

# Causes of Cancer – Part 4a: What you catch.

by Dr Stephen Hardy PhD.

What you can't see  
can hurt you.  
Infectious agents like  
viruses and bacteria  
are implicated in over  
1.5 million cancer  
deaths each year.

Previous articles in this series (1, 2, 3) have discussed preventing 37,000 Australian cancer cases a year by addressing six lifestyle factors (4).

- Alcohol;
- Smoking;
- Poor Diet;
- Obesity;
- Lack of regular exercise; and
- Excessive exposure to UV light.

**We also discussed the first two causes of cancer listed by Professor Ian Frazer of the University of Queensland (5):**

- 30% of cancer is caused by what we do to ourselves;
- 30% of cancer is caused by what we've done to the environment;
- 30% of cancer is caused by what you catch; and
- Only 5–10% of cancers are genetic.

**In this article, we will look at the third: 30% of cancer is caused by what you catch.**

"What you catch" are infectious agents like viruses, bacteria, fungi and parasites (6). We have neither time nor space to discuss how these microorganisms cause cancer here. It is much more useful to know how you come in contact with them and how to protect yourself.

One would hope cancer-causing microorganisms were rare and you don't come across them often. Sadly this isn't the case (6). Chances are you've been exposed to microorganisms implicated in cancer from birth, while others are so common (like the bacteria *Helicobacter pylori* or Epstein-Barr Virus - EBV) you will almost certainly have come in contact with them or been infected by your 60th birthday (7, 8). If cancer-causing microorganisms are so common, then why doesn't everyone infected have cancer? The reason is the environment and your susceptibility are also determining factors (13, 14). We will touch on this below.

While there may be little you can do to avoid the common microorganisms implicated in cancer, there are ways to minimise the damage they may do. One way is to maintain a healthy normal flora. Normal flora are the microorganisms living on and in you – on your skin, in your mouth, lungs, gut and in every other nook and cranny. You may be surprised at how many there are. You have just as many, if not more bacterial cells growing on and in you than you have human cells (9, 12). But hang on... If "What you catch" is a cause of cancer, surely having so many microorganisms living on and in you is bad? Again, it's not so simple.

To explain, we need to divide microorganisms into 'good' bugs and 'bad' bugs. The 'good' bugs help you and the 'bad' bugs hurt you. While it isn't this black and white in reality, far from it in fact, let's stay with this distinction for now. The 'good' bugs of your normal flora do a lot of good. Indeed, you wouldn't be healthy without them (9, 10, 11). They help digest your food, provide you essential nutrients (like B group vitamins and Vitamin K) and keep the 'bad' bugs in check and stop them from making you sick. Probiotics and the 'good' bugs are also essential for the healthy development, education and function of your immune system (9, 10, 13, 14, 15). It is when the healthy balance between 'good' and 'bad' is disturbed things go wrong – and you pay the price – potentially a high price (10, 11). This balance can be upset for example by antibiotics, environmental factors and pharmaceuticals, if your immune system is compromised or suppressed and by our six lifestyle factors.

We could end this article here: The trick to avoiding the "What you catch" factors is to maintain a healthy normal flora, stay away from cancer-causing microorganisms and make your immune system better at fighting them and their effects.

To end the article here would be a great disservice however, as it would barely scratch the surface of how your immune system protects you from cancer. We need to go deeper and we'll do just that in Part 4b (next issue of Healthy Living in July)



Some bacteria cause cancer, while others protect you from it.



Dr Stephen Hardy serves on the Cancer Care Centre Board and is the founder and managing director of Promoting Good Health Pty Ltd.

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### You may also wish to read:

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### The original publication on which the above article is based is:

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