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# Eat More Ketchup

By Wendy Zhuo



*(from left to right) Margarita pizza, hamburger (with ketchup), ravioli in a tomato based sauce, and of course, egg- tomato stir fry. Photos courtesy of @BlendyEats*

Ever since I was young, I loved tomatoes. As a Chinese American, I grew up on hamburgers (with tomato, lettuce and pickles, of course!) and spaghetti one day and the traditional “egg-tomato stir fry” (番茄炒蛋) the next. When I was around 3, my grandma and grandpa lived with us for a couple years, and I still remember looking out my window to the front yard and seeing vines of tomato plants, leaning with the weight of small green fruit and being excited to be able to eat sliced tomatoes dipped in sugar as a treat in a few weeks.

As I grew older, I discovered that my love of tomatoes was not always appreciated by everyone. Some preferred ketchup over actual tomatoes, while some preferred tomatoes over derived tomato products and some just (gasp!) hated tomatoes in general. However, I hope that what I am about to say next may change their minds.

I recently read that this month, researchers Camilla Stice, Hui Xia, and Xiao-dong Wang at Tufts University discovered that regular tomato consumption can be associated with a decreased risk of ALD and HCC, which are alcoholic liver disease and hepatocellular carcinoma, respectively<sup>1</sup>. It’s important to note that ALD is a leading cause of morbidity all around the world and HCC incidence is increasing in the United States.

I came upon this information because I wanted to learn more about how diet can affect cancers-- especially liver cancer. I lost my uncle to liver cancer when I was 7 and I never forgot the lasting impact it would have on my life.

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<sup>1</sup> <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6308920/>

The reason that tomatoes are effective against combating liver related illnesses is because of a compound called lycopene, which is the pigment that makes certain fruits red (guava, watermelon, papaya, grapefruit, and other fruits also contain this, but are less significant to the amounts found in tomatoes<sup>2</sup>). Lycopene is known as a strong antioxidant, anti-inflammatory and anti-cancer agent, so it should come as no surprise that a diet rich in whole foods, especially tomatoes and products such as tomato sauce, paste, canned tomatoes, ketchup and juice can be beneficial to combating diseases related to your liver.

While I'd like to comfort those who hate the taste of any tomato flavor that eating lycopene supplements can potentially be the equivalent as eating tomato products, it is important to note that the study run by Stice, et al., showed that the same amount of tomato powder given to mice was not as effective as purified lycopene supplementation in preventing liver cancer development<sup>3</sup>. The idea is that whole tomatoes likely contain other beneficial nutrients such as Vitamin E and C, folate, phenolic compounds, dietary fibers and other minerals can also work in tandem with lycopene. More needs to be researched to see why this is, but in the meantime, it's time to reinvent ways that we can all enjoy tomatoes in order to better our liver health!

#### Articles Cited:

Dileo, Alyssa. *Eating Tomatoes to Fight Liver Cancer*. Tufts Now, 28 Feb. 2019, [now.tufts.edu/articles/eating-tomatoes-fight-liver-cancer](http://now.tufts.edu/articles/eating-tomatoes-fight-liver-cancer).

Stice, Camila B, et al. "Home - PMC - NCBI." *National Center for Biotechnology Information*, U.S. National Library of Medicine, 18 Dec. 2018, [www.ncbi.nlm.nih.gov/pmc/](http://www.ncbi.nlm.nih.gov/pmc/).

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<sup>2</sup> <https://now.tufts.edu/articles/eating-tomatoes-fight-liver-cancer>

<sup>3</sup> <https://now.tufts.edu/articles/eating-tomatoes-fight-liver-cancer>