



# FLU SHOTS: AGAIN

**Infection Prevention Corner**  
Kay C Carl, RN, BS, CIC

**Fact:** “Influenza (the flu) is a contagious respiratory illness caused by influenza viruses. It can cause mild to severe illness, and at times can lead to death. Some people, such as older people, young children, and people with certain health conditions, are at high risk for serious flu complications. The best way to prevent the flu is by getting vaccinated each year.”

- CDC -



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## LEARNING OBJECTIVES:

After reading this article, the reader should be able to:

- state the reason why healthcare personnel should be vaccinated against seasonal influenza;
- recommend to staff, patients, and family seasonal influenza vaccine with confidence;
- list other appropriate immunizations for dental health care workers.



## THE CAMPAIGN

It's that time of the year again for Infection Preventionists (IPs) in healthcare to sigh and then, with resolve and determination, ready ourselves for battle. It is time for the “*Flu Campaign*.” The CDC Advisory Committee on Immunization Practices (ACIP) and the Hospital Infection Control Practices Advisory Committee (HICPAC) has been recommending seasonal influenza vaccinations for health care personnel (HCP) for many years now. As we prepare for this monumental task, we ask our peers what successes they have had to boost the acceptance numbers up from the year before. It is an on-going thread on our list serve for our profession.

Why such a battle year after year? Well, I think one reason is that most everyone has been through the basic childhood vaccination program if only



to be allowed to go to school during outbreaks of various diseases. And then if one becomes a hospital health care worker, the rest of the vaccinations are required before one is allowed to work.

But, who wants a shot every year? Apparently not as many are willing to come forward to do this and IPs struggle every year to achieve compliance to protect the patients that we care for. It would be nice if we had a universal flu vaccination that covered every type of flu as well as being long acting so we would not have to have seasonal vaccinations. And I understand that they are working on that, but it is an enormous task that I am not sure can be accomplished. Swine flu reemerged this summer in the US that affected two children, one immunocompromised, but fortunately both recovered. And as I prepare this article, bird flu is showing up in the news. So it may be a long time before we may see a universal vaccine for the various flus.

## WHY DO IT?

On the average, seasonal influenza causes approximately 200,000 hospitalizations and kills over 36,000 people each year in the United States. Influenza vaccinations save lives and reduce illness. It also saves money. In research published this year, an interesting paper titled “Cost-Effectiveness of a Recommendation of Universal Mass Vaccination for Seasonal Influenza in the United States” concluded that universal vaccinations in the United States (US) would save over 3.1 billion dollars annually.

In Arizona we had four cases of flu this summer, three in Maricopa County and one in Mohave County. Of the four cases, three were adults and all three recovered. There was one death, a school-aged child in Maricopa. This figure from the CDC shows the number of Pediatric flu deaths from 2007 to August of 2011. One death is too many.

In 2010, CDC's ACIP recommended, for the first time, that the flu vaccine be given to all persons six months and older in the United States. On August 18, 2011 the CDC's ACIP updated their guidance for influenza vaccines for the 2011-2012 flu season and still recommends immunizations for the same age groups. As for the infants six months and under, all caregivers and close family members should be vaccinated to protect the child. The 2011-12 U.S. seasonal influenza vaccine includes the H1N1 strain from the pandemic flu of 2009.

### DENTAL HEALTHCARE PERSONNEL

What does this have to do with dental healthcare personnel (DHCP)? We do not work in hospitals, usually. We work in our own dental facilities with rarely large numbers of staff. We do not work on sick people do we? What is all the fuss about? Well, remember that our own CDC Guidelines for Infection Control in Dental Healthcare Settings, 2003 recommend the same immunizations for DHCP as is recommended for healthcare workers in general. Flu is a respiratory disease that can easily be spread

in a dental office. We work on the oral cavity up close and personal and virtually all mechanical dental instrumentation in the operatory can easily spread flu-containing aerosols to other patients and staff. A patient who presents with active signs of a respiratory illness should be rescheduled when no longer symptomatic.

### THE INFAMOUS DR. WAKEFIELD

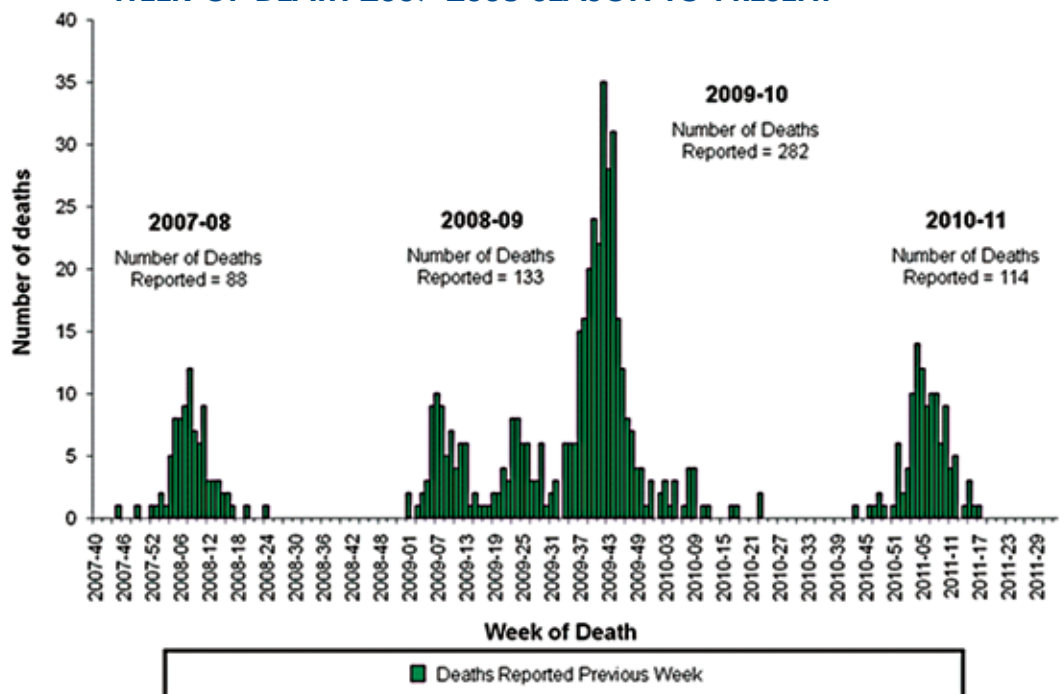
Let me introduce you to a man who has caused considerable chaos in the field of public health immunization practices. Andrew Wakefield, a British Surgeon and medical researcher published a study of 12 children in the Lancet medical journal in 1998, linking the Measles, Mumps and Rubella (MMR) vaccination with autism and bowel disorders. When one understands how to analyze epidemiological research, one looks for the methods used and the number of subjects analyzed. With only 12 children in this study, many of us in Infection Prevention circles questioned the power of this manuscript. However, the Lancet is a well-respected journal so it gave us pause. When this research was publicized immunization rates for children fell drastically in Britain, and when word spread to the US, many parents here withheld immunizations from their children. Millions of people were made aware of this study and many believed it. This led to outbreaks of measles and mumps, vaccine preventable diseases that were close to being eliminated in these countries. It has now been proven that the research

#### AUTHOR'S NOTE:

*Earlier this year I explained to Kevin Earle, AzDA Executive Director and Dr. Rob Roda, Editor of Incriptions that there was not much new in dental infection prevention and control that I have not already covered in my previous articles. There are some new ways to help us carry out our mission, but the guidelines remain the same. Having said that, the Centers for Disease Control and Prevention (CDC) is in the process of updating the dental guidelines last revised in 2003. I do not expect big changes, just fine tuning.*

*So what is the problem? All is well; right? Well, no. Not everyone is following the current guidelines appropriately so our patients and staff remain at risk to infectious disease transmission. This month's topic is a prime example.*

**NUMBER OF INFLUENZA - ASSOCIATED PEDIATRIC DEATHS BY WEEK OF DEATH 2007-2008 SEASON TO PRESENT**



of Dr. Wakefield was deeply flawed. Some of the children had symptoms before the vaccinations and Wakefield was accused of being paid by lawyers that later sued the vaccine manufacturers. Other scientists could not duplicate Wakefield's study and much of his research was discredited as being fraudulent. Of the initial 13 authors on the paper, 10 renounced the study's conclusion, the three that did not, including Wakefield, were stripped of their medical licenses in Britain. Last year, the Lancet formally retracted Wakefield's study. Countless studies involving thousands of subjects have since debunked the myth that links immunizations to autism. But the damage continues. To this day, people remember and question the safety of MMR immunizations. In Britain, the levels of MMR immunizations are finally starting to recover since Wakefield's study was first published but outbreaks of measles continue. In addition, the safety of other vaccines continues to be questioned, including the influenza vaccination.

### RESEARCH PROVES VACCINES SAFE

Researchers continue to lay our fears to rest. If only we can get enough people to listen. Recent research such as a new study by the CDC has shown that vac-

cines and immunoglobulins that contain thimerosal do not increase the risk for autism spectrum disorder (ASD) in prenatal and infant exposure.



When I work with dental practices, the first thing I do when I get the whole staff together is to review their immunizations.

This year, in a related study, the Institute of Medicine (IOM), the health arm of the National Academy of Sciences, published a report that after an analysis of over 1000 research articles by respected scientists, it concluded that vaccines cause few health problems and there are no links between autism and other serious conditions such as type1 diabetes.

A joint report by the CDC and U.S. Food and Drug Administration (FDA) reviewed 82 million flu vaccinations for this past flu season, only 10,085 adverse effects were reported and of those events, 93% were considered not serious i.e.: soreness of the arms. Of the classification of serous health events, 48 deaths occurred but there was no suggestion of a causal relationship (a link) between the vaccine and the deaths.

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Flagstaff, AZ



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## WHO IS NOT GETTING VACCINATED?

**Children:** In an editorial in our own Arizona Republic on September 3rd, this year, Dr. Arturo Gonzalez, a pediatrician and current President of the Arizona Chapter of the American Academy of Pediatrics tells us that in our state only 76.4 percent of children receive the recommended vaccinations well below the desired 90% level of the CDC. The World Health Organization says that 95 per cent of children need to be vaccinated to ensure herd immunity. On a historical note, at the beginning of the 20th century there were approximately 100 deaths per 1000 infants in their first year of life. Medical advances including vaccines reduced that number to 7.2 per 1000 live births by the year 1999. Let's not go backwards.

**Healthcare Personnel:** In a national study of 1,931 HCP, the influenza vaccination coverage among all HCP for the 2010/2011 season averaged 63.5 percent: Physicians, 84% while nurses were only 70%. But when required by their employer, almost all got their flu vaccination.

**Dental Healthcare Personnel:** I do not have any statistics to quote for you but in my own experience it has been a battle to convince DHCP to get the flu vaccine each year. When I work with dental practices, the first thing I do when I get the whole staff together is to review their immunizations. They have to record their immunization history then we discuss each group of vaccinations. I do not recall a single practice in which all of the staff agreed to get their flu vaccine. And yes, there are always questions about vaccine safety. In a small practice, when a staff member is out for approximately two weeks recovering from the flu, it can put an undue burden on the rest of the staff. In addition, if the unvaccinated staff member gets the flu and transmits it to an immunocompromised patient, it can cause severe illness and perhaps even death. If you can achieve close to 100 percent compliance by requiring your staff to be vaccinated (yes, pay for it), you are successfully dealing with a risk management issue.

## TWO TYPES OF INFLUENZA VACCINE

**Inactivated Influenza Vaccine:** The flu shot contains a killed virus solution and is given by injection with a needle. You cannot get flu from the shot, but there are other conditions such as an egg allergy or if you have had Guillain-Barre Syndrome that may be contraindicated. You will be asked medical questions at the time of immunization and will be advised to consult with your physician if necessary. I was surprised to learn that even an egg allergy may not deter influenza immunization. Several documents

have been recently published to provide guidance to determine if a person with an egg allergy may be safely given the flu shot. Read more facts about the shots at <http://www.cdc.gov/vaccines/pubs/vis/downloads/vis-flu.pdf>.

**Live, Intranasal Influenza Vaccine:** There is a nasal spray that contains the flu vaccine that is available for healthy people ages 2 through 49. The nasal spray vaccine contains a live attenuated (weakened) virus. There are many variables to consider before receiving this type of vaccine delivery so it is best to consult with your physician before considering this route. I personally recommend the shot as it is much safer. However, we do have healthy individuals that are very fearful of shots that would benefit from the spray, thus providing protection for themselves and others. For more facts about the nasal spray go to <http://www.cdc.gov/vaccines/pubs/vis/downloads/vis-flulive.pdf>.



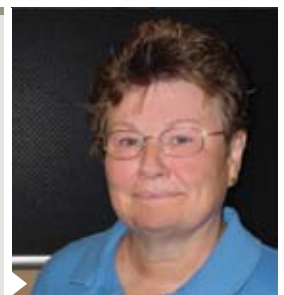
You cannot get the flu from a flu shot. The shot contains a killed virus.

## WHEN TO VACCINATE?

**Question:** When should you get the vaccine?

**Answer:** As soon as it becomes available. The influenza vaccine has been available since the end of August. It is now October and you should have gotten one by now or plan to get one as soon as possible. It is not hard to do; advise your patients too. There are abundant flu shot clinics held in our grocery stores and pharmacies. The vaccination should last you about a year. The fall is the best time to get vaccinated. I've got mine. Get yours. Do it now. Don't wait. Do it!

Kay Carl is board certified in infection control and epidemiology. She has over 35 yrs experience in infection control and has worked in collaboration with AzDA since 1991 to provide CE in OSHA, infectious diseases and infection control. She is a prolific contributing author and editor for various industry print and electronic media.



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