



Bird Flu & Pandemic Preparedness

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This document goes into the types of pandemic outbreaks we could face, symptoms and treatment options, as well as information on quarantine and decontamination.

A compilation of many sources. Thank you to all.

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Introduction to Basic Pandemic Packet

How did I get started on preparing for a Pandemic and why would I!!??? I am sure many of you have similar stories, but sometimes it helps to know where someone is coming from.

Food storage has always been a part of my life, even growing up. We ate our food storage almost exclusively for 2 years while I was in high school. Being the oldest of 9 kids, I learned how to use and appreciate having it. One of our first big purchases after getting married was our year supply. A year supply is not something you “get and forget” about. It is a continual process. I use my food storage every day and my pantry is lined with buckets on the bottom shelf. It is done in stages usually. You start with dehydrated, then buy in bulk, get buckets and “do it yourself”, then comes water, clothing, fuel etc. I don’t know if you are ever DONE!

I then started wondering what to have in my storage medically for an emergency? One day my husband came home with a glossy cover 31 page “Individual and Family Handbook---Be Prepared for a Flu Pandemic”. It was put out by the City of Logan for all employees and their families. That really spurred me on. As I gathered more information, there was a lot of ground to cover in this area, and I was not prepared as much as I needed to be. I realized this is the direction the church is emphasizing now. They asked us to get a 3 mo. supply—in our house, put Pandemic info on their web site, minimized food storage requirements, and put food storage in easy to purchase kits for your home, and sent a church called person so give presentations on the Pandemic!! (You can’t even go to the Dist. Center w/o seeing food storage!) So for the last year this is where I have put a lot of time and energy into. The LDS Church also has information on this topic on their web site: www.providentliving.org

In 2007 (soon after the LDS church recommended getting a 3 month supply) Susan Puls was asked as the Emergency Medical Responder for the LDS Church to start giving firesides on Pandemic Preparedness. I studied the notes from 3 of her presentations and started getting more prepared in this area. Some of the important things mentioned are as follows:

- A 3 month supply IS NOT the new shortened “year supply”, but it is an addition to the year supply, and could be used for a possible self-quarantine inside your home.
- Stockpile face masks
- Purchase necessary Medical supplies
- Be prepared to be self-sufficient for 3 mo. to prevent exposure.
- Know how to recognize symptoms and deal with an infected family member.

There is a list of about 14 supplies to have, as well as food storage ideas on the web site.

After learning and preparing for this, I was asked to give the information in a class setting. This is the result of the requests from people who have attended my Food Storage/3mo. supply and Sprouting classes. (Also, I am available to give those presentations if you are interested.) I hope this is helpful information. It is very thorough; just take it step by step as you would any other large project. Start small and move forward—JUST START! The Lord will bless us for following the counsel we have received and give us inspiration along the way. I have had wonderful experiences and miracles of “help” as I have tried to be obedient.

I have learned much from my preparations and am glad to be of any help or to answer questions. To schedule classes, please call: Melonie Turley at 435-512-0822

Additional Information

Dr. David L. Heymann, executive director of communicable diseases for the World Health Organization has said: The existing public health system is, according to many experts, woefully inadequate to address a pandemic.

"Even now there is little to no excess capacity to absorb more patients, but when pandemic flu arrives there will be a tidal wave of patients arriving in clinics and ERs nationwide," said Wilde. "If it happens tomorrow, the system will collapse."

Secretary of Health and Human Services, Michael Leavitt, agrees with Dr. Heymann and has repeatedly warned us that we will be on our own regarding our health care during a severe pandemic. **Because of these many warnings, even those people who have little experience or faith in natural health treatments may want to consider home preparations for a bird flu treatment since there is a strong possibility that no professional health care will be available.**

Many have put their faith in a vaccine solving the problem, but the hard reality is that it will take approximately six months to have a vaccine ready. Experts agree that if the pandemic is severe, it will likely come in three or four waves, each wave lasting about six weeks. The flu outbreak of 1918 and many other pandemics have followed this trend and scientists tell us that the virus mutates between each wave, thus rendering a vaccine from a previous wave less effective.

In an attempt to lessen fear and economic jitters, the main stream media reports little of what is really going on with bird flu around the world. News that the virus has mutated to be able to spread through coughing and sneezing has been suppressed in Indonesia, but not before a few news articles leaked the information. It is not yet fully efficient yet but about a death a day is occurring in Indonesia. Following, are more expert opinions:

"According to The World Health Organization, the current outbreaks of highly pathogenic avian influenza are the largest and most severe on record. The virus has already mutated with limited person-to-person spread occurring in Indonesia. Health experts fear that as in past pandemics, it will mutate further, into a virus that is easily spread from person-to-person, becoming a deadly human pandemic with millions dying. Most scientists think it is just a question of when."

"**We've probably never been closer to a pandemic**", stated Dr. Julie Gerberding of the Centers for Disease Control (CDC). "**It's not a matter of if, but when...**", said Dr Michael Osterholm, one of the world's foremost infectious disease experts and director of the Center for Infectious Disease Research and Policy (CIDRAP).

Bird Flu - Everyone is at Risk

"Bird flu, a human pandemic is unavoidable and will take place sooner or later", stated Dr. David Nabarro, United Nations World Health Organization Coordinator for avian and human influenza. He estimated as many as 150 million potential deaths worldwide. Many experts believe that could be a conservative estimate.

According to Dr. Nabarro: "Once a flu pandemic starts, everyone will be at risk of getting pandemic flu, because no one has natural immunity to the virus. However, certain groups may be at greater risk of dying than others. There are strong indications that the coming bird-flu pandemic may be similar to the influenza pandemic of 1918 and, if so, healthy adults would be most at risk of dying, along with pregnant women and the elderly" (www.pandemicinfo.com).

Friday Oct. 26, 2007, Michael Chertoff, addressing a meeting on Emergency Preparedness for the International Association of Fire Chiefs, said:

"Another element of the plans that we have deals with the pandemic flu - not a fire incident, not an explosion, but a huge, very challenging, public health emergency." **...the essence to getting better prepared and better response is individual preparedness at the local level, community, private sector, family, and person.** Without that kind of preparedness, putting supplies together and having a plan, your job becomes much more difficult. I believe that it is a civic responsibility to get people to be prepared. Sometimes people are overwhelmed. 'I can't be prepared...it's too scary...it's too difficult...it's too complicated...' It's not the hard thing that many people fear it is...**it's not too difficult to get prepared, that it's important to get prepared...**"

And so we address not a full preparation of food and water storage, etc. but a straightforward plan for treating the virus, and also for attempting to not contract it in the first place.

Pandemic Preparations....

Information about a Pandemic and Bird Flu

10 Things You Should Know:

1. Pandemic influenza is different from avian influenza.

Avian influenza refers to a large group of different influenza viruses that primarily affect **birds**. On rare occasions, these bird viruses adapt the ability to infect humans. At that point, it's no longer a **bird** virus, but a **human** influenza virus.

An **influenza pandemic** happens when a new virus subtype emerges which has not previously circulated in humans (therefore people generally have no immunity to it). The avian virus H5N1 is such a case. It might ultimately adapt into a strain that is contagious among humans. But right now, it's still a **bird** virus, not a **human** virus.

2. Influenza pandemics are recurring events.

Influenza pandemics are somewhat rare but they do happen from time to time. Three pandemics occurred in the last century: the great "Spanish influenza" in 1918 and lesser pandemics in 1957 and 1968.

3. The world may be on the brink of another pandemic.

Health experts have been monitoring the **H5N1** strain - a new and extremely severe influenza virus – for almost eight years. The H5N1 strain first infected humans in Hong Kong in 1997, causing 18 cases, including six deaths. Since mid-2003, this virus has caused the largest and most severe outbreaks in poultry *ever seen*. Since December 2003, human infections have again been occurring - first in Asian countries (Cambodia, Indonesia, Thailand, Viet Nam, and China) and more recently in Turkey and Iraq.

As of February 6, 2006, there have been 165 documented human cases, including 88 deaths.

Fortunately, the H5N1 virus does not jump easily from birds to humans or spread readily and sustainably among humans. Should H5N1 evolve to a form as contagious as normal influenza, a pandemic could begin.

4. All countries will be affected by any pandemic

Once a fully contagious virus emerges, its global spread is considered inevitable. Countries might, through measures such as border closures and travel restrictions, delay arrival of the virus, but cannot stop it.

5. Widespread illness will occur.

Because most people will have **no immunity** to the pandemic virus, infection and illness rates are expected to be higher than during seasonal epidemics of normal influenza. It is estimated that a substantial percentage of the world's population will require some form of medical care. *Few countries have the staff, facilities, equipment, and hospital beds needed to cope with large numbers of people who suddenly fall ill.*

6. Medical supplies will be inadequate.

Supplies of vaccines and antiviral drugs – the two most important medical interventions for reducing illness and deaths during a pandemic – will be inadequate in all countries at the start of a pandemic and for many months thereafter. Inadequate supplies of vaccines are of particular concern, as vaccines are considered the first line of defense for protecting populations. On present trends, many developing countries will have no access to vaccines throughout the duration of a pandemic.

7. Large numbers of deaths will occur.

Historically, the number of deaths during a pandemic has varied greatly. Because of variable factors, accurate predictions of mortality cannot be made before the pandemic virus emerges and begins to spread. All estimates are purely speculative.

For planning purposes, WHO has used a relatively conservative estimate – from 2 million to 7.4 million deaths – based on the comparatively mild 1957 pandemic. A more virulent virus (closer to the one seen in 1918) would cause a much higher number of deaths, according to estimates.

8. Economic and social disruption will be great.

High rates of illness and worker absenteeism are expected during a flu pandemic, and these will contribute to social and economic disruption. *Such disruptions could be*

temporary, but may be amplified in today's closely interrelated and interdependent systems of trade and commerce. Social disruption may be greatest when rates of absenteeism impair essential services, such as power, transportation, and communications.

Past pandemics have spread globally in two and sometimes three waves. Not all parts of the world or of a single country are expected to be severely affected at the same time.

9. Every country must be prepared.

WHO has issued a series of recommended strategic actions for responding to the influenza pandemic threat. The actions are designed to provide different layers of defense that reflect the complexity of the evolving situation.

10. WHO will alert the world when the pandemic threat increases.

WHO works closely with ministries of health and various public health organizations to support countries' surveillance of circulating influenza strains. A sensitive surveillance system that can detect emerging influenza strains is essential for the rapid detection of a pandemic virus.

To facilitate pandemic preparedness planning, six distinct alert phases have been defined. Each phase defines roles for governments, industry, and WHO. We are presently in **alert phase 3**: a virus new to humans is causing infections, but does not spread easily from one person to another.

Facts about Avian Influenza

Key Facts About Avian Influenza (Bird Flu) and Avian Influenza A (H5N1) Virus

This fact sheet provides general information about bird flu and information about one type of bird flu, called avian influenza A (H5N1) that is infecting birds in Asia and has infected some humans. Also see the Frequently Asked Questions (FAQs) on the World Health Organization (WHO) website.

What is avian influenza (bird flu)?

Bird flu is an infection caused by avian (bird) influenza (flu) viruses. These flu viruses occur naturally among birds. Wild birds worldwide carry the viruses in their intestines, but usually do not get sick from them. However, bird flu is very contagious among birds and can make some domesticated birds, including chickens, ducks, and turkeys, very sick and kill them.

Do bird flu viruses infect humans? Bird flu viruses do not usually infect humans, but several cases of human infection with bird flu viruses have occurred since 1997.

How are bird flu viruses different from human flu viruses?

There are many different subtypes of type A influenza viruses. These subtypes differ because of certain proteins on the surface of the influenza A virus (hemagglutinin [HA] and neuraminidase

[NA] proteins). There are 16 different HA subtypes and 9 different NA subtypes of flu A viruses. Many different combinations of HA and NA proteins are possible. Each combination is a different subtype. All known subtypes of flu A viruses can be found in birds. However, when we talk about "bird flu" viruses, we are referring to influenza A subtypes chiefly found in birds. They do not usually infect humans, even though we know they can. When we talk about "human flu viruses" we are referring to those subtypes that occur widely in humans. There are only three known A subtypes of human flu viruses (H1N1, H1N2, and H3N2); it is likely that some genetic parts of current human influenza A viruses came from birds originally. Influenza A viruses are constantly changing, and they might adapt over time to infect and spread among humans.

What are the symptoms of bird flu in humans?

Symptoms of bird flu in humans have ranged from typical flu-like symptoms (fever, cough, sore throat and muscle aches) to eye infections, pneumonia, severe respiratory diseases (such as acute respiratory distress), and other severe and life-threatening complications. The symptoms of bird flu may depend on which virus caused the infection.

How does bird flu spread?

Infected birds shed flu virus in their saliva, nasal secretions, and feces. Susceptible birds become infected when they have contact with contaminated excretions or surfaces that are contaminated with excretions. It is believed that most cases of bird flu infection in humans have resulted from contact with infected poultry or contaminated surfaces. The spread of avian influenza viruses from one ill person to another has been reported very rarely, and transmission has not been observed to continue beyond one person.

How is bird flu in humans treated?

Studies done in laboratories suggest that the prescription medicines approved for human flu viruses should work in preventing bird flu infection in humans. However, flu viruses can become resistant to these drugs, so these medications may not always work. Additional studies are needed to prove the effectiveness of these medicines.

What is the risk to humans from bird flu?

The risk from bird flu is generally low to most people because the viruses occur mainly among birds and do not usually infect humans. However, during an outbreak of bird flu among poultry (domesticated chicken, ducks, turkeys), there is a possible risk to people who have contact with infected birds or surfaces that have been contaminated with excretions from infected birds. The current outbreak of avian influenza A (H5N1) among poultry in Asia and Europe (see below) is an example of a bird flu outbreak that has caused human infections and deaths. In such situations, people should avoid contact with infected birds or contaminated surfaces, and should be careful when handling and cooking poultry. For more information about avian influenza and food safety issues, visit the World Health Organization website. In rare instances, limited human-to-human spread of H5N1 virus has occurred, and transmission has not been observed to continue beyond one person.

What is an avian influenza A (H5N1) virus?

Influenza A (H5N1) virus – also called "H5N1 virus" – is an influenza A virus subtype that occurs mainly in birds. Like all bird flu viruses, H5N1 virus circulates among birds worldwide, is very contagious among birds, and can be deadly.

What is the H5N1 bird flu that has been reported in Asia and Europe?

Outbreaks of influenza H5N1 occurred among poultry in eight countries in Asia (Cambodia, China, Indonesia, Japan, Laos, South Korea, Thailand, and Vietnam) during late 2003 and early 2004. At that time, more than 100 million birds in the affected countries either died from the disease or were killed in order to try to control the outbreak. By March 2004, the outbreak was reported to be under control. Beginning in late June 2004, however, new outbreaks of influenza H5N1 among poultry were reported by several countries in Asia (Cambodia, China [Tibet], Indonesia, Kazakhstan, Malaysia, Mongolia, Russia [Siberia], Thailand, and Vietnam). It is believed that these outbreaks are ongoing. Most recently, influenza H5N1 has been reported among poultry in Turkey and Romania. Human infections of influenza A (H5N1) have been reported in Cambodia, Indonesia, Thailand, and Vietnam.

What is the risk to humans from the H5N1 virus in Asia and Europe?

The H5N1 virus does not usually infect humans. In 1997, however, the first case of spread from a bird to a human was seen during an outbreak of bird flu in poultry in Hong Kong, Special Administrative Region. The virus caused severe respiratory illness in 18 people, 6 of whom died. Since that time, there have been other cases of H5N1 infection among humans. Recent human cases of H5N1 infection that have occurred in Cambodia, Thailand, and Vietnam have coincided with large H5N1 outbreaks in poultry. The World Health Organization (WHO) also has reported human cases in Indonesia. Most of these cases have occurred from contact with infected poultry or contaminated surfaces; however, it is thought that a few cases of human-to-human spread of H5N1 have occurred.

So far, spread of H5N1 virus from person to person has been rare and has not continued beyond one person. However, because all influenza viruses have the ability to change, scientists are concerned that the H5N1 virus one day could be able to infect humans and spread easily from one person to another. Because these viruses do not commonly infect humans, there is little or no immune protection against them in the human population. If the H5N1 virus were able to infect people and spread easily from person to person, an influenza pandemic (worldwide outbreak of disease) could begin. No one can predict when a pandemic might occur. However, experts from around the world are watching the H5N1 situation in Asia very closely and are preparing for the possibility that the virus may begin to spread more easily and widely from person to person.

How is infection with H5N1 virus in humans treated?

The H5N1 virus currently infecting birds in Asia that has caused human illness and death is resistant to amantadine and rimantadine, two antiviral medications commonly used for influenza. Two other antiviral medications, oseltamavir and zanamavir, would probably work to treat flu caused by the H5N1 virus, but additional studies still need to be done to prove their effectiveness.

Is there a vaccine to protect humans from H5N1 virus?

There currently is no commercially available vaccine to protect humans against the H5N1 virus that is being seen in Asia and Europe. However, vaccine development efforts are taking place. Research studies to test a vaccine to protect humans against H5N1 virus began in April 2005, and a series of clinical trials is underway. For more information about the H5N1 vaccine development process, visit the National Institutes of Health website.

What is the risk to people in the United States from the H5N1 bird flu outbreak in Asia and Europe?

The current risk to Americans from the H5N1 bird flu outbreak in Asia is low. The strain of H5N1 virus found in Asia and Europe has not been found in the United States. There have been no human cases of H5N1 flu in the United States. It is possible that travelers returning from affected countries in Asia could be infected if they were exposed to the virus. Since February 2004, medical and public health personnel have been watching closely to find any such cases.

What does CDC recommend regarding the H5N1 bird flu outbreak?

In February 2004, CDC provided U.S. health departments with recommendations for enhanced surveillance ("detection") in the U.S. of avian influenza A (H5N1). Follow-up messages, distributed via the Health Alert Network, were sent to the health departments on August 12, 2004, and February 4, 2005; both alerts reminded health departments about how to detect (domestic surveillance), diagnose, and prevent the spread of avian influenza A (H5N1). The alerts also recommended measures for laboratory testing for H5N1 virus. CDC currently advises that travelers to countries with known outbreaks of influenza A (H5N1) avoid poultry farms, contact with animals in live food markets, and any surfaces that appear to be contaminated with feces from poultry or other animals. CDC does not recommend any travel restrictions to affected countries at this time. For more information, visit Travelers' Health.

Avian Flu Symptoms

- general flu like symptoms
- fever
- cough
- shortness of breath to acute respiratory distress
- sore throat
- muscle aches
- eye infections
- pneumonia
- diarrhea and abdominal pain
- nausea and vomiting
- bleeding of nose and gums

Avian Flu Recommendations

- strict personal hygiene practices
- use N-95 (or better) mask and gloves for at a distance (casual) contact
- keep 20' distance even with mask and gloves
- full face gas mask with bio-filter, gown and gloves for personal contact
- dedicated washable instruments for personal care
- isolation room for infected persons
- Tamiflu

Avian Flu Cures??

In many diseases (including H5N1 in humans), a "cytokine storm" is triggered by the infection. Cytokines are hormones that regulate the immune system. When released at the right time in the proper amounts, cytokines can help fight infections and regulate processes throughout the

body. Most of the research into the H5N1 virus suggests that this virus actually over stimulates the immune system, and that the body kills itself while trying to eliminate the avian flu infection.

For this aspect of the virus I have on hand Turmeric, a well documented herbal anti-inflammatory and a formula called Immucalm. Immucalm is made simply of two herbs, Astragalus and Marshmallow. Astragalus alone stimulates the immune system, but the combination calms it. Immucalm is used very successfully for allergies.

Absorption of the curcumin in Turmeric can be increased when co-administered with piperine (a compound found in various species of pepper, including the black pepper found in most kitchens). I keep whole pepper corns and will grind it fresh when needed. The cytokines also increase production of reactive oxygen compounds (free radicals) that further the inflammation. Increasing our anti-oxidant intake now and keeping it at a high level will increase our chances of being able to fight this virus if infected.

Fruits and vegetables with intense color are high in anti-oxidants, as are many herbal teas. Some of the most notable are blueberry, bilberry, chokeberry, green tea and rooibos tea. There has been much talk about Tamiflu and the possibility that it can curb the reproduction of the H5N1 virus. Tamiflu works by inhibiting an enzyme called neuraminidase. There are natural neuraminidase inhibitors found in plants: the most widely studied is a compound called 5,7,4'-trihydroxy-8-methoxyflavone, which is found in the herb Scutellaria (commonly called skullcap). Another neuraminidase inhibitor is the chemical resveratrol. In addition to inhibiting neuraminidase, resveratrol also sends a message to cells to stop manufacturing viruses. Resveratrol is a compound found in large amounts in red wine, grape seeds, and Japanese knotweed. James Duke's site lists grape leaves as the highest source of resveratrol.

There are many good anti-viral herbs to choose from to add to the above potential therapies. I will list only a few of my favorites. Garlic (fresh or oil), St. Johns Wort, Tea tree oil 9 as a steam inhaler or mixed with a carrier oil and rubbed into the lower chest and back).

There are many sites on the web that offer alternative therapy for H5N1. Here is one of the best I have seen. It has citations and numerous links.

<http://www.med-owl.com/herbal-antivirals/tiki-index.php?page=H5N1+Avian+Flu>

This lists substances to avoid when dealing with H5N1 is from the Bird Flu Survival Guide.

<http://www.bird-flu-influenza.com/releaza-tamiflu-alternatives-folk-medicines-antivirals.htm>

The following substances may be best to avoid during a H5N1 pandemic:

Elderberry juice (Sambucal) - Increases production of cytokines TNF-a and IL-6. This substance is very effective against the common flu but may not be desirable for the H5N1 Bird Flu virus.

Increases in these cytokines may trigger a lethal cytokine storm.

Micro Algae (Chlorella and Spirulina) - Increases production of cytokine TNF-a

Honey - Increases production of cytokines TNF-a and IL-6

Chocolate - Increases production of cytokines TNF-a and IL-6

Echinacea - Increases production of cytokines TNF-a and IL-6. Although it is often used for normal flu, research shows that it may increase the chance of cytokine storms for H5N1

Kimchi - Increases production of cytokines TNF-a and IL-6

Dairy products & Bananas - These foods increase mucous production

Herbs for H5N1

I have been researching H5N1 for a few months. My area of interest is prevention and treating with herbs. Of course quarantine and other preventive measures, such as masks and gloves if exposure cannot be helped, are common sense.

In many diseases (including H5N1 in humans), a "cytokine storm" is triggered by the infection. Cytokines are hormones that regulate the immune system. When released at the right time in the proper amounts, cytokines can help fight infections and regulate processes throughout the body. Most of the research into the H5N1 virus suggests that this virus actually over stimulates the immune system, and that the body kills itself while trying to eliminate the avian flu infection. For this aspect of the virus I have on hand **Turmeric**, a well documented herbal anti-inflammatory and a formula called Immucalm. Immucalm is made simply of two herbs, **Astragalus and Marshmallow**. Astragalus alone stimulates the immune system, but the combination calms it. Immucalm is used very successfully for allergies.

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Basic Kit to Treat Virus–

Basics

Here are the basics necessary to treat the virus:

- Oregano oil in gelatin capsules
- Emergen-C (available at SAMS Club)
- Cayenne capsules
- Vitamin D

Keep these in a small box so they are not used and so they are easy to access if treatment is needed for bird flu. I recommend printing off the instructions from this site and keep this in the box.

The other part of the basic program consists of things to purchase if we hear a pandemic is occurring. These items are:

- Fresh garlic and honey
- Fresh lemons
- Real maple syrup

Instructions

Oregano oil should be taken in large doses immediately if the virus is contracted. The virus strikes so rapidly and does so much damage that an immediate and strong response is called for. Oregano is a powerful anti-viral but it seems to gain far great efficacy if taken in large amounts until symptoms have eased. If possible, take 12 to 15 capsules per day if patient can handle that, and spread out to four or five doses per day.

Take Emergen-C mixed in water or juice, 2 or 3 packets per day. If this is taken previous to flu being in your area, it could prevent the onset of the virus since high doses of vitamin C keeps the body in a highly alkaline state and this state is an unfriendly environment for the virus, as shown in lab tests. Vitamin D strengthens the lungs and like the Emergen-C, would be wise to take both as a precaution, and also if fighting the bird flu virus. Two capsules of cayenne before each meal will help kill the virus. Cayenne does not burn most people if taken immediately before eating. Do not take after a meal.

Fresh garlic has an enzyme that is killed in processing or cooking that is very effective against this virus, especially helping the lung congestion. Mince one clove of garlic per cup of water and set outside in a glass container, making sun tea. Sweetening it with honey actually makes it very palatable. Small children take this readily. Strain the garlic before drinking. If the patient is unable to take anything orally, strong garlic water given in an enema twice daily is like an antibiotic shot and also will help fight dehydration. Fresh lemons are one of the best things to fight bird flu. Stories from the 1918 pandemic underscore this and also, they are extremely alkaline and high in vitamin C. The best way to take lemons are squeezed into water and sweetened with maple syrup. It is best for the patient to stay away from sugar. When moving away from a sterile environment, a wedge of lemon held in the mouth, or less pleasant but still very effective, a freshly cut clove of garlic, can help protect you from contracting the virus but is not fool-proof. It is important to note that many patients who die from bird flu seemed to have been recovering and then relapsed and rapidly succumbed. It is crucial to not stop treatment until the patient is well, although you can cut back on the amount of the oregano oil once real improvement is noted. I learned that large doses of the oregano oil are necessary and extremely effective for severe illness.

At a crucial time of illness, the palate should not be in charge of food choices.

If the lungs are over-burdened, a mustard/garlic plaster for the chest with a hot water bottle is recommended. Spread the plaster on a thin cloth folded over and sprinkle hot water over the top and then place the hot water bottle over it. Do not let the plaster get cold. Finally, keeping the bowels moving well was shown by a military doctor during the 1918 pandemic, to be helpful in fighting off the contraction of the virus.

Article on Vitamin D and the Flu

Epidemic Influenza and Vitamin D

Article Date: 15 Sep 2006

In early April of 2005, after a particularly rainy spring, an influenza epidemic (epi: upon, demic: people) exploded through the maximum-security hospital for the criminally insane where I have worked for the last ten years. It was not the pandemic (pan: all, demic: people) we all fear, just an epidemic. The world is waiting and governments are preparing for the next pandemic. A severe influenza pandemic will kill many more Americans than died in the World Trade Centers, the Iraq war, the Vietnam War, and Hurricane Katrina combined, perhaps a million people in the USA alone. Such a disaster would tear the fabric of American society. Our entire country might resemble the Superdome or Bourbon Street after Hurricane Katrina.

It's only a question of when a pandemic will come, not if it will come. Influenza A pandemics come every 30 years or so, severe ones every hundred years or so. The last pandemic, the Hong Kong flu, occurred in 1968 - killing 34,000 Americans. In 1918, the Great Flu Epidemic killed more than 500,000 Americans. So many millions died in other countries, they couldn't bury the bodies. Young healthy adults, in the prime

of their lives in the morning, drowning in their own inflammation by noon, grossly discolored by sunset, were dead at midnight. Their bodies' own broad-spectrum natural antibiotics, called antimicrobial peptides, seemed nowhere to be found. An overwhelming immune response to the influenza virus - white blood cells releasing large amounts of inflammatory agents called cytokines and chemokines into the lungs of the doomed - resulted in millions of deaths in 1918.

As I am now a psychiatrist, and no longer a general practitioner, I was not directly involved in fighting the influenza epidemic in our hospital. However, our internal medicine specialists worked overtime as they diagnosed and treated a rapidly increasing number of stricken patients. Our Chief Medical Officer quarantined one ward after another as more and more patients were gripped with the chills, fever, cough, and severe body aches that typifies the clinical presentation of influenza A.

Epidemic influenza kills a million people in the world every year by causing pneumonia, "the captain of the men of death." These epidemics are often explosive; the word influenza comes from Italian (Medieval Latin *influentia*) or influence, because of the belief that the sudden and abrupt epidemics were due to the influence of some extraterrestrial force. One seventeenth century observer described it well when he wrote, "suddenly a Distemper arose, as if sent by some blast from the stars, which laid hold on very many together: that in some towns, in the space of a week, above a thousand people fell sick together."

I guess our hospital was under luckier stars as only about 12% of our patients were infected and no one died. However, as the epidemic progressed, I noticed something unusual. First, the ward below mine was infected, and then the ward on my right, left, and across the hall - but no patients on my ward became ill. My patients had intermingled with patients from infected wards before the quarantines. The nurses on my unit cross-covered on infected wards. Surely, my patients were exposed to the influenza A virus. How did my patients escape infection from what some think is the most infectious of all the respiratory viruses?

My patients were no younger, no healthier, and in no obvious way different from patients on other wards. Like other wards, my patients are mostly African Americans who came from the same prisons and jails as patients on the infected wards. They were prescribed a similar assortment of powerful psychotropic medications we use throughout the hospital to reduce the symptoms of psychosis, depression, and violent mood swings and to try to prevent patients from killing themselves or attacking other patients and the nursing staff. If my patients were similar to the patients on all the adjoining wards, why didn't even one of my patients catch the flu?

A short while later, a group of scientists from UCLA published a remarkable paper in the prestigious journal, *Nature*. The UCLA group confirmed two other recent studies, showing that a naturally occurring steroid hormone - a hormone most of us take for granted - was, in effect, a potent antibiotic. Instead of directly killing bacteria and viruses, the steroid hormone under question increases the body's production of a remarkable class of proteins, called antimicrobial peptides. The 200 known antimicrobial peptides directly and rapidly destroy the cell walls of bacteria, fungi, and viruses, including the influenza virus,

and play a key role in keeping the lungs free of infection. **The steroid hormone that showed these remarkable antibiotic properties was plain old vitamin D.**

All of the patients on my ward had been taking 2,000 units of vitamin D every day for several months or longer. Could that be the reason none of my patients caught the flu? I then contacted Professors Reinhold Vieth and Ed Giovannucci and told them of my observations. They immediately advised me to collect data from all the patients in the hospital on 2,000 units of vitamin D, not just the ones on my ward, to see if the results were statistically significant. It turns out that the observations on my ward alone were of borderline statistical significance and could have been due to chance alone. Administrators at our hospital agreed, and are still attempting to collect data from all the patients in the hospital on 2,000 or more units of vitamin D at the time of the epidemic...

Could vitamin D be the reason none of my patients got the flu? In the last several years, dozens of medical studies have called attention to worldwide vitamin D deficiency, especially among African Americans and the elderly, the two groups most likely to die from influenza. Cancer, heart disease, stroke, autoimmune disease, depression, chronic pain, depression, gum disease, diabetes, hypertension, and a number of other diseases have recently been associated with vitamin D deficiency. Was it possible that influenza was as well?

Then I thought of three mysteries that I first learned in medical school at the University of North Carolina: (1) although the influenza virus exists in the population year-round, influenza is a wintertime illnesses; (2) children with vitamin D deficient rickets are much more likely to suffer from respiratory infections; (3) the elderly in most countries are much more likely to die in the winter than the summer (excess wintertime mortality), and most of that excess mortality, although listed as cardiac, is, in fact, due to influenza.

Could vitamin D explain these three mysteries, mysteries that account for hundreds of thousands of deaths every year? Studies have found the influenza virus is present in the population year-around; why is it a wintertime illness? Even the common cold got its name because it is common in cold weather and rare in the summer. Vitamin D blood levels are at their highest in the summer but reach their lowest levels during the flu and cold season. Could such a simple explanation explain these mysteries?...

In 1918, when medical scientists did autopsies on some of the fifty million people who died during the 1918 flu pandemic, they were amazed to find destroyed respiratory tracts; sometimes these inflammatory cytokines had triggered the complete destruction of the normal epithelial cells lining the respiratory tract. It was as if the flu victims had been attacked and killed by their own immune systems. This is the severe inflammatory reaction that vitamin D has recently been found to prevent.

I subsequently did what physicians have done for centuries. I experimented, first on myself and then on my family, trying different doses of vitamin D to see if it has any effects on viral respiratory infections. After that, as the word spread, several of my medical colleagues experimented on themselves by taking three-day courses of pharmacological doses (2,000 units per kilogram per day) of vitamin D at the first

sign of the flu. I also asked numerous colleagues and friends who were taking physiological doses of vitamin D (5,000 units per day in the winter and less, or none, in the summer) if they ever got colds or the flu, and, if so, how severe the infections were. I became convinced that physiological doses of vitamin D reduce the incidence of viral respiratory infections and that pharmacological doses significantly ameliorate the symptoms of some viral respiratory infections if taken early in the course of the illness...

Although our paper discusses the possibility that physiological doses of vitamin D (5,000 units a day) may prevent colds and the flu, and that physicians might find pharmacological doses of vitamin D (2,000 units per kilogram of body weight per day for three days) useful in treating some of the one million people who die in the world every year from influenza, we remind readers that it is only a theory. Like all theories, our theory must withstand attempts to be disproved with dispassionately conducted and well-controlled scientific experiments.

However, as vitamin D deficiency has repeatedly been associated with many of the diseases of civilization, we point out that it is not too early for physicians to aggressively diagnose and adequately treat vitamin D deficiency. We recommend that enough vitamin D be taken daily to maintain 25-hydroxy vitamin D levels at levels normally achieved through summertime sun exposure (50 ng/ml). For many persons, such as African Americans and the elderly, this will require up to 5,000 units daily in the winter and less, or none, in the summer, depending on summertime sun exposure.

By: J. J. Cannell

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One person's follow-up comment on Vitamin D:

A tanned-skinned person who gets sick often loses his tan rapidly. The tan is the body's store of Vitamin D from the sun. Vitamin D is taken in through skin, nails, and hair. I have also read that it is taken in through the eyes. So, yes, the modern way of life leads to deficiency (i.e., staying out of the sun, coating the hair with chemicals and sprays, painting the nails, wearing sun glasses).

Cod Liver Oil is a great natural source of Vitamin D in this situation.

My understanding, too, is that there is a different type of Vitamin D (or a different element of it) that is specifically for each different organ.

Links:

<http://www.westonaprice.org/basicnut...fications.html>

http://en.wikipedia.org/wiki/Cod_liver_oil

Web Sites on Pandemic: Video Clip Overview

(Watch this 17 Minute Clip for a good overview!!)

BYU-I, Flu Pandemic Video Presentation

<http://streaming.byui.edu/safetyoffice/flu.wmv>

LDS Church Links

<http://www.providentliving.org/conte...3415-1,00.html>

Dr. Susan Puls

<http://www.byucemedia.org/cw/saftey/...-SusanPuls.pdf>

BYU Provo, Department of Health Sciences

<http://hs.byu.edu/dept/newsletter/November%20Issue.pdf>

BYU Provo, Safety and Emergency Preparedness Bulletin

<http://sas.byu.edu/training/bulletins/nov2006.doc>

BYU-I Pandemic Preparedness Page

http://www.byui.edu/safety/Pandemic_Web_Page.htm

Science Channel Special on Flu Pandemic

<http://video.google.com/videoplay?do...29476088&hl=en>

Utah Flu Pandemic

<http://www.pandemicflu.utah.gov/>

US Government Flu Pandemic Page

<http://www.pandemicflu.gov/>

Citizen's Guide to Influenza Pandemic (68 Pages!)

http://www.newfluwiki2.com/upload/fl...0_v1-3_web.pdf

Bird Flu (Pandemic) Car Kit –

List for kit to go in car in case of Pandemic outbreak:

- MASKS (one for every member of family)
- Gloves-latex & food handler gloves
- disposable wipes
- hand sanitizer-alcohol based
- alcohol wipes
- Emergen-C packets
- small garbage bag
- instructions paper
- other: essential oils, ionic silver sprayer, etc.

You can assemble this yourself or there are pre-made kits from Nexcare. www.nexcare.com

Put in a reusable/disposable plastic container. Keep in car for emergency

Alkaline Foods

If you hear the bird flu virus has mutated to threaten pandemic, it would be wise to immediately start the family on a high-alkaline diet which creates an unfriendly environment for the virus. It would be hard to consume only alkaline foods but if enough are taken, then some of the moderate Ph choices can round out the diet. Try and stay away from the extremely acidic foods. Charts sometimes vary a little. The internet has many Ph charts. I recommend having a two-week menu prepared that uses these ideas and having a shopping list on hand. The U.S. has become so dependent on food imports that food handling experts say we only have enough food in our warehouses to feed the country for **six days**. If importing ceases (which it would do in a pandemic), they warn of a run on stores and dangerous food shortages. Do not forget water! The Department of Health and Human Services has warned that power and water services may be interrupted during a pandemic.

Food Chart (pH ranking from most alkaline to most acidic)

Extremely Alkaline	Lemons, Limes, Mangos, Watermelon, Grapefruit, Papaya, Olive Oil, Stevia
High Alkaline	Asparagus, Onions, Vegetable Juices, Parsley, Raw Spinach, Broccoli, Garlic, Barley Grass, Almonds, Flax Seed Oil
Alkaline Forming	Cabbage, Cantaloupe, Carob, Cayenne, Celery, Mango, Melons, Seedless Grapes (sweet), berries Fruit Juices, Grapes (sweet), Kiwifruit, Pears (sweet), Pineapple, Raisins, Plums,
Moderately Alkaline	Apples (sweet), Alfalfa Sprouts, Apricots, Avocados, Bananas (ripe), Grapefruit, Grapes (less sweet), Herbs (leafy green), Lettuce (leafy green), Nectarine, Peaches (sweet), Pears (less sweet), Peas (fresh, sweet), Pumpkin (sweet), Sea Salt (vegetable) Apples (sour), Beans (fresh, green), Beets, Bell Peppers, Cauliflower, Ginger (fresh), Grapes (sour), Lentils, Lettuce (pale green), Oranges, Peaches (less sweet), Peas (less sweet), Potatoes (with skin), Pumpkin (less sweet), Squash, Turnip, Vinegar (apple cider)
Slightly Alkaline	Brussel Sprouts, Cherries, Coconut (fresh), Cucumbers, Eggplant, Honey (raw), Leeks, Mushrooms, Olives (ripe), Onions, Pickles (homemade), Radishes, Spices, Tomatoes (sweet) Egg Yolks (soft cooked), Essene Bread, Goat's Milk and Whey (raw), Olive Oil, Sesame Seeds (whole), Soy Beans (dry), Soy Cheese, Soy Milk, Sprouted Grains, Tofu, Tomatoes (less sweet), Yeast (nutritional flakes)

Neutral	Brown Rice, Butter (fresh, unsalted), Corn, Cream (fresh, raw), Cow's Milk and Whey (raw), Margarine, Oils (except olive), Yogurt (plain) sprouted wheat bread
Moderately Acidic	Bananas (green), Barley (rye), Blueberries, Bran, Butter, Cereals (unrefined), Cheeses, Crackers (unrefined rye, rice and wheat), Cranberries, Dried Beans (mung, adzuki, pinto, kidney, garbanzo), Dry Coconut, Egg Whites, Eggs Whole (cooked hard), Fructose, Goat's Milk (homogenized), Honey (pasteurized), Ketchup, Milk (homogenized), Molasses (unsulfured and organic), Most Nuts, Mustard, Oats (rye, organic), Olives (pickled), Pasta (whole grain), Pastry (whole grain and honey), Popcorn (with salt and/or butter), Potatoes, Prunes, White Rice, Seeds (pumpkin, sunflower), Soy Sauce
Extremely Acidic	Artificial Sweeteners, Beef, Beer, Blueberries, Breads, Brown Sugar, Carbonated Soft Drinks, Cereals (refined), Chocolate, Cigarettes and Tobacco, Coffee, Cream of Wheat (unrefined), Custard (with white sugar), venison, Drugs, Fish, Flour (white wheat), Fruit Juices with Sugar, Jams, Jellies, Lamb, Liquor, Molasses (sulfured), Pasta (white), Pastries and Cakes from White Flour, Peanuts, Walnuts, Pickles (commercial), Pork, Poultry, Seafood, Sugar (white), Table Salt (refined and iodized), Tea (black), White Bread, White Vinegar (processed), Wine, Yogurt (sweetened)

Pandemic Prevention Strategies

- 1) **Immune System** Commit to strengthening your Immune System. Interestingly all of the things we hear about more exercise, less sugar and processed flour, less meat and more vegetables may become life saving in the days to come. Eradicate all substances that weaken the Immune System, and add substances that strengthen it as listed in the Word of Wisdom. Pray specifically that God will prepare and strengthen your Immune System.
- 2) **Gather a 3 Month Supply of Food, Water, and Basic Needs.** One of the smartest strategies that may be required if and when a pandemic comes to America is called a **“Reverse Quarantine.”** This approach requires you isolate yourself and your family from all personal contact. To adequately achieve an effective Quarantine requires you to gather *All Supplies* that you would need to survive independently in your home for 3 months. Finally ask yourself what food do we actually eat? What would we need to survive if we couldn’t go out of the house for three months? Once you have purchased your list, use the food as you normally would, rotate, replace, and re-stock these foods as you go in the months to come.
- 3) **Change Health Habits.** Re-commit yourself and children to wash hands thoroughly, to turn away when coughing, use tissues, and frequently use Hand sanitizer. Make it a habit now to interact preventatively.
- 4) **Consider purchasing an air filtration system that works on viruses and bacteria.** This could be used in an isolation room in the future.
- 5) **Herbs, Minerals, and Oils used as Medicines.** Several options are listed in the article in the back.
- 6) **Stocking up on Vitamin D and Dr. Christopher’s Super Immune is wise.** Marcy Coles is excellent with herbs and sells Dr. Christopher’s formulas. She ships nationwide and can be reached in Oregon at 831-512-4264.

Random Tips:

- 1) **Be Prepared to Access the Power of God through the Priesthood.**
- 2) **Strictly follow the Inspiration of the Holy Spirit, even if it seems irrational at the time.**
- 3) **Spend the money now on preventative supplies.** In the future \$100 will seem well spent. Start with \$20 and just get masks if that’s all you can do. Most people can get 3 months worth of basic food and water for about \$500. I can show you the least expensive way to prepare if you choose to do so.
- 4) **Remember to allow fevers to do their job.** Do not medicate away a fever. The body is working on the invader.
- 5) **Acknowledge that any individual can be contagious for 24-28 hours BEFORE any symptoms show up.** Quarantine preventatively if there is a concern.
- 6) **If a person ever has to interact with others who may be infected, or be in a context where the disease may be present, where the best mask, and wash all clothes upon return.** Remember the outside of the mask may be infected when taking mask off.

Protection Against Contracting the Bird Flu Virus

Be sure to have on hand:

- Bleach
- White vinegar
- Latex gloves
- Spray bottles
- Hydrogen peroxide

For a more complete protection, also have:

- N95 masks
- Goggles
- Rain poncho
- Rubber boots /plastic grocery bags

We cannot promise that our program is fool-proof, but these things will give us a far greater chance to keep the virus at bay.

For the basics, each family should have a few gallons of bleach. A small amount of white vinegar added to bleach makes this almost fool-proof in destroying the virus from surfaces. Keep doorknobs constantly disinfected with this and other surfaces as needed. Add this to laundry if worn outside the home if the virus is prevalent in your area.

Now for beyond the very basics: for the best protection, wear masks that are tight fitting. N95 masks are good but the virus can still get through. The addition of lemon or garlic in the mouth is recommended. It is suggested that we not reuse these masks but if you do not have enough, I believe rubbing it with garlic may kill the virus and after a few days, it could be used again. I would probably add a kerchief around the outside that has been sprayed with lemon or garlic if going into a dangerous area. Try to stay ten feet from other people if possible. Wearing goggles is good because the virus can be contracted through the eyes. A rain poncho and boots, or at least garbage bags tied to shoes is good and can be reused by disinfecting upon arriving home. Keep the bleach in a spray bottle by the door and spray the room when entering. Bird flu has been shown to be contracted by people tracking it in on their shoes so a footbath outside the door with bleach and white vinegar is an extra precaution when the pandemic is at its height. Disposable latex gloves are important when leaving the house. During the 1918 pandemic, some families would hang cut onions around their eaves. These would absorb any airborne virus in their area and the families would not contract the illness while their neighbors would.

Although we can hope the bird flu does not fully mutate into a pandemic-causing virus, we know from scriptures and modern prophets that we will have plagues, so having this knowledge will be helpful, we just do not know when.

Social Disruption May Be Widespread

- Plan for the possibility that usual services may be disrupted. These could include services provided by hospitals and other health care facilities, banks, stores, restaurants, government offices, and post offices.
- Prepare backup plans in case public gatherings, such as volunteer meetings and worship services, are canceled.
- Consider how to care for people with special needs in case the services they rely on are not available.

Being Able to Work May Be Difficult or Impossible

- Find out if you can work from home.
- Ask your employer about how business will continue during a pandemic. (A Business Pandemic Influenza Planning Checklist is available at www.pandemicflu.gov/plan/business/businesschecklist.html.)
- Plan for the possible reduction or loss of income if you are unable to work or your place of employment is closed.
- Check with your employer or union about leave policies.

Schools May Be Closed for an Extended Period of Time

- Help schools plan for pandemic influenza. Talk to the school nurse or the health center. Talk to your teachers, administrators, and parent-teacher organizations.
- Plan home learning activities and exercises. Have materials, such as books, on hand. Also plan recreational activities that your children can do at home.
- Consider childcare needs.

Recommended Sites

www.singtomeohmuse.com

www.fluwikie.com

www.pandemicinfosite.com

www.pandemicflu.gov The official government site from the Department of Health and Human Services

Pandemic Preparedness

Some Suggested Pandemic Supplies

- 1 gallon of liquid bleach per person of the household (yes that is gallons) - [to sanitize everything](#)
- 4 boxes of latex gloves (different sizes for every member of the household)
- 2 boxes of 20 of N95 masks for every member of the household
- antibacterial soap- [for meticulous hand washing](#)
- styrofoam "Take Out" containers - [to give to people that come to your door looking for food](#)
- 100' roll of clear 4 mil plastic - [for setting up an isolation room](#)
- 10 rolls duct tape - [for setting up an isolation room](#)
- more HEPA filters - [for my whole room air filtration system](#)
- several boxes of Borax - [for provisional toilets](#)
- 25 lbs. of lime per person - [for provisional toilets](#)
- 50 "yard waste" black garbage bags per person - [for provisional toilets and garbage](#)
- 100 "kitchen" bags per person - [for provisional toilets and garbage](#)
- 25 lbs. of kitty litter per person - [for sick people's body fluids clean up](#)
- 100 rolls of toilet paper per person - [for personal sanitation](#)
- 20 rolls of paper towels per person
- several boxes of straws - [for sick people so you don't contaminate drinking cups too much](#)
- clothesline - [for washing clothes by hand](#)
- laundry soap - [for washing clothes by hand](#)
- good dish soap like "Dawn" or other aggressive anti-grease formula
- water filtration and purification devices
- water collection, storage and carrying containers
- water, water, and more water
- portable radio (hand-cranked or battery powered)
- walkie talkies (hand-held, two-way GMRS radios)
- batteries

I am sure there are more items but this is a good list to start with.

Stock a supply of water and food. During a pandemic you may not be able to get to a store. Even if you can get to a store, the store may be out of supplies. Public waterworks services may also be interrupted. Stocking supplies can be useful in other types of emergencies, such as power outages and disasters. Store foods that:

- are nonperishable (will keep for a long time) and don't require refrigeration are easy to prepare in case you are unable to cook
- require little or no water, so you can conserve water for drinking

ADVANCED PANDEMIC PREPARATION

Treatment, Decontamination, and Disposal of Biological Agents

Treatment and Decontamination of Biological Agents Chart							
Bacteria							
Disease or Agent	Dissemination	Transmission	Incubation Period	Typical Effects	Treatment	Lethality	Decontamination
Anthrax (<i>Bacillus anthracis</i>)	inhalation, cutaneous (skin ingestion)	no (except cutaneous)	1 - 6 days, initial symptoms often followed by short improvement, shock and death 24 -36 hours after severe symptoms	inhalation: fever, chills, malaise, headache, myalgia, eye pain, hyperaesthesias, severe respiratory distress cutaneous: black sores	early antibiotics often effective, especially for cutaneous, usually not effective after inhalations symptoms appear	pulmonary: 100% if untreated skin: low if treated	sporicidal agent (iodine, chlorine)
Brucellosis (<i>Brucella melitensis</i>)	aerosol	no (except open skin lesions)	variable (1 week to several months - typically 3 - 4 weeks)	fever, chills, sweating, malaise, headache, myalgia, eye pain, weakness, fatigue, sometimes cough	antibiotics	low if treated	bactericidal solutions on contaminated surfaces, precaution with secretions
Cholera (<i>Vibrio cholera</i>)	ingestion and aerosol	rare	12 - 72 hours	sudden onset diarrhea, cramps, vomiting, headache	antibiotics, fluids, electrolyte replacement	low with treatment	bactericidal solutions, enteric precautions; hand washing with soap and water
Plague (<i>Yersinia pestis</i>)	aerosol	high	1 - 3 days for pneumonic 2 - 10 days for bubonic	brain inflammation, high fever, chills, headache, rash, hypotension, pulmonary syndrome, tender lymph nodes (bubonic)	early antibiotics are effective	high if untreated	precaution with secretions, heat disinfectants to exposure to sunlight
Tularemia (<i>Francisella tularensis</i>)	aerosol	no	1 - 10 days	sore throat, pulmonary syndrome, rash fever, chills, malaise, weight loss, non-productive cough	antibiotics very effective	moderate if untreated	precaution with secretions, heat and disinfectants
Rickettsia							
Q Fever (<i>Coxiella burnetii</i>)	ingestion and aerosol	rare	14- 16 days	fever, chills, malaise, headache, myalgia, eye pain, hyperaesthesias, pulmonary syndrome, cough, chest pain	antibiotics	very low	soap and water bleach
Viruses							
Smallpox (variola virus)	aerosol	high (upon appearance of rash)	10 - 12 days	fever, hypotension, rash	ritavirin, prophylaxis vaccine with 3 days of exposure	low	quarantine, airborne precautions
Venezuelan Equine Encephalitis (VEE)	aerosol and infected vectors	low (infectious for 72 hours)	1 - 6 days	sudden onset malaise, fever, rigors, headache, eye pain, nausea, vomiting, cough, sore throat, diarrhea	supportive only	low	blood and body fluid precautions, destroy virus with heat and disinfectants
Viral Hemorrhagic fevers (VHF): Ebola, Lassa, Marburg, Hanta, Rift Valley, Dengue, Yellow Fever	contact and aerosol	moderate	4 - 16 days	fever, easy bleeding, edema, malaise, headache, vomiting, diarrhea, jaundice, shock, sore throat, rash	intensive supportive care, antiviral drugs (ritavirin) or plasma for some, isolation, barrier procedures	moderate to high	bleach or phenolic disinfectants, contact precautions, additional precautions if massive bleeding

Decontamination and Disposal of Biological Agents Chart			
Bacteria			
Disease or Agent	Quarantine Period	Decontamination	clean, burn or bury
Anthrax (<i>bacillus anthracis</i>)	14 days	sporicidal agent (iodine, chlorine)	clean
Brucellosis (<i>brucella melitensis</i>)	2 days	bactericidal solutions on contaminated surfaces, precaution with secretions	burn
Cholera (<i>vibrio cholera</i>)	6 - 7 days	bactericidal solutions, enteric precautions; hand washing with soap and water	burn
Plague (<i>yersinia pestis</i>)	90 - 100 days	precaution with secretions, heat disinfectants to exposure to sunlight	burn
Tularemia (<i>francisella tularensis</i>)	30 days	precaution with secretions, heat and disinfectants	burn
Rickettsia			
Q fever (<i>coxiella burnetii</i>)	0 days	soap and water, bleach	clean
Viruses			
H5N1 (avian flu)	30 - 90 days	quarantine, airborne precautions, bleach or phenolic disinfectants, contact precautions	bury
Smallpox (<i>varioia virus</i>)	30 days	quarantine, airborne precautions, bleach or phenolic disinfectants, contact precautions	bury
Venezuelan Equine Encephalitis (VEE)	90 days	blood and body fluid precautions, destroy virus with heat and disinfectants	bury
Viral Hemorrhagic fevers (VHF): Ebola, Lassa, Marburg, Hanta, Rift Valley, Dengue, Yellow Fever	90 days	bleach or phenolic disinfectants, contact precautions, additional precautions if massive bleeding	bury

Symptoms

Small Pox Symptoms

- fever
- malaise
- head and body aches
- vomiting
- high temperature of 101 to 104
- rash with red spots on tongue and in mouth (most contagious)
- rash on skin - start on face - spread to hands and body
- rash to bumps
- bumps fill with fluid (like small BB's)
- bump to scabs
- scabs are contagious until gone
- incubation period - 7 to 17 days
- early rash - about 4 days
- pustular rash - about 5 days
- pustules and scabs - about 5 days
- resolving scabs - about 6 days -
- scabs resolved - not contagious

Small Pox Recommendations

- isolation room for infected persons
- strict personal hygiene practices
- use N-95 (or better) mask and gloves for at a distance (casual) contact
- keep 20' distance even with mask and gloves
- full face gas mask with bio-filter, gown and gloves for personal contact
- dedicated discardable instruments for personal care
- vaccination

Smallpox Progression

Incubation Period

(Duration: 7 to 17 days) - *Not contagious*

Exposure to the virus is followed by an incubation period during which people do not have any symptoms and may feel fine. This incubation period averages about 12 to 14 days but can range from 7 to 17 days. During this time, people are not contagious.

Initial Symptoms

(Duration: 2 to 4 days) - *Sometimes contagious**

The **first symptoms** of smallpox include fever, malaise, head and body aches, and sometimes vomiting. The fever is usually high, in the range of 101 to 104 degrees Fahrenheit. At this time, people are usually too sick to carry on their normal activities.

This is called the *prodrome* phase and may last for 2 to 4 days.

Early Rash

(Duration: about 4 days) - *Most contagious*

A **rash emerges** first as small red spots on the tongue and in the mouth. These spots develop into sores that break open and spread large amounts of the virus into the mouth and throat. At this time, the person becomes **most contagious**.

Around the time the sores in the mouth break down, a rash appears on the skin, starting on the face and spreading to the arms and legs and then to the hands and feet. Usually the rash spreads to all parts of the body within 24 hours. As the rash appears, the fever usually falls and the person may start to feel better. By the third day of the rash, the rash becomes raised bumps. By the fourth day, the bumps fill with a thick, opaque fluid and often have a depression in the center that looks like a bellybutton. (This is a major distinguishing characteristic of smallpox.) Fever often will rise again at this time and remain high until scabs form over the bumps.

Pustular Rash

(Duration: about 5 days) - *Contagious*

The bumps become **pustules**—sharply raised, usually round and firm to the touch as if there's a small round object under the skin. People often say the bumps feel like BB pellets embedded in the skin.

Pustules and Scabs

(Duration: about 5 days) - *Contagious*

The pustules begin to form a crust and then **scab**. By the end of the second week after the rash appears, most of the sores have scabbed over.

Resolving Scabs

(Duration: about 6 days) - *Contagious*

The scabs begin to fall off, leaving marks on the skin that eventually become pitted **scars**. Most scabs will have fallen off three weeks after the rash appears. The person is contagious to others until all of the scabs have fallen off.

Scabs resolved

Not contagious Scabs have fallen off. Person is no longer contagious.

* Smallpox may be contagious during the *prodrome* phase, but is most infectious during the first 7 to 10 days following rash onset.

Facts about Small Pox

What should I know about smallpox?

Smallpox is an acute, contagious, and sometimes fatal disease caused by the variola virus (an orthopoxvirus), and marked by fever and a distinctive progressive skin rash. In 1980, the disease was declared eradicated following worldwide vaccination programs. However, in the aftermath of the events of September and October, 2001, the U.S. government is taking precautions to be ready to deal with a bioterrorist attack using smallpox as a weapon. As a result of these efforts: 1) There is a detailed nationwide smallpox preparedness program to protect Americans against smallpox as a biological weapon.

This program includes the creation of preparedness teams that are ready to respond to a smallpox attack on the United States. Members of these teams – health care and public health workers - are being vaccinated so that they might safely protect others in the event of a smallpox outbreak. 2) There is enough smallpox vaccine to vaccinate everyone who would need it in the event of an emergency.

How serious is the smallpox threat?

The deliberate release of smallpox as an epidemic disease is now regarded as a possibility, and the United States is taking precautions to deal with this possibility.

How dangerous is the smallpox threat?

Smallpox is classified as a Category A agent by the Centers for Disease Control and Prevention. Category A agents are believed to pose the greatest potential threat for adverse public health impact and have a moderate to high potential for large-scale dissemination. The public is generally more aware of category A agents, and broad-based public health preparedness efforts are necessary. Other Category A agents are anthrax, plague, botulism, tularemia, and viral hemorrhagic fevers.

- 1. If I am concerned about a smallpox attack, can I go to my doctor and get the smallpox vaccine?** At the moment, the smallpox vaccine is not available for members of the general public. In the event of a smallpox outbreak, however, there is enough smallpox vaccine to vaccinate everyone every person in the United States.

2. If someone comes in contact with smallpox, how long does it take to show symptoms?

After exposure, it takes between 7 and 17 days for symptoms of smallpox to appear (average incubation time is 12 to 14 days). During this time, the infected person feels fine and is not contagious.)

3. Is smallpox fatal?

The majority of patients with smallpox recover, but death may occur in up to 30% of cases. Many smallpox survivors have permanent scars over large areas of their body, especially their face. Some are left blind.

4. How is smallpox spread?

Smallpox normally spreads from contact with infected persons. Generally, direct and fairly prolonged face-to-face contact is required to spread smallpox from one person to another. Smallpox also can be spread through direct contact with infected bodily fluids or contaminated objects such as bedding or clothing. Indirect spread is less common. Rarely, smallpox has been spread by virus carried in the air in enclosed settings such as buildings, buses, and trains. Smallpox is not known to be transmitted by insects or animals.

5. If smallpox is released in aerosol form, how long does the virus survive?

The smallpox virus is fragile. In laboratory experiments, 90% of aerosolized smallpox virus dies within 24 hours; in the presence of ultraviolet (UV) light, this percentage would be even greater. If an aerosol release of smallpox occurs, 90% of virus matter will be inactivated or dissipated in about 24 hours.

6. How many people would have to get smallpox before it is considered an outbreak? One confirmed case of smallpox is considered a public health emergency.

7. Is smallpox contagious before the smallpox symptoms show?

A person with smallpox is sometimes contagious with onset of fever (prodrome phase), but the person becomes most contagious with the onset of rash. The infected person is contagious until the last smallpox scab falls off.

8. Is there any treatment for smallpox?

Smallpox can be prevented through use of the smallpox vaccine. There is no proven treatment for smallpox, but research to evaluate new antiviral agents is ongoing. Early results from laboratory studies suggest that the drug cidofovir may fight against the smallpox virus; currently, studies with animals are being done to better understand the drug's ability to treat smallpox disease (the use of cidofovir to treat smallpox or smallpox reactions should be evaluated and monitored by experts at NIH and CDC). Patients with smallpox can benefit from supportive therapy (e.g., intravenous fluids, medicine to control fever or pain) and antibiotics for any secondary bacterial infections that may occur.

Treatment

Described below are the likely stages of a smallpox outbreak and the critical responses required. This information is intended as a context in developing a post-event smallpox plan.

1. **Isolation and treatment of cases** – Suspected and confirmed cases will need to be quickly moved to facilities that provide appropriate health care and isolation to prevent additional spread of smallpox.
2. **Diagnosis** – Rapid preliminary diagnosis can be based on clinical characteristics of the illness with sequential laboratory confirmation.
3. **Vaccination** – A large number of the public will be needed to control the outbreak, and individuals must be vaccinated as soon as possible after the first case is confirmed.
4. **Surveillance for new cases** – It will be important to quickly and efficiently diagnose new cases to ensure that the ring vaccination program will quickly control the outbreak.
5. **Containment Activities that would include:**
 - Contact and contact of contact tracing - Identification of contacts of smallpox cases (contact with cases beginning with the initial symptoms (fever)) and household contacts of these contacts will need to be identified, vaccinated and isolated if they develop illness. Contacts of cases should be vaccinated as soon as possible to maximize the effectiveness of post exposure vaccination and minimize the number of new cases. It will also be important to track patient movement (where they have been) after onset of symptoms and identify all possible contacts of the case.
 - Vaccination and monitoring of contacts – Post exposure vaccination may prevent or ameliorate disease and vaccination may protect from additional exposures from other contacts that develop smallpox. Contacts are monitored for illness to ensure that they can be isolated to prevent transmission to others and given appropriate medical care, if they develop smallpox.
 - Community vaccination – It may be necessary to vaccinate all persons in exposed communities in addition to contacts and household contacts of contacts.
6. **Epidemiologic investigation** - Any potential linkages between the patients (review travel history for 2-3 weeks prior to symptom onset) must be identified to determine if there is a common source for exposure and to determine if any additional persons may have been exposed to initial source (so they can be traced and evaluated for illness or watched for illness onset. If ill, isolate and vaccinate their contacts (identify contacts similar to above), if not already ill, and to ensure that all who need to be included in the ring vaccination program are included.
7. **Large Scale vaccination** - A decision may be made by public health officials and/or political leaders to offer vaccine to all persons within the city, county or state.
8. **Information Management** - Detailed information will be needed on an ongoing, real-time basis to inform, health officials, clinic managers, and the public about the status of smallpox response activities.
9. **Communications** - To address public questions, minimize false rumors and misinformation, and reassure the public that the public health system is responding effectively, it is imperative that public health officials acknowledge the seriousness of a smallpox outbreak and provide accurate, timely information to the public through the media. (Source: CDC - Centers for Disease Control and Prevention)

Facts about Plague

Plague is an infectious disease that affects animals and humans. It is caused by the bacterium *Yersinia pestis*. This bacterium is found in rodents and their fleas and occurs in many areas of the world, including the United States.

Y. pestis is easily destroyed by sunlight and drying. Even so, when released into air, the bacterium will survive for up to one hour, although this could vary depending on conditions. Pneumonic plague is one of several forms of plague. Depending on circumstances, these forms may occur separately or in combination:

Pneumonic plague occurs when *Y. pestis* infects the lungs. This type of plague can spread from person to person through the air. Transmission can take place if someone breathes in aerosolized bacteria, which could happen in a bio-terrorist attack. Pneumonic plague is also spread by breathing in *Y. pestis* suspended in respiratory droplets from a person (or animal) with pneumonic plague. Becoming infected in this way usually requires direct and close contact with the ill person or animal. Pneumonic plague may also occur if a person with bubonic or septicemic plague is untreated and the bacteria spread to the lungs.

Bubonic plague is the most common form of plague. This occurs when an infected flea bites a person or when materials contaminated with *Y. pestis* enter through a break in a person's skin. Patients develop swollen, tender lymph glands (called buboes) and fever, headache, chills, and weakness. Bubonic plague does not spread from person to person.

Septicemic plague occurs when plague bacteria multiply in the blood. It can be a complication of pneumonic or bubonic plague or it can occur by itself. When it occurs alone, it is caused in the same ways as bubonic plague; however, buboes do not develop. Patients have fever, chills, prostration, abdominal pain, shock, and bleeding into skin and other organs. Septicemic plague does not spread from person to person.

Symptoms and Treatment

With pneumonic plague, the first signs of illness are fever, headache, weakness, and rapidly developing pneumonia with shortness of breath, chest pain, cough, and sometimes bloody or watery sputum. The pneumonia progresses for 2 to 4 days and may cause respiratory failure and shock. Without early treatment, patients may die.

Early treatment of pneumonic plague is essential. To reduce the chance of death, antibiotics must be given within 24 hours of first symptoms. Streptomycin, gentamicin, the tetracyclines, and chloramphenicol are all effective against pneumonic plague. Antibiotic treatment for 7 days will protect people who have had direct, close contact with infected patients. Wearing a close-fitting surgical mask also protects against infection.

A plague vaccine is not currently available for use in the United States.

Source: CDC - Centers for Disease Control and Prevention

<http://www.bt.cdc.gov/agent/plague/factsheet.asp>

Pneumonic Plague Symptoms

- fever
- headache
- malaise
- pneumonia (2 - 4 days)
- shortness of breath
- chest pain
- cough
- bloody sputum
- respiratory failure
- shock

Pneumonic Plague Recommendations

- strict personal hygiene practices
- use N-95 (or better) mask and gloves for at a distance (casual) contact
- keep 20' distance even with mask and gloves
- full face gas mask with bio-filter, gown and gloves for personal contact
- dedicated washable instruments for personal care
- isolation room for infected persons
- antibiotics within 24 hours of first symptoms for 7 days
- streptomycin, gentamicin, tetracycline, and chloramphenicol

Anthrax

Before it became front page news, anthrax was best known to Americans as a plot device in movies. We know it's a biological weapon, capable of wreaking mass destruction, but we're unsure of what exactly it is, and how (or even if) we can protect ourselves.

When photo editor Robert Stevens died last week from a case of inhaled anthrax, the U.S. public got nervous. When Stevens' co-worker Ernesto Blanco was discovered to have anthrax spores in his nasal passages, nervousness turned to panic. Health officials in Florida, where the men lived, report that Stevens, who died last week, and Blanco, who has not shown any symptoms, contracted the same strain of the rare disease, and called in more than 700 of their colleagues for testing.

Although no new cases of the disease have been detected as of Wednesday, officials stress the swab test results may not be available for days, and sent Stevens' co-workers home with a 15-day supply of Cipro, the antibiotic that's the current standard in preventative measures against anthrax. Stevens' death and Blanco's diagnosis only served to fan the flames of anxiety raging in a suddenly wary American public. Doctors and public health help lines have been bombarded with questions: What is anthrax? Do I have it now? Could I tell if I had it? Is it always fatal?

Anthrax is a bacterium, but when it's exposed to air, it forms a spore resembling a seed. The spore is very rugged, and very persistent. If it's introduced into the soil in that spore form, it can live for years, even decades. That's the form it would probably be take if it were used as a biological weapon — spores introduced into the air via some delivery method.

Anthrax is a microorganism so it's invisible to the naked eye. Even the infectious dose, which is between 8,000 and 10,000 spores, is smaller than a speck of dust. It's totally odorless and tasteless as well. There are other ways to get anthrax, via the skin, for example, but the inhaled version is the most lethal.

You would not know if you inhaled it until the symptoms manifested themselves. And this is the challenge, of course, for health professionals, because you need to treat the disease in a very early stage, when the symptoms are still non-specific, flu-like symptoms. It's difficult to diagnose — in order to even test for it you have to have a high index of suspicion, you have to suspect this as a possibility or you'll probably overlook it. Doctors need to be trained to differentiate this from the flu at an early stage.

The disease progresses like this: Once introduced into the body, the particles of anthrax travel into the tiny air sacs in the lungs. They lodge there and begin to disseminate themselves. At this point the bacteria produce toxins, which is what creates the illness in the host. First you see non-specific flu-like symptoms. Then, in hours or in a few days, some patients will have a brief period of recovery. Others progress directly to the second stage of the disease, which generally leads to shock, massive swelling of lymph nodes and hemorrhagic meningitis (bleeding in the brain). Once the toxins reach a critical mass, death is inevitable.

Antibiotics can help at some stage in the disease. If given early enough during the first stage of the infection, antibiotics can treat or cure the illness. There is a vaccine for anthrax, but it's only available in very limited quantities to the military. The existing vaccine is not really effective for civilians in any case. It requires six doses over sixteen months in order for it to work, and that kind of schedule isn't really workable for the general public — unless you had an extreme risk of exposure, and you knew about it long enough in advance.

Anthrax exists in laboratories and also in nature, among livestock. It's a naturally occurring disease. Anyone with access to research facilities could gain access to it. At this point, most universities don't have very high security for their anthrax cultures; the disease is just kept in regular freezers. That may have to be changed. They are often poorly catalogued and

sometimes researchers aren't even sure what they've got in their collections. So that's a definite security problem.

Preparing for a Pandemic Influenza Outbreak The Self-Imposed Reverse Isolation (SIRQ) Plan

1) Protecting the Family – Building a Safe Haven

- a. Protecting the family from the influenza virus is central to the plan.
- b. This requires that families sequester themselves from the outside world in order to avoid infection.
 - Children should not go to school or play with friends.
 - Parents should work from home as much as possible.
 - The family should not attend public events (sporting events, cultural events, religious services, etc.).
 - If family members do have to leave sequestration, they must be educated and committed to maintaining protection.
- c. Parents
 - Must establish their home as a protected cell.
 - Must understand that as long as their family is sequestered they are safe, but safety is only good AS LONG AS EVERY
- d. Children
 - Are at high risk for transmission of disease because of less than ideal hygiene, close contact with others in closed environments, inadequate hand washing, etc.
 - Need to be sequestered in family groups.
 - Need to be isolated from others who are potentially infected.
 - Need to be trained in methods of protecting themselves from infection at their level.

3) FAMILY MEMBER REMAINS SAFE AND DOES NOT BRING THE INFECTION HOME.

- Must understand the importance of not allowing children to interact with others outside the family during the time the plan is in place.
- Must have their homes prepared for a disruption in services.
- Must know how to remain safe when they leave the home:
 - Protective equipment,
 - Protective methods of interacting in an infectious environment.

4) Protecting the Individual

- a. During an influenza pandemic, any individual that has to interact with the outside world must consider all they come in contact with as being infected.
- b. Individuals must know how to interact in such an environment:
 - Need education and training about how to protect themselves.
 - Need protective equipment to allow them to interact.

5) Protecting the Community

- a. Community leadership must support the SIRQ plan and strongly encourage its implementation:
 - Educating leaders, families and individuals about the plan.
 - Implementation of reverse quarantine protection early (BEFORE THE INFECTION HITS THE COMMUNITY).
 - Cancellation of schools, meetings, public venues, etc. (BEFORE THE INFECTION STARTS)
 - Identify key services and individuals essential to these services:
 - Provide or strongly encourage personal protection use in all essential sectors early.
 - Plan on contingencies.
- b. Must provide venues for education of individuals and families.
- c. Should facilitate obtaining protective equipment for individuals or groups.
- d. Must lead by example.

This plan can be implemented without government or community support. A family or individual could use this plan and protect themselves as long as they are willing to keep themselves separate.

Fifteen Steps to Biological Security

1. Activate mass callout plan - calls out to every family member to get everyone home ASAP
2. If still on the road and/or in public pull out gas mask, with bio-filter, from kit in back of truck/van start using
3. Check in with SNS for status, keep radio tuned to KSL for local updates
4. Upon arriving home start quarantine process by bringing everyone inside including the dog (quarantine sign on front door)
5. Start bio in-house filter
6. Set up decontamination station in garage with drapes, shower, gloves, masks, and gowns
7. Set up isolation rooms for possible sick family members and guests
8. Start everyone on master immune system booster kit
9. Check all electrical (solar, 12 volt, and battery) systems in case of loss of power
10. Check water supplies, have everyone shower regularly (daily) until loss of water pressure
11. Check on possibility of working from home
12. Request over the phone for advanced homework assignments for school age children to be sent over the internet
13. Check with CDC contacts for updates on problem
14. Call CERT team, on the phone, for distribution of information sheets to neighbors upon confirmation of problem
15. Prepare to pull out alternative heating/cooking/lighting/sanitation measures to be used

What to do if a pandemic is announced in the United States or World?

Quarantine

** This requires having previously purchased the supplies and protective gear you need. Also a previously determined remote location is optimal. Discuss this possibility with family and friends and determine an appropriate meeting place.*

I have been asked repeatedly how to quarantine properly and so this is being written to take care of that question.

I guess the first thing we need to consider is why we are quarantining. Remember, quarantining is due to a biological event and not a chemical or nuclear event. For these last two you should be sheltering in place.

A proper quarantine will protect you from whatever it is you are trying to protect against; henceforth, there will be different stages of quarantine.

1. The first and most basic stage is to go home lock the doors and stay there. DO NOT try to seal up your home with duct tape and plastic as you will not have enough oxygen to breathe within a very short time. This method is used for chemical events where you need to be indoors for a very short period of time. Most quarantines will last days if not weeks and months. At this stage you can actually go out in to your front yard or back yard and breathe the air just fine just as long as you do not breathe someone else's air that might be infected with an airborne communicable disease or virus. This could include certain animals and insects all depending on what the biological is. All infected people should remain a good distance (minimum 20 feet) away from you and anyone else sheltering with you. Anyone (again including certain animals) that has been in a possibly infected area should be kept separate (quarantined separate) from you until they have sought proper medical attention (if it is available) and been cleared or they have run the course of waiting the required length of time to be sure that symptoms will or will not show up. Remember in most biologicals symptoms do not show up for several days. For mothers and other care givers wishing to attend infected persons, especially children, during this time a full biological protection mask, gown, and gloves should be used and then disposed of properly. This really should be avoided at all costs but trying to tell a mother she cannot care

for her children is sometimes near to impossible. Exposure time should be set at a bare minimum.

The proper shielding garments to be worn would be a disposable non-breathable (Tyvek) suit (available at most paint stores), a tight fitting (with two straps) N-95 or N-100 dust mask, and latex or rubber gloves. All of this needs to be disposable. A better face mask with biological filters is suggested.

It is important to remain quarantined for the suggest length of time that the certain biological requires. This will vary from biological to biological. This means no going to the store or to work or church or school or . . . STAY HOME.

2. The second stage is for more serious conditions where being around certain biologicals, even on the other side of a locked door, poses a more serious problem. Usually at this stage a gas mask with a biological filter is needed instead of a simple N-95 dust mask. Be wary of official warnings as when to move to this level.

3. The third stage is the most serious and nothing other than a level one suit is required. Again be wary of official warning as when to move to this level although the common citizen should never be involved with such procedures that would require this level.

What more can I say about this other than . . . STAY HOME.

If you prepare now you can do this. It really is not that hard.

Quarantine

Epidemics or Other Biological Problems

common other biological/chemical agents			
name	suggested quarantine	symptoms / comments	treatment
Aflatoxin	2 days	liver cancer	
Anthrax (bacterium)	14 days	spores - malaise, fatigue, cough, respiratory distress, fever, cyanosis, dyspnea, diaphoresis, stridor, toxemia	antibiotics Ciprofloxacin, tetracycline
Avian Flu	20 days	typical flu-like symptoms to eye infections, pneumonia, severe respiratory diseases, and other severe and life-threatening complications	Tami-flu helps with symptoms
Botulinum (toxin)	0 days	weakness, dizziness, dry mouth nausea, vomiting, difficulty swallowing and talking, blurred vision, drooping eyelids, progressive paralysis, cyanosis, respiratory distress	oxygen, antitoxin
Brucellosis	2 days	joint and muscle dysfunction	
Chlorine	2 days	eye and skin burns on contact, broncho-spasm, cyanosis	treat for burns, CPR, artificial ventilation
Cholera	6 -7 days	toxemia, vomiting, diarrhea, dehydration, shock	re-hydration, tetracycline, erythromycin
Clostridium	2 days	Perfringens - gaseous rotting of the flesh	
Plague (bacterium)	90-100 days	bubonic, septicemia, pneumonic, high fever, chills, toxemia, headache, pneumonia, hemoptysis, malaise, meningitis, dyspnea, stridor, cyanosis, respiratory failure, death	antibiotic, streptomycin, doxycycline Chloramphenicol, Ciprofloxacin
Q-Fever	0 days	fever, chills, headache, severe sweats, malaise, fatigue, skin rash, respiratory problems	tetracycline doxycycline
Ricin (toxin)	0 days	fever, nausea, vomiting, bloody diarrhea, abdominal cramps, difficulty breathing, kidney failure, circulatory collapse - paralysis	therapy for acute lung injury and pulmonary edema, activated charcoal, fluids, gastric lavage
Salmonella	2 days	diarrheal illness, headache, abdominal pain, nausea	re-hydration Ciprofloxacin
Small Pox (virus)	30 days	malaise, fever chills, vomiting, headache, 2-3 days later: flat red spots change to pus filled lesions on skin and mouth and throat	intravenous hydration, nutrition, pain control, antiviral drugs
Staphylococcal Enterotoxin B	2 days	SEB - fever, chills, shortness of breath, nausea, vomiting	artificial ventilation
Tularemia (bacterium)	30 days	septicemia, pneumonic, high fever, chills, headache, hemoptysis, malaise, meningitis, dyspnea, stridor, cyanosis, respiratory failure, death	antibiotics

Avian Flu

1-2 days incubation period

- Abrupt onset of fever ($> 101^{\circ}\text{F}$), chills, myalgia, headache, followed by cough and upper respiratory symptoms. Abdominal symptoms are not the flu.

5-6 days of restricted activity, 3 days bedridden

- contagious approx. 6 total days = 1 day before onset and 5 days after onset
- Tamiflu and Relenza help a lot, but are difficult to obtain (prescription only, and the U.S. is out)

Over 50% of Avian flu cases thus far have been terminal. Getting a pneumonia shot every 10 years helps you to not have the flu turn into bacterial pneumonia. Viral pneumonia is not affected by the shot, but it is usually not as serious as bacterial pneumonia.

There are between 20,000 and 40,000 deaths in the U.S. annually from the flu (not Avian). In some ways, the young and healthy are at just as great or greater risk with the Avian flu as the elderly and infants. The magnitude of their immune response worsens the symptoms.

A pandemic won't occur until the spread becomes person to person. It's still bird to person. It will probably take 6-8 months after the onset of a pandemic before a vaccine is available. In-place sheltering for something like a chemical attack is extremely short-term (1-2 hours) and requires an absolutely airtight room. This is not the case when the problem is biological. It is extremely unlikely that we will experience a dangerous cloud of biological contamination blowing our way. More likely is that the problem will be an outbreak of some disease that comes either through contaminated food or water, or via contaminated people.

If this should occur QUARANTINING will be required. This means that you, if you are sure you haven't been exposed, will stay in your home for the length of the community life of the disease. This could as long as 3+ months -- the authorities will tell you when it's safe to stop the quarantine. During quarantining, you can use your tap water, heat and electricity, go out to the wood pile and garage, but you must not come in contact with other people (like neighbors) that you can't be certain have not been exposed.

If you are sure you have been exposed, call a public health official about precautions to take. (Dial 851-7037, 376-7576, or 1-888-EPI-UTAH, a 24-7 number to the Utah Dept. of Health.) If you don't know whether you've been exposed or not, do separate quarantining of yourself from the rest of your family members -- perhaps in the garage or in a specially set-apart room in your house, until you are sure one way or the other.

The present threat of an Avian Flu pandemic is an example of an event that could occur requiring us to quarantine for a longer of time. Below is a list of things that would be wise to have ready in your home in case of such a need. Note, the Avian Flu is still bird to person and won't become a pandemic until it crosses the person-to-person barrier.

The Church has long recommended a year supply be kept on hand. In August of 2007, "All Is Safely Gathered In", was implemented by The Church of Jesus Christ of Latter Day Saints and sent in the Ensign to every member. It included a three month supply of foods your family eats daily, drinking water, and a financial reserve. The numbers below represent a 3 month supply for 1 adult. Essential items are listed first and items of lesser importance afterwards. Of course, smaller children require less, and you can estimate for them based on these numbers.

Essentials

3 month list for 1 adult

- 100 total lbs. of grains (wheat, oats, rice, popcorn*, millet, quinoa, barley, rye, pastas...)
- 15 total lbs. of legumes (split peas, pinto beans, kidney beans, lentils, chili beans...)
- 2 #10 cans of powdered milk
- 2 qts. cooking oil or shortening
- 15 lbs. sugar or honey
- 1 lb. of salt
- 25 gal. water (= 2 weeks supply) [Public water shouldn't be contaminated in a flu epidemic, so your tap water should still be safe, but it can only be intelligent to have water storage on hand for all contingencies.]

Secondary but important items

- 1 lb. yeast
 - ½ lb. baking powder
 - ½ lb. baking soda
 - 10 lbs. pasta
 - 1 qt. vinegar
 - 2 large jars peanut butter
 - 24 cans tuna fish & other canned meats (turkey, sardines, salmon, chicken, beef...)
 - 12-24 cans chili
 - any other foods or items that you regularly eat and will hope you have on hand if you can't go to the store for 3 months (canned or dehydrated fruits and vegetables such as peaches, apples, plums, apricots, tomatoes, green beans, onions, corn, alfalfa seeds for sprouting, sprouting barley seeds..., spaghetti sauce, butter, frozen orange juice..., condiments... i.e. a 3-MONTH SUPPLY OF THE FOOD YOU EAT!)
 - toilet paper (12-20 rolls)
 - feminine hygiene and diapers
 - vitamins, medicines, and 3 months of your prescription medications
 - laundry soap, hand soap, dish soap, shampoo, conditioner, deodorant, and other toiletries...
 - ½ gal. Clorox
 - keep your cars' gas tanks more than half full at all times
 - see if you can work from home, but if you absolutely have to go out, use latex gloves and an N-95 dust mask
 - keep enough money in your account to be able to pay your bills until you can return to work
- *Popcorn will make much better cornmeal when ground than whole yellow corn, but you have to have a strong wheat grinder that can grind grains as hard as popcorn. Not all are. Plus, popcorn pops

Quarantine, Quarantine, Quarantine

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WARNING ABOUT N95 AND NANO MASKS

OK, I took part in a training today on "pandemic" or "bird flu" masks. We were told that much of what the CDC and the WHO have been telling people about N95 masks just isn't true and that N95 masks WILL NOT protect you during a pandemic like the bird flu. Here is what I learned:

1. There is NO N95 mask in production that can protect you from the flu. N95 masks are filters, and the holes thru which air pass on N95 filters are too big and will allow the bad guys to pass.
2. N95 masks, and Nano Masks, do not kill the flu bug when it lands on them, usually as a droplet of moisture laden with virus. In many cases, the flu virus actually resides in the fibers of the mask and feeds on the moisture and heat produced by the person breathing thru the mask.
3. N95 masks are ONLY good for things like dust, volcano fall out, and other larger particulate matter.
4. THE ONLY MASK PROVEN TO BE 99.99999% EFFECTIVE IN ELIMINATING THE VIRUS IS THE TRIOSYN MASK. IT CONTAINS IODINE THAT ACTIVATES UPON EXPOSURE TO THE VIRUS AND THE VIRUS IS KILLED. THERE ARE THREE VERSIONS OF IT. THE T3000 FOR CHILDREN AND SMALL PEOPLE (currently in very short supply because they are redesigning it), THE T5000 FOR ADULTS AND THE T5000V with exhalation valve FOR ADULTS THAT HAVE BEEN PROVEN NOT TO HAVE THE FLU. THEY HAVE A 24 HOUR USE LIFE DEPENDING ON THE AMOUNT OF EXPOSURE.

TRIOSYN IS PRODUCING THIS MASK BY THE 100'S OF THOUSANDS RIGHT NOW FOR THE US MILITARY, MANY LARGE CORPORATIONS, AND PREPAREDNESS VENDORS THROUGHOUT THE WORLD. THEY ARE EXTREMELY BOLD ABOUT THEIR CLAIM THAT THEY ARE THE ONLY MASK RIGHT NOW AND THEY HAVE THE TECHNICAL DATA TO PROVE IT. THE US MILITARY IS EVEN MAKING TENTS OUT OF THE MATERIAL.

This mask is expensive as far as particulate masks are concerned. They are classified as P95 for those who would like to look up their specifications. They are around \$7 to \$8 dollars each, come sealed in a Mylar bag, and have a shelf life. They are 7 layer masks that includes triosyn resin and activated carbon. This mask KILLS the bug and filters the air to dramatically reduce the odor of human waste and other bad stuff in the air.

I am waiting for more detailed documentation but understand that 3M will not have their version of it for some time still.

Tomorrow, we are removing any reference to bird flu, avian flu, pandemic protection... with respect to N95 masks on DisasterStuff.com and will ONLY sell the triosyn mask with any claim to protect from these threats.

More to follow when I get it. IF you see them on the internet at a low price, be very careful. They do have date stamps on them.

ViraMask: (these are the good ones. they cost more but may save lives. You can get these at disasterstuff.com)

THE LATEST GENERATION OF ADVANCED FACE MASKS FOR ENHANCED RESPIRATORY PROTECTION



Effective primary protection must be available promptly at the outset of a pandemic to protect exposed individuals, such as first responders, healthcare workers, military and the general public, including children.

The ViraMask™ employs a unique and revolutionary respirator design that maintains an integral face-seal even during strenuous physical activity and perspiration. The FaceSeal™ adhesion technology does not require fit testing to achieve an optimal face-seal. ‡

NIOSH has recently announced that it is moving forward on plans to develop Total Inward Leakage (TIL) testing as part of respirator certification. ViraMask™ technology already meets and exceeds NIOSH' s proposed TIL requirements, thus providing highly effective primary protection against airborne pathogens.

The implication for public health emergency pandemic planning is that the ViraMask™, with its advanced face-seal, may be the best respiratory protection available.

An easy to don, strap-free, adhesive face-sealed disposable face mask

Exceeds latest CDC/NIOSH fit-testing total inward leakage (TIL) pending requirements with a 100% success rate

Full filtration efficiency even with tremendous loading under extreme physical activity

Unique circumferential, medical-grade adhesive face-seal minimizes total inward leakage (TIL)

(Other masks test only the filtration efficiency of the material and not total inward leakage)

Hypoallergenic and latex free

One size fits all eliminating the need to inventory multiple styles and sizes of masks

Molds to all facial contours providing a universal custom fit

Built-in evaporative cooling design minimizes moisture, heat and carbon dioxide build up

Advanced filtration material with low breathing resistance eliminates the need for an exhalation valve

Can be worn for up to 8 hours

Remember If the mask leaks, nothing else matters

FaceSeal™ Technologies is a global distributor of advanced environmental safety and respiratory protection products for Wein Products Inc., developer and innovator of strapless, adhesion face-sealed respirators.

This respirator technology has been developed specifically for personal protection against airborne infection and occupational hazards.

FaceSeal distributes the **ViraMask®** and **UltraMask®** to the Healthcare, Industrial, Commercial, Consumer and Government markets through a network of authorized dealers.

Located in Toronto Canada, FaceSeal is committed to bringing to market the most advanced technology and superior respiratory protection products that are safe, effective and affordable.

FaceSeal Technologies incorporates a revolutionary design of respirator that is CDC/NIOSH certified that addresses the deficiencies of current respirator design such as high Total Inward Leakage (TIL), low Filtration Efficiency, lack of Universal Fit and requirements for Fit Testing.

Total Inward Leakage (TIL):

Our advanced strapless technology incorporates a circumferential medical-grade, latex-free, hypoallergenic, adhesion face-seal to virtually eliminate total inward leakage (TIL) between the respirator and the wearer's face thus providing highly effective protection against airborne pathogens. An essential face-seal is maintained with basic activities such as talking and yawning and even during strenuous physical activity and perspiration. NIOSH has recently announced that it is moving forward on plans to develop Total Inward Leakage (TIL) testing as part of respirator certification. Our technology meets and exceeds NIOSH's proposed TIL requirements.

Filtration Efficiency:

The highly efficient multi-layered filtration medium is composed of a melt-blown pre-filter layer to eliminate large particles and an electrostatically charged polymer-based layer to capture sub-micron particles. The low inhalation and exhalation resistance of the filtration medium allows for easy breathing and talking and eliminates the need for an exhalation valve which can leak internally or spread diseases to those nearby.

Universal Fit:

The adhesion technology is comfortable to wear and intuitive to don. The pliable filtration medium and the circumferential adhesion face-seal mould to all facial contours and provide a one-size-fits-all, universal fit. The universal fit eliminates the need to inventory multiple styles, sizes and makes of respirators.

Fit Testing:

The proprietary face-seal adhesion technology does not require fit testing to achieve an optimal face-seal, although fit testing may be mandated in certain occupational settings. The technology is ideal for workers and the general public, including children, who might not be aware of the necessity for, or who may not have access to, fit testing.

Another Choice Tryosin Masks



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Comparing Tryosin Mask and ViraMasks

Because the ViraMask has the lowest margin of error for the untrained, we are going to recommend the ViraMask for the average Joe. The biggest benefits of this mask are:

0% Face Seal Leakage consistently over time.

Easier to breath.

Adapts to ANY size face from infant to elderly.

Won't Crush.

Easy to store lots of them in tight places like Bug out kits without damaging.

The Triosyn mask has superior filtration with the Triosyn Resin, however when people sneeze, grimace, or bump the mask, side leakage is just too much of a problem. If you are first responder, this will be part of your overall system of protection.

(You can also get the Tryosin mask at disasterstuff.com. They cost more, but they last longer and actually “kill” the virus instead of just block it)

Household Quarantine Sign

This house has been
self quarantined.



Please keep clear by 20 feet.

Biological DECON

There is no hard fast rule that will handle every single biological out there. However, here are some decontamination guidelines to follow. First of all we are assuming that you already have on sufficient protection to even be messing with this stuff to begin with. Proper protection for MOST biologicals is a class A suit with a gas mask with appropriate filters, rubber boots, and rubber gloves. Now if you are using less than this say a N-95 dust mask, full body Tyvek suit and latex gloves then what can I say? You are taking unnecessary chances with your life and the lives of your family.

General DECON Rules

OUTSIDE your home

- leave your mask on and take it off last
- wash down with soap and water (lots of water) your entire body with your suit on
- using a 1 Tbl. spoon of liquid bleach to 1 pint mixture in a spray bottle, spray down your entire body
- wash again with soap and water (lots of water)
- spray again with the bleach solution
- wash again

Class A Protection suit removal:

- remove your outer gloves (leave your inner gloves on)
- remove your rubber boots and lay them out to dry so they can be used again (dump the 4 gallons of water you sweated out of your boots)
- remove your suit starting at your head, peeling it down to your feet and lay it out to dry so it can be used again
- if you're are using a PPE unhook the battery box
- remove your gas mask
- remove your inner gloves and throw them away in a proper bag for proper disposal
- remove other clothes you have on

Other protection measures removal:

- You'll need an open trash bag (thick lawn bag type) which will be thrown away
- remove any shoes and put them in the bag
- if you are using a Tyvek suit, remove it and put that in the bag
- if you are not using a Tyvek suit, remove the rest of your clothing and put it in the bag
- remove your dust mask and put it in the bag
- remove your gloves and put them in the bag
- tie up the bag and put it in a safe place for proper disposal
- Now for the last time, wash down with soap and water completely, dry off, and then go into your home and redress.

Isolation Room Setup

Preparation of the isolation room

1. Ensure additional precautions by indicating with appropriate signage on the door (for example, bio-hazard logo).
2. Place a log book at the entrance of the isolation room. All health care workers or visitors entering the isolation area must sign the log book.
3. Remove all non-essential furniture. The remaining furniture should be easy to clean and should not conceal or retain dirt or moisture, either within or around it.
4. Collect linen as needed.
5. Stock the hand basin with suitable supplies for hand washing.
6. Place appropriate waste bags in the room on a foot-operated bin.
7. Place a puncture-proof container for sharps in the room.
8. Keep the patient's personal belongings to a minimum. Keep water pitcher and cup, tissue wipes, and all items necessary for attending to personal hygiene within the patient's reach.
9. The patient should be allocated his/her own non-critical items of patient care equipment, e.g. stethoscope, thermometer and sphygmomanometers. Any item of patient care equipment that is required for other patients should be thoroughly cleaned and disinfected prior to use.
10. Set up a cart outside the door to hold personal protective equipment. A checklist may be useful to ensure all equipment is available.
11. Place appropriate container with a lid outside the door for equipment that requires disinfection and sterilization. Once equipment has been appropriately cleaned it can be sent to the sterilizing service department.
12. Keep adequate equipment required for cleaning and disinfection inside the patients' room.

Valuable Resource Page

Any questions? Melonie Turley 512.0822

Masks

Nano Masks on Amazon (different colors = different price)

Child \$ 13.95 (yellow)

Adult \$ 13.93

Filters \$ 31.95

Gerson N95 Masks

#2130 on Amazon at \$.73 each, individually wrapped

AO Safety 50453 N95 Pleats Plus Respirator, 25-Pack \$ 24.97

Can get Large, Medium, or Small

On Amazon

Immune Defense

Ionic Silver

Organa International 801.491.9334 \$ 100 for gallon 100ppm
\$ 30 for 1 Qt of 100ppm

ARise! – Ionic Silver supplement 200ppm

Oil In My Lamp LLC 435.512.0822 \$ 80 for 1 Qt

Oxygen Drops (for water purification, anti-viral)

Organa International 801.491.9334 \$15.00 for 2 oz.

Oregano Oil

Organa International 801.491.9334 \$ 10.00 for 1 oz

Emergen C

Amazon \$ 7.19 for Raspberry box of 36

Sam's Club \$15.88 box of 80

Cayenne

Dr. Schulze \$22.00 for 1 oz. (250,00 HU) tincture

Or in Power at local health food store (be sure to buy empty capsules)

Miscellaneous

Moon or Diva cup (to replace that year supply of space consuming pads and tampons)

<http://www.luckyvitamin.com>

Diva \$17.19 (a little bigger than the Moon cup)

Moon \$23.00

A= After child birth

B= Before child Birth

Solar goods

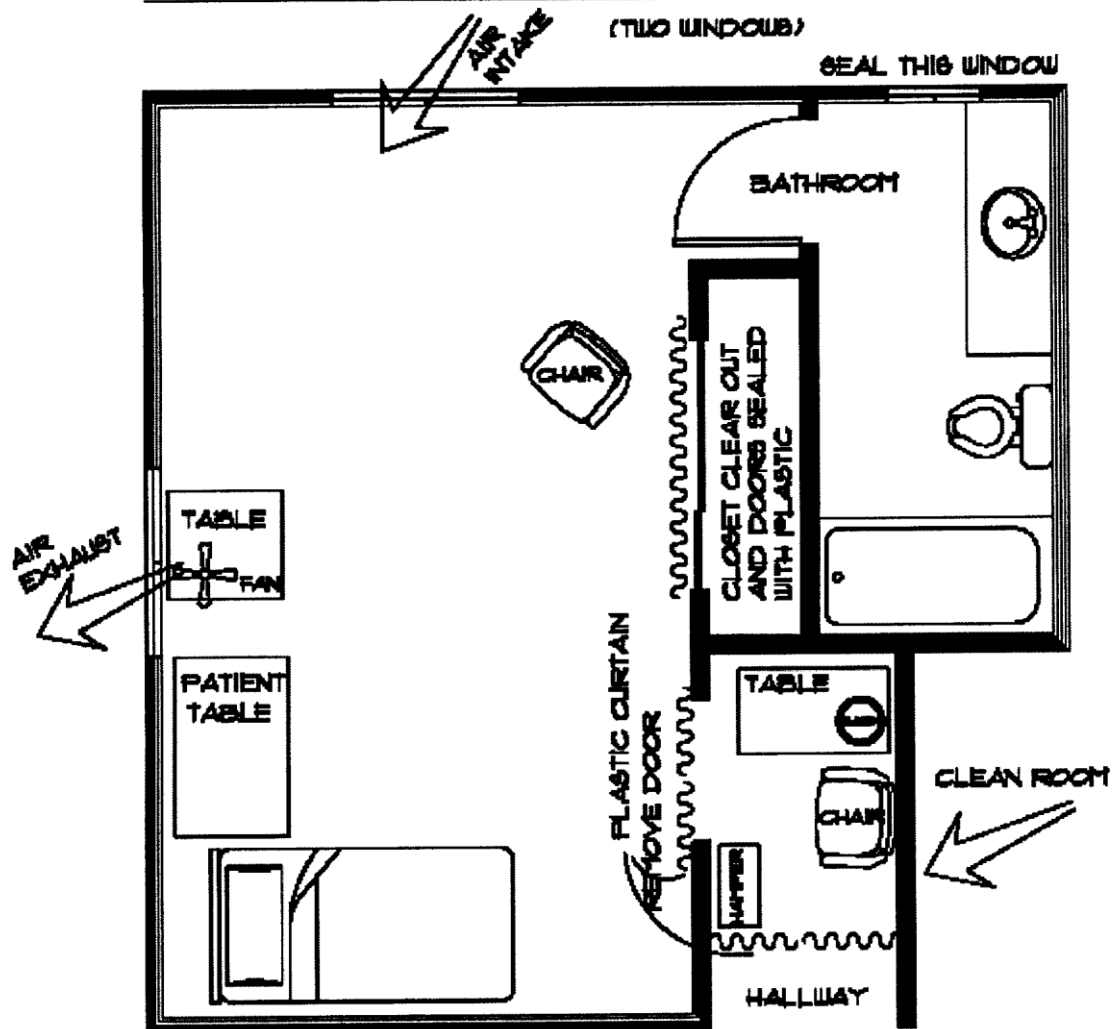
<http://www.12st-century-goods.com/>

<http://www.harborfreight.com/>

Pandemic Info Web Site

<http://www.providentliving.org/content/display/0,11666,6631-1-3415-1,00.html>

INSIDE ENTRANCE ISOLATION ROOM



General Precautions

Observe general precautions including hand washing, avoiding contact with possibly infected poultry, or consuming undercooked poultry or poultry products.

If a member of your family becomes ill, they should be isolated in a separate room. If several members are sick, they can be isolated in the same room. When caring for those who are ill, you will need some appropriate personal protective equipment including the following:

1. Disposable vinyl, nitrile, or latex gloves or other reusable gloves that can be disinfected
2. Protective clothing or a disposable surgical gown
3. Disposable shoe covers or those that can be disinfected
4. Safety goggles or face shield
5. Wear at least the minimum level of respiratory protection which is a surgical mask
6. These items must be removed in the proper sequence to avoid contaminating yourself.

Proper Removal of Personal Protective Equipment (PPE)

Remove PPE in the proper sequence to avoid contamination.

1. Because gloves are considered the most contaminated piece of PPE, remove them first. Do not touch the outside of gloves with your bare hands during removal. If you contaminate your hands during the removal process, wash them before continuing.
2. Surgical masks may be contaminated because droplets may have landed on them or you may have touched your face by mistake while wearing your PPE. Touch only the ties or straps at the back of your head. Slowly remove the straps, taking care that the respirator does not contaminate your bare skin or clothing.
3. Dispose of used PPE in a plastic lined trash can or plastic bag. Seal the plastic bag for later disposal. Hold the bag by the outside and avoid any rush of air as you seal it.
4. Always wash your hands thoroughly with soap and water or a hand sanitizer immediately after PPE removal.

SERIOUS SANITATION SUPPLIES

Mobile Sanitation Kit

- 5 Gallon Plastic Bucket
- “Potty Seat” Lid
- At least 6 bucket liners/garbage bags & twist ties
- Privacy Shelter
 - Rope, Clothes Pins, Tarp/Blanket
 - Or Commercial Shelter
- Toilet Tissue – As many rolls as will fit
- Hand Sanitizer
- Bar Soap
- Gallon Plastic Jug (makes hand washing station)
- Chemical Deodorizer
- Disposable Gloves
- Laundry Soap
- Anti-Bacterial Dish Soap
- Disinfectant/Diluted Chlorine Bleach Solution (in a spray bottle is very good)
- Moistened Towelettes
- Paper Towels
- Scrub Brush

Home Sanitation Supplies

- Water Storage
- Toilet Tissue
- Paper Towels
- Hand Sanitizer
- Large Garbage Can with Tight Fitting Lid
- Plastic Liners
- Shredded Newspaper
- Bucket of Wood Ash
- Rope and or Bungee Cord
- Shovel
- Pick or Digger Bar
- Post Hole Digger
- 2 Wash Basins
- Wash Board
- Large Pot for Boiling Water
- Laundry Detergent
- Rope and Clothes Pins (laundry line)
- Anti-bacterial Dish Soap
- Sponges or Dish Cloths
- Scouring Pads
- Dish Drying Rack

- Box of Disposable Gloves
- Large Trash Bags with Twist Ties
- Spray Bottles
- Hand Sanitizer
- Toilet Tissue
- Containers for carrying Water
- Insecticide
- Mop
- Broom & Dust Pan

Helpful Hygiene

- Shampoo
- Sun Screen
- Hand or Body Lotion
- Tooth Brush
- Tooth Paste
- Comb or Hair Brush
- Razor
- Lip Balm
- Bug Repellent
- Dust Mask
- Bar Soap
- Shave Gel
- Facial Tissue
- Emery Board
- Fingernail Clippers
- Dental Floss
- Mouth Wash
- Toilet Tissue
- Wet Wipes
- Paper Towels
- Anti-bacterial Liquid Soap
- Sewing Kit
- Feminine Supplies
- Hand Sanitizer
- Nail Brush
- Cotton Swab & Cotton Balls
- Hand Towels
- Petroleum Jelly
- Talcum Powder
- Small Non-Glass Mirror

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