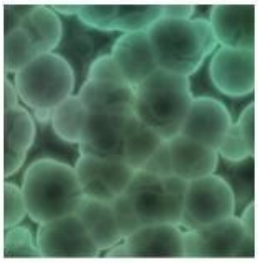
Technical News Release

A publication of the Technical Support Services Department of Myers Supply

H3N2 Influenza Virus (variant) swine influenza virus

H3N2 2012 Update



Background On Variant Influenza Viruses

Swine flu viruses do not normally infect humans. However, sporadic human infections with influenza viruses that normally circulate in swine and not people have occurred. When this happens, these viruses are called "variant viruses." They also can be denoted by adding the letter "v" to the end of the virus subtype designation. Human infections with H1N1v, H3N2v and H1N2v viruses have been detected in the United States.

Most commonly, human infections with variant viruses occur in people with exposure to infected pigs (e.g. children near pigs at a fair or workers in the swine industry). There have been documented cases of multiple persons becoming sick after exposure to one or more sick pigs and also cases of limited spread of variant influenza viruses from person-to-person. The vast majority of human infections with variant influenza viruses do not result in person-to-person spread. However, each case of human infection with a swine influenza virus should be fully investigated to be sure that such viruses are not spreading in an efficient and ongoing way in humans and to limit further exposure of humans to infected animals if infected animals are identified.

How does H3N2 flu spread?

Spread of this influenza A (H3N2) virus is thought to be happening in the same way that seasonal flu spreads. Flu viruses are spread mainly from person to person through coughing or sneezing of people with influenza. Sometimes people may become infected by touching something with flu viruses on it and then touching their mouth or nose.

What surfaces are most likely to be sources of contamination?

Germs can be spread when a person touches something that is contaminated with germs and then touches his or her eyes, nose, or mouth. Droplets from a cough or sneeze of an infected person move through the air. Germs can be spread when a person touches respiratory droplets from another person on a surface like a desk and then touches their own eyes, mouth or nose before washing their hands.[2]

How long can viruses live outside the body?

We know that some viruses and bacteria can live 2 hours or longer on surfaces like cafeteria tables, doorknobs, and desks. Frequent Hand washing will help you reduce the chance of getting contamination from these common surfaces.[2]

This fact sheet is designed to give you the most accurate information available acquired from reliable sources regarding the current H3N2 flu outbreak. We also wish to when possible make the appropriate recommendations for using Myers products to help combat this outbreak; as additional information is presented, we will keep you informed.

[1] From World Health Organization website, "Swine Flu Outbreak FAQ"
[2] From CDC (Centers for Disease Control) website

What is the best way to keep from spreading the virus through coughing or sneezing?

If you are sick, limit your contact with other people as much as possible. Do not go to work or school if ill. Cover your mouth and nose with a tissue when coughing or sneezing. It may prevent those around you from getting sick. Put your used tissue in the waste basket. Cover your cough or sneeze if you do not have a tissue. Then, clean your hands, and do so every time you cough or sneeze.[2]

What is the best technique for washing my hands to avoid getting the flu?

Washing your hands often will help protect you from germs. Wash with soap and water or clean with alcohol-based hand cleaner. We recommend that when you wash your hands -- with soap and warm water -- that you wash for 15 to 20 seconds. When soap and water are not available, alcohol-based disposable hand wipes or gel sanitizers may be used. If using gel, rub your hands until the gel is dry. The gel doesn't need water to work; the alcohol in it kills the germs on your hands.[2]

Routine cleaning and disinfection strategies used during influenza seasons can be applied to the environmental management of swine influenza.*

*** From CDC Website, "Interim Guidance for Infection Control for Care of Patients with Confirmed or Suspected Swine Influenza A (H3N2) Virus Infection in a Healthcare Setting"**

Myers Chemical & Supplies
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831 Third St. Hot Springs, AR 71913 (501-623-7742)

H3N2 Variant (Swine Origin) Influenza Virus

The good news is that influenza is an enveloped virus which actually makes it highly susceptible to disinfectants – including quats. Myers Supply & Chemical currently has five products which have Influenza H3N2 registered on them.

All of these labels have been tested and proved to be efficacious against (H3N2) influenza and are ready to be used in the marketplace today. In addition, most of our hospital disinfectants are efficacious against the human influenza as well as the avian influenza.

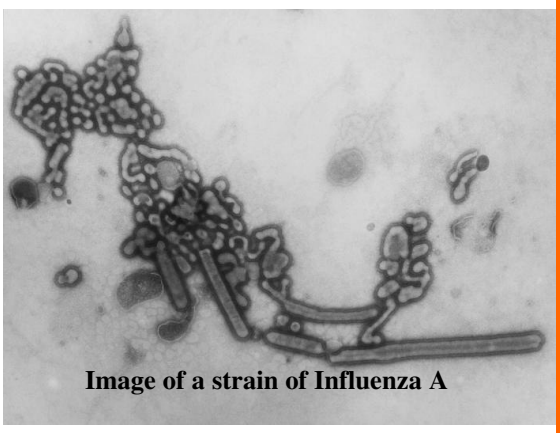

Image of a strain of Influenza A

Disinfectant Cleaners with efficacy claims for Influenza A strains:

Multi Quat Mega 1

Influenza A / Brazil (H1N1) virus
Influenza A virus ATCC VR-544

A-OK RTU

Influenza A / Brazil (H1N1) virus
Avian Influenza A Virus, Type A (Turkey/WIS/66) (H9N2)

A-OK Concentrate

Influenza A / Brazil (H1N1) virus
Avian Influenza A (H3N2) virus (Avian Reassortant) (ATTC VR-2072)
Avian Influenza A (H5N1) virus
Influenza A virus ATCC VR-544
Influenza A (H1N1) virus

Make My Day T.B.

Influenza A / Brazil (H1N1) virus
Avian Influenza A (H3N2) virus (Avian Reassortant) (ATTC VR-2072)
Avian Influenza A Virus, Type A (Turkey/WIS/66) (H9N2)

Natural Solution #51

Influenza A / Brazil (H1N1) virus
Avian Influenza A (H3N2) virus (Avian Reassortant) (ATTC VR-2072)
Avian Influenza A (H5N1) virus
Influenza A virus ATCC VR-544
Influenza A (H1N1) virus

Energizer Q

Avian Influenza A (H3N2) virus (Avian Reassortant) (ATTC VR-2072)
Avian Influenza A (H5N1) virus
Influenza A virus ATCC VR-544

Natural Solution #50

Avian Influenza A (H3N2) virus (Avian Reassortant) (ATTC VR-2072)
Avian Influenza A (H5N1) virus
Influenza A virus ATCC VR-544

CDC
CENTERS FOR DISEASE CONTROL AND PREVENTION

Routine cleaning and disinfection strategies used during influenza seasons can be applied to the environmental management of swine influenza.*

***From CDC Website, "Interim Guidance for Infection Control for Care of Patients with Confirmed or Suspected Swine Influenza A (H3N2) Virus Infection in a Healthcare Setting"**

Washing your hands often will help protect you from germs. Wash with soap and water. or clean with alcohol-based hand cleaner. We recommend that when you wash your hands with soap and warm water that you wash for 15 to 20 seconds.

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H3N2 Flu Newsletter

Good Health Habits for Preventing the Flu

The single best way to prevent the flu is to get vaccinated each year, but good health habits and antiviral medications are other measures that can help protect against the flu.

1. Avoid close contact.

Avoid close contact with people who are sick. When you are sick, keep your distance from others to protect them from getting sick too.

2. Stay home when you are sick.

If possible, stay home from work, school, and errands when you are sick. You will help prevent others from catching your illness.

3. Cover your mouth and nose.

Cover your mouth and nose with a tissue when coughing or sneezing. It may prevent those around you from getting sick.

4. Clean your hands.

Washing your hands often will help protect you from germs.

5. Avoid touching your eyes, nose or mouth.

Germs are often spread when a person touches something that is contaminated with germs and then touches his or her eyes, nose, or mouth.

6. Practice other good health habits.

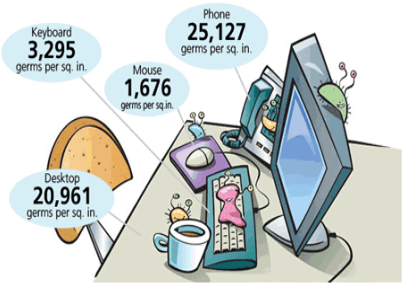
Get plenty of sleep, be physically active, manage your stress, drink plenty of fluids, and eat nutritious food.

Take "germ-control" into your own hands.

The U.S. Centers for Disease Control and Prevention (CDC) and the U.S. Department of Health and Human Services advise employers to promote hand hygiene to help stop the spread of germs and illness in the workplace. When you can't get to soap and water use alcohol-based hand sanitizers. Take "germ-control" into your own hands. Fight the spread of germs in your workplace with Instant Hand Sanitizer.

How clean is your desk?

There are over 10 million germs on the average desktop. Germs that may make you sick can remain active on hard surfaces for hours...or even days. Everything you touch connects you to lots of other people -- and their germs. Which germs will accompany you throughout your day?



Plain, old-fashioned hand washing is effective at removing these nasty germs that you encounter everyday at work. But, realistically, soap and water are not available at your desk – they're typically much farther away, down the hall and in the restroom. Instant Hand Sanitizer kills germs whenever and wherever you need to.

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Newsletter Issue 64

ATP Hygiene Monitoring System

Now, Myers Supply delivers the industry's first turnkey cleaning measurement program with the rapid detection capabilities of the System SURE PLUS ATP measurement system.

Whether in a restaurant, school, office building, food processing facility or hospital, ATP testing makes it possible to show just how clean surfaces are by detecting the level of microbial contamination on surfaces in just seconds. Designed with state of the art electronics the System SURE PLUS palm sized system is easy to use, extremely sensitive and very affordable.

Myers Chemical & Supplies

Get more product info at: www.MyersSupply.com

Flu Season Product Showcase

Instant Hand Sanitizer

Crystal-clear, ethyl alcohol-based gel that kills 99.9% of eight important organisms in less than 15 seconds! May be used when water is unavailable. Non-drying to the skin; odorless. Helps employers comply with OSHA's Bloodborne Pathogens Standard. USDA E4-listed.

Health Guard Antibacterial

Gold-colored soap featuring the superior germ-fighting power of TRICLOSAN (.3%)- proven to kill a wide variety of disease-causing bacteria, viruses and fungi on contact, including MRSA and VRE. Lathers up quickly. Includes moisturizers and conditioners to soften hands-and deodorizers to eliminate even the most offensive odors. USDA E-4 listed.

Make My Day

A spray & wipe foaming germicidal cleaner. This beautifully fragranced product is a broad spectrum disinfectant and effective in the presence of organic soil (5% blood serum). Kills HIV-1 (associated with AIDS) & Tuberculosis. Effective against MRSA, VRSA, VRE and Canine Parvo. Easily clings to vertical surfaces.

Energizer Q

A multi-purpose, neutral pH, germicidal detergent and deodorant effective in hard water up to 400 ppm (calculated as CaCO2) in the presence of a moderate amount of soil (5% organic serum) according to the AOAC Use Dilution Test. Disinfects, cleans and deodorizes in one labor-saving step. Has an economical use dilution rate of 1 oz. per gallon. Kills HIV-1 (associated with AIDS). Effective against MRSA, VRSA & VRE.

Citrisan Total Release Fogger

CITRUS TOTAL RELEASE is an EPA registered hospital antimicrobial agent and two-way deodorizer for use on pre-cleaned hard, nonporous surfaces. Bactericidal, virucidal, sanitizes fabric and leather shoes, mats and equipment, fungicidal, controls microorganisms that create foul putrefactive odors. One can treats 6,000 cubic feet of unobstructed space.

FabricAide

Give your washable fabrics long-lasting protection from the growth harmful bacteria, mold and mildew with FabricAide®. Just one application of FabricAide, added to the rinse cycle of your washing machine, will inhibit the growth of a wide array of bacteria, mold, and fungi on any fabric or textile for ***90 days.*** No other product in the world can continually and proactively eliminate odor, staining and deterioration caused by microbial contaminants like FabricAide.

- Proven to continually fight the growth of bacteria, fungi and mold on all washable fabric.
- High-performance, non-leaching antimicrobial characteristics allow for proactive and constant prevention of odor, staining and deterioration.
- One application lasts 90 days.

Stopping Germs at Home, Work and School

How Germs Spread

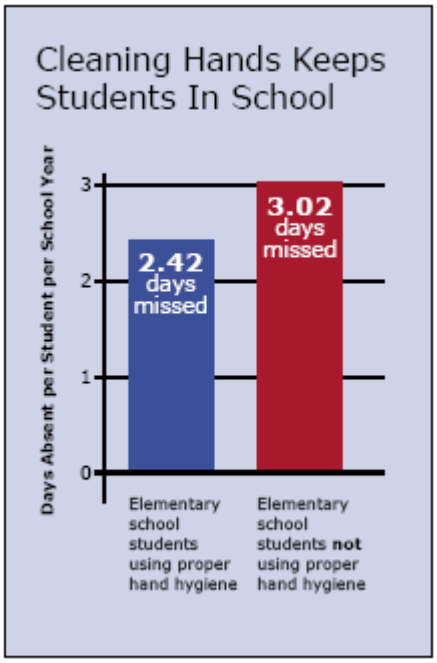
The main way that illnesses like colds and flu are spread is from person to person in respiratory droplets of coughs and sneezes. This is called "droplet spread." This can happen when droplets from a cough or sneeze of an infected person move through the air and are deposited on the mouth or nose of people nearby. Sometimes germs also can be spread when a person touches respiratory droplets from another person on a surface like a desk and then touches his or her own eyes, mouth or nose before washing their hands. We know that some viruses and bacteria can live 2 hours or longer on surfaces like cafeteria tables, doorknobs, and desks.

How to Stop the Spread of Germs

Department of Health and Human Services
Centers for Disease Control and Prevention

In a nutshell: take care to

- Cover your mouth and nose
- Clean your hands often
- Remind your children to practice healthy habits, too



Source: Am J Infect Control 2000;28:340-6.

Cover your mouth and nose when coughing or sneezing
Cough or sneeze into a tissue and then throw it away. Cover your cough or sneeze if you do not have a tissue. Then, clean your hands, and do so every time you cough or sneeze.

The "Happy Birthday" song helps keep your hands clean?
Not exactly. Yet we recommend that when you wash your hands -- with soap and warm water -- that you wash for 15 to 20 seconds. That's about the same time it takes to sing the "Happy Birthday" song twice!

Alcohol-Based Hand Wipes and Gel Sanitizers Work Too
When soap and water are not available, alcohol-based disposable hand wipes or gel sanitizers may be used. If using gel, rub your hands until the gel is dry. The gel doesn't need water to work; the alcohol in it kills the germs on your hands.*

* Source: FDA/CFSAN Food Safety A to Z Reference Guide, September 2001: Handwashing.

Germs and Children

Remind children to practice healthy habits too, because germs spread, especially at school. The flu has caused high rates of absenteeism among students and staff in our country's 119,000 schools. Influenza is not the only respiratory infection of concern in schools -- nearly 22 million schools days are lost each year to the common cold alone. However, when children practice healthy habits, they miss fewer days of school. School administrators, teachers and staff: See Preventing the Spread of Influenza (the Flu) in Schools for CDC interim guidance.

More Facts, Figures, and How-Tos

CDC and its partner agencies and organizations offer a great deal of information about handwashing and other things you can do to stop the germs that cause flu, the common cold, and other illnesses. http://www.cdc.gov/germstopper

Stop the Spread of Germs in Schools
Fast Facts

- Approximately 1/5 of the U.S. population attends or works in schools. (U.S. Dept of Ed, 1999).
- Some viruses and bacteria can live from 20 minutes up to 2 hours or more on surfaces like cafeteria tables, doorknobs, and desks. (Ansari, 1988; Scott and Bloomfield, 1989)
- Nearly 22 million school days are lost annually due to the common cold alone. (CDC, 1996)
- Addressing the spread of germs in schools is essential to the health of our youth, our schools, and our nation.
- Students need to get plenty of sleep and physical activity, drink water, and eat good food to help them stay healthy in the winter and all year.

Don't 'stall' On Restroom Cleaning

There are three classes of restrooms: Very clean, clean and not so clean.

- Hospitals tend to have the cleanest restrooms because cleaners most often use disinfectants on its surfaces.
- Fast food restaurants fall in the middle.
- Airports and bus stations are often the worst, likely because they are busy 24 hours each day.

The dirt on clean

Surprisingly, the inside doorknob in a restroom is often the cleanest area, because many people use a paper towel to open bathroom doors.

The greatest amount of bacteria in a restroom is usually around the sanitary napkin disposal; after that, on floors, sinks and faucets.

The top of the toilet seat is usually clean, but the bottom of the toilet seat can have heavy concentrations of bacteria.

Certain areas of a restroom are usually more prone to bacteria and germs than others, i.e., the middle toilet stall is usually the most contaminated; the stall closest to the door is the least contaminated.

Men's restrooms tend to have less bacteria build-up than women's.

Time and cleaning methods

Restrooms are less infected with bacteria today than they were 30 years ago, because facility occupants, and cleaners, are more aware of the importance of hand washing and restroom cleaning to prevent the spread of infection.

However, what has had a major impact are the no-touch sinks, toilets and urinals introduced into restrooms several years ago. If restroom users do not have to touch surfaces in a restroom, the less likely they are to get germs and bacteria on their hands, which can spread infection.

Future products

There are products in development that will help make restrooms cleaner and healthier places, i.e., silver-coated plastics and metals.

These materials, which act as a self-disinfecting surface because they are antimicrobial, will in the future show up in sinks, countertops, and other areas most commonly touched in restrooms.

by Charles Gerba

Charles Gerba is professor of environmental microbiology, University of Arizona, Tucson, and a world-renowned expert on bacteria who has been conducting studies on restroom germ and bacteria issues since 1973.

The Touch-Free Restroom™ offers a systematic approach addressing the hygiene, maintenance and budgetary needs of your facility.

57% of facility respondents expect a germ-free "Touch-Free" restroom in the future*.

Which Challenges Does Your Facility Face?

- The public's growing concern of infectious disease and their demand for greater protection.
- Intense competition to attract & retain tenants.
- Improving overall image - focusing on high visibility areas.
- Maintaining clean restrooms during the day & between cleaning cycles.
- Cost control while providing acceptable levels of service.
- Staff downsizing/outsourcing of services.
- Meeting ADA requirements.

**Building Operating Management / March 2000*

SurfaceAide® XL Give You 24/7 Protection for up to 90 days

Nanotechnology In A Bottle!

SurfaceAide® XL delivers the durability, safety and affordability you need to protect vital surfaces from the growth of bacteria, mold and fungi 24/7 for up to 90 days.

Microbial contaminants in schools, offices, hospitals and fitness centers can lead to infection, odor and deterioration of equipment and fabrics. SurfaceAide™ XL is the world's most durable, water-based antimicrobial treatment – providing 24/7, non-stop, and proven protection to any surface for up to 90 days.

Powered by antimicrobial technology that has proven to continually inhibit and control microbial growth in medical and consumer goods for over 30 years, SurfaceAide™ XL is the trusted antimicrobial treatment of military bases, hospitals and schools nation-wide.

When applied to a surface or facility, SurfaceAide™ XL creates a matrix of positively charged "sword shaped" molecules that durably bond to the surface. Since bacteria, mold and fungi are negatively charged; they are attracted to the antimicrobial layer, speared and electrocuted. The technology is non-leaching, so the molecular swords remain intact and ready for the next cell that approaches. What sets this antimicrobial apart from other treatments is it's unique mechanical mode of action that prevents harmful chemicals from leaching onto the skin. Additionally, this mechanical destruction prevents the microorganisms from being able to adapt to the antimicrobial – so no "Super Bugs" or resistant microorganisms can be created.

surfaceaide XL

SaniGuard® Dry-on-Contact Sanitizing Surface Spray

SaniGuard® Surface Spray is the world's first and only DRY-ON-CONTACT Spray Sanitizer & Deodorizer. SaniGuard sanitizing products are EPA registered, patented, and have been proven to kill 99.99% of Avian Flu and 39 other various germs, bacteria, fungus, and viruses in mere seconds; including: MRSA, Ringworm, HIV, E-Coli, Salmonella, and Herpes. Safe for food contact surfaces (no potable rinse required) and other non-porous surfaces including electronics!

The 10oz Spray is great for facility cleaning! Use this spray in bathrooms, offices, schools, and hotels. Ideal for treating hard to clean HOT SPOTS such as phones, faxes, shared office equipment, light switches, faucets, toilet seats, door knobs, drinking fountains, keyboards and computer mouse, break room tables, etc.

The .75oz. Spray is great for PERSONAL use and convenient for TRAVEL! It fits in any purse, bag, briefcase, the console of your vehicle, or even your pocket. Use it to quickly sanitize phones, public restroom fixtures including toilet seats, tables, baby changing stations, car interiors, personal electronic devices or any other non-porous surface.

ARE YOU LOSING YOUR COMPETITIVE EDGE TO GERMS?

The indirect costs of workplace illness are staggering. A recent estimate is over 100 billion dollars is lost annually to absenteeism and reduced productivity due to employee illness. Now you can control the spread of harmful microbes in the workplace with SaniGuard® by killing germs on the surfaces where they live before they can spread to employees and their families.

Good Hand Hygiene Can Help You Stay Healthy During Travel, Shopping, Parties and Other Holiday Activities

Renowned Microbiologist and Germ Expert Dr. Philip Tierno Provides Timely Tips for Healthy Hands and a Healthy Holiday

Millions of Americans will celebrate this year's Thanksgiving season with a whirlwind of social activities, holiday travel and shopping. At the same time as they increase their social activity, they also increase their risk of exposure to germs that cause illness. But renowned microbiologist and germ expert Dr. Philip Tierno says just practicing a little basic hand hygiene can help ensure Americans enjoy a healthy, happy holiday.

According to Dr. Tierno, Director of Clinical Microbiology and Diagnostic Immunology at the New York University Medical Center, many Americans are unaware that they pick up the vast majority of germs that make them sick from their hands. "That's why good hand hygiene should go hand-in-hand with your holiday celebrations. Remember, you want to pass the turkey, not the germs," said Dr. Tierno.

Dr. Tierno indicated the fun and family travel activities of the Holidays can actually increase peoples' risk of exposure to unwanted germs. These top germ moments include:

- Using the public restrooms at malls, movie theaters, interstate rest stops, service stations, restaurants, airports, airplanes, trains, etc.
- Touching the keypads of ATM machines, public telephones, e-ticket machines, elevator panels and gas station pumps.
- Holding onto handrails on escalators, stairs or people movers at airports, train stations and shopping malls.
- Using the fare-card machines, turnstiles, seats, and handrails of public transportation systems.
- Exchanging bills, coins, credit cards and travelers checks while shopping at department stores, malls or plazas.
- Handling remote controls, computer keyboards and other hard-to-clean or seldom-cleaned household items.
- Preparing, serving and eating holiday meals with family and friends.

"During the holidays, your hands are going where many hands have gone before," Dr. Tierno said. "Plus, the Thanksgiving holidays occur around the start of winter, when many people already have coughs and colds — illnesses that love to travel on peoples' hands.

But that doesn't mean germs should put a damper on anyone's holiday plans. Once you're aware of when you need to clean your hands, it's a simple matter of either using soap and water or an alcohol-based instant hand sanitizer. Both are very effective at killing germs. A benefit of hand sanitizers is that they can be gentler on your hands and they're portable."

Often, when consumers should clean their hands throughout the day, soap and water are not available. When using an alcohol-based hand sanitizer, Dr. Tierno recommends placing enough product to cover hands, then rubbing hands briskly until dry.

When washing your hands, Tierno recommends rubbing your hands together vigorously for at least 20 to 30 seconds, rinsing well with warm water and drying them completely with a clean towel. "Remember, the holiday season for people is the holiday season for germs — they like to travel, too," Dr. Tierno said.

The Centers for Disease Control and Prevention recommends alcohol-based hand sanitizers as an alternative to hand-washing. Alcohol-based hand sanitizers safely kills 99.99% of most common germs that may cause illness in as little as fifteen seconds. Alcohol-based hand sanitizers is portable and can be used anytime, anywhere, without soap or water. Consumers can keep a bottle at the office, in a coat pocket, bag or briefcase, or at home.
NEW YORK , NY (November 18, 2004)

About Dr. Tierno

Dr. Tierno is the Director of Clinical Microbiology and Diagnostic Immunology at Tisch Hospital at the New York University Medical Center. He is also a part-time associate professor in the Departments of Microbiology and Pathology at the New York University School of Medicine. His work in microbiology has been published in numerous medical and scientific journals, including the *American Journal of Public Health, Journal of Clinical Microbiology, American Journal of Clinical Pathology, Lancet, Reviews of Infectious Diseases, JAMA, Journal of Infectious Diseases* and many others. In January 2004, his latest book, *The Secret Life of Germs: What They Are, Why We Need Them and How We Can Protect Ourselves Against Them*, was published by Simon & Schuster.

EPA on Disinfectants

Antimicrobial pesticides are substances or mixtures of substances used to destroy or suppress the growth of harmful microorganisms such as bacteria, viruses, or fungi on inanimate objects and surfaces. Antimicrobial products contain about **275** different active ingredients and are marketed in several formulations: sprays, liquids, concentrated powders, and gases. Today, approximately one billion dollars each year are spent on a variety of different types of antimicrobial products. More than **5,000** antimicrobial products are currently registered with the U.S. Environmental Protection Agency (EPA) and sold in the marketplace. Nearly **60%** of antimicrobial products are registered to control infectious microorganisms in hospitals and other health care environments.

Antimicrobial pesticides have two major uses:

1) Disinfect, sanitize, reduce, or mitigate growth or development of microbiological organisms;
2) Protect inanimate objects (for example floors and walls), industrial processes or systems, surfaces, water, or other chemical substances from contamination, fouling, or deterioration caused by bacteria, viruses, fungi, protozoa, algae, or slime.

This category does not include certain pesticides intended for food use but does encompass pesticides with a wide array of other uses. For example, antimicrobial pesticides act as preserving agents in paints, metalworking fluids, wood supports, and many other products to prevent their deterioration.

Some examples of antimicrobial pesticide chemicals can be found in the Antimicrobial Chemical Indexes, which are available on the EPA Pesticide Web site at http://www.epa.gov/oppad001/chemregindex.htm.

Types of Antimicrobial Products

Antimicrobial products are divided into two categories based on the type of microbial pest against which the product works:

- Non-public health products are used to control growth of algae, odor-causing bacteria, bacteria which cause spoilage, deterioration or fouling of materials and microorganisms infectious only to animals. This general category includes products used in cooling towers, jet fuel, paints, and treatments for textile and paper products.
- Public health products are intended to control microorganisms infectious to humans in any inanimate environment.

The more commonly used public health antimicrobial products include the following:

- Sterilizers (Sporicides) - Used to destroy or eliminate all forms of microbial life including fungi, viruses, and all forms of bacteria and their spores. Spores are considered to be the most difficult form of microorganism to destroy. Therefore, EPA considers the term Sporicide to be synonymous with "Sterilizer." Sterilization is critical to infection control and is widely used in hospitals on medical and surgical instruments and equipment. Types of sterilizers include steam under pressure (autoclaving), dry heat ovens, low temperature gas (ethylene oxide), and liquid chemical sterilants. Gaseous and dry heat sterilizers are used primarily for sterilization of medical instruments. Liquid sterilants are primarily used for delicate instruments which cannot withstand high temperature and gases.

- Disinfectants - Used on hard inanimate surfaces and objects to destroy or irreversibly inactivate infectious fungi and bacteria but not necessarily their spores. Disinfectant products are divided into two major types: hospital and general use. Hospital type disinfectants are the most critical to infection control and are used on medical and dental instruments, floors, walls, bed linens, toilet seats, and other surfaces. General disinfectants are the major source of products used in households, swimming pools, and water purifiers.

- Sanitizers - Used to reduce, but not necessarily eliminate, microorganisms from the inanimate environment to levels considered safe as determined by public health codes or regulations. Sanitizers include food contact and non-food contact products. Sanitizing rinses for surfaces such as dishes and cooking utensils, as well as equipment and utensils found in dairies, food-processing plants, and eating and drinking establishments comprise the food contact sanitizers. These products are important because they are used on sites where consumable food products are placed and stored. Non-food contact surface sanitizers include carpet sanitizers, air sanitizers, laundry additives, and in-tank toilet bowl sanitizers.

- Antiseptics and Germicides - Used to prevent inflection and decay by inhibiting the growth of microorganisms. Because these products are used in or on living humans or animals, they are considered drugs and are thus approved and regulated by the Food and Drug Administration (FDA).

By EPA

Where do germs hide?

There are trillions of germs everywhere people live, work, and play! Keeping your family safe from harmful germs and the illness they can cause is of utmost importance to today's busy workers, parents, teachers and anyone else who wants to stay healthy.

Restrooms

One of the public places most associated with germs are public restrooms, and with good reason. According to a study conducted by researchers at the University of Arizona, the most common microorganisms associated with outbreaks stemming from public restrooms include shigella, salmonella, norovirus, and hepatitis A virus.

Bacteria and viruses are ejected and aerosolized when the toilet is flushed, and these germ-filled droplets land on all surfaces in the restroom, contaminating the environment with infectious microorganisms. Researchers found that 64 percent of the time, the floor in front of the toilet in a public restroom was contaminated with coliform (fecal) bacteria, while 61 percent of the time for sinks, 20 percent of the time for the top of the toilet, 15 percent for the sink faucet, and 6 percent of the time for the toilet handle.

According to the researchers, women's restrooms were significantly more contaminated than men's restrooms; the middle stall was the most often more contaminated than others, and that airport restrooms were the germiest restrooms of all. The alarming thing is that 95 percent of people report that they wash their hands after using a public restroom, but only 67 percent actually wash their hands; only 33 percent actually use soap, and just 16 percent wash their hands for the prescribed duration of 15 to 20 seconds. To safeguard against infection, experts advise people to wash their hands thoroughly with soap and warm water after using public restrooms.

Did you know that according to a recent study conducted by researchers at the University of Arizona, the bathroom sink is the third germiest location in the average house? The study also revealed that the bathroom floor, bathroom counter, and toilet seat are the No. 6, 7, and 8 (respectively) germiest places in the rest of the house. The bathroom can frequently be one of the germ-filled places in the house, so careful attention to regular cleaning and disinfection is crucial, especially if someone in the household has a highly contagious stomach-related illness, a cold, or the flu.

A piece of advice from the experts: Close the toilet lid before you flush to keep microbes inside the bowl from splashing as far as 20 feet onto you, counters, and anything on them! And a word about cleaning the bathroom: Cleaning and disinfecting are not the same thing. Cleaning removes germs from surfaces, while disinfecting actually destroys them. Cleaning with soap and water to remove dirt and most of the germs is usually enough, but sometimes you may want to disinfect for an extra level of protection from germs. While surfaces may look clean, many infectious germs may be lurking around. In some instances, germs can live on surfaces for hours or even for days. Disinfect those areas where there can be large numbers of germs and where there is a possibility that these germs could be spread to others; these are the high-touch areas such as sink faucets, toilet handles, and door handles. When cleaning surfaces, don't let germs hang around on cleaning cloths or towels; use either paper towels that can be thrown away, cloth towels that are later washed in hot water with detergent, or disposable sanitizing wipes that both clean and disinfect.

Office Environment

Did you know that according to a recent study by researchers at the University of Arizona, the phone is the No. 1 germiest item in a typical office environment, followed (in decreasing order) by the desktop, the keyboard, the mouse, the fax machine, the photocopier, and interestingly enough, in last place is the toilet seat. Parenthetically, the average toilet seat has just 49 germs per square inch.

According to a study conducted by researchers at the University of Arizona, a lawyer's desk averages 900 bacteria per square inch, which is less than a teacher's desk, which harbors as many as 17,000 bacteria per square inch. The average desk worker's telephone had about 25,000 germs per square inch, according to the same study. The study found that on average, every 60 seconds, a working adult touches as many as 30 objects. The study advises office workers to regularly wipe down the desktop, phone, and keyboard with disinfectant wipes or use a spray disinfectant designed for hard surfaces.

An Ounce of Prevention
Keeps the Germs Away

Seven Keys to a Safer Healthier Home & Work

Staying healthy is important to you and your entire family. Follow these easy, low-cost steps to help stop many infectious diseases before they happen!

Myers Chemical & Supplies

Get more product info at: www.MyersSupply.com

Keeping your hands clean is one of the best ways to keep from getting sick and spreading illnesses. Cleaning your hands gets rid of germs you pick up from other people ...from the surfaces you touch … and from the animals you come in contact with.

When to Wash

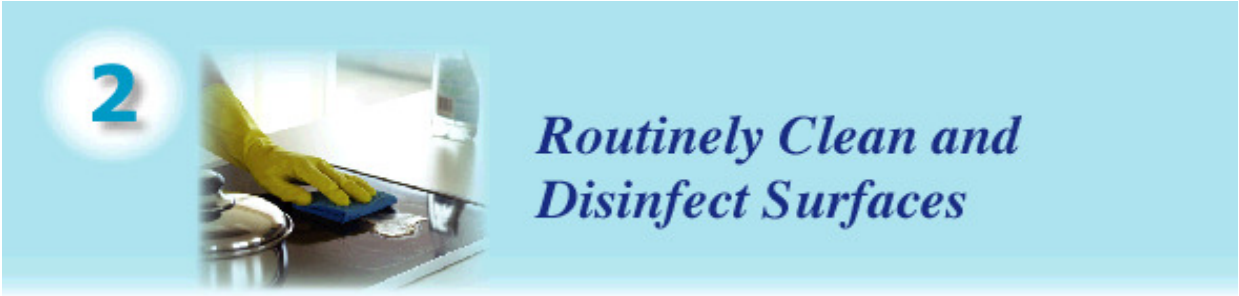
- Before eating.
- Before, during and after handling or preparing food.
- After contact with blood or body fluids (like vomit, nasal secretions, or saliva).
- After changing a diaper.
- After you use the bathroom.
- After handling animals, their toys, leashes, or waste.
- After touching something that could be contaminated (such as a trash can, cleaning cloth,drain or soil).
- Before dressing a wound, giving medicine or inserting contact lenses.
- More often when someone in your home is sick.
- Whenever they look dirty.

How to Wash

- Wet your hands and apply liquid, bar, or powder soap.
- Rub hands together vigorously to make a lather and scrub all surfaces.
- Continue for 20 seconds! It takes that long for the soap and scrubbing action to dislodge and remove stubborn germs. Need a timer? Imagine singing "Happy Birthday " all the way through – twice!!
- Rinse hands well under running water.
- Dry your hands using a paper towel or air dryer.
- If possible, use your paper towel to turn off the faucet.

Remember: *If soap and water are not available, use an alcohol-based wipe or hand gel!*

For more information,visit
www.cdc.gov/cleanhands



***Cleaning* and *disinfecting* are not the same thing. Cleaning removes germs from surfaces – whereas disinfecting actually *destroys* them. Cleaning with soap and water to remove dirt and most of the germs is usually enough. But sometimes, you may want to disinfect for an extra level of protection from germs.**

- While surfaces may *look* clean, many infectious germs may be lurking around. In some instances, germs can live on surfaces for hours — and even days.
- Disinfectants are specifically registered with the U.S.Environmental Protection Agency (EPA) and contain ingredients that actually *destroy* bacteria and other germs. Check the product label to make sure it says "Disinfectant " and has an EPA registration number.

Disinfect those areas where there can be large numbers of dangerous germs – and where there is a possibility that these germs could be spread to others.

In the Kitchen:

- Clean and disinfect counters and other surfaces before, during, and after preparing food (especially meat and poultry).
- Follow all directions on the product label, which usually specifies letting the disinfectant stand for a few minutes.
- When cleaning surfaces, don't let germs hang around on cleaning cloths or towels!

Use:
— Paper towels that can be thrown away

OR
— Cloth towels that are later washed in hot water

OR
— Disposable sanitizing wipes that both clean and disinfect.

In the Bathroom:

- Routinely clean and disinfect all surfaces.

This is especially important if someone in the house has a **stomach illness** ,a **cold** ,or the **flu**.

When it comes to preventing food borne illness, there are four simple steps to food safety that you can practice every day. These steps are easy –and they'll help protect you and those around you from harmful food borne bacteria.

CLEAN: Clean hands and surfaces often

Germs that cause food borne illness can be spread throughout the kitchen and get onto hands from cutting boards, utensils, counter tops, and food. Help stop the spread of these germs!

Here's how:

- Clean your hands with warm water and soap for at least 20 seconds before and after handling food. If soap and water are not available, use an alcohol-based wipe or hand gel.
- Wash your cutting boards, dishes, utensils and counter tops with hot soapy water after preparing each food item and before you prepare the next food.
- Consider using paper towels to clean up kitchen surfaces. If you use cloth towels, wash them often using the hot cycle of your washing machine. If using a sponge to clean up, microwave it each evening for 30 seconds or place it in the dishwasher.
- Rinse *all* fresh fruits and vegetables under running tap water. This includes those *all* with skins and rinds that are not eaten. For firm skin fruits and vegetables, rub with your hands or scrub with a clean vegetable brush while rinsing.

SEPARATE: Don 't cross-contaminate one food with another

Cross-contamination occurs when bacteria spread from a food to a surface ...from a surface to another food ...or from one food to another. You're helping to prevent cross -contamination when you:

- Separate raw meat, poultry, seafood and eggs from other foods in your grocery cart, grocery bags, and in your refrigerator. Be sure to use the plastic bags available in the meat and produce sections of the supermarket.
- Use one cutting board for fresh produce and a different one for raw meat, poultry and seafood.
- Never place cooked food on a plate that previously held raw meat, poultry, seafood, or eggs.
- Don't allow juices from meat, seafood, poultry, or eggs to drip on other foods in the refrigerator. Use containers to keep these foods from touching other foods.
- Never re-use marinades that were used on raw food, unless you bring them to a boil first.

COOK: Cook foods to proper temperatures

Foods are safely cooked when they are heated for a long-enough time and at a high-enough temperature to kill the harmful bacteria that cause food borne illness. The target temperature is different for different foods. The only way to know for sure that meat is cooked to a safe temperature is to use a food thermometer. Make sure it reaches the temperature recommended for each specific food.

Cooking temperatures are listed at **www.fightbac.org/heatitup.cfm**
and USDA's special Web site at **www.isitdoneyet.gov**

CHILL: Refrigerate foods promptly

Cold temperatures slow the growth of harmful bacteria. So, refrigerate foods quickly. Do not over-stuff the refrigerator, as cold air must circulate to help keep food safe.

- Keeping a constant refrigerator temperature of 40 ° F or below is one of the most effective ways to reduce the risk of food borne illness. Use an appliance thermometer to be sure the temperature is consistently 40 ° F or below.
- The freezer temperature should be 0 ° F or below.
- Plan when you shop: Buy perishable foods such as dairy products, fresh meat and hot cooked foods at the end of your shopping trip. Refrigerate foods as soon as possibly to extend their storage life. Don't leave perishable foods out for more than two hours.
- If preparing picnic foods, be sure to include an ice pack to keep cold foods cold.
- Store leftovers properly.

For More information, visit **www.fightbac.org**

Getting immunizations is easy and low-cost – and most importantly, it saves lives. Make sure you and your children get the shots suggested by your doctor or health care provider at the proper time, and keep records of all immunizations for the whole family. Also, ask your doctor about special programs that provide free shots for your child.

- Children should get their first immunizations before they are 2 months old. They should have additional doses four or more times before their second birthday.
- Adults need tetanus and diphtheria boosters every 10 years. Shots are also often needed for protection from illnesses when traveling to other countries.
- Get your flu shot. The single best way to prevent the flu each fall.

For information on immunization, visit
www.cdc.gov/nip
To learn about shots needed for travel,visit
www.cdc.gov/travel/vaccinat.htm
For more information about the flu, visit
www.cdc.gov/flu

Antibiotics are powerful drugs used to treat certain bacterial infections – and they should be taken exactly as prescribed by your health care provider.

- Antibiotics don't work against viruses such as colds or the flu. That means children do not need an antibiotic every time they are sick.
- If you do get sick, antibiotics may not always help. If used inappropriately, they can make bacteria resistant to treatment – thus making illnesses harder to get rid of.

When in doubt, check with your health care provider – and always follow the antibiotic label instructions carefully.

For more information, visit
www.cdc.gov/getsmart

6 Be Careful With Pets

Pets provide many benefits to people, including comfort and companionship. However, some animals can also pass diseases to humans. Keep these tips in mind to make sure your pet relationship is a happy *and* healthy one.

- Pets should be adopted from an animal shelter or purchased from a reputable pet store or breeder.
- All pets should be routinely cared for by a veterinarian. Follow the immunization schedule that the vet recommends.
- Obey local leash laws.
- Clean litter boxes daily. NOTE: Pregnant women should not clean litter boxes.
- Don't allow children to play where animals go to the bathroom.
- Keep your child's sandbox covered when not in use.

For more information, visit **www.cdc.gov/healthypets**

About Children and Pets

Babies and children under 5 are more likely to get diseases from animals – so keep these special guidelines in mind.

- Young children should not be allowed to kiss pets or to put their hands or other objects into their mouths after touching animals.
- Wash your child's hands thoroughly with soap and warm running water after contact with animals.
- Be particularly careful when visiting farms, petting zoos, and fairs.

7 Avoid Contact With Wild Animals

Wild animals can carry diseases that are harmful to you and your pets — but there are simple precautions you can take to avoid contact with a variety of species.

- Keep your house free of wild animals by not leaving any food around and keeping garbage cans sealed.
- Clear brush, grass, and debris from around house foundations to get rid of possible nesting sites for mice and rodents.
- Be sure to seal any entrance holes you discover on the inside or outside of your home.
- Use insect repellent to prevent ticks. Do a routine "tick check " after spending time outdoors. Ticks should be removed immediately with tweezers by applying gentle, steady pressure until they release their bite.

For more information, visit **www.cdc.gov/hantavirus**

Infectious Diseases:

The Facts Behind the Urgency

There are many types of germs (viruses, bacteria, parasites, fungi) that cause many types of illnesses – including the common cold or flu, food borne illness, Lyme disease, hantavirus, or plague. These germs can spread easily from one person to another – and have wide-reaching effects.

- About 10 million U.S. adults (ages 18 -69) were unable to work during 2002 due to health problems.
- Salmonella infections are responsible for an estimated 1.4 million illnesses each year.
- Infectious diseases cost the U.S. $120 billion a year.
- More than 160,000 people in the U.S. die yearly from an infectious disease.

Help keep yourself and your family healthy by making the *Seven Keys to a Safer Healthier Home* part of your permanent household routine.

This healthy message on pages 7-14 is brought to you by:

Centers for Disease Control and Prevention
Coordinating Center for Infectious Diseases,
& National Center for Infectious Diseases
Safer * Healthier * People ™

Myers Chemical & Supplies
Get more product info at: www.MyersSupply.com