

EFFECTIVE Infection PREVENTION



Indiana State
Department of Health



The old, the new and what's true

The outbreaks of SARS in Toronto in 2003, monkeypox in the Midwest in 2003 and measles in Indiana in 2005 remind us that oceans no longer isolate us from the rest of the world.

Through public awareness, healthy habits, research and effective health care, the prevention and control of infectious disease is possible.



Fight infectious disease with good habits and knowledge

As a physician, treatment of infections is a mainstay of medical practice. However, physicians are not the only ones who play a critical role in infection prevention: Everyone has a role.

Women are usually the first teachers and promoters of infection prevention in the family. From teaching children how and when to wash their hands to properly preparing food to disinfecting the home, women model behaviors children and others can follow. In addition, women generally care for those who are ill in the home, and knowing how to care for illnesses and seek health care advice is extremely important.

The world of infectious diseases is changing. Disease organisms change to cause new infections. Other infections we thought were conquered have returned. Antibiotics are no longer “magic bullets” due to improper and overuse.

But, we still have effective weapons against infectious diseases. The tried-and-true practices we learned from our mothers, such as hand washing, staying home when you are ill and covering your mouth when you cough or sneeze, are as important as ever. Immunizations remain a top weapon in fighting infectious disease. Accurate, scientifically sound health information also is critical.

Not all health-related information is created equal, and knowing accurate health information can make a big difference. And, nature has armed us with our body’s own defensive force: a powerful immune system. Keeping your immune system healthy is our first line of defense against infections.

By practicing and modeling infection-fighting habits, getting the right information and keeping ourselves healthy, everyone can prevent and control the spread of infection.

Judy Monroe, M.D.
State Health Commissioner

Preventing Infection

How much do you really know?

We live in the information age. We have more information on every topic — from sports teams and celebrities to climate change and health. But what do you know about infection prevention? Take our true/false quiz and find out. The answers can be found on page 58.

1. True or False: Feed a cold, starve a fever.
2. True or False: Individuals with the flu are only contagious when they are coughing and sneezing.
3. True or False: You can get influenza, or flu, from getting flu vaccine.
4. True or False: Stomach flu is a type of influenza.
5. True or False: Lice fly or jump from person to person.
6. True or False: You can catch a cold by going outside in cold temperatures without a hat.
7. True or False: Adults don’t need immunizations unless they are traveling outside the country.
8. True or False: Any infection can be treated with the right antibiotic.
9. True or False: Mosquitoes only transmit disease in tropical countries.
10. True or False: Washing your hands regularly is the number one way to prevent infection.

More information and health facts can be found throughout this special focus piece on infection prevention.

Worth Researching

Check out these reliable sources to help you address common questions on infection prevention.

> “The 7 Kid’s Health Myths Every Mother Should Ignore” by CNN Health. Log on www.cnn.com/2006/HEALTH/parenting/12/07/par.sick.myths/index.html.

> “Questions and Answers: Seasonal Flu Shot,” Centers for Disease Control and Prevention. Log on www.cdc.gov/flu/about/qa/flushot.htm.

> “Medical Myths Debunked” by Jean Lawrence. Log on www.medicinenet.com/script/main/art.asp?articlekey=46642

> “Clean Hands Save Lives,” Centers for Disease Control and Prevention. Log on www.cdc.gov/cleanhands/.

> “Health Myths. Get the Facts,” Centers for Disease Control and Prevention. Log on www.cdc.gov/women/owh/myths/.



Shaping History

Infectious disease impacts world events

by Pam Pontones, MA, Director of Surveillance and Investigation, Indiana State Department of Health

Infectious diseases are all around us. From our attempts to ward off the flu with yearly shots to our awareness of the food we eat to the number of times a day we wash our hands, infectious diseases impact our lives.

Caused by bacteria, viruses, fungi and parasites, references to ancient scourges, such as leprosy and smallpox, can be found in sacred texts, myths and art. Evidence of infectious diseases has been found in mummified remains.

Infectious diseases have shaped the course of history. They include plague epidemics that swept medieval Europe; smallpox outbreaks that wiped out native communities following the discovery of the New World; and the influenza pandemic of 1918-19 that greatly affected World War I battles.

The 20th century saw great advancements to reduce the impact of infectious diseases such as mass vaccination, sanitation improvements, and the discovery and development of antibiotics. The rates of death and illnesses due to infectious diseases declined sharply.

However, in the last two decades of the 20th century, that trend has changed. New diseases, such as AIDS, and the re-emergence of "old" diseases, such as tuberculosis, have appeared and continue to spread. The development of antibiotic resistance poses a significant challenge for treatment of bacterial infections that for many years had been easily treated.

Other challenges with infectious diseases also exist. Although smallpox was eradicated and plague infections in humans are extremely rare, the threat of widespread transmission exists with bioterrorism.

The outbreaks of SARS in Toronto in 2003, monkeypox in the Midwest in 2003 and measles in Indiana in 2005 remind us that oceans no longer isolate us from the rest of the world.

Through air transportation, you are 24 hours away from any infectious disease on earth. Multi-state outbreaks relating to food contamination and the likelihood of an influenza pandemic also remind us that infectious diseases are ever present.

Infectious diseases and the possibilities of devastating effects are frightening. However, we do have several potent weapons against them, which are described in the next several pages. We cannot live in fear, and we cannot live in denial.

Armed with a healthy respect for infectious diseases and the measures to prevent them, however, we can lessen their impact. □

Historical Disease Remains a Threat

More than 10 million people in the U.S. have latent tuberculosis

by Tina Feaster, Tuberculosis Epidemiologist, Indiana State Department of Health



More than 100 years ago, tuberculosis was the leading cause of death in all age groups in the United States. It was estimated the tuberculosis bacillus infected 80 percent to 90 percent of the population at that time.

Although many people may not be aware of it, the threat of TB remains alive. Nearly one-third of the world's population is infected with TB, according to the Centers for Disease Control and Prevention. In an increasingly global society, the chance of being infected by TB is still possible.

TB is transmitted through droplets released when people cough, speak or sing. These germs can float in the air for several hours, depending on the environment. TB bacteria then enter the lungs, but in most people with healthy immune systems, the bacteria simply remain dormant. This is called latent tuberculosis infection.

People with the latent infection don't feel sick and are not infectious. Dr. Richard Kohler, medical advisor for the Indiana State Department of Health's TB program, says TB bacteria can remain dormant but alive in our bodies for years, only to awaken and cause disease when we become vulnerable.

If not treated, active TB can be deadly. In 2005, 1.6 million people worldwide died from TB.

The greatest risk for LTBI to become active occurs within the first two years after infection. The greatest risk for LTBI to progress is to also be infected with HIV or when other conditions that weaken the immune system are present. Other high-risk factors include becoming infected with LTBI in infancy or early childhood, diabetes, abnormal chest X-rays and treatment with medicines to suppress our immune systems, like steroids.

Fortunately, LTBI can be detected through skin and blood testing, and active disease can be prevented. Treatment typically includes a nine-month course of the antibiotic Isoniazid. Active infection requires additional antibiotics, and the treatment must be carefully followed. See your health care provider if you think you may have been exposed to TB.

The spread of LTBI can be stopped. Become an active participant in your own health care, and take antibiotics appropriately. Treating LTBI prevents active TB disease from occurring. □



Amazing Antibiotics

Experts debate whether the wonder drug is overused

by Jean Svendsen RN, BS, Chief Nurse Consultant,
Indiana State Department of Health

Despite the amazing healing power of antibiotics, they're not magic bullets for all illnesses. Antibiotics are only effective against bacterial infections, such as strep throat, ear infections and sinus infections. They do not cure viral infections, such as the common cold, most sore throats and influenza.

Improper use of antibiotics can lead to resistance in bacteria, making antibiotics ineffective.

Penicillin was the first "miracle" drug to drastically change the treatment of bacterial diseases. Antibiotics became widely used in 1940s and have greatly reduced illness and death caused by bacterial infections.

Today, there are many forms of antibiotics, each designed to work against a specific type of bacteria. However, this same widespread antibiotic use also has created a major public health threat of antibiotic resistance.

Over the past decade, the number of bacteria resistant to antibiotics has increased. Each time a person takes antibiotics, sensitive bacteria are killed, but resistant germs may become stronger and less responsive to antibiotics and can spread quickly to others.

Antibiotic resistance occurs when bacteria change in a way that reduces or eliminates the effectiveness of antibiotics. These resistant bacteria survive and multiply, creating new strains of bacteria that are more difficult to cure and more expensive to treat. In some cases, these illnesses can lead to serious disability or death.

Repeated and improper uses of antibiotics are the primary causes for the increase in antibiotic resistant bacteria.

To prevent resistance, follow these simple guidelines:

- > Do not demand an antibiotic when your health care provider has determined one is not needed — such as for a viral infection.

- > Do not share or take another's antibiotic. That antibiotic may not be appropriate for your infection.

- > Take antibiotics exactly as your health care provider has prescribed.

- > Finish taking all of your medication. You may begin to feel better before the antibiotics kill all the bacteria.

- > Viral infections may lead to bacterial infections. If an illness becomes worse or does not improve over time, contact your health care provider. Even healthy people who have never taken antibiotics can become infected with antibiotic resistant bacteria from others. Avoiding close contact with others who are ill and properly washing your hands can reduce the risk for viral and bacterial infections.

Further information about the proper use of antibiotics is provided by the CDC's Get Smart: Know When Antibiotics Work campaign at www.cdc.gov/drugresistance/community/ or the Indiana Coalition for Antibiotic Resistance Education Strategies (ICARES) program at www.icares.org. □



Health Check

Make sure medical centers aren't putting you at risk for infection



by Sara Sczesny,
MT (ASCP), graduate
student intern,
Indiana State
Department of Health

The places you visit for trusted health care — including the doctor's office or the hospital — also may be the places where you can get sick.

One of the most common risks associated with receiving health care services is an infection. These health care-associated infections can occur in any health care setting. It is estimated 2 million HAIs occur each year in the United States — affecting about one out of every 150 people, according to *Advanced Practice in Acute Critical Care*.

HAIs are most commonly caused by bacteria, and the most common HAIs are lower respiratory and urinary tract infections. Skin and blood infections also may occur.

Young children and the elderly are at greater risk since they have weaker immune systems. However, all patients are at risk. Antibiotic resistance has become a greater



Understanding MRSA

With the infection becoming a new household word, families' fears of the bacteria are heightened

by Jean Svendsen, RN, Chief Nurse Consultant, Indiana State Department of Health

Schools and facilities closed for disinfection. Sporting events cancelled. Worried school officials and concerned parents. What is MRSA all about? Here are some facts to help you understand these bacteria.

> Contact with contaminated objects or surfaces like towels, razors, soap, bedding, wound bandages and athletic equipment.

> Picking at wounds or skin lesions with fingers.

> Poor hand hygiene.

What is MRSA?

Staphylococcus aureus is a common bacterium found on the skin in the armpit, groin, and nose of about 30 percent of people. Normally, these bacteria do not cause illness. If these bacteria enter the body through a skin break, they can cause localized skin infections like pimples and boils. These infections are generally minor and easily treated with antibiotics. Rarely, staph bacteria can cause serious, even fatal, infections, if the bacteria enter the bloodstream or infect a major body organ.

Methicillin-resistant Staph aureus (MRSA) is a type of Staph aureus bacteria that had developed resistance to the antibiotic methicillin and usually several other antibiotics. This resistance makes MRSA infections more difficult to treat.

A small percentage of the population also carries MRSA on the skin or in the nose. Most MRSA infections are localized skin infections that are treatable with appropriate antibiotics. Rarely MRSA bacteria may cause serious or fatal infections if the bacteria enter the bloodstream or infect a major body organ.

MRSA is not a new infection, nor is it specific to Indiana. However, the occurrence of health care- and community-acquired strains of resistant bacteria is an increasing problem, particularly among hospitalized patients with MRSA skin and soft tissue infections that requires effective and timely treatment.

How is MRSA spread?

> Direct skin contact with an infected person — wound pus or drainage is very infectious.

How is MRSA treated?

Generally, MRSA infections are treatable with the appropriate antibiotics. Your health care provider will decide which antibiotic is appropriate for you. Through clinical studies, more effective treatments for antibiotic resistant diseases continue to be discovered.

How is MRSA prevented?

Prevention is important and easy. Proper prevention at all times can help decrease the incidence of MRSA infections.

Practice frequent and appropriate hand hygiene. Alcohol-based hand sanitizers should be readily available in addition to functional hand-washing facilities. Parents, school officials and coaches should practice and encourage frequent hand hygiene.

Keep open areas on the skin covered with a waterproof or impermeable bandage. Do not touch another person's bandages or open skin areas. Do not share personal hygiene items like soap, towels, deodorant and clothing.

Practice prompt effective wound care. Wash all wounds thoroughly with soap and water; apply an antiseptic and a waterproof bandage. Deep wounds, like cuts, puncture wounds and human or animal bites, require prompt medical attention. You may receive a tetanus shot if the wound was dirty or if more than five years have passed since your last tetanus shot.

See your health care provider immediately if you notice wounds or skin breaks that are red, swollen, painful or draining. Students, including athletes, who notice these wounds at school, should immediately report them to the school nurse or athletic coach. □

problem with some hospital-acquired infections, making them more difficult to treat.

Getting proper care means consumers must be aware of their options; able to effectively communicate their symptoms, concerns and health care needs; ask good questions; and just as importantly, ensure proper health care etiquette is practiced where they are treated.

Something as simple as a proper hand-washing technique has a direct effect on your ability to get healthy — and stay healthy — while being treated by your health care provider. To reduce your risk of getting a health care associated infection or HAI, it is OK to ask your health care providers about their hand hygiene policies and whether they washed their hands before beginning your procedure.

The best way for health care providers to prevent HAIs is to use proper hand hygiene, which includes the use of alcohol-based hand sanitizers and proper hand washing.

Health care providers should use alcohol-based hand sanitizer when hands are not visibly soiled, and they should wash hands when hands are soiled and before and after each use of gloves. Properly washing hands includes wetting the hands, applying soap and rubbing hands vigorously for 15 seconds, rinsing and then drying hands thoroughly. □



Don't Get Caught Dirty Handed

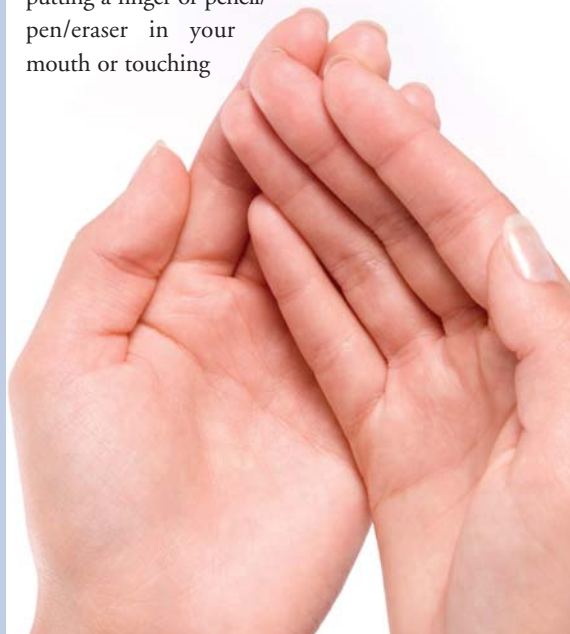
Make sure you're using proper hand-washing techniques

*by Shawn Richards, BS,
Respiratory Epidemiologist,
Indiana State Department of Health*

In a hurry-up world, taking time to wash your hands often and properly remains the single most effective means of ridding yourself of the germs that can cause you to pick up an infection.

The common cold, influenza, ear infections, strep throat and other diseases all can be spread because of unwashed or improperly washed hands. So, clean up your act, and consciously take time to effectively clean germs from your hands for better health.

Your hands pick up bacteria, viruses and other germs when you touch surfaces, and these germs can stay on your hands. When you put your hands in your mouth by eating, putting a finger or pencil/pen/eraser in your mouth or touching



Nothing to Sneeze At

Learn the rules of etiquette for the sick

*by Shawn Richards, BS, Respiratory Disease Epidemiologist,
Indiana State Department of Health*



There's nothing like being on an airplane or in an elevator with someone who is sneezing, coughing, feverish and just plain sick.

You are an innocent bystander now susceptible to respiratory illnesses like colds and flu that can be spread person to person through droplets released when others cough or sneeze. These droplets move through the air, and then we inhale them through our mouths or noses, especially when we are in confined spaces. Germs also can be spread when you touch contaminated surfaces like elevator buttons, desktops or the handy pens at the grocery store.

When you touch your own eyes, mouth or nose before washing hands, these droplets can infect you with myriad illnesses. Some viruses and bacteria even can live two hours or longer on surfaces like cafeteria tables, doorknobs, telephone and desks.

To avoid illnesses like colds and flu, follow these simple tips:

Avoid close contact. Stay away from people who are sick. If you're sick, keep your distance from others to protect them from getting sick.

Stay home when you are sick, especially if you have a fever. In some cases, it's against Indiana law to go to work with a fever or other symptoms. Many schools and child care providers have policies restricting those who

are ill from attending.

Cover your mouth and nose. Use the bend of your elbow or upper sleeve to cover your mouth and nose when sneezing or coughing. You trap more germs by completely covering your nose and mouth to absorb the droplets that naturally flow downward after your sneeze or cough. If you use tissues, throw them away immediately. Do not use cloth handkerchiefs.

Clean your hands. Washing your hands often will help protect you from germs. Use soap and running water, but if it is not available, an alcohol-based hand sanitizer can be effective against some germs. Wash your hands long enough to sing "Happy Birthday" twice.

Avoid touching your eyes, nose or mouth. Germs often are spread when a person touches something contaminated, then touches his or her eyes, nose or mouth where germs can enter the body. Wash your hands before touching your eyes, nose or mouth.

For resources you can download, go to the Centers for Disease Control Web site at www.cdc.gov and conduct a search for:

Cover Your Cough (English and Spanish versions); Be a Germ Stopper: Healthy Habits Keep You Well; Flu Prevention Toolkit; Real People, Real Solutions; and Stopping the Spread of Germs at Home, Work and School. □



your teeth; your eyes by wiping them or leaning on your hand; your nose by wiping or scratching; and even your ears, these germs can enter your body and make you sick.

Many diarrheal illnesses can be spread from person to person by individuals who don't wash their hands after using the toilet or diapering children.

Wash your hands correctly, and send those germs down the drain!

Hand washing is so important to disease prevention that the Indiana State Department of Health has developed a Web site exclusively for hand-washing information.

For information for kids, including games, songs and science experiments, information and guidance for adults, and scientific studies and educational materials for health care workers, log on www.in.gov/isdh/programs/hand_washing/images/handwashing_campaign/handwashing. □

To properly wash your hands:

- > Wet hands with running water.
- > Lather hands with soap.
- > Wash the palms, back of hands, between fingers and under fingernails for at least 20 seconds (about the time it takes to sing "Happy Birthday" twice).
- > Rinse hands with running water.
- > Pat hands dry, beginning at the wrist and moving downward.
- > Cover the faucet handle(s) with a paper towel to turn off the water.
- > If possible, use the same paper towel to open the bathroom door and dispose of towel immediately.

Keep Your House Healthy

A few steps go a long way in preventing the spread of illness

by Jean Svendsen, RN, BS, Chief Nurse Consultant, Indiana State Department of Health

A healthy home means an informed family will make sure each member's well-being is a priority.

Each person can play an important role in keeping the family healthy. For example, when someone becomes ill with an infection, a sibling or parent can remind the others to wash their hands frequently and follow other guidelines to keep infection from spreading.

Keeping a clean home also creates a healthier home.

Since germs can be transmitted on personal items, it's important to refrain from sharing items such as toothbrushes, razors, deodorant, drinking or eating utensils, towels and washcloths.

Keeping a clean home also creates a healthier home. You can eliminate germs by disinfecting frequently touched hard surfaces within your home such as light switches, doorknobs, phones, sinks, toilets and kitchen counters. Use a product that is designed to kill a broad spectrum of harmful bacteria, such as staph and salmonella, and

viruses such as influenza). Follow the label directions on the disinfectant.

Cuts and minor injuries

Keep infections at bay by properly treating wounds and scrapes. A few healthy habits can help them heal faster without becoming infected.

Any break in your skin provides a route for germs to enter your body and cause an infection. Before and after cleaning a wound or changing a bandage, wash your hands.

For surface wounds, like scrapes, abrasions and minor cuts, thoroughly wash the injured area with cool water to remove dirt and debris. You can hold the wound under running water. Use soap and a soft washcloth to clean the skin around the wound. Then apply a sterile bandage.

Deeper wounds such as deep cuts, puncture wounds, and human or animal bites require prompt medical attention.

You may receive a tetanus shot if the wound was dirty or if more than five years have passed since your last tetanus shot. If you see signs of infection — such as redness around the wound, red streaks extending from the wound, swelling or yellowish drainage — see your health care provider right away. □

All About Influenza

Arm yourself and your family against infection

by Shawn Richards, BS, Respiratory Disease Epidemiologist, Indiana State Department of Health

Q: What is the flu?

A: The flu is an infection of the nose, throat and lungs that is caused by influenza viruses. Influenza spreads from person to person through droplets released when someone sneezes or coughs and someone else breathes in these droplets.

Q: What are the symptoms of the flu?

A: Most people with the flu feel tired and have a fever, headache, dry cough, sore throat, runny or stuffy nose and sore muscles. Some people, especially children, also may have stomach problems and diarrhea. The cough can last two or more weeks. Most people with the flu feel sick for about a week. However, some people — especially young children, pregnant women, older people and people with chronic health problems — can get very sick, and some can die.

Q: How long can a sick person spread the flu to others?

A: Most healthy adults may be able to spread the flu from one day before getting sick to up to five days after getting sick. This can be longer in children and in people who don't fight disease as well, such as those with weakened immune systems.

Q: How can I protect myself and my child from the flu?

A: A flu vaccine is the best way to protect against the flu. The CDC recommends all children from the ages 6 months to 5 years get a flu vaccine every fall or winter. Children getting a vaccine for the first time need two doses.

Flu shots can be given to children 6 months and older.

Nasal-spray vaccine can be given to healthy children 2 years and older.

Children under 5 years old who have had wheezing in the past year or a child with

chronic health problems should get the flu shot.

You can protect your child by getting a flu vaccine for yourself too. Also encourage your child's close contacts to get the flu vaccine. This is very important if your child is younger than 5 years old or has a chronic health problem like asthma (a breathing disease) or diabetes.

Q: What can I do if I or my child gets sick?

A: Consult your doctor and make sure your child gets plenty of rest and drinks a lot of fluids. If your child is older than 2 years, you can buy medicine without a prescription that might make your child feel better. Be careful with these medicines and follow the instructions on the package. Never give aspirin or medicine that has aspirin in it to children or teenagers who may have the flu.

Q: Should my child go to school or I go to work if sick?

A: No. People should stay home to rest and to avoid giving the flu to others.

Q: When can my child go back to school or I go to work after having the flu?

A: Stay home until your temperature has been normal for 24 hours. Remind children to cover their mouths when coughing or sneezing to protect others. You may want to send some tissue and wipes or gels with alcohol in them to school or take them to work, if policy permits. Wash your hands well.

Call your health care provider if the following signs or symptoms develop:

- > High fever or fever that lasts a long time
- > Trouble breathing or rapid, shallow breathing
- > Skin that looks blue
- > Not drinking or eating enough
- > Confusion, difficulty waking up or seizures (uncontrolled shaking)
- > Symptoms improve but then worsen □



Smoking and Influenza

If you are thinking about quitting smoking, today is the time to take the appropriate steps to do so.

> Some research studies show an increase in influenza infections among smokers compared to nonsmokers.

> There is a higher mortality rate for smokers than nonsmokers from influenza.

Additional respiratory health consequences:

> Smoking is related to chronic coughing and wheezing among adults and children, and chronic bronchitis and emphysema among adults.

> Smokers are more likely than nonsmokers to have upper and lower respiratory tract infections, perhaps because smoking suppresses immune function.

> Within 20 minutes after you smoke that last cigarette, your body begins a series of positive changes that continue for years.

“When children in this country were dying from diseases such as measles and whooping cough, it was easy for parents to see the benefits of vaccination. We have done such a good job reducing the burden of vaccine-preventable diseases that — to some people — the risk doesn’t seem real any longer. The potential risk of side effects from immunization may seem larger than the real risk of disease.” — *Joan M. Duuvve, MD, MPH, Medical Director for Immunization and Injury at the Indiana State Department of Health*



Preventing Diseases

Immunizations provide a first line of defense for your family

by *Karee Buffin, MS, Vaccine Preventable Disease Epidemiologist, and David L. Ellsworth, M.Ed., Public Health Investigator, Indiana State Department of Health*



In 1980, the World Health Organization declared smallpox — an often fatal and disfiguring disease — had been eradicated from the globe.

This historic achievement was accomplished through aggressive, worldwide vaccination campaigns. Just one or two generations before, images of disabled children and a United States president affected by smallpox were common.

Through immunization, polio has been eliminated from all but a few countries, making leg braces and iron lungs distant memories.

In 2002, more than 500,000 deaths due to measles were reported worldwide, according to WHO. That same year, due to routine childhood vaccination, only 41 cases of measles were reported in the United States. Two of those cases occurred in Indiana, and there were no deaths.

Despite these successes, concern over the safety of vaccines has been a topic of debate during recent years. In the United States, more than 10 million vaccinations per year are given to children under age 1. Though there are risks associated with the administration of any medication, adverse events from immunizations are rare, and severe reactions are even less common.

The mechanism responsible for monitoring injury or illness following vaccination is

called the Vaccine Adverse Event Reporting System, or VAERS.

From 1991 to 2001, more than 1.9 billion vaccines were distributed in the United States. VAERS reported the total adverse events following immunization were significantly less than 1 percent of the total vaccines distributed during this 10-year period. The most common adverse reaction reported following a vaccination was fever, according to *Morbidity and Mortality Weekly Report*.

Though factual data exists on the devastating impact of vaccine-preventable diseases, many people are influenced by often misleading information that produces unnecessary fear of immunizations. As a result, they avoid getting the recommended vaccinations.

Recent history shows the impact of decreased vaccinations. A 2005 measles outbreak in Indiana raised awareness for many about the need to be protected through immunization. Within four weeks, 34 cases were identified, and three of these individuals were hospitalized. One required mechanical ventilation. The outbreak was traced to an unvaccinated individual who was exposed to measles while traveling overseas.

The goal of public health is eliminating disease. One of the best weapons to prevent disease is vaccination. □

Quiz Answers

(from page 52)

1. False. You very much need liquids and nutrients in order to get well, regardless of whether you have a cold, fever, or other symptoms.

2. False. Influenza is spread through the mucous droplets released during coughing and sneezing. However, people are actually infectious 24 to 48 hours before they show active symptoms.

3. False. You cannot catch the flu from receiving flu vaccine. Injectable flu vaccine contains killed virus, and nasal mist vaccines contained very weakened virus. Neither can cause influenza.

4. False. “Stomach flu” is not influenza, which is a respiratory illness characterized by fever, sore throat, cough, and muscle aches. “Stomach flu” is actually viral gastroenteritis, characterized by nausea, diarrhea and vomiting.

5. False. Lice are neither able to fly nor jump, but they can crawl. They are spread by head-to-head contact and sometimes by shared combs and hats.

6. False. Viruses cause colds, not cold air. This myth likely started because viruses are more active during winter — making it more likely for a person to be exposed to cold air and wind.

7. False. Far too many adults become ill, are disabled, and die each year from diseases that could easily have been prevented by vaccines, such as influenza. Immunized adults are also less likely to pass illnesses to children.

8. False. Only bacterial infections can be treated with antibiotics. Viral infections cannot be treated with antibiotics. Use of antibiotics to treat viral infections can encourage antibiotic resistance.

9. False. In Indiana, mosquitoes can transmit several types of viral encephalitis. It is important to protect yourself from mosquito bites when mosquitos are active.

10. True. Keeping hands clean is one of the most important steps we can take to avoid getting sick and spreading germs to others.



Stomach Woes

Tiny culprits can cause big problems with your digestive system

Norovirus and its notorious cousins are stomach viruses causing up to 23 million cases of infectious diarrhea and vomiting in the United States.

Most people refer to these illnesses as “stomach flu,” which is a misnomer. Influenza or “the flu” is a respiratory illness characterized by coughing, sore throat and fever and is caused by different viruses. By contrast, stomach viruses or viral gastroenteritis cause vomiting and diarrhea.

Although you may feel horrible, viral gastroenteritis rarely causes complications. Symptoms, mainly nausea, vomiting and diarrhea, begin 12 to 72 hours after exposure and last 24 to 48 hours. While there is no cure for viral gastroenteritis, adequate hydration is important, especially for the very young and the elderly.

People may be able to transmit stomach viruses up to two weeks after symptoms stop. It’s important to take measures to control the spread of the illness.

Stomach viruses can be transmitted through contaminated food, contaminated surfaces and person-to-person contact with someone who is ill. So before you blame the food, consider the people around you with similar symptoms. These viruses are very hardy and contagious — commonly passed throughout entire groups of people, like households, child care centers, schools and cruise ships. Here are some tips to avoid passing around these viruses:

- > Wash your hands. It’s been said many times, but it bears repeating. Clean your hands often with soap and warm water, especially after using the restroom, diapering a child, assisting someone who is ill and cleaning soiled areas.

- > Do not share food or beverages.

- > Do not go to work or send children to school or daycare while ill.

- > Clean hard, nonporous surfaces that are contaminated with a bleach solution made with one cup of bleach and one gallon of water. — *L.G.*



Sickening Food

Unwanted organisms at the dinner table often cause outbreaks

by Lynae Granzow, MPH, Enteric Epidemiologist, Indiana State Department of Health

Salmonella in peanut butter. E. coli in spinach. Botulism in chili sauce. These outbreaks remind us foods not only nourish us but also can make us sick. The Centers for Disease Control and Prevention estimates 76 million cases of foodborne illness — representing one out of every four people — occur in the United States each year, with more than 1,200 cases identified each year in Indiana.

Many organisms can cause foodborne illnesses, some of which are merely a nuisance, and others, like botulism, which can be deadly. Contrary to popular belief, foodborne illness almost never is caused by the last meal eaten. Instead, it’s usually the meal you had two to seven days ago, often making it difficult to determine which food was the culprit.

Recent news coverage of foodborne outbreaks might suggest more outbreaks are occurring. However, much of the reason for the increase of identified outbreaks is better technology, communication and investigation practices.

Though outbreaks involving common commercial food items are the most alarming, many outbreaks also are associated with restaurants, caterers, schools and even home-prepared foods.

If you suspect you may have a foodborne illness, contact your health care provider and request stool testing to determine the cause. Symptoms of foodborne illness, such as diarrhea and vomiting, are common to many

diseases. Also, contact your local health department to report a foodborne complaint or outbreak. Your information may make the difference in identifying a foodborne outbreak.

Though the United States has one of the safest food supplies in the world, responsibility also lies with the consumer. Follow these food safety tips to prevent foodborne illness:

- > Wash your hands thoroughly before and after preparing food. Do not prepare food for others if you are ill with diarrhea or vomiting. Many foodborne illnesses can easily be passed to others.

- > Thaw frozen foods in the refrigerator instead of at room temperature.

- > Separate uncooked foods from ready-to-eat foods and cooked foods to avoid cross-contamination. Use separate equipment and utensils for handling raw and cooked foods.

- > Clean all produce before eating raw or cooking.

- > Cook to USDA-recommended safe minimum internal temperatures and check with a food thermometer.

- > Refrigerate food promptly in small containers to speed cooling.

- > Heed food recalls. Check your pantry, cabinets and emergency kits for recalled items and discard them appropriately. Inform others.

- > Check expiration dates of food items. Discard those that have expired.

- > Avoid unpasteurized dairy or juice products. □



Salmonella Scare

Megan Zaborowsky takes action to reduce future threat

by Deb Wezensky

As a mother to 3-year-old Mia, Megan Zaborowsky knows how to nurture and care for young children. Her ability to love and care for her daughter also makes her a natural for her calling as a teacher for Greenwood Community Schools.

Because of all her experience with children, Zaborowsky knows how to read the behavior of children so she can provide a setting in which they can be safe to grow and learn.

At times, however, it's challenging to discern what may be wrong with a child. This lesson hit home when her daughter came down with an unknown illness and had to be hospitalized for two days. Mia ran a high fever, followed by severe diarrhea and stomach cramping. Nothing seemed to help.

When the child's symptoms worsened, Zaborowsky took her daughter to the doctor at the St. Francis South campus. A stool culture was taken, and the doctor immediately had Mia admitted to the hospital. It was there that the diagnosis of salmonella was made.

With the help of the Indiana State Department of Health, Zaborowsky was able to determine the origin of infection. The business linked to the salmonella acknowledged responsibility and took the appropriate action to ensure this would not affect other customers in the future.

After two and half weeks, Mia was back to her usual active self.

Zaborowsky always has taken precautions to provide a clean and healthy environment for her family. However, after the experience of seeing her young child suffer from salmonella, she admits being more careful about her shopping habits. She is much more thorough in checking the dates and appearance of food items she purchases, as well as the overall cleanliness of where she shops. □



Travel Safely

Ensure you bring back nothing more than great memories

by Mike Wilkinson, BS, Hepatitis C Epidemiologist,
Indiana State Department of Health

The very nature of travel creates opportunities for surprises and often a change of plans that will be an unwelcome part your excursions. While traveling overseas can have its share of pitfalls, effective planning can keep you healthy so you can enjoy more of your travel time.

Overseas travelers have a 50 percent chance of suffering from a travel-related illness, mostly from gastrointestinal infections contracted from poorly cooked food or untreated water. Many diseases common in other countries are nonexistent or rare in the United States.

To increase your chances of staying healthy, there are precautions you can take that may not be a part of your routine health care. Several vaccines may be recommended — or required — four to six weeks prior to travel.

Typhoid fever, yellow fever and hepatitis A vaccine may be required or recommended for travel to some countries, even though they are not required here in the United States. Malaria, a mosquito-borne illness, is common in many parts of the world, especially Africa, South America and parts of Asia, and a preventive medication may be necessary.

Visiting an international travel clinic a few months before your scheduled trip overseas is a vital part of planning for your trip. Travel clinics provide health care services including vaccines, medication and information on overseas travel.

In addition to visiting a travel clinic, follow these tips when traveling overseas:

Consume safe food and water:

- > Don't buy food from street vendors.
- > Don't eat raw or undercooked meat or

shellfish.

- > Avoid using ice in drinks.
- > Don't eat raw fruits and vegetables you cannot peel yourself.
- > Don't drink or eat unpasteurized milk and dairy products.
- > Drink bottled water or canned beverages.

Avoid insect bites:

- > Use mosquito repellent with 30 percent DEET; follow instructions to use safely.
- > Apply a permethrin-containing repellent to clothes and bedding if staying outdoors.
- > Wear socks, long pants, a long-sleeve shirt and a hat during outdoor activities.
- > Use a bed net and screens if sleeping outside.

See your health care provider.

Make sure you are healthy enough to travel, that your routine vaccines are current and you have an adequate supply of prescription medications.

Check insurance coverage.

Make sure your medical insurance will cover you for overseas travel. Medicare will not cover you outside of the United States. Consider a supplemental health insurance policy.

Research Web resources.

Prepare for your trip by checking the following resources:

- > The Indiana State Department of Health, www.in.gov/isdh/programs/immunization/international_travel/travel_clinics.htm.
- > U.S. Department of State, Bureau of Consular Affairs, www.travel.state.gov. □

Head Lice

The itchy infestation spreads quickly without precautions



by *Wayne Staggs, MS, Invasive Disease Epidemiologist, Indiana State Department of Health*

Having head lice is an annoying problem that can cause severe itching and even loss of sleep. Though obnoxious, the good news is lice are not a serious health hazard.

Lice are actually small parasitic insects uniquely adapted to living on the scalp and neck hairs of human hosts. Head lice feed on the blood of their host at least once a day and cannot survive for more than a day at room temperature without access to a person's blood.

To clear up some common misconceptions about head lice, here are a few facts:

- > Lice do not spread between pets and people.

- > They are not known to transmit disease from person to person.

- > People with poor personal hygiene practices are not more likely to have lice.

Hats, brushes and other items that come in contact with your head or hair can transmit lice; hence, the increased possibility of your child coming into contact with lice at school. Lice also can spread through close physical contact, especially head-to-head contact.

Head lice can affect people of all ages and socioeconomic backgrounds. However, children are affected more often. Girls are more commonly affected than boys, and Caucasian children are more frequently affected than those of other ethnicities. About 6 million to 12 million children, ages 3 to 12, are infested with head lice each year.

Treatment of an active lice infestation relies on the proper use of over-the-counter and prescription medications. Consult with your health care provider or pharmacist to determine the treatment you should use. Additional actions to eradicate an infestation are:

- > Wash all bed linens, clothes and other items that the infested person has used. Use the hottest washer and dryer settings.

- > Thoroughly vacuum rugs, upholstered furniture and mattresses in the household.

- > Do not share hairbrushes, combs, hats or other personal items. □



Mysteriously Ill?

Disease detectives identify presence of outbreaks



by *Tom Duszynski, BS, REHS, Field Epidemiology Director, Indiana State Department of Health*

Disease detectives, officially known as epidemiologists, investigate a variety of events that affect our health. How is this important to you and your family?

Epidemiologists essentially are scientists who help maintain your health by investigating infectious disease outbreaks, such as influenza or foodborne illnesses. With their expertise, the goals are to effectively treat the disease and to reduce the number of people threatened by the outbreak.

These disease detectives can work for state health departments, federal government agencies and some local, city or county health departments.

By Indiana law, health care providers, hospitals and laboratories are required to

report certain diseases or laboratory results to local health departments. Local public health officials investigate these disease cases to find out how people became sick, determine whether other people were exposed and implement control measures.

As disease detectives investigate cases, these detail-oriented experts look for common links among cases that may provide clues to an outbreak.

Local health officials, state health officials and epidemiologists coordinate efforts and expertise to solve the cases when outbreaks are reported. Sometimes the “feds” must be called in. That is, federal health agencies may become involved if an outbreak involves multiple states, a commercial food item, international port or ship.

Epidemiologists gather clues from those

Your Role

Besides public health officials, the public also has a responsibility in outbreak investigations:

If you suspect you may be part of a disease outbreak, contact your local health department. Your input may provide vital clues for health officials to identify an outbreak and prevent additional people from becoming ill.

If health officials contact you regarding an outbreak investigation, your cooperation in answering questions fully and being willing to have laboratory testing done helps keep others safe from infectious disease. Although submitting “evidence,” such as a clinical sample, is sometimes unpleasant, it can be the key to identifying the illness and making necessary treatments available to minimize the effects of the disease.

involved in the outbreak. Relevant information, such as symptoms of the illness, the day the illness began and possible exposures, including other ill people and foods eaten, is recorded. Epidemiologists may recommend that the people who are ill have testing to identify the specific disease causing the outbreak.

Now the work begins to “reconstruct” the outbreak occurrence. Epidemiologists review data, laboratory results, inspection information and other data to learn how the infectious disease was introduced to the population. They then implement the appropriate control measures to contain the disease. These measures are designed to be the least restrictive but the most effective.

Once the outbreak is over, the investigation is documented in an official report and sent to all agencies involved. This is an important piece of the puzzle since it serves as a public record of the incident and a scientific record of the outbreak, which can be utilized in the future for similar investigations, teaching and training of other public health officials and those interested in pursuing epidemiology. □

Safe Tick Removal

1. Using a clean pair of fine-tipped tweezers, firmly grasp the tick as close to your skin as possible.
2. With a steady motion, pull the tick's body away from your skin. Avoid crushing the tick's body. Do not be alarmed if the tick's mouthparts remain in the skin — once the mouthparts are separated from the tick's body, the tick can no longer transmit disease. If you accidentally crush the tick, clean your skin with soap and water or alcohol.
3. Wash your skin around the tick bite with soap and water and apply an antiseptic and clean bandage.
4. Discard the tick in the trash.
5. Do not use petroleum jelly, a hot match, nail polish or other products to remove a tick.
6. If you notice signs of infection, like redness, swelling or drainage around the tick bite, or if you develop symptoms of fever, chills and/or a rash, see your health care provider right away.



Unwanted Pests

Ticks and mosquitoes can be more than a nuisance

by James Howell, DVM, MPH, DACVPM, Veterinary Epidemiologist,
Indiana State Department of Health

Besides ruining picnics, mosquitoes and ticks can transmit disease. In Indiana, two of the common diseases transmitted by mosquitoes and ticks are the West Nile virus infection and Lyme disease. However, other vector-borne diseases in Indiana can be as serious as West Nile or Lyme.

Humans get infected when ticks bite them. Disease is transmitted when the tick takes a blood meal to complete the next stage of its life cycle. Ticks must generally remain attached for four to 36 hours to transmit disease. Checking your clothing and skin for ticks after being outside is important for preventing disease. Fortunately, all of these diseases can be treated successfully with antibiotics.

Mosquitoes transmit several viruses in Indiana that can cause infections from minor illnesses to potentially deadly encephalitis. In recent years, West Nile infection has been the most common. However, mosquitoes also transmit St. Louis encephalitis, Eastern equine encephalitis and LaCrosse encephalitis viruses. There are no effective treatments for these diseases or vaccines to prevent them.

LaCrosse encephalitis occurs mainly in children younger than 16. Severe West Nile and St. Louis encephalitis infections occur mainly in people older than 50. All deaths in Indiana due to West Nile infection have occurred in elderly patients.

Although human cases are rare in Indiana, Eastern equine encephalitis infection can be deadly. Of all encephalitis infections, only rabies has a higher death rate.

To minimize the risk of you and your family contracting these infectious diseases, it is important to make environmental changes and take personal steps to prevent tick or mosquito bites. These include:

- > Removing debris from around your home where ticks or their rodent hosts can hide.
- > Keeping grass and weeds cut short and removing brush to reduce tick habitats.
- > Eliminating mosquito-breeding areas like old tires, cans, bottles, flush bird baths and ornamental fountains. It is also important to frequently empty and clean gutters.
- > Wearing long-sleeved shirts and long pants when outdoors during hours of high mosquito activity — usually dawn and dusk hours — and when entering tick habitats, such as wooded areas. After activity, examine your clothing and exposed skin for attached ticks. Remove any attached ticks immediately. (See box.)
- > Using repellents on clothing and bare skin. DEET and Picaridin are commonly available in various strengths and are effective longer than others. The American Academy of Pediatricians recommends not using DEET on infants under eight weeks of age. Follow the label directions of any repellent to ensure proper application and use. □



Turned Upside Down

Shayla Holtkamp deals with the loss of her daughter to meningitis

by Deb Wezensky

As an employee of Columbus Regional Hospital's wellness program, Shayla Holtkamp always considered health a major focus in her daily life.

However, she became acutely aware of health on a more personal level when, in 1997, she was diagnosed with breast cancer. Yet, Holtkamp's experience with chemotherapy and radiation paled in comparison to what transpired just six weeks after her treatments were completed.

Her healthy, athletic 14-year-old daughter, Jolie Crider contracted bacterial meningitis.

Holtkamp recalls her daughter crawling into bed with her after midnight. After watching Jolie repeatedly vomit over three hours, Holtkamp took her to the doctor's office the next morning.

Her intuition prompted her to ask if Jolie had meningitis. The teen's temperature was 101 degrees — not excessively high — and her neck was checked for stiffness, a common symptom for meningitis. However, Jolie did not show signs of a stiff or sore neck.

Since the flu was going around, Jolie was prescribed phenegrine, an anti-nausea medication, to calm her stomach.

A turn for the worse

After returning home, Jolie fell asleep. Later that night, she became nauseous again. Feeling worse with the onset of diarrhea and a hurting head, she was taken to the emergency room of a nearby hospital where she immediately was taken to an examination room. Her mother and father anxiously awaited a diagnosis.

Meningitis

This rare but deadly disease ignites fear in parents and the public

by Wayne Staggs, MS, Invasive Disease Epidemiologist, Indiana State Department of Health

In most cases, the sad and tragic results of meningitis can be prevented. While it is a fairly rare disease, 10 percent to 12 percent of the cases are fatal, according to the Centers for Disease Control and Prevention.

Nearly 3,000 cases are reported every year in the United States. Among those who survive meningococcal disease, about 20 percent suffer long-term consequences, such as brain damage, kidney disease or hearing loss, the National Meningitis Association reports.

Meningitis is an infection that causes inflammation of the membranes covering the brain and spinal cord. Most cases of meningitis are viral infections, but bacterial and fungal infections also can lead to meningitis.

Infection is transmitted by direct contact with infected people through coughing or sneezing in someone's face, kissing or sharing utensils, drinking glasses or cigarettes. Due to more crowded living conditions, teens and young adults may be at increased risk.

Meningococcal disease often is misdiagnosed as something less serious because early symptoms are similar to the flu. These may include sudden onset of fever, headache and a stiff neck, as well as nausea, vomiting, sensitivity to light, altered mental status and seizures. After the disease has taken hold, a rash may appear. If you experience two or more of these symptoms or the severe sudden onset of a symptom, seek medical care immediately.

Viral meningitis is less severe than bacterial meningitis and occurs more frequently in

late summer and early fall.

Bacterial meningitis is extremely serious and requires medical intervention. It can result in death, brain damage or amputation. However, if identified promptly, it can be treated successfully with antibiotics.

Fortunately, meningitis can be prevented. Vaccines can prevent some forms of bacterial meningitis. Some of these vaccines are required for school or child care entry.

Contact your health care provider or local health department to see if you or members of your family should receive these vaccines. To check the immunization schedules, log on to the Centers for Disease Control and Prevention Web site at www.cdc.gov/vaccines/recs/schedules/default.htm.

Other ways to prevent meningitis include:

> Wash your hands often, especially after:

- coughing or sneezing
- before and after caring for a sick person
- after using the toilet or changing diapers

> Teach children to clean their hands often and properly, using soap and water or an alcohol-based hand sanitizer.

> Avoid sharing eating utensils and drink containers.

This time, her temperature registered at 97 degrees. Again, Holtkamp asked if her daughter might have meningitis. Again, the child's neck was examined, but she did not appear to have classic symptoms for meningitis. To help with a diagnosis, the doctor ordered blood work.

In the meantime, Jolie's condition worsened. She appeared to sleep with her eyes open, recalls Holtkamp, who tried unsuccessfully to awaken her. By then, Holtkamp was convinced something was seriously wrong.

Her presumption was on target. Results from the blood work indicated Jolie's white blood cell count was 38,000, far above the normal range of 4,500 to 10,000 and indicative of a severe infection.

Jolie's breathing became erratic, and a whirlwind of activity followed. She suffered a seizure. A CAT scan revealed she had swelling in the brain. Suddenly, Jolie's breathing stopped, and she was hooked to a ventilator.

Jolie's parents struggled to take in what was happening to their daughter.

Holtkamp remembers pleading with her daughter, "Please don't leave me, please don't leave me."

Fighting for Jolie's life

As Jolie's condition drastically worsened, she was Lifelined to Riley Hospital for Children, where she was given antibiotics.

Because of the swelling in Jolie's brain, a spinal tap could not be performed, which would allow doctors to diagnose meningitis. Her movements were deemed as reflexive.

At 4 a.m. — a little more than 24 hours after the onset of her illness — a test revealed Jolie's brain showed no activity. A second test confirmed the teen, who played baseball just days earlier, was kept alive solely by life support.

Holtkamp crawled into bed with her daughter to assure her it was OK for her to go to be with God. And Jolie was gone, she says.

The following day, tests confirmed Jolie had died from bacterial meningitis.

Her parents, as a part of coming to terms with Jolie's death, both frequently speak to Indiana University students who enrolled in a course on Death and Dying.

Holtkamp says she's committed to live a purposeful life in honor of her daughter. □



Protecting your Immune System

The best offense against infection is good defense

by Pam Pontones, MA, Director of Surveillance and Investigation,
Indiana State Department of Health

Your body's main line of defense against infectious diseases is your immune system. Made up of white blood cells and other tissues, your immune system protects your body from organisms that cause disease.

The immune system guards your body against invading organisms and attacks infections. It also "remembers" the infections to which you are exposed through illness or vaccination to protect you from becoming ill from these same organisms later in life.

Like any other body system, however, it is important to keep your immune system healthy so it functions properly. Those whose immune systems are weakened due to youth or old age, certain diseases or genetic disorders should be especially careful to keep the immune system strong.

These six tips can help you keep your immune system armed and ready:

1. Eat a balanced diet. Many fruits and vegetables contain compounds that strengthen your immune system. Dark-skinned fruits and vegetables, like eggplant, cranberries, grapes and blueberries, contain especially powerful antioxidants that boost the

immune system.

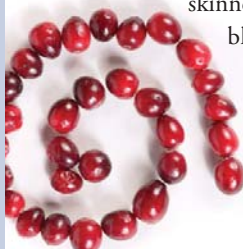
2. Get plenty of rest. Like other body systems that are overused or stressed, your immune system can become weakened from lack of sleep, and your resistance to infection becomes lowered. Aim for seven to eight hours of sleep per night.

3. Keep hydrated. Mucous membranes, like your eyes, nose, mouth and throat, are natural entry points for disease organisms. The natural mucous lining helps protect these sensitive tissues from infection. Drinking plenty of fluids, especially during winter months of cold, dry weather, can help keep these tissues from drying out and becoming more vulnerable to infection.

4. Exercise routinely. Besides strengthening your heart, toning your muscles and burning fat, exercise also boosts your immune system.

5. Get vaccinated. Vaccinations expose your immune system to disease organisms without exposure to the diseases themselves. This creates immune memory that allows your immune system to "remember" disease organisms for several months to years.

6. See your health care provider regularly. He or she can determine what other steps you can take to keep your immune system healthy and spot potential problems early. □



Which News Should You Use?

Assess credibility of health information by checking sources

by Wayne Staggs, MS, Invasive Disease Epidemiologist, Indiana State Department of Health, and Michael Wade, MPH, Syndromic Surveillance Epidemiologist, Indiana State Department of Health

As a savvy health care consumer, you value credible information from reliable sources. How do you know which sources are trustworthy? The following tips and recommendations will help you find sources that will allow you to make sound health care decisions for you and your family.

> Credibility: Perhaps the most important consideration when determining the quality of an article is who or what organization wrote the information. Is the source considered an authority in the topic? Although not foolproof, look for Web site addresses ending in .org, .edu and .gov. These generally indicate a

not-for-profit status and potentially more objective, less biased information.

> Funding reliability: Does the article or Web site indicate who paid for the publication? If someone benefits from you reading the publication, there is a higher likelihood the information may be biased — purposefully trying to influence you in a specific way. Funding sources, such as not-for-profit funding and federal/state grants, typically reduce the potential for bias.

> Age of timely information: Much has been learned about medicine and health in recent decades, so it is important to

use current information. However, beware of “latest study shows”-type articles. One study is just that: one study. Trustworthy health information rests firmly on a foundation of many studies — not just one or two. The latest studies are interesting but most often should not be the basis of personal health choices. It is also a good idea to get medical information from more than one site.

Remember, health information found on the Internet should not replace the information given by your health care provider. Ask your doctor for reliable sites that can supplement your care. □

Resources

The Medical Library Association’s “Top Ten” Most Useful Consumer Health Web sites*:

Cancer.gov: <http://www.cancer.gov/>

Centers for Disease Control and Prevention: <http://www.cdc.gov/>

Familydoctor.org: <http://www.familydoctor.org/>

Healthfinder®: <http://www.healthfinder.gov/>

HIV InSite: <http://hivinsite.icsf.edu/>

Kidshealth: <http://www.kidshealth.org/>

Mayo Clinic: <http://mayoclinic.com/>

Medem: <http://medem.com/>

MEDLINEplus: <http://medlineplus.gov/>

NOAH: New York Online Access to Health: <http://noah-health.org/>

* Deciphering Medspeak for Health Consumers, “Top Ten” Most Useful Websites, <http://www.mlanet.org/resources/medspeak/top10.html>

Reprints of *Effective Infection Prevention — The old, the new and what’s true* are available by calling 317.585.5858 or by mail: Weiss Communications, 6610 N. Shadeland Ave., Suite 100, Indianapolis, IN 46220.

