

## Don't panic about shopping, getting delivery or accepting packages

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A recent [study](#) in the New England Journal of Medicine is making people think twice about how they might be exposed to covid-19 if they open a box delivered by UPS, touch packages at the grocery store or accept food delivery.

The risk is low. Let me explain.

First, disease transmission from inanimate surfaces is real, so I don't want to minimize that. It's something we have known [for a long time](#); as early as the 1500s, infected surfaces were thought of as "seeds of disease," able to transfer disease from one person to another.

In that new NEJM study, here's the finding that is grabbing [headlines](#): The coronavirus that causes covid-19 "was detectable . . . up to four hours on copper, up to 24 hours on cardboard and up to two to three days on plastic and stainless steel."

The key word here is "detectable."

Yes, the virus can be *detected* on some surfaces for up to a day, but the reality is that the levels drop off quickly. For example, [the article](#) shows that the virus's half-life on stainless steel and plastic was 5.6 hours and 6.8 hours, respectively. (Half-life is how long it takes the viral concentration to decrease by half, then half of that half, and so on until it's gone.)

Now, let's examine the full causal chain that would have to exist for you to get sick from a contaminated Amazon package at your door or a gallon of milk from the grocery store.

In the case of the Amazon package, the driver would have to be infected and still working despite limited symptoms. (If they were very ill, they would most likely be home; if they had no symptoms, it's unlikely they would be coughing or sneezing frequently.) Let's say they wipe their nose, don't wash their hands and then transfer some virus to your package.

Even then, there would be a time lag from when they transferred the virus until you picked up the package at your door, with the virus degrading all the while. In the worst-case scenario, a visibly sick driver picks up your package from the truck, walks to your front door and sneezes into their hands or directly on the package immediately before handing it to you.

Even in that highly unlikely scenario, you can break this causal chain.

In the epidemiological world, we have a helpful way to think about it: the "[Sufficient-Component Cause model](#)." Think of this model as pieces of a pie. For disease to happen, all of the pieces of the pie have to be there: sick driver, sneezing/coughing, viral particles transferred to the package, a very short time lapse before delivery, you touching the exact same spot on the package as the sneeze, you then touching your face or mouth before hand-washing.

In this model, the virus on the package is a *necessary* component, but it alone is not *sufficient* to get you sick. Many other pieces of the pie would have to be in place.

So this is what you can do to disassemble the pie — to cut the chain.

You can leave that cardboard package at your door for a few hours — or bring it inside and leave it right inside your door, then wash your hands again. If you're still concerned there was any virus on the package, you could wipe down the exterior with a disinfectant, or open it outdoors and put the packaging in the recycling can. (Then wash your hands again.)

What about going to the grocery store? The same approach applies.

Shop when you need to (keeping six feet from other customers) and load items into your cart or basket. Keep your hands away from your face while shopping, and wash them as soon as you're home. Put away your groceries, and then wash your hands again. If you wait even a few hours before using anything you just purchased, most of the virus that was on any package will be significantly reduced. If you need to use something immediately, and want to take extra precautions, wipe the package down with a disinfectant. Last, wash all fruits and vegetables as you normally would.

We should all be grateful for those who continue to work in food production, distribution and sales, and for all those delivery drivers. They're keeping us all safer by allowing us to stay home. And, as I said, the risk of disease transmission from surfaces is real. We can never eliminate all risk; the goal is to minimize it — because we all will occasionally need to go grocery shopping and receive supplies in the mail.

But if you take basic precautions, including washing your hands frequently, the danger from accepting a package from a delivery driver or from takeout from a local restaurant or from buying groceries is de minimis. That's a scientific way of saying, "The risks are small, and manageable."