

James L. Holly, M.D.

Ebola: Lessons from Dallas and Facts about Ebola

**By James L. Holly, MD
Your Life Your Health**

The Examiner

November 6, 2014

The problem with information about Ebola is that simple answers are not helpful in public health and personal safety to avoid contracting an Ebola infection. A statement by Senator Rand Paul is true but it is not the whole truth, and it is not helpful in public health. The Senator said, ““If someone has Ebola at a cocktail party, they're contagious and you can catch it from them.” On the face of it, this statement is true but it is not the whole truth about the spread of Ebola.

First, to address Ebola contagiousness, you must distinguish between asymptomatic patients who have the virus but who, due to a very low viral load, and who due to the fact they are not spreading their body fluids with sneezing or coughing, and who are not manifestly sick and, are not contagious in the ordinary use of the term. It is probable, if you received a blood transfusion from this asymptomatic person with a low viral load that you would develop Ebola, but it is also probable that the casual exposure of being in the same room with this asymptomatic person would not result in your becoming infected.

While we cannot make dogmatic statements without random-controlled or double-blind studies, which are not possible due to the seriousness of the Ebola infection, we can draw inferences from the “natural experiment” which took place in Dallas. Every human death is a tragedy, but every human death does not result from culpable action or in-action on the part of a healthcare worker or professional. When Mr. Duncan manifested Ebola and when he subsequently died his family and other contacts were appropriately quarantined.

The good news is that no one that had casual contact with Mr. Duncan has contracted Ebola. Those who were in the emergency room when Mr. Duncan presented; those who took care of him in the emergency room, and, now even Mr. Duncan’s family has completed the quarantine period without having contracted an Ebola infection. While they have not completed the 21-day observation period, no one who was on the airplane with the nurse from Dallas have developed an Ebola infection.

Being in the same room with an asymptomatic person, who has Ebola, is not desired and is not to be recommended, but it also is not as dangerous as some would like to say.

Fact

Ebola is a dreadful and dangerous disease. Even with the best of care many with the infection will die. Ebola can be spread by contact with bodily fluids of an infected person, but even that must include contact with a mucous membrane or a break in the skin. Also, the infectivity of Ebola is not 100%. If you are coughed on by a person with Ebola and if any fluids from that cough fall on intact skin and if you wash that skin with soap and water, the probability of your contracting Ebola is very low. You will not contract Ebola simply by being in a social setting with someone who is in the early, asymptomatic stage of an Ebola infection.

Real Life Experiences

There was a time that there was a great fear of HIV infectivity. HIV is a much different disease than Ebola and we are at a much different point in the history of the treatment of HIV disease. There was a time, however, when many people made statements about the infectivity of HIV like Rand Paul's statement about the infectivity of Ebola. They were wrong, also. Children who had HIV infection were refused admission to school; people would not shake hands with those who were HIV positive. We shortly learned that casual contact with an HIV-positive person was not dangerous.

Many years ago, a physician friend called me in a panic. He had punctured himself with a needle which had been used with a patient who was HIV positive. He was in a panic. I encouraged him to clean the wound carefully with an antimicrobial soap and copious amounts of water and I assured him that the probability of contracting HIV from a single needle stick was very low. Twenty-five years later, he is still HIV negative. This does not mean we should be casual about needle sticks, but it does support our contention that everyone who has a needle stick will not contract HIV.

Some years ago, my wife and I had a dear friend who was HIV positive. He developed HIV-AIDS and became very ill. This was before there were good treatments for HIV. Carolyn and I were with our friend when he was actively dying at home. She held his left hand and I held his right hand as we comforted him. When he breathed his last breath, I looked down and saw that the cuticle of the thumb of his right hand was bleeding and that the blood was dropping on my hand. Without panic, I went to the bathroom and scrubbed my hand with soap and water. I was confident that I would not contract HIV and I did not.

The Power of Skin

I would not recommend intentional contact with blood from an HIV positive person but I would affirm that one of the best barriers to viral illnesses is intact skin. Whether it is the highly contagious, airborne Influenza virus, or the less contagious but much more dangerous Ebola virus, skin is the first and best barrier to infection. The problem comes when a person who has had exposure to a viral illness and that exposure resulted in viral contact on the hands, and then the person touches their eye, nose, or mouth, they by-pass the skin barrier and carry the virus straight to a mucous membrane and from there into their body.

This reminds us that the most important viral-infection prevention tool is frequent, vigorous washing of the hands with an antimicrobial soap and copious amounts of water. It also reminds us that if we can diminish or eliminate the spread of aerosol virally- infected particles from a cough or sneeze, we can decrease the spread of viral infections. We can do that by covering our mouth and/or nose when we sneeze or cough and then by washing the body part used for that purpose immediately. If you are young enough and can bend that far, coughing or sneezing into the bend of the elbow is the best tool. This technique is not adequate protection from Ebola but it is a first-aid means of addressing all viral infections until isolation can be achieved.

Conclusion

If a person does not have an Ebola infection, they cannot spread an Ebola infection. I recently heard a public health official say, "If you have contact with someone who had contact with an Ebola-infected person," in a list of high-risk situations. The reality is if you have contact with someone who had contact with an Ebola infected person, if your contact did not have Ebola, you have nothing to worry about. And, while we Baptist would not be at a cocktail party, even if you are and no one is sick, coughing, sneezing, you have very little, if anything, to worry about.