tea within a healthy lifestyle. The following e-news from Dr Tim Bond and Dr Carrie Ruxton of the Tea Advisory Panel (TAP) looks at the health benefits of tea and sorts facts from fiction on a few tea drinking myths.

**TEA AND HEALTH**

A mounting body of evidence now shows that tea possesses potent antoxidative, anti-inflammatory, antimicrobial, antihypertensive, cholesterol lowering, neuroprotective and thermogenic properties (with the latter being linked to weight loss associations). In turn, a growing number of super study meta-analyses and epidemiological papers have been finding trends in relation to tea reducing diabetes, cardiovascular disease, stroke, and arthritis and obesity risk[[2]](#footnote-2) as well as possessing protective properties against cancer.

Dr Tim Bond from TAP notes: “In particular, data pooled from one recent large super study consisting of 22 studies found that regular tea consumption reduces the risk of coronary heart disease by 27 per cent.[[3]](#footnote-3) This work also showed that drinking three cups of black tea a day produced a significant reduction in unhealthy LDL cholesterol, systolic and both diastolic blood pressure. Data pooled from the same study also suggests a **reduced risk of suffering a stroke, or dying from stroke, by 21 per cent**.3

“Benefits also seem to be further extended for women. In a new Australian study the consumption of three or more cups of black tea daily was associated with **a 30 per cent reduced risk of osteoporotic fracture**.[[4]](#footnote-4) The research involving 1,188 women, over 10-years found that compared with the lowest tea intake category (one or fewer cups of tea each week), consumption of three or more cups of tea each day was associated with a statistically significant 30% decrease in the risk of any osteoporotic fracture. It was thought that the flavonoids found in tea may have contributed to these benefits.4”

“Other work on green tea carried out on healthy participants has found that within just 30 minutes to one hour after drinking green tea the brain waves increased, indicating that green tea seems to have an important effect on cognitive function (mental wellbeing).[[5]](#footnote-5)”

Black (green and oolong tea are all manufactured from the leaves of the plant *Camellia sinensis* and are three of the most popular teas consumed in the UK.1

**TEA FACT:** Meta-analytical evidence using data from 14 studies and 9,958 cases with hip fracture also found that the risk of hip fracture was 16% lower among the highest versus the lowest consumers of tea. Compared with no tea consumption, drinking 1-4 cups of tea per day reduced the risk of hip fracture by 28 per cent. For those drinking 1-2 cups of tea daily, the risk was lowered by 28%, for those drinking 2-3 cups daily, the risk was reduced by 37% and by 21% among those drinking 3-4 cups daily.[[6]](#footnote-6)

**TEA GREAT FOR OUR *PEARLY WHITES***

Tea is also good for our oral health thanks to its fluoride content. Professor Robin Seymour, a periodontologist and an advisor to TAP notes: “A study[[7]](#footnote-7) recently published in *Nutrition Bulletin*, reviewed fluoride levels in standardised cups from 49 different tea bags including regular black tea, single estate, specialty and green tea. The results showed that fluoride levels ranged from 0.72 to 1.68mg per serving which provides a quarter to half of the European Recommended Daily Allowance for fluoride for a typical mug of tea.

“Tea is a natural source of fluoride as the tea plant absorbs fluoride present in the soil of tea-producing countries. The level of fluoride in tea leaves will depend on where the tea is grown, with countries such as Kenya, being particularly good for fluoride-rich soils.

“Green tea, also appears to possess dental health benefits. For example, a new lab study looked at the effects of green tea on tooth dentine – the second layer of the tooth that can become eroded. Overall, after dentin samples had been submersed in green tea solution for up to 3 days it was found that this helped to reduce the wear and roughness caused by dentin erosion.[[8]](#footnote-8)

“Other work also shows that green tea extracts has benefits in terms of lowering numbers of oral cariogenic bacteria.[[9]](#footnote-9)”

Professor Seymour adds: “So, if you’re out and about, or on a long-distance flight and haven’t had chance to clean your tea, grabbing a cup of tea could be a good alterative.”

**EATWELL GUIDE: TEA FOR HEALTHY HYDRATION**

The recently updated Eatwell Guide which is the UKs model on how to best protect and improve the nation’s health, advised that individuals in the UK should aim to drink 6 to 8 glasses of fluid every day. Within this, it specified that water, tea, lower-fat milk and sugar-free drinks all count towards optimal fluid intakes.[[10]](#footnote-10)

It should be noted, however, that this model does not apply to children under 2 years as they have different nutritional needs and children aged 2 to 5 years should make a gradual shift to eating the same foods and drinks as their families.1

**OTHER EVIDENCE ON ‘HOW MUCH’?**

**4-6 cups as hydrating as water**. Research looking at how tea versus water affects hydration was tested amongst a sample of 21 healthy, resting males. For the intervention males drank either four or six 240ml regular black tea (168 or 252mg caffeine) and were studied over a 12-hour intervention period. Overall, after analysing a range of blood and urine measurements it was found that tea, had the same hydrating properties to water.[[11]](#footnote-11)

**3 cups – improved waistline.** A large randomized controlled trial involving 111 adult men and women, all of who were regular tea drinkers has shown that compared to a control drink, regular consumption of black tea (3 cups in this study) over three months significantly inhibited weight gain by an average of 0.64kg and reduced waist circumference by 1.88 cm, and also waist-to-hip ratio.[[12]](#footnote-12)

**3 cups – reduced risk of diabetes.** Research published using data from the Dutch arm of the big European Prospective Investigation into Cancer and Nutrition (EPIC) where adults were followed up over 10 years found that drinking three cups of tea daily , three cups of coffee or a combination of tea and coffee reduced the risk of type 2 diabetes by approximately 42 per cent.[[13]](#footnote-13)

**2 cups associated with reduced mortality.**

A recent article published in the American Journal of Nutrition found that drinking **just two cups of tea daily was associated with a 40 per cent reduced risk of mortality**.[[14]](#footnote-14) Dietitian Dr Carrie Ruxton from TAP notes: “This in not particularly surprising given that tea is a major source of flavonoid compounds in the British and, indeed, the Australian diet where this research was done. Of particular note, a higher flavonoid intake of around 350 mg, equivalent to approximately 2 cups of tea, was associated with a 40–50 per cent reduced risk of CVD and cancer mortality compared with those with the lowest intake.3

**LAST WORD….**

Dr Tim Bond notes in summary: “There is a lot of misinformation about tea, typically themed around the topics of hydration and caffeinated drinks such as tea. Given that Brits love tea coupled with the strong body of positive scientific evidence arounds its health benefits, tea should be enjoyed on a daily basis, in amounts aligned with the positive science. Drinking black, green, oolong and herbal tea infusions all tick a lot of boxes when it comes to our health from reducing diabetes, cardiovascular disease, stroke, arthritis and obesity risks[[15]](#footnote-15) to possessing protective properties against cancer, as well as oral health and hydration benefits. So make tea a daily health choice alongside your five a day of fruit and vegetables.”

**The Tea Advisory Panel (TAP)**

TAP is a novel health group, bringing together experts in the areas of public health, general practice, nutrition and diet. Its objective is to provide informed ‘advice’ about the essential health, hydration and dietary role that black tea can provide in our daily diets. It also as a group will be commissioning a series of study reviews and market research initiatives investigating further the ‘natural’ well-being benefits associated with black tea.

TAP is supported by an unrestricted educational grant from the UK Tea Council, the trade association for the UK tea industry.

**-ENDS-**

**DO YOU KNOW?**

**How much tea do we drink in the UK?**

* In the UK, 165 million cups are consumed daily, which equates to 60.2 billion per year

**How much tea should we be drinking a day?**

* There is no minimum or maximum recommended tea consumption levels for people aged over 16 years. Children 5-15 years can enjoy 1-2 cups daily.

**How much caffeine does tea contain?**

* Tea contains about half the amount of caffeine, compared to instant coffee and a third compared with filter coffee

**Is tea part of a healthy diet?**

* Yes, definitely, tea has many health benefits. It’s good for our heart and bone health, teeth, cognitive function, alertness and reduces the risk of mortality, diabetes as well as protecting against some cancers,
* Drinking three cups of black tea a day produces a significant reduction in unhealthy LDL cholesterol, systolic and both diastolic blood pressure. Regular tea consumption also reduces the risk of coronary heart disease by 27%[[16]](#footnote-16) and the risk of suffering a stroke, or dying from stroke, by 21%.

1. Kantar 2016 [↑](#footnote-ref-1)
2. [Hayat K](http://www.ncbi.nlm.nih.gov/pubmed/?term=Hayat%20K%5BAuthor%5D&cauthor=true&cauthor_uid=24915350)et al. (2015) Tea and its consumption: benefits and risks. Crit Rev Food Sci Nutr 55(7):939-54. [↑](#footnote-ref-2)
3. [Zhang C](http://www.ncbi.nlm.nih.gov/pubmed/?term=Zhang%20C%5BAuthor%5D&cauthor=true&cauthor_uid=25354990)et al. (2015) Tea consumption and risk of cardiovascular outcomes and total mortality: a systematic review and meta-analysis of prospective observational studies. 30(2):103-13. [↑](#footnote-ref-3)
4. [Myers G](http://www.ncbi.nlm.nih.gov/pubmed/?term=Myers%20G%5BAuthor%5D&cauthor=true&cauthor_uid=26269364) et al. (2016) Tea and flavonoid intake predict osteoporotic fracture risk in elderly Australian women: a prospective study. [Am J Clin Nutr.](http://www.ncbi.nlm.nih.gov/pubmed/?term=Tea+and+flavonoid+intake+predict+osteoporotic+fracture+risk+in+elderly+Australian+women%3A+a+prospective+study.) [Epub ahead of print]. [↑](#footnote-ref-4)
5. [Okello](http://www.maneyonline.com/action/doSearch?ContribStored=Okello%2C+E+J) EJ et al. (2015)Effects of green and black tea consumption on brain wave activities in healthy volunteers as measured by a simplified Electroencephalogram (EEG): A feasibility study. Nutritional Neuroscience.  19(5):196-205.  [↑](#footnote-ref-5)
6. [Sheng J](http://www.ncbi.nlm.nih.gov/pubmed?term=Sheng%20J%5BAuthor%5D&cauthor=true&cauthor_uid=24196722) et al. (2014) Coffee, tea, and the risk of hip fracture: a meta-analysis. [Osteoporos Int](http://www.ncbi.nlm.nih.gov/pubmed/24196722?dopt=Abstract) 25(1):141-50. [↑](#footnote-ref-6)
7. Ruxton C & Bond T (2015) Fluoride content of retail tea bags and estimates of daily fluoride consumption from typical tea drinking in UK adults and children. Nutrition Bulletin; in press. [↑](#footnote-ref-7)
8. [De Moraes MD](http://www.ncbi.nlm.nih.gov/pubmed/?term=De%20Moraes%20MD%5BAuthor%5D&cauthor=true&cauthor_uid=26676195)et al. (2016) Effect of green tea as a protective measure against dental erosion in coronary dentine. [Braz Oral Res](http://www.ncbi.nlm.nih.gov/pubmed/26676195) 30. [↑](#footnote-ref-8)
9. [Ferrazzano GF](http://www.ncbi.nlm.nih.gov/pubmed/?term=Ferrazzano%20GF%5BAuthor%5D&cauthor=true&cauthor_uid=21612452)et al. (2011) Antimicrobial properties of green tea extract against cariogenic microflora: an in vivo study. [J Med Food](http://www.ncbi.nlm.nih.gov/pubmed/21612452) 14(9):907-11. [↑](#footnote-ref-9)
10. https://www.gov.uk/government/uploads/system/uploads/attachment\_data/file/510366/UPDATED\_Eatwell-23MAR2016\_England.pdf [↑](#footnote-ref-10)
11. [Ruxton CH](http://www.ncbi.nlm.nih.gov/pubmed/?term=Ruxton%20CH%5BAuthor%5D&cauthor=true&cauthor_uid=21450118)& [Hart VA](http://www.ncbi.nlm.nih.gov/pubmed/?term=Hart%20VA%5BAuthor%5D&cauthor=true&cauthor_uid=21450118) (2011) Black tea is not significantly different from water in the maintenance of normal hydration in human subjects: results from a randomised controlled trial. [Br J Nutr](http://www.ncbi.nlm.nih.gov/pubmed/21450118) 106(4):588-95. [↑](#footnote-ref-11)
12. [Siv Kjølsrud Bøhn](http://pubs.rsc.org/en/results?searchtext=Author%3ASiv%20Kj%C3%B8lsrud%20B%C3%B8hn) et al. (2014) Effects of black tea on body composition and metabolic outcomes related to cardiovascular disease risk: a randomized controlled trial*.**Food Funct.*25;5(7):1613-20 [↑](#footnote-ref-12)
13. [van Dieren S](http://www.ncbi.nlm.nih.gov/pubmed/?term=van%20Dieren%20S%5BAuthor%5D&cauthor=true&cauthor_uid=19727658)et al. (2009) Coffee and tea consumption and risk of type 2 diabetes. [Diabetologia](http://www.ncbi.nlm.nih.gov/pubmed/?term=Van+Dieren+tea) 52(12):2561-9 [↑](#footnote-ref-13)
14. Ivey KL et al. (2015) Flavonoid intake and all-cause mortality. Am J Clin Nutr 101:1012–20. [↑](#footnote-ref-14)
15. [Hayat K](http://www.ncbi.nlm.nih.gov/pubmed/?term=Hayat%20K%5BAuthor%5D&cauthor=true&cauthor_uid=24915350)et al. (2015) Tea and its consumption: benefits and risks. Crit Rev Food Sci Nutr 55(7):939-54. [↑](#footnote-ref-15)
16. [Zhang C](http://www.ncbi.nlm.nih.gov/pubmed/?term=Zhang%20C%5BAuthor%5D&cauthor=true&cauthor_uid=25354990)et al. (2015) Tea consumption and risk of cardiovascular outcomes and total mortality: a systematic review and meta-analysis of prospective observational studies. 30(2):103-13. [↑](#footnote-ref-16)