**Why colds are so contagious**

We’ve all been there… coughing and sneezing uncontrollably, laying in our beds at night unable to sleep all because of some dumb, microscopic, useless, and seemingly inevitable organism. Acute coryza or rhinopharyngitis is the scientific term used to classify the tiny pathogens that wreck havoc on your immune system. But what makes them so common? Why is there no vaccine? Why is there no cure? Hopefully, by the end of my little explanation here you’ll understand why the cold is so common and widespread.

The common cold is caused by rhinoviruses (and coronaviruses) which are viruses that mutate extremely often, making it so that our immune system does not recognize the virus, allowing the more or less same virus to infect a single individual many times. This brings us to our first point on how these sneaky nuisances infect so many of us: rapid mutation. The viruses that cause the common cold all have this thing in common, allowing the virus to change doing one of two things: becoming immune to antibiotics, avoiding a cure, vaccine, or antibodies.

Firstly, common colds are not affected by antibiotics. But what makes them invulnerable to the things that affect all living cells? It’s not called an antibiotic for nothing. (Anti meaning against and biotic meaning living.) But due to its unstable nature and natural selection, common colds and other viruses are become immune to antibiotics. Well, how does it work? Picture this: we have two “bad” cells and they start multiplying until our body realizes that we have potentially harmful intruders. Then, our body starts to fight the virus by sending different cells like macrophages (a type of white blood cells) and the victim begins to experience the nasty symptoms caused by your body trying to fight the pesky intruders. Feeling the effects of the pathogen, we eat antibiotics to help fight against the virus but the virus mutates so fast that there will be variations of the virus that become immune to that antibiotic. The antibiotic kills all the non-resistant strains and the resistant strains survive and pass the immunity to the next generation, making that strain invincible to that antibiotic.

When the virus mutates, our body no longer recognizes the pathogen, leaving us susceptible to the same virus again. There are also millions of different strains that are categorized as the common cold which, kinda explains why the cold is so common.

Even if the common cold is extremely, well, common, there are many ways to reduce your chances of contracting it. But, going outside when it’s cold does not, I repeat does NOT make you get a cold, contrary to popular belief. The only way to become infected with the viruses is to come into contact with the virus itself. But studies have shown that the cold can actually increase the recovery times after catching a cold as it can decrease blood flow, which in turn handicaps the immune system. During the winter season, many people tend to stay indoors, allowing the pathogen to spread more efficiently, which may be a reason why people think that the common cold is caused by the cold temperatures. Myth busted!

Lastly, the common cold affects the respiratory system, allowing extremely quick spread to other humans. (By the way, did you know that sneezes travel at 100 miles\* an hour?!?)

\*161km/h

Finally, we have reached the conclusion of this brief scientific explanation on why colds are so contagious, but, if you think about it enough, the viruses that cause the common cold are just organisms that are trying to survive in our world. They keep alive by multiplying in their hosts and they die to our immune system. We have done much more damage to the planet then they have and all the problems on Earth can be traced back to us, so maybe we shouldn’t eradicate the cold even if we could.

(P.S. The cold acts like a training course for our immune systems, allowing us to combat other diseases with more ease.)