



How Healthy Is Your Braai?

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Every year we as South Africans celebrate National Heritage Day bringing light to South Africa's rich culture and history. The 24th of September is also known as National Braai Day where despite the various cultures within South Africa, we all share this one common heritage of uniting around a fire and sharing a superb feast¹. Yes, South African's do love a good old braai and find several occasions to celebrate over "n stukkie vleis", whether it's watching a rugby or soccer match, a birthday party or just celebrating the weekend and warm weather.



One might wonder though how good charred meat is for you and with cancer incidence on the rise and the recent scares around red and processed meat causing cancer, we may need to have a closer look at how healthy this is and if we need to say bye to the braai.

WHAT DOES THE SCIENCE SAY?

Research does in fact show that cooking meat at high temperatures does create chemicals that may increase cancer risk. Heterocyclic Amines (HCAs) and Polycyclic Aromatic Hydrocarbons (PAHs) are two of them and are formed during cooking of muscle meats such as beef, pork, fowl and fish due to a reaction between amino acids and creatine at high temperatures. High temperature cooking includes pan frying or grilling over an open flame, braai'ing and smoking meats. Research has shown that high consumption of well-done, fried or braai'ed meat increases risk of colorectal, prostate and pancreatic cancer².

It also isn't new information that red and processed meat in itself may increase cancer risk as it has been part of the nutrition recommendations for cancer prevention as "Limit intake of red meat and avoid processed meat", published in the *Food, Nutrition and the Prevention of Cancer: a Global Perspective*³. In 2015, the International agency for research of cancer (IARC) announced that processed meat has been classified as a 'definite' cause of cancer and red meat is a 'probable' cause⁴.

This doesn't however mean that we should never eat red or processed meats again, besides there are other factors which have a far greater association to cancer, such as smoking or being obese⁴. The emphasis rather is to not eat excessive amounts, particularly over a long period of time. Besides,

meat can be a valuable source of nutrients such as protein, iron, zinc and vitamin B12 so simply put, the key is moderation ³.

HEALTHY BRAAI TIPS

Knowledge is power and now that you know the risks that are involved, here's some happier news with some surprisingly exciting and practical tips on how to make your braai healthier^{2,5}.

- **Marinate meat in beer.** Doing this for about 4-6 hours has been found to significantly lower the cancer causing agents that develop. Darker beer was also found to be the most effective.
- **Marinate meat in a mixture of vinegar, oil and spices.** If you'd like to avoid marinating in alcohol then try this as an alternative. Some examples of ingredients that have been shown to be effective include olive oil, lemon juice, cider vinegar, teriyaki marinade, cherries, plums, apples, mustard, garlic, onions, black pepper, oregano and rosemary.
- **Avoid thick, sugary marinades that may cause charring.**
- **Remove excess fat and choose leaner meats.** It reduces the amount of PAHs produced as less fat means less smoke.
- **Flip your meat and burgers often** to prevent charring, it substantially reduces HCA formation.
- **Avoid braai'ing processed meats** such as cheese grillers, hot dogs or bacon.
- If you do choose processed meat, opt for those that are sourced from a local farmer that are uncured, 100% beef/chicken, and does not contain MSG, preservatives, artificial flavours and colouring.
- **Rare to medium is best.** Cook the meat as little as possible as the longer the cooking time and the higher the heat the more HCAs are produced.
- **Keep the grill clean and scrape off all charred residue.**
- **Remove charred portions** of meat before eating, including chicken skin.
- **Choose smaller meat portions** which will cook quicker, reducing the time spent exposed to high temperature.
- **Braai vegetables.** They do not cause harmful chemicals even when cooked at high temperatures. Try braai'ing zucchini, mushrooms, onion or asparagus, seasoned and brushed with olive oil.
- **Pair your meat with an antioxidant-rich salad.** Combat the harmful chemicals produced in the meat with powerful antioxidants by enjoying your meat with a fresh salad or steamed veggies. Remember the more variety and colour, the more antioxidants present.



REFERENCES

1. <http://braai.com/national-braai-day-mission/>

2. <http://www.cansa.org.za/files/2015/09/Fact-Sheet-Dangers-Meats-Cooked-at-High-Temperatures-Sept-2015.pdf>
3. http://www.dietandcancerreport.org/cancer_resource_center/downloads/summary/english.pdf
4. http://scienceblog.cancerresearchuk.org/2015/10/26/processed-meat-and-cancer-what-you-need-to-know/?utm_source=facebook_maincruk&utm_medium=cruksocialmedia&utm_campaign=ownfacebook_post%2F
5. <http://articles.mercola.com/sites/articles/archive/2014/07/19/grilled-meat-carcinogens.aspx>

IMAGES

- https://www.google.co.za/search?q=braai&espv=2&biw=1366&bih=643&source=lnms&tbn=isch&sa=X&ved=0ahUKEwiFjM_qI7vNAhUmAZoKHYDJCW4Q_AUIBigB#tbn=isch&q=braai+day&imgrc=_7yR_RVNkOzq4M%3A
- https://www.google.co.za/search?q=marinating+meat+in+beer&espv=2&biw=1366&bih=643&source=lnms&tbn=isch&sa=X&ved=0ahUKEwinude7mbvNAhUMLMAKHemID9QQ_AUIBigB#imgrc=QtN1V3nj6Z-m-M%3A

