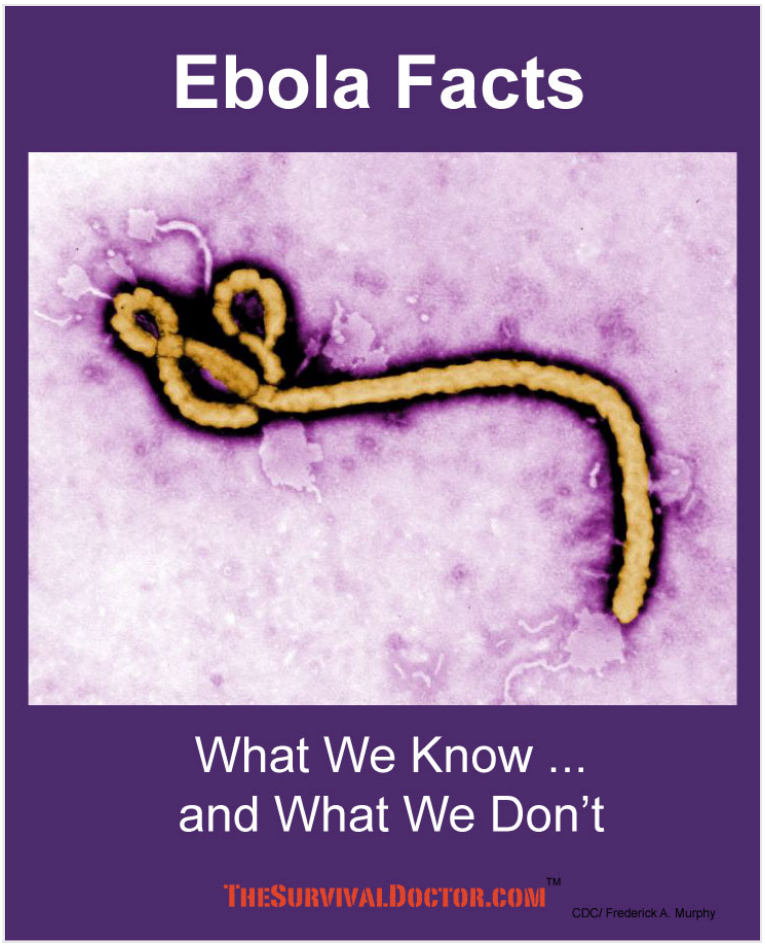
Sensation-Free Ebola Facts: What We Know and What We Don't

by James Hubbard, MD, MPH



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In the medical field, other than death, nothing is absolute. One radio interviewer told me recently he would never be comfortable about the Ebola risks until we knew absolutely everything about it and there was zero risk for everyone. Guess what. He's never going to be comfortable.

Part of the Ebola fear fuel in America right now is the fact that we don't know everything about this disease. And when questions arise, people come out of the woodwork with answers, whether they know what they're talking about or not. Often, their answers boil down to: Well, we don't know, but maybe, and if so, yikes!

All I know to do is go with what we do know now. As with any disease, we can ask: How much at risk are we? Can we can change any of our actions to reduce our risk? Is it worth it to us to change those actions? And if what we know changes, we can reassess the risk.

The facts, for now, Oct 20, 2014:

- **Ebola kills big-time;** 50-70 percent mortality rate with this strain. (Keep in mind, where Ebola is spreading so widely right now, medical care isn't the same as here.)
- **Ebola is spread from direct contact with the bodily fluids** of someone who has symptoms.
- **The only known person-to-person transmission has been with someone with symptoms.** If a person has been infected and is in that two- to 21-day incubation period before symptoms begin, that person is not contagious. (I read recently that the 21-day incubation is not long enough. They went on to say no time period could be 100 percent certain. Again, medicine. We always have to weigh the odds.)
- **There is absolutely no evidence that there's been airborne human-to-human transmission.** If there were, 10 times more people would be known to have it than actually do. Yes, I know of the study with the caged animals passing it without direct contact. The scientists who did the studies think that while people were washing the area, large droplets might have spread it. Follow-up studies did not show transmission, and again, no matter if it's theoretically possible, there's never been a known air transmission to a human.

- **It is possible that someone infected could cough or sneeze directly into your face and transmit droplets.** This is different from airborne since unless those droplets hit you directly, they're going to fall to the ground. Airborne particles, on the other hand, are much lighter and float.
- **No known pathological virus has ever started out being successfully transmitted only by bodily fluids and then mutated to airborne.**
- **Bodily fluids are spit, blood, fecal matter, semen, and sweat.**

Things we don't know:

- How exactly those two Dallas health care workers got it, at least as of this writing. (Scroll down for more on this.)
- Exactly how long the virus lives outside of the body once the liquid it's in dries out. Probably several hours at best.
- Whether this strain has become more potent—has more virus concentration in the bodily fluids.

Since we don't know these things, we can't say with absolute certainty how much of a risk it would be if someone with Ebola who had symptoms were to get fluids on, say, an armrest, and then you were to come along and touch it and eventually touch your face or mouth. Probably not very high at all if the fluid has dried. Much more of a concern if the fluid is fresh. (That pertains to the infected health care workers.)

Ebola Symptoms

Ebola can start like the flu, with fever, cough, muscle aches, maybe a sore throat. (Normally, the flu is the more likely suspect; Ebola is considered if the person has been around someone who has it.) Later symptoms may include:

- Abdominal pain, diarrhea, and vomiting
- Swelling around the eyes and of the genitals
- Bleeding, even from the tiniest nick, that's impossible to stop
- A generalized rash composed of bleeding underneath the skin
- Bleeding around the eyes or from the nose and mouth

Conclusions

You're not going to get Ebola by walking down the mall or even in the airport unless someone with Ebola symptoms sneezes or coughs directly into your face or vomits or bleeds on you and that liquid finds a crack on your skin or a mucus membrane (nose, mouth) to get in.

The Dallas Hospital Case

As you may remember, late last month, a man with Ebola walked into the Texas Health Presbyterian emergency room with a fever and told the nurse he had recently come from Africa. The nurse apparently noted this information in the computer, the doctor overlooked it, and the man was sent home, only to be brought in by ambulance a couple of days later in very poor condition.

This debacle obviously showed the weaknesses, the cracks, the flaws in the system. I had always thought if a sick person with fever walked into an emergency room today and said he'd recently been to Africa, he would immediately be put into isolation until further tests were done. Wrong.

The failings in this case just show that the human aspect must always be considered. Now surely, from now on, every hospital in the U.S. is going to ask any sick person if they've traveled to Africa and or been around someone who has. If the answer is yes, surely that person will be escorted to a room and the doctor told person-to-person. In fact, I have a strong feeling many people will be overly cautious. But again, there are always going to be risks, known and some never even thought about.

The Health Workers Who Contracted Ebola

Two of the hospital staff that cared for the sick man have now come down with Ebola. This, to me, is by far the most puzzling since no one knows for sure how they were infected. Hopefully it can be figured out soon and to the satisfaction of most.

Perhaps, like it's supposed, the workers didn't have enough proper training in removing the protective gear. It has to be a lapse somewhere because if they were covered and sealed head to toe, even with respirators, and if they took off the clothing in a proper manner, then there's no way they could have gotten it.

Since the patient was apparently having extreme vomiting and diarrhea, either something wasn't sealed, or more likely, the fresh, infected fluids were on their suit and some got on their skin or in their face while they taking the stuff off. Perhaps it sprayed off a little.

In Monrovia, Liberia's capital city, members of the CDC and Doctors Without Borders don personal protective equipment before entering the Ebola treatment unit. (CDC/Sally Ezra)

Even then, it's troubling because it probably means the virus is more concentrated in the fluids than they thought. More virus strands in the fluid means more of a chance of transmitting to others—more contagious. More virulent.

But if it's more virulent, why have only two of the personnel become infected and so far none of the personal contacts of the infected man have? Of course, maybe they all were careful or lucky enough to avoid every drop of bodily fluid after he started showing signs of infection. Or maybe it's not more virulent after all and the two health care workers caught if for another reason. I don't know. There's still a whole lot to be learned.

The What-Ifs

Every day we are exposed to infections and other risks, and we have to protect ourselves as much as we can—go about our business or hide in a hole. The risk of catching some other bad infection, having a

wreck, or getting struck by lightening is always there. But how unlikely is it and what can we do about it?

I think that with Ebola, right now, today, the risk of getting it is almost infinitesimal for the average American.

Some people thrive on the what-ifs, or at least like to think about them. More power to them. And if we don't question, we are sheep. But personally, I detest those who go around commenting or writing posts stating what they know are half-truths or just plain falsehoods. By making others fearful, they get some kind of weird, sadistic joy or some reinforcement that they're more relevant. But some people are going to change their way of life simply because they keep hearing what could but probably won't happen. With Ebola, I've had quite a few people tell me they're going to stay inside or they're afraid to go to work right now because of their fear of Ebola.

On the other hand, I think the public health experts should be very concerned about what-ifs (and hopefully they are). What if it is the first ever virus to mutate to airborne? What if it's more virulent or people with no symptoms start being contagious or we suddenly have an overflow of Ebola?

In Liberia, a CDC staff member is assisted by a Doctors Without Borders staff member in a decontamination process before exiting an Ebola treatment unit. (CDC/ Sally Ezra)

But I concentrate on what the average person can do. And sometimes it's just learn more or stay attuned.

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Predictions

I don't think anyone knows if this massive spread will be stopped or when. Remember when HIV was supposed to have pretty well been transmitted to us all by now? HIV is still scary and plenty serious, but I think we've gotten over many of the irrational fears of the what-ifs. Sure, they still could happen, as could

a hundred other things, many we've never even what-if'd about.

We'll find out more about Ebola but only with time. Probably some surprising things. Some things nobody has even what-if'd about. Is there a possibility it could become airborne? Sure. So could HIV, I guess. (Now the headlines will read The Survival Doctor says HIV may become airborne.)

There'll be several more cases of people somehow getting Ebola in the U.S., maybe many more. After many snafus, the airports, hospitals, the CDC will learn better how to handle it here in the U.S.

In five years we'll either be dead from the pandemic or, more likely, be thinking of Ebola like we do HIV—dangerous, serious, but a risk we live with—and take proper, realistic precautions. Oh, and unless we're all dead we'll have some new scary something going around, almost guaranteed.

What I'd Suggest

Watch for updates, but don't believe the headlines until you've read the whole article.

Be very wary of people who comment unless you know the source of their info.

Be wary of anyone who claims they know something no one else knows or what the CDC isn't telling you, or that they've discovered some information or study that proves what no one else knows. All those are possible but very, very unlikely.

If you're flying, wash your hands a couple of times thoroughly with soap and water and dry thoroughly. Pay particular attention after you've used the restroom (remember bodily fluids) and before eating. Take some wipes that contain 60 percent alcohol or more.

And if you get vomited on by someone who has just come from Africa and is found to have Ebola, say your prayers, and remember, nothing in medicine is 100 percent.

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