A CUP OF HEALTH WITH CDC

The ABCs of Hepatitis

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[Announcer] This podcast is presented by the Centers for Disease Control and Prevention. CDC – safer, healthier people.

[Matthew Reynolds] Welcome to *A Cup of Health with CDC*, a weekly broadcast of the MMWR, the Morbidity and Mortality Weekly Report. I'm your host, Matthew Reynolds. Hepatitis can be a serious infection of the liver. In the United States, the most common causes of hepatitis are hepatitis A virus or HAV, hepatitis B virus – HBV, and hepatitis C virus – HCV. Since 1981, we have had a vaccine for hepatitis B and by 1995 we also had a vaccine for hepatitis A. Both vaccines are safe and effective and we've seen a remarkable drop in reported cases of hepatitis A and B. There is no vaccine for hepatitis C, but even without a vaccine, we have also seen a drop in the number of cases of hepatitis C being reported. Here to discuss these recent trends is Dr. Annemarie Wasley. Dr. Wasley is a researcher in CDC's National Center for Hepatitis, HIV, STD, and TB Prevention and the lead author of a new study on the rates of hepatitis in the United States. Welcome to the show, Dr. Wasley.

[Dr. Wasley] Thanks for inviting me, Matthew. It's a pleasure being here.

[Matthew Reynolds] Dr. Wasley, we've heard an introduction to hepatitis. Can you tell our listeners more about it?

[Dr. Wasley] Well, hepatitis is an illness of the liver, as you mentioned. The word "hepatitis" actually means inflammation of the liver, and it can be caused by a variety of things, including drugs, alcohol, some infections, and certain types of toxic exposures. But in this podcast, we're only going to be talking about viral hepatitis. That's the hepatitis that's caused by the viruses that you mentioned. These three viruses - Hepatitis A virus, hepatitis B virus, and hepatitis C virus account for most new in the U.S. HAV or hepatitis A virus causes a disease that's self-limiting. By that, we mean that after people are sick, they get better on their own and then have lifelong immunity to infection. HBV and HCV are more complicated because these viruses can cause chronic infection and people that are chronically infected have an increased risk over their lifetime of developing chronic liver disease or liver cancer.

[Matthew Reynolds] How do people get infected by these viruses? I have the impression that viruses can spread very quickly. Do the hepatitis viruses pass from person-to-person in the same ways?

[Dr. Wasley] Well, transmission of these viruses depends on which virus we're talking about. HAV is probably the most easily transmitted of the three. That's because it's spread by the fecal-oral route, which means that people get infected by ingesting contaminated food or water that contains feces of an infected person. Typically, HAV is

spread through close personal contact, so that people like household members or sex contacts of an infected person are at particularly high risk of getting infected.
HBV and HCV, on the other hand, are a little more difficult to spread and this is because it requires direct exposure to the blood or bodily fluids of an infected person. People, when they get infected with HBV, they usually get infected either by having sex or sharing drugs with an infected person. Another way that people get infected with HBV – a pregnant woman can transmit the virus to her infant at the time of birth.
HCV is transmitted in a lot of the same ways that HBV is, but by far the most common way it's transmitted these days is through injecting drug use; it accounts for about 50% of new cases. I do want to make clear though that neither HBV nor HCV is transmitted through casual contact. For example, like coughing or hugging or sharing food or utensils or that kind of thing.

[Matthew Reynolds] I understand that there are different viruses that cause hepatitis. Are there differences in the symptoms someone would have, and how would a person know if they have hepatitis?

[Dr. Wasley] Even though we're talking about three different viruses here, they all cause similar symptoms when a person is first infected. You can't tell which virus is infecting a person, based on their symptoms. A fair number of people, when they're infected, develop no symptoms at all, but when a person does get sick, it usually has a pretty sudden or rapid onset, and one of the first characteristic signs is the development of jaundice, which is yellowing of the skin or the whites of the eyes. This can be accompanied by a flu-like syndrome that would have symptoms like fever, nausea, or malaise. As I said, you can't differentiate one virus from the other based on the symptoms of the person, and so the only way of identifying which virus is causing the disease is through a blood test where they look for the antibody to HAV, HBV, or HCV.

[Matthew Reynolds] I hear about hepatitis outbreaks from time to time in the news, and it seems like outbreaks are sometimes connected to restaurants. How often do outbreaks actually occur?

[Dr. Wasley] When you hear about outbreaks associated with restaurants, those are due to hepatitis A. As I mentioned before, you can get infected with hepatitis A by consuming food that's been contaminated, in this case, typically by an infected food handler. Fortunately, this type of outbreak is relatively uncommon in the U.S., but it does get a lot of media attention. In actuality, most of the hepatitis A in U.S. is due to person-to-person spread. In the past, we had large, community-wide outbreaks of hepatitis A, but now that we've got routine vaccination of children, these outbreaks are becoming increasingly rare. However, we still do get outbreaks in high-risk populations, like drug users and men who have sex with men, and this sometimes can spread into the wider community.
For HBV and HCV, because these viruses are more difficult to spread, we don't typically get them in large outbreaks, like we did with hepatitis A**.** We do sometimes get smaller outbreaks or clusters of cases which occur in high-risk groups, such as injecting drug

users where the prevalence of infection is high, and sharing equipment, etc., can facilitate transmission.

[Matthew Reynolds] You recently completed a study looking at the number of cases of viral hepatitis in the United States during the years of 1995 to 2005. Are we making any progress in containing these diseases?

[Dr. Wasley] Hepatitis A, B, and C are all reportable diseases, which means that if a doctor identifies a case, he's supposed to report it to a local health authority, who in turn report it to us here at CDC. And from tracking those cases, we know that we're making substantial progress in reducing the occurrence of all types of reportable viral hepatitis. Hepatitis A used to be one of our most commonly reported infectious diseases, with an average of about 28,000 cases identified each year, but with the introduction of a vaccine in 1995, and then the development of recommendations for use of that vaccine, rates have dropped dramatically and we've now got the lowest rates ever recorded. We're also making substantial progress in reducing the occurrence of hepatitis B. Rates of Hepatitis B have declined by about 80% since 1991, when the first recommendations were made for routine vaccination of all infants against hepatitis B, and we now have the lowest rates of hepatitis B ever recorded. We do, however, still have high rates in specific risk groups, particularly among injecting drug users and individuals with sexual risk factors.
Hepatitis C rates have also been falling since they peaked in the mid-1980s. A lot of this decline is likely due to changing behaviors among injecting drug users that have reduced their risk of getting not only HCV, but HIV and other bloodborne infections, as well. Primary prevention strategies like the screening and testing of blood donors are also undoubtedly contributing to this reduction in rates, as well.

[Matthew Reynolds] Dr. Wasley, since vaccines are available for hepatitis A and B, what are your recommendations about who should be vaccinated?

[Dr. Wasley] Hepatitis A vaccine is recommended, at this point, for all U.S. children 12-23 month of age. It's also recommended for individuals with a risk factor for infection, and that would be illegal drug users, men who have sex with men, and also international travelers who are going to be going to countries where HAV is common.
Hepatitis B vaccine is also recommended for all U.S. children. Typically, the first dose is given to infants soon after birth. Hepatitis B vaccine is also recommended for adults that have a risk factor for infection. Again, injecting drug users, men who have sex with men, and also people that have had multiple sex partners or a recent history of a sexually transmitted disease. Hepatitis B vaccine is also routinely given to healthcare workers and people that are receiving dialysis, because of their likely exposure – their inevitable exposure – to blood.
For hepatitis C, we don't have a vaccine, so our prevention relies on identifying people that are at increased risk for HCV, such as injecting drug users, and providing counseling to them on how to avoid infection.

[Matthew Reynolds] Thank you, Dr. Wasley, for taking the time to talk with us today.

[Dr. Wasley] You’re welcome, Matthew. Thanks for inviting me.

[Matthew Reynolds] That’s it for this week’s show. Don’t forget to join us next week. Until then, be well. This is Matthew Reynolds for *A Cup of Health with CDC*.

[Announcer] To access the most accurate and relevant health information that affects you, your family and your community, please visit www.cdc.gov.