

Preventing pandemic flu and infectious diseases in children

Q&A with Jonathan Kotch, MD, MPH, FAAP

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Why are children at such high risk for infectious disease?

When I think of kids, I think of very young kids. They are at risk for a couple of reasons. One is that their immune systems are not completely mature. Another is because of their own incomplete understanding of personal hygiene. At some early ages, kids frequently put things into their mouths. They eagerly share all of their body fluids with everybody else.

Also, germs tend to accumulate on the ground and are heavier than air — even viruses are heavier than air. Children are small, they are close to the ground and can easily pick up contaminants from the ground. The same is true with respect to air pollution. Kids get a worse dose, especially those that crawl. Some air pollutants are heavier than air. They sink.

What are some preventive measures parents or caregivers can do to keep kids safe from infectious diseases or pandemic flu?

To keep kids safe, that is answered immediately by immunization, and it could be flu or any of the diseases. There are plenty of immunizations out there and kids should have access to all the available immunizations.

In the case of pandemic flu, the (Centers for Disease Control and Prevention's) Advisory Committee on Immunization Practices recently dropped the lower age limit for seasonal flu immunizations for infants to six months. It's been demonstrated that very young children can communicate seasonal flu to adults even if they are not actively sick. So getting kids immunized actually helps protect adults.

In the event of an outbreak of pandemic flu or of another infectious disease is it okay for kids to play outside and go to school?

You have to separate other infectious diseases from pandemic flu. The decision to go to school or not to go to school needs to be made by the school and public health authorities, not by individuals. If the schools are open, kids need to go to school. It could be that they are having a

salmonella epidemic or something, and if the facility needs to be closed, the infectious disease person at the health department will make that decision. The issue of pandemic flu is more complicated though.

Kids are important because they are vectors of disease and that is part and parcel of sharing their body fluids with everybody, and sometimes it is better to keep them together where you can observe them and you can help them with their personal hygiene specifically, teach them about hand washing and covering their faces when they sneeze and knowing how to dispose of tissues properly.

There is another phenomenon that is observed in child care centers, and this may apply to schools as well. When child care centers are closed because of a diarrhea outbreak, for example, sometimes those kids who couldn't go to their own centers surreptitiously wind up in some other center, and guess what? They are bringing their germs with them. So if you have the children in a center and have them under observation, you are preventing those same kids from bringing their germs to other centers. But if you close the center, those kids are going to show up elsewhere, and they will share their germs. The parents have to go to work and they will find someplace to take these kids.

What about infectious diseases such as mumps and measles? How can they be prevented?

Those diseases are controlled with immunizations. We know that sometimes they are not 100 percent effective, so new recommendations have come out for additional booster shots for some of these immunizable diseases.

If everybody were able to obtain immunizations for their kids on time, we probably wouldn't be seeing some of the outbreaks that we've seen, such as the mumps epidemic in the Midwest. We learn more about the diseases and about the immunizations as we go along.

What about college-age kids, who are at risk for diseases such as meningitis? What can parents and schools do to keep those kids healthy?

It occurs to me that if there is any congregational dwelling that is more swimming in germs than a child care center, it is probably a college dormitory, as people are living in very close proximity. The same is true in a military barracks. People just have to remember to do what their mothers taught them, which all goes back to personal hygiene: knowing when and how to wash your hands. And there is the issue of knowing how to cover your mouth. We are not

supposed to be doing that with our hands anymore. You're supposed to sneeze into the inner surface of your elbow or use a tissue, but then you have to know that the tissue needs to be disposed of and you need to wash your hands afterward.

There are immunizations now for the Neisseria type meningitis. There are four strains of Neisseria that they can be protected against. That is the type of meningitis in dormitories, and it's a killer.

What other advice can you give for preventing infectious disease in children?

I don't think we appreciate how prevalent seasonal flu is in very young children. They do get it frequently but it's not often as serious in young children as it is in older kids and adults, and it is frequently misdiagnosed as something else, such as an upper respiratory infection or viral syndrome. For that reason, kids are a risk factor for adults getting it, which is why we want kids to be immunized against seasonal flu. The other thing is that in the 1918 pandemic, it was young adults who were the most vulnerable and that is scary.

— *Teddi Dineley Johnson, The Nation's Health*

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