Good Home Treatment of Influenza

A practical guide to home care of mild to severely ill patients that relies on a simple common sense approach

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This booklet on home treatment of influenza was written for consumers, public health agencies, businesses, and non-profit organizations and may be copied and distributed in part or in whole without a licensing fee as long as it is properly referenced as below.

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**Forward to the 2017 Edition**
For all our sakes I hope and pray this booklet will never be needed for treatment of loved ones during a severe influenza epidemic when all the hospitals are on bypass filled to the gills with critically ill or God forbid a 1918 style influenza pandemic. That said the history of infectious disease epidemics and pandemics due to influenza are well documented and despite all the advances made today in medicine there are very little we can do about the flu other than vaccination. There is nothing we can do to prevent an epidemic or pandemic from occurring, which they do about several times each century a medical fact that has been well attested to in the medical and lay literature for a thousand years. Our treatment of flu is supportive and hopeless in the face of a pandemic strain as attacked humankind in 1918. These things might change and frankly I thought they might after the fright the world experienced in 2005 caused by the possibility of an H1N1 Bird Flu pandemic that never materialized. But alas, nothing has been done about influenza in the intervening decade except that the world has become even more vulnerable to influenza than it was then.

In the event of a bad flu epidemic or even a modest pandemic the healthcare systems everywhere will become quickly overwhelmed. I discuss the reasons why below but suffice it to say that this little booklet is one of those essential items that when not if that occurs you will need desperately at some time in the future. No one can predict when. The information contained within it will remain current I assure you because it does not rely on prescription medications etc. The elegance of this booklet is that it relies on mainly pre-20h century tech from a post-20th century knowledge base. I trust you will have had the foresight to download it and print several copies now while the power grid functions and store them safely.

The organized healthcare delivery system has been under significant financial strain for several decades across the globe and has responded to these pressures in the usual ways
of businessmen and government officials charged with the task of managing them. They have cut costs, services, inventories, and readiness in order to meet increased demand for services with budgets that are not keeping pace. The well-run hospital system today can be characterized today as having a high occupancy rate, efficient use of consumable resources through relying on just-in-time inventory management, and very tight control of all aspects of hospital staffing expense.

These laudable attributes of a profitable hospital operation during normal times preclude the same facility being able to provide adequate service during extreme circumstances meaning a sudden increase in the demand for hospital beds by critically ill people that then have longer lengths of stay due to the severity of illness and/or a prolonged extreme event lasting a month or more when new critically ill patients are continuing to present for admission to the same hospital. The most likely scenario due to pandemic flu or even a run of the mill influenza epidemic is a combination of both extremes a wave of critically ill presenting over a month or more.

No modern hospital system is prepared to deal with these scenarios and when they come to pass, as surely they will many regular people without formal medical training will be become the provider of last resort to those sick with influenza in their own home.

When the pandemic or simply a garden variety flu epidemic strikes as is statistically likely, the event develops slowly at first then morphs rapidly into a much more sudden and tsunami-like wave of severely ill. During an epidemic the number is sick rise exponentially not linearly and that is why its arrival takes most by surprise. We have also been lulled into a sense of complacency regarding flu and the anti-immunization movement has resulted in many young adults, those most at risk for death from pandemic fly not getting immunized. As people begin to understand just how serious it is this time panic will set in and that will become contagious, which will be the first indication the social contract is in jeopardy. Most will be in denial thinking that this just couldn’t possibly happen here.

There is a range of official mortality estimates for the 1918 flu. In my opinion the best estimate was 125 million dead. Over 33% or 500 million people worldwide were very sick with influenza and 3% to 5% of the human population died of their infection. That is a case fatality rate of 10% to 16%. It is doubtful many modern nations could remain functional today with a similar event occurring.

The killer H1N1 Swine flu that caused the 1918 pandemic was most lethal when infecting young healthy men and women between the ages of 15 and 45 who made up the vast majority of the fatal cases. After its reappearance in August 1918 it gathered strength then really accelerated hard in September when it went exponential finally burning out in December but not before 75 million people had died. It returned the next winter but only killed 25 million before petering out. For comparison purposes nominal non-pandemic annually flu mortality in the US is about 50,000 deaths between September and March with a peak in about the middle of that period. Despite these relatively small numbers of flu deaths it is common for all ICU beds and almost all the regular hospital beds to be occupied each year in the US during the peak of the flu season due to influenza.

Almost no one outside of the healthcare industry realizes how much pressure has been placed upon hospitals to eliminate excess bed capacity over the past 20 years. This was
done to reduce overhead and staffing costs. This they have done and a natural consequence of this accomplishment is the virtual elimination of our national acute care hospital bed reserve capacity. Plans for inflatable operating rooms have been implemented and FEMA has purchased these units and has them propositioned strategically around the US in the major urban areas. Many hospital emergency operations plan call for cots and bedding held in storage to be quickly set up in hospital corridors and auditoriums. While these plans are fine as far as they go the rate-limiting factor in an emergency where bed and OR capacity needs to be dramatically expanded are nurses and doctors. They can’t inflate them out of thin air or take them out of storage and set them up in the hallway and have them function.

Then there is the problem with food, medications, and medical supplies. Hospitals like all other American businesses have adopted modern computerized inventory management methods to improve efficient use of capital resources of which the driving force is Just in Time Inventory Management. This ubiquitous technique means that the hospital keeps very little supplies on hand in reserve. Instead it relies on its sophisticated inventory computer system to track usage of everything from antibiotics to titanium hip joints as they are consumed and automatically checks current inventory and places an order for a replacement item from the supplying wholesaler once a threshold has been met. This save time, store space, money tided up in inventory for the hospital but it also means that the onsite physical inventory is kept minimal for all critical items, especially the costly ones.

If the computers go down, nothing in the hospital can function. If 20% of the non-professional hospital staff are out sick or home taking care of very sick family members that will further complicate operations but imagine that same 20% figure being the average absentee rate spread across all US and other advanced economies simultaneously. For instance current predictions show that a highly contagious pandemic influenza strain evolving anywhere on earth it would not take long to reach the one of the advanced industrialized nations. Once there it would travel by air to the entire planet virtually overnight in a starburst pattern. It would be everywhere at the same time before anyone realized it was upon us.

Our highly efficient hospital system of today is struggling to survive and frankly in my view failing despite all its efforts. The system is being financially strangled by its payors who seem unable or unwilling to put limits on the spending of insured patients and their doctors. There is no excess capacity left in the hospital system remaining to accommodate any significant increase in demand for acute care or especially critical care ICU beds most particularly if that demand is extended over more than a few days. The next flu epidemic in the US will overwhelm the system and a pandemic will bring it down. This booklet is written to help people found charged with the duty of caring with their loved ones at home without the usual assistance of the healthcare system. God be with you and yours.

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Influenza Epidemics and Pandemics

It is in the nature of all influenza viruses to cause widespread illness and death. As during seasonal flu, the vast majority of those sick with an epidemic or new pandemic flu will be treated at home by their family members and friends. This guide was written for people taking care of mild to severely ill influenza patients in their home who have no formal medical training. It is likely that when an epidemic or pandemic chaos will reign within the entire medical community. It will be difficult to get a doctor’s appointment, the hospital emergency rooms will be full, and so will all the hospital beds. The hospitals will have to turn people away who that would have admitted before because there is nowhere to put them. One of those people might be your husband, daughter, son, or you.

Pandemics occur in several waves of 2 or 3 months and will last between 12 to 18-months and over that time about half the people on earth will become sick. Epidemics only last a few months during the regular flu season and about one third of the people in your country will get sick. Most will be mild to moderately ill, but some will be very sick. This guide will help you take care of all these people at home using simple methods and does not rely on prescription drugs, medical equipment, or medical training.

Of course, a really sick person who can’t breath, keep down fluids, or is bleeding should see a doctor and probably needs to be admitted to the hospital. At times during severe pandemic, or epidemic, hospitals could become full of sick and dying patients, running out of space for new patients. Access to doctors may become limited. Medical supplies and drugs could be in short supply. If these things happens, people like you with no prior formal medical training may find yourself caring for terribly ill loved ones and friends who under normal circumstances would be treated by the doctor in the hospital. Home care, while not up to the standards of hospital care, can still be very effective. The simple methods found in this guide are those that have the power to keep patients from dying from the common preventable causes of death from influenza such as dehydration. What is “good home care” for flu? Good home care is nine parts common sense and one part simple medical practice. Taking care of someone with flu will be a familiar task for those who have nursed family members back to health in the past as it relies on simple common treatments and techniques.

The Flu Treatment Kit

Providing good care to family members and friends sick with influenza is a task that will be easier with a good supply of select over-the-counter medications, some medical equipment, and a few items from the grocery or hardware store. These items form the basis of the Flu Treatment Kit (FTK).
The Flu Treatment Kit (FTK) items for one person

Grocery store items
- Table salt: 1 lb (for making Oral Rehydration Solution, gargle and nasal wash)
- Table sugar: 10 lbs (for making Oral Rehydration Solution)
- Baking soda: 6 oz (for making Oral Rehydration Solution and nasal wash)
- Household bleach, unscented 2 gal (for purifying water and cleaning contaminated items)
- Caffeine containing tea bags or dry loose: 1 lb (for treatment of respiratory symptoms)
- Two 8 oz plastic baby bottles with rubber nipples1 (for administering Oral Rehydration Solution to severely ill)
- Two 16 oz plastic squeeze bottles with swivel nozzles (for administering Oral Rehydration Solution to the ill)
- Two Kitchen measuring cups with 500 cc (two cup) capacity (for measuring lots of things)
- One set of kitchen measuring spoons 1/8 tsp up to 1 tbsp (for making oral solutions and dosing)
- Fifty Soda Straws (for administering fluids easier)
- One composition-style notebook (for keeping a medical record on the patient)
- Teakettle2 (for steam therapy)

FTK Items found at the drug store
- Petroleum jelly 4oz3 (for lubrication of tubes, suppositories, and skin treatment and protection)
- Coco butter, pure 2 oz4 (for making suppositories and skin treatment and protection)
- An accurate bathroom scale (for weighing)
- Two Electronic thermometers5 (to measure temperature)
- Automatic blood pressure monitor (to measure blood pressure)
- Humidifier (for increasing the relative humidity of the air breathed by the patient)
- Pill cutter (to make it easier to reduce the dose of medications if desired)
- 1 box of Latex gloves # 100, (to help reduce contamination and spread of the virus and bacteria)
- Neti pot
- Ear bulb syringe

KTK Non-Prescription drugs
- Ibuprofen 200mg (Motrin®) # 100 tablets (for treatment of flu symptoms)
- Diphenhydramine (Benadryl®) 25mg capsules # 100 (for treatment of flu symptoms)

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1 The patients will find it much easier to drink fluids from a baby bottle, squeeze bottle, or using a straw during their illness.
2 Use a teakettle for making tea and as a device for making steam for treatment of sinus and bronchial disorders.
3 Petroleum jelly will be useful for chapped lips, noses, and bottoms.
4 Use cocoa butter to make rectal or vaginal suppositories. It is also an outstanding lip balm and great treatment for chapped or irritated skin of the nose or perianal area.
5 Thermometers break so have more than one on hand.
- Robitussin DM Cough Syrup® or its generic equivalent (12 oz) (for treatment of cough)
- Acetaminophen 500mg (Tylenol®) # 100 tablets (for treatment of flu symptoms)
- Loperamide 2mg # 100 tablets (for diarrhea and abdominal cramps)
- Meclizine 25mg # 100 tablets (for nausea and vomiting)

**FTK Items found at the hardware store**
- N-95 masks #20 (2boxes) (to reduce diseases spread to and from the patient)
- 50-gallon sturdy plastic garbage container with top (used to store clean water for drinking)

Abbreviations: lb = pound, oz = ounce, gal = gallon, # = number, cc = cubic centimeters, tsp = teaspoon, tbsp = tablespoon, mg = milligrams, hrs = hours

Useful home care medical procedures

**Basic Medical Skills Required**

Home caregivers will be better able to evaluate and treat their patients by learning a few simple medical procedures. This includes taking the patient’s vital signs: pulse, blood pressure, temperature, weight, and respiratory rate. Blood pressure is easily measured using an automated blood pressure monitor. Follow the instructions that come with the device to learn how to use it. The pulse is provided on the blood pressure monitor readout. It can be measured directly by feeling the pulse at the wrist and counting how many beats pass in 15 seconds and multiplying by 4. Temperature is measured directly with a digital thermometer. The patient’s weight is measured on a scale in the standard manner and is best taken with the patient lightly dressed without shoes and around the same each time each day. Watching for and counting the breaths taken over a 15 second period and multiplying the count by 4 provides the patient’s respiratory rate. “Practice makes perfect” applies to learning and perfecting these skills.

**How flu is passed person-to-person**

Don’t worry about contacting the flu because it will contact you. Almost everyone is vulnerable to a new flu strain. There is nothing unusual about this; influenza pandemics are a regularly occurring event with one happening on average 3 times each century. Humankind is well prepared to suffer these pandemics and bounce back as we have many times in the past. Pandemic influenza is so infectious; it is quite natural for the majority of the population to contract the virus before it is brought under control by our body’s immune systems. About half the people who contract the virus will have typical flu symptoms, and the other half will have very few, if any, symptoms. So, while everyone is susceptible to a new strain, for reasons that we do not understand at present, only half the people exposed get sick.
Another reason pandemic flu is passed so easily from person to person is that people infected with the virus are symptom-free for a day or two after they begin spreading the virus. Once symptoms begin, adults shed virus for about five days, but children and those with impaired immune systems can do so for up to two weeks. The most common way to catch the flu is breathing air containing the virus. Coughing or sneezing is how the virus gets into the air. Flu also can be passed when someone touches someone or something that has living virus on it. In this case, the illness usually gains access to the body from the hand by mouth, entering through the gut. Under warm and humid conditions, the influenza virus can remain infectious on surfaces like counter tops or doorknobs for a couple of days. During the winter, it can remain infectious in cold fresh water for up to a month. If you can avoid being around people sick with flu you may delay getting ill. However, if you are needed to provide care for a sick family member or friend with the virus, this strategy is not practical. Ultimately, most people are likely to be exposed to the virus. It’s just a matter of time.

Wearing latex gloves and an N-95 face mask when caring for the ill and changing your clothes, mask, gloves, and shoes when you leave a sick person’s area is a way to protect parts of the house where healthy people live. In truth, pandemic influenza is so infectious anyone taking care of sick folks in their homes will be exposed repeatedly to the virus no matter what measures they take. Activities like helping the patient to the bathroom, changing bed linen, and washing soiled clothes, or simply breathing the air in the vicinity of the sick leads to exposure. Since most people will have one or more sick family members or friends to care for during the pandemic, it is unlikely to avoid being exposed.

Coughing and hand washing etiquette

Two simple but effective suggestions for reducing spread of the virus includes covering your nose and mouth with a tissue or handkerchief when coughing or blowing your nose and washing your hands after having any contact with a sick person. Coughing or sneezing into your hands is not recommended because then you are liable to spread the virus to anything you touch with them. Instead, if a handkerchief is
unavailable, cough or sneeze into the inside of your elbow or the sleeve of your upper arm. Use soap, water, and a face cloth to wash your hands or you can use the new waterless alcohol gel.

The virtue of cleanliness
To help reduce the presence of virus within the home, keep sick people clean and dry. The sick rooms, bed clothing, and bathrooms need to be maintained in good condition. Ventilation of these areas is important, and if possible, natural light will improve the atmosphere. Soiled garments and bedclothes need to be washed and dried, a task likely to be challenging if there is an interruption of electrical and water service. It will be important to wash these soiled items in hot water using soap and chlorine bleach if possible. Drying these items in the sun takes advantage of the powerful antiseptic effect of ultraviolet light. A good clothesline will be an essential item to have on hand.

Hard surfaces should be wiped clean using soap and water, and then sprayed with 1:10 bleach to water solution and wiped down a second time. Allow the bleach solution to stand on the surface for 30 seconds before removing it to help ensure that all the contagion is eliminated. This technique will effectively remove all trace of infectious viral particles and bacteria from surfaces that come into contact with body fluids, vomit, and excrement.

Signs and Symptoms of Flu

Is it a bad cold or flu?
There are several ways to tell the difference between the flu and less severe illnesses. First of all, unless there are other cases of flu around the area, your illness is probably not flu. Colds, bronchitis, sinusitis, ear infections, and sore throat can lay you low but are less severe. Flu is a really severe illness compared with these more common conditions. So, the severity of illness is an important clue that the patient indeed has the flu. Healthy people sick with pandemic flu will be so ill and weak they will have a hard time getting up out of bed without help. The flu usually begins in the nose with sneezing and a runny nose. A sore throat, fever, and muscle aches and pains will follow. Over the next day or two, the virus will move into the lung causing cough, more fever, headache, and general weakness. If the virus gains access to the body through the gut, nausea, vomiting, abdominal cramping, and diarrhea are likely.

Fever

Everyone with flu will have a fever, which is one of the ways our bodies fight infections. Virus and bacteria don’t grow as well when our body temperatures are higher than normal, and our body’s immune system is more active when we have a fever. So, some fever is good for fighting infections. On the other hand, too much can cause damage and accelerate dehydration. The “best” temperature for balancing the benefits vs. the deficits is between 100.5°F
and 101°F taken orally. If taken rectally, increase the range by ½ degree.

**Cough**

Almost every patient with influenza develops a cough. A wet cough is one that produces phlegm or mucus while a dry one does not. Coughing serves several useful purposes. The most important is to help clear the breathing passageways of collections of mucus or other debris that accumulate under conditions of health and disease. In this case, cough is helpful. On the other hand, when the cough is not due to mucus but instead caused by irritation on the delicate tissue lining the breathing passageways, then coughing can cause damage serving no useful purpose. The vigorous and intense contraction of the back, abdominal, and rib muscles occurring repeatedly during coughing can bruise or tear them. This leads to pain when taking a breath or when these areas are pressed with the fingers. Since an excessive dry cough can be harmful, it is the one we want to suppress. On the other hand, our goal is to encourage a wet cough to help the body rid itself of mucus and debris.

In patients with infections of the ears, nose, throat, or sinuses, cough can occur when mucus from these irritated tissues finds its way down into the bronchial passageways. Cough from this cause is best treated with an antihistamine and decongestant rather than a cough suppressant. The dry cough is the one we want to suppress, and the wet cough is the one we want to encourage.

**Shortness of breath**

When a person is *short of breath*, he is having a hard time getting a satisfying breath. He feels like he is not getting enough air. Sometimes this symptom is due an asthma attack or when the air passages go into a spasm of tightening. When this happens, the patient wheezes when they inhale and exhale breath. The higher the pitch of the wheeze, the more constricted the breathing tubes.

With some other causes of shortness of breath, the breathing passages are wide open, and the problem is deep in the lung being due to a buildup of fluid or pus. These are serious complications of flu. So, shortness of breath developing in a patient with flu should be evaluated by a doctor or at a hospital as soon as possible. Pneumonia usually causes the patient to have a wet cough with lots of mucus. The mucus can be clear or colored, and can be thick or thin. Since those who develop pneumonia during the pandemic are at high risk of dying, if at all possible, they need professional medical treatment.

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Nausea, vomiting, and diarrhea

Vomiting and diarrhea occur when the virus affects the stomach or intestine. These flu signs cause the patient to become dehydrated quickly especially in the presence of fever. When the intestine is infected and food is eaten, it can’t be digested and this leads to a worsening of the diarrhea and stomach cramps.

Supportive treatment of influenza

Keeping good records

It will be useful to keep well-organized notes on the patients you are caring for at home. Having a standard approach is a good way to be sure that you have not overlooked anything of importance. I recommend using a composition notebook like the ones used in high school English class for this purpose. Each day, write down the patient’s vital signs. Include their temperature, pulse rate, breathing rate, blood pressure, and weight if they can stand. Repeat the vital signs three times daily in routine patients and more often in very sick patients. You can get a clear picture of how the patient is doing from these simple measurements. An important part of the daily record is to measure the patient’s fluid intake and output. To do this, you will need to keep track of the fluid they are taking in as well as passing out. Have patients save all their urine by urinating in a chamber pot or urinal instead of the toilet. Measure the urine output using a large measuring cup. The amount of fluid we take in each day is always more than the amount passed out because of insensible losses. Insensible losses include fluid lost through the skin as perspiration, water vapor in the breath, and fluid in the stool. If the patient is not drinking enough fluid their output of urine will fall off, and the urine will become darker and concentrated. If this happens, encourage them to drink more fluids. Pushing fluids is job number one when caring for people with flu.

<table>
<thead>
<tr>
<th>Symptom or Sign</th>
<th>Likely Assessment</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shortness of breath</td>
<td>Pneumonia</td>
<td>Push fluids, seek medical help</td>
</tr>
<tr>
<td>Cyanosis (skin turns blue)</td>
<td>The lung is unable to bring oxygen to the blood. This is a very bad sign and is often associated with a rapid death.</td>
<td>Keep the patient as comfortable as possible, seek medical help</td>
</tr>
<tr>
<td>Bleeding from mouth, coughing up blood, passing red blood per rectum, Severe bruising.</td>
<td>A severe blood clotting disorder is present and is a very bad sign. Death is likely.</td>
<td>Keep the patient as comfortable as possible, seek medical help</td>
</tr>
</tbody>
</table>

7 During the 1918 pandemic a particularly aggressive presentation of influenza that was most commonly seen in young adults was associated with cyanosis and is described in this excerpt from a physician’s letter to a colleague. “After a few hours later you can begin to see the Cyanosis extending from their ears and spreading all over the face, until it is hard to distinguish the colored men from the white. It is only a matter of a few hours then until death comes.”
Identification of dehydration
When patients have a fever, vomiting, and/or diarrhea, they lose much more water from the body than is commonly appreciated. Symptoms of dehydration include weakness, dizziness, headache, confusion, and fainting. Signs of dehydration include dryness of the mouth, decreased saliva, lack of or very small urine volume that is dark and highly concentrated, sunken eyes, loss of skin elasticity, low blood pressure, especially upon sitting up or rising from the sitting to the standing position, and fast pulse rate, especially when moving from the lying to sitting or standing positions. Preventing or treating dehydration in people with flu will save more lives than any other intervention during the influenza pandemic.

Treatment of dehydration
The Oral Rehydration Solution (ORS) is an excellent treatment for all causes of dehydration. It is just what the thirsty body needs to restore the lost fluid. The water, salt, and sugar in the formula team up to speed the patient’s recovery. The quantity of sugar in the ORS can be varied depending on patient preference. It can be increased up to 4 tbsp or reduced to 2 tbsp if desired by the patient.

The Adult ORS formula for dehydration
- 1-quart clean water
- 1/8 tsp salt
- 3 tbsp table sugar

If you detect or suspect that dehydration is developing, administer the ORS by mouth. If the patient is too ill to drink, someone must sit with them and administer the fluids using a teaspoon or the baby bottle to get one spoonful or dribble from the bottle down the patient’s throat until she is strong enough to drink alone. Don’t stop until the patient has been able to keep down at least a quart of fluids, which may take several hours. You will know you are making headway with fluid therapy when the patient becomes more alert and begins urinating, an indication that their fluid deficit is partially restored. While these are good signs, more remains to be done. With sick patients like these, you need to “push the fluids” so don’t let your guard down. If they are too weak to use a glass and straw or squeeze bottle, try an 8 oz. baby bottle, which may be easier to handle. Your patient will be very tired. Let them sleep for a couple of hours and then get them to drink more fluids. Be insistent; it is really important.

You can drink the ORS plain or add fruit flavorings or natural herbs like tea, vanilla, cloves, cinnamon, or mint. A number of excellent powdered fruit drink products are available at the grocery store that can be mixed with the ORS. Once the patient is well hydrated and eating, there is no further need for the ORS. Even if the patient is not eating but can drink and remains well hydrated, you can switch them to one of the other fluids listed for use with the clear liquid diet such as juice, bouillon, or tea.
Treatment of common flu symptoms

Caring for a flu patient is something everyone is capable of doing. The basic goals are to keep the patient clean, dry, warm, and well hydrated. Patients need a soft place to lie down, be comforted, told that they are going to be OK, and reassured that you will be there for them. The most important medical treatment is to make sure they have plenty of fluids. Dehydration must be prevented because it can quickly lead to death or contribute to stroke or heart attack. Keeping the patient hydrated is the best treatment for the flu and the one that is most likely to save lives. The same treatment advice applies to other viral and bacterial illnesses that might be confused with influenza. So, don’t worry so much about whether or not you have made the correct diagnosis or not. The treatment will be about the same anyway.

Treatment of adults with fever

The first consideration when treating a patient with fever is fluid therapy. It is very difficult to bring a fever down in a patient low on fluids. Both ibuprofen and acetaminophen are good ways to lower fever and help the patient feel better. The therapeutic dose of ibuprofen for adults is 2 to 4 tablets (400mg to 800mg) every four to six hours as needed. For acetaminophen, the dose is two 500mg tablets up to 3 times daily as needed. Try one or the other at the dose recommended. Wait 45 minutes. If the response is insufficient, add a full dose of the other drug. In adults, acetaminophen and ibuprofen can be used in full doses at the same time, because they are in different drug classes and have different drug side effects. Combination treatment with both has an additive effect of benefit without increasing risk. Do not exceed these doses for either drug. This is the maximum for both. Acetaminophen is a very safe drug as long as you do not exceed the daily dose limit for it.

Many cold and flu preparations sold in drug

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8 For the purposes of this book, ibuprofen means aspirin, Advil, Aleve, ibuprofen, or Nuprin since they are all alike. Acetaminophen (Tylenol) is not an aspirin.
stores include acetaminophen or ibuprofen along with antihistamines and or decongestants. These are fine to use for flu. Just remember to include the dose of acetaminophen and ibuprofen found in these drugs in your daily limit calculation to avoid exceeding it for any of the drugs listed.

A high fever (103°F) is hard on the patient, but most folks can tolerate it well. A fever above 104°F is the upper safe limit for most people and anything above 105°F is a temperature emergency. Fevers this high can cause seizures and above this point brain damage can develop if prolonged. This must be avoided. The mainstays of therapy are keeping the patient well-hydrated, tepid water sponge baths, acetaminophen, ibuprofen, and dressing the patient lightly.

If the fever resists these techniques, sponge bathe the patient with cool water and fan the patient to increase the cooling effect of evaporation from the skin. This works really well. Make sure the patient stays well hydrated when their fever is high because they are really loosing a lot of water from skin evaporation and if they get dehydrated that is a very bad prognostic sign. As a last resort, if you have access to either ice or snow, make cold packs and place them under each arm, on the right and left sides of the groin, and around the neck. These cold packs cool the blood passing under them helping to reduce the patient’s temperature. Continue to fan them too with ice therapy. Remove the ice as the temp comes down but be ready to reapply it.

**Treatment of chills and body aches and pains**

Chills cause shivering and are often associated with body aches and later fever. Treat chills by keeping the patient warm; give them an extra blanket or a hot water bottle. Body aches respond to acetaminophen, and ibuprofen used separately or together.

**Sore Throat**

Gargling with a hot salt and soda water solution is a good treatment for sore throat. To make this treatment, add 1 tsp of salt and ¼ tsp of baking soda to a cup of hot but not scalding water. Ibuprofen and acetaminophen used in full doses either individually or together if needed have good pain relieving effects. Another good treatment is to place a whole aspirin, ibuprofen, or naproxen in the back of the throat and let it dissolve like a lozenge. It will soak into the inflamed tissue and relive the pain and swelling for several hours. It may be repeated but keep track of the total dose of anti-inflammatory so that you don't exceed the recommended dose.

**Nasal Congestion**

Nasal, sinus and ear congestion and pain respond to hot packs placed on the face and by inhaling steamy air. Use of a Salt and Soda Solution to wash the sinuses helps remove mucus and inflammatory chemicals that build up in the area and is very useful. The solution is made by adding ¼ level teaspoon of table salt plus ¼ level teaspoon of baking soda to 1-cup of clean water. Instill the solution into the nose with an ear bulb syringe or better yet with a neti pot and gently blow your nose. Repeat this process until the nasal passage is clear. Nasal washing can be repeated as often as needed. Antihistamines and decongestants are also useful for treatment of this condition. The salt and soda solution
makes an excellent non-burning eye wash too. It is a great way to provide a comforting bath to sore runny eyes and lids. It brings instant relief to sore runny eyes.

Inhaling steamy air is a time-honored therapy for chest, sinus, ear, and throat infections. The easiest way to create steam is by heating water in a teakettle or a pot. Once the water is boiling, drape a towel over your head and bend over near but not too close to the steam. Inhale the steamy air through the nose and mouth getting it deep into the lungs.

**Cough**

From the therapeutic standpoint, we want to encourage patients with a wet cough to clear the mucus from their lungs. The health of the patient is unaffected if the phlegm brought up with a wet cough is swallowed or deposited in a handkerchief. Hydrating the patient with the ORS, feeding them a hot or cold caffeine-containing beverage like tea, coffee, or cola, or eating chocolate encourages a wet cough. The cough reflex is effectively suppressed with dextromethorphan; the drug found in many OTC cough products with the “DM” notation on their label. If the patient has a wet cough and is coughing a lot, you still should suppress it to prevent the cough from damaging the chest wall or lung structures. Too much coughing, even when bringing up phlegm, can cause damage and should be lessened. Inhaling warm humidified air helps patients with infections of the nose, sinus, ears, throat, bronchial pathways, and lungs especially during winter when the air is dry. Caffeinated tea and coffee and chocolate contain an herb with well known medicinal effects on the lungs. The herb help keep the breathing tubes open, increase heart rate and blood flow, and encourage urination. The effect is to move more fluid through the lungs thinning the mucus and making it easier to cough up. The herb is also effective for relieving headache, lifting a depressed mood and for enhancing awareness.

<table>
<thead>
<tr>
<th>Symptom or Sign</th>
<th>Likely Assessment</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low urine output</td>
<td>Dehydration</td>
<td>Give the patient ORS</td>
</tr>
<tr>
<td>High pulse rate &gt; 90)</td>
<td>Dehydration or fever</td>
<td>Give the patient ORS</td>
</tr>
<tr>
<td>Shaking chills and shivers</td>
<td>The virus is swarming in the blood stream.</td>
<td>Keep the patient warm</td>
</tr>
<tr>
<td>Nausea/Vomiting</td>
<td>The virus is affecting stomach or indirectly the brain.</td>
<td>Give sips of clear liquid diet. Use the ORS. Use Meclizine 25mg every 4 hours as needed.</td>
</tr>
<tr>
<td>Diarrhea</td>
<td>The virus is affecting intestine.</td>
<td>Push ORS fluids, clear liquid diet</td>
</tr>
<tr>
<td>Severe stomach cramps</td>
<td>The virus is affecting the intestine. Expect nausea, vomiting, and diarrhea soon</td>
<td>Switch to clear liquid diet. Use Diphenhydramine and/or Loperamide for cramps.</td>
</tr>
<tr>
<td>Bloody diarrhea but no bleeding from any other site</td>
<td>The virus has infected the intestinal lining</td>
<td>Push ORS fluids and use the clear liquid diet. Give Loperamide and/or Diphenhydramine for cramps.</td>
</tr>
</tbody>
</table>
### Reasons and remedies for common flu patient signs and symptoms #2

<table>
<thead>
<tr>
<th>Symptom or Sign</th>
<th>Likely Assessment</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Headache</td>
<td>Due to fever or coughing. Also can be directly or indirectly due to the viral infection.</td>
<td>Ibuprofen and/or acetaminophen. Lower temperature if fever present. Use icepack on neck.</td>
</tr>
<tr>
<td>Fever</td>
<td>Due to the virus stimulating the bodies immune system to release chemicals that fight the infection</td>
<td>Ibuprofen, acetaminophen, push fluids, keep warm or cool, consider tepid water baths if &gt; 102 F. OK if &lt;101 as this may help kill virus.</td>
</tr>
<tr>
<td>Sore throat</td>
<td>Direct viral infection of the posterior throat tissue. Caused by inflammation of tissue breakdown in the area.</td>
<td>Gargle with hot salt water; drink hot tea or hot water, ibuprofen and or acetaminophen.</td>
</tr>
<tr>
<td>Cough</td>
<td>Viral infection and irritation of the tissue lining the breathing tubes and/or the lung tissue.</td>
<td>Push the ORS fluids, drink hot tea for effect on breathing tubes, use a dextromethorphan (DM) containing cough syrup to suppress cough if needed</td>
</tr>
<tr>
<td>Facial pain</td>
<td>Sinus congestion or infection</td>
<td>Use salt and soda nasal solution frequently, hot packs or cold packs on face help, Diphenhydramine 25-50mg four times daily as an antihistamine and ibuprofen and/or Tylenol for pain. Push fluids including tea.</td>
</tr>
<tr>
<td>Runny nose</td>
<td>Virus infecting nose</td>
<td>Use salt and soda nasal solution frequently, Diphenhydramine 25-50 mg four times daily to reduce runny nose.</td>
</tr>
</tbody>
</table>

### Chest Pain

Chest pain during flu is often due to the effect of coughing on the muscles, ribs, and cartilages that surround and support the lungs. An indication of this cause is when pressing on the chest wall, upper flanks, or upper abdomen brings out the pain. Treatment is to suppress the cough as explained above, allowing these injured tissues to heal. Pain can be controlled using a full dose acetaminophen and/or ibuprofen every six hours. Muscle spasm can play a role in this pain, and when it does, consider applying an icepack, heating pad, or hot water bottle to the chest wall. Chest pain can be excruciatingly painful and difficult to control.

### Headache

Headache with influenza can come from several sources. Coughing shakes the head back and forth and can strain the neck muscles causing headache. Chemicals released by the viral infected cells and the immune system can trigger headaches. Bacterial sinusitis
complicating flu causes facial pain and headache. Treat headaches using ibuprofen with or without acetaminophen. If neck stiffness or soreness is present, apply an ice pack, heating pad, or hot water bottle to the back of the neck or head.

**Treatment of nausea, vomiting, diarrhea, and abdominal pain**

The first step in treatment for these four symptoms is to place the patient on a clear liquid diet using the ORS. It will not provoke vomiting or diarrhea as easily as other fluids or foods do, but it can still cause these reactions in severely affected people. Nausea is responsive to Meclizine 25 to 50 mg every 4 to 6 hours as needed for this symptom. Diarrhea and abdominal cramping can be treated with Diphenhydramine 25 to 50mg every 4 to 6 hours and/or Loperamide 2 to 4mg every 4 to 6 hours. Since Diphenhydramine and Meclizine are both antihistamines, their side effects are additive. If you have already given the patient one of these drugs and want to try the other, wait four hours before doing so to allow the first drug to clear the system.

Patients with an intestinal presentation of flu often will experience abdominal cramping, gas, and diarrhea. In some patients, the diarrhea can be bloody. Diarrhea often causes irritation around the anus. Treat this by gently cleaning the area using a moistened tissue, soft cloth, or baby wipe. Apply a small amount of petroleum jelly or cocoa butter on and around the anus to protect and heal the tissue. Repeat this process after each loose stool. Abdominal cramps respond to the anticholenergic effects of Diphenhydramine 12.5 to 25 mg every four to six hours.

**Diet during Influenza**

Since flu commonly takes away the appetite, most patients won’t be hungry. Eating is not as important as drinking fluids because the patient will be breaking down muscle and fat for energy. The *clear liquid diet* is best for patients sick with flu who are not particularly hungry, but it is mandatory for patients with diarrhea due to influenza. If a flu patient wants to eat, feed them as long as they don’t have diarrhea. In most cases, patients with diarrhea can tolerate a clear liquid diet without making matters worse. The small intestine can absorb water, minerals, and sugars well even when infected.

If the patient has not been sick long or had a mild non-diarrheal presentation of the flu, you can start with step 2 of the clear liquid diet and quickly move up the steps as tolerated by the patient. At any time during re-feeding, should the patient suffer abdominal problems, especially pain or diarrhea, drop back a step or two on the clear liquid diet. Rest in that step for a while before trying the next step again. This strategy will work well for almost every patient.
The clear liquid diet

- Step 1: Oral Rehydration Solution (ORS), water, fruit juice, Jell-O, Gatorade®, Popsicles, PowerAde®, ginger ale, cola, tea, and bouillon.
- Step 2: To step 1 add white toast (no butter or oils), white rice, cream of wheat, soda crackers, and potatoes without the skin.
- Step 3: To Step 2 add canned fruit and chicken noodle soup.
- Step 4: To Step 3 add a source of protein like canned meat, fish or egg.
- Step 5: To Step 4 add milk and other dairy products, vegetable oils, butter, raw fruits and vegetables and high-fiber whole grain products.

Once the patient is eating a normal diet without any stomach problems, it is important to increase the intake of high quality protein, especially eggs, meat, fish, or poultry. This nutrition is needed to rebuild the muscle and organ tissue, which were broken down for energy during the illness. Carbohydrates and fats are also important as an energy source for the recovering body and to help replace lost fat stores broken down for energy during the infection.

Exercise during and after recovery

Even moderate influenza causes a breakdown of muscle tissue and physical weakness. If a patient was critically ill with the flu, even more muscle, organ tissue, and fat was broken down by the body for support. Acute influenza symptoms can be expected to last at least five days but usually seven to 10 days. Most people need another week or two of rest for recovery. A return to limited normal activities is usually possible at this time, but full recovery will not be complete for a month, or even two, after the infection. Of course, no exercise of any type is possible or desirable during the acute phase of the illness. During the recovery period, passive stretching and massage helps a weakened patient recover. These activities help bring the dormant joints, tendons, and muscles back to life and work out the soreness that builds up in these tissues. Gentle passive range of motion (ROM) exercise is accomplished by slowly and repeatedly moving all the joints of the limbs, including fingers and toes, through their entire normal range of movement. Each finger and toe, ankles, knees, hips, wrists, elbows, shoulders, and the neck should be bent, rotated, and extended slowly and repeatedly. Gentle massage is also comforting to the patient’s sore muscles and helps in their recovery.

Patients who have been at bed rest for a long time will have trouble with balance and weakness. If they have not been eating, they will not have enough energy to resume normal activity. A prerequisite for getting up is to get the patient past step 3 of the clear liquid diet before even trying to encourage the patient to walk again.

When the time comes to help a patient return to normal, take it easy. Try sitting the patient upright in bed first. If this goes well, the patient can next try sitting on the side of the bed with his feet on the floor. Dizziness and weakness are the two problems that most people have trouble overcoming. Take it slowly. Dizziness usually goes away after a while in the new position, so be patient. The next step is to get the patient up and sitting in a chair. Standing with limited assisted walking comes next. At first, have the patient walk with assistance around the room or in the halls.
Home Care of Children with Flu

Many differences exist between the way a child and an adult respond to this disease. Many, but not all, of the drugs used for adults are also used for children, but the dose is different. Dehydration and rehydration are critical in both, except that children can become dehydrated much more quickly than adults. While many of the recommendations and advice for treatment of adults can be applied to kids, some are inappropriate. A wise parent will ask their children’s pediatrician for flu management suggestions for use during the a flu epidemic or pandemic before it begins. Your pediatrician knows your child’s health better than anyone, and the advice and counsel of your doctor take precedence over any suggestions presented here.

Signs and symptoms of flu in children

One of the biggest challenges for parents will be trying to tell whether their sick child has cold or bird flu. If bird flu is not in your community, it is very unlikely that your child will be the first case. It is common for the first signs of flu to be a runny nose followed by irritability or crankiness. A sore throat and fever often follow. When the virus moves down into the lung, a dry cough begins. Infants with influenza can suddenly become very sick rapidly or simply “not look right”. They may seem unresponsive, dull eyed, and distant. One difference between a cold and flu is in the speed with which the flu strikes a child compared with a slow-moving cold. Also, flu is much more severe than a cold. If the child is running around as usual and eating normally, he probably doesn’t have flu or is in the very early stages of the illness.

These symptoms are not specific for flu so when they develop, keep calm, and treat them in the same way you would manage any cold--with fluids, acetaminophen, and rest. If flu is in your community and the disease course is more or less following the above pattern, flu becomes more likely but is still unproven. The feature that makes flu so different from routine childhood infectious diseases is the severity of the illness. Kids with pandemic bird flu will be very sick very fast. Its quick onset and the severity of the illness are what clearly distinguished flu from a cold.

<table>
<thead>
<tr>
<th>Chart of Signs and symptoms of influenza in children</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fever</td>
</tr>
<tr>
<td>Cough</td>
</tr>
<tr>
<td>Dizziness</td>
</tr>
<tr>
<td>Muscle aches</td>
</tr>
<tr>
<td>Chills</td>
</tr>
<tr>
<td>Diarrhea</td>
</tr>
</tbody>
</table>
How to keep children with flu comfortable

- A child with flu should get lots of rest, which will help her body fight the virus, and keep her more comfortable.
- Use the ORS to provide her with plenty of fluids. Being well hydrated is the easiest way to make nasal mucous thinner, relieve stuffy noses, and soothe sore throats.
- Use a cool mist humidifier in your child's bedroom to reduce coughing, which often gets worse at night.
- Use a nasal aspirator (a syringe that sucks mucus from the nostrils) or ear bulb syringe along with the salt & soda nose spray to relieve stuffy noses in smaller children and infants.
- Older toddlers can be taught to blow their noses.
- For smaller children, raise the head of the crib (with a book or pillow under the mattress) to ease congestion and coughing
- Use acetaminophen for fever, aches, or pains.
- Use a DM (Dextromethorphan) containing cough syrup for cough

Dehydration in children

Dehydration presents in children in the same manner as in adults, only more quickly because children have less body water. This means they can become dangerously low on fluids very quickly especially if diarrhea or vomiting accompanies the fever.

Signs and symptoms of dehydration in children

Early in dehydration, a child may be cranky and irritable. Later lethargy or lifelessness may develop. A lethargic child is difficult to awaken. They have very little energy and are “rag doll weak”. Sunken eyes, dry nose or mouth and decreased or absent urination are very worrisome signs that indicate the development of dehydration. The heart rate is fast when the child is feverish, but it is also fast when the child is dehydrated. A dehydrated child may have a glassy-eyed stare and have difficulty focusing or concentrating. This is never normal and should be considered a sign of the child is very ill and probably needs fluids. Failure to effectively treat dehydration will make it nearly impossible to bring a fever down to a safe level. If dehydration continues unchecked, eventually the child will go into shock and die.

<table>
<thead>
<tr>
<th>Chart of Signs and symptoms of dehydration in children</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sunken eyes</td>
</tr>
<tr>
<td>Sunken skull “soft spot” fontanel in infants</td>
</tr>
<tr>
<td>Dry mouth or sticky mucus membranes</td>
</tr>
<tr>
<td>Irritability but may be “too tired to cry”</td>
</tr>
</tbody>
</table>

9 Dextromethorphan HBr is an antitussive (cough suppressant) that inhibits the cough reflex. It acts primarily by depressing the cough center in the brain to reduce the frequency of the intensity of cough. Prolonged use or high doses can cause confusion or hallucinations. DM is not a very strong cough suppressant.
Treatment of flu symptoms in children

Prevention of dehydration
Since several common flu symptoms and signs cause dehydration, you should assume that it would develop unless you take steps to prevent it. This is the best strategy. As soon as the child becomes ill, begin fluid therapy and keep pushing the fluids as long as she has a fever, diarrhea, or is not eating.

Correction of dehydration in children
Fluid treatment is indicated for dehydration whether from flu or another cause. If nothing comes of the symptoms, fluid therapy is harmless. The principles of rehydration used in adults are the same as for children but the ORS formula is a little different. Be persistent in your efforts to get as much fluid in the child as you can.

Children’s ORS formula for dehydration
- 1.5-quarts clean water
- 1 level tsp table salt
- 4 tbsp table sugar

Treatment of cough
Almost every child with bird flu will cough. Cough has a useful purpose, to help rid the lung of mucus and phlegm. A dry cough is usually due to an irritated breathing passage. In this case, cough makes things worse not better. If persistent, the coughing can bruise the voice box and breathing tubes in the lung. These bruises cause pain when breathing. In the case of a dry cough due to flu, use of a cough syrup containing dextromethorphan (DM) is helpful. This drug can cause hallucinations if given for more than several days or in high doses. Keeping the child hydrated is very important for treatment of cough. Another useful technique is humidified air. Using a room humidifier is useful if available. If mucus comes up with the cough, this is known as a wet cough. We want to encourage a wet cough to help the child clear the mucus from the lung but too much coughing can damage the lung and chest and stomach muscles. So in some cases, use of a little cough suppressing cough syrup is useful for an aggressive wet cough.

Treatment of runny nose
The best treatment for runny nose is use of a salt & soda saline solution made of ¼ tsp of salt and ¼ tsp of baking soda added to a cup of clean water. The best approach is to spray the solution into the nose as a mist. Alternatively, an ear bulb syringe works well for this purpose. The salt & soda solution will help remove mucus and irritants that clog the nasal passage and will help these tissues heal. Use of good nose blowing technique by the child
is important to successful nasal solution use. Teach children to wash their hands after they blow their nose or cough into a handkerchief.

Antihistamines are an effective treatment for runny nose. Diphenhydramine, the generic name for Benadryl®, is an antihistamine recognized as safe and effective in children. Commercial children’s Benadryl is widely available as an oral tablet that melts in the child’s mouth. This product is easy to use and a good treatment for runny nose. Oral diphenhydramine has few side effects including its tendency to sedate. This side effect actually can be an advantage if the child needs help in sleeping. Sometimes people have an atypical hyperactive response to antihistamines, and if this is the case, they should be avoided, especially in children.

**Treatment of fever in children**

Children can mount impressive fevers quite suddenly. It is common for fever to go up and down during the day and night. Aches and pains parallel the fever. Fevers can have a daily pattern, and it is common for a child’s temperature to reach 104°F during a severe infection. A goal of therapy is to lower the fever to between 100.5°F and 101°F, where the body’s immune system is most effective at eliminating the infection. If the temperature rises above 105°F, seizures or even brain injury are possible. So, it is important to aggressively manage the child’s fever before it becomes extreme. Febrile seizures are really common and not a big deal as long as you get the temperature down fairly quickly. It is not likely that there will be any brain damage as a result of a febrile seizure. Again the important thing is to monitor the temp and take preventive steps to keep it from ever getting to 105°F in the first place.

Restoring fluid losses due to fever or other causes is always the first step in treatment of fever. Failure to restore the child’s fluid volume will make it nearly impossible to lower the temperature. Acetaminophen reduces temperature and helps with aches and pains. Be sure to use it in full children’s doses rather than partial doses. Use the weight and age-based dose guidelines provided with the children's acetaminophen product. A tepid water sponge bath is a useful method in lowering a fever. Never give a child or an adult an alcohol sponge bath, which can be toxic. In rare instances, using all the methods above fails to lower the temperature to below 101°F. In this case, lower the temperature of the water you use for the sponge bath or fan the child to speed the evaporation of fluid from the body. An additional measure, if absolutely necessary, is to place ice or snow packs in plastic zip lock-type bags wrapped in kitchen towels under both arms, around the neck, and between the legs on the groin. High volumes of blood are cooled with this technique as it passes by these areas. This method is difficult for the child, but it is a fast way to lower core body temperature in an emergency.
How to take your child's temperature accurately\(^{10}\)

To measure your child’s fever accurately use:
- A rectal or tympanic (ear) thermometer for children less than 3 years old
- A digital (not glass) oral thermometer for children over 3 years old
- Avoid using an ear thermometer until your baby is at least 3 months old. It may not be accurate, because young infants have such narrow ear canals.

Temperature readings are different from different parts of the body (rectum, ear, mouth). Your child has a fever if her temperature is above:
- Rectal 100.4°F (38.0° C)
- Oral 99.5° F (37.5° C)
- Axillary (underarm) 98.6° F (37.0° C)
- Tympanic (ear) 100.0° F (37.8° C)

Keeping your child comfortable with a fever\(^{10}\)

- If the child is shivering, keep her warm until the shivering stops.
- If the child is not shivering, you can remove her warm clothes and encourage her to drink plenty of fluids.
- Keep your child rested, quiet, and comfortable in a cool room.
- Place a cool washcloth on your child's forehead or sponge her with tepid water. Stop if your child starts to shiver.
- Never use rubbing alcohol to cool your child's skin—the vapors are toxic and can be absorbed through the skin.
- Acetaminophen in children’s doses is a safe and effective way to lower the fever in kids. It takes from 30 to 60 minutes to begin working.
- Monitor your child's temperature, appearance, and behavior periodically—keeping an eye out for signs of a more serious illness—until she seems to be back to normal.

Treatment of nausea, vomiting, and diarrhea in children

The most important treatment for nausea, vomiting, cramping, and diarrhea is to stop feeding the child and place them on a clear liquid diet. Start with the Oral Rehydration Solution plain or with a little powered fruit-flavored drink mix for taste. Give the child small amounts of the ORS solution in sips from the baby bottle. This will help prevent dehydration and is not likely to make cramping worse. Meclizine 25mg given every 4 to 6 hours can help reduce nausea in children age 12 years and older. It is not US FDA approved for use in younger children.

To stop diarrhea, consider using a small dose of the diphenhydramine. The anticholenergic effect of this drug will calm the intestine. Use a low, age/weight appropriate dose every four to six hours as needed. For children over age 2 years, loperamide 1 to 2 mg every 4 to 6 hours can be used for diarrhea and abdominal cramping.

\(^{10}\) Adapted from a chart found on Johnson and Johnson’s Tylenol web site
Acetaminophen use in children

Acetaminophen, best known as the brand name product Tylenol®, is an excellent drug for treatment of pain and fever in children from toddlers to teens. It also helps children sleep when given at bedtime. It is very safe with the only issue related to total daily dose, which must not be exceeded to prevent liver injury. In children, the safe dose limit changes with age and weight. The younger a child or the smaller, the lower the safe dose limits. The easiest thing to do is use Johnson and Johnson’s brand name Children’s Tylenol® or Infant’s Concentrated Drops® or the identical generic drugstore brand of these products.

Pandemic Psychology

The psychological stress of loss and trauma

The most serious potential loss a person can experience during the pandemic is the death of a spouse, child, or parent. Next comes loss of a job, wealth, or prestige. These losses are the fuel for a well-understood psychological process, leading most commonly to depression, anxiety, and posttraumatic stress disorder. These losses are among the most significant that anyone can experience, and, unfortunately, all are likely to occur during a severe pandemic. Physical injury or threat of violence as a result of civil disorder or lawlessness—especially in association with the crimes of assault, murder, and rape—also commonly induce these psychological states.

The grieving process

The predictable sequence during grieving is numbness, denial, anger, despondence, depression, and hopefully, resolution through acceptance. In a healthy response to loss, the final phase of the grief process is accompanied by the emergence of a new emotional structure that is deeper and more integrated than prior to the loss. Failure to make a healthy adjustment to loss often leads to the development of unhealthy mental states and even suicide in some cases.

Signs and symptoms caused by loss or trauma

A sign in psychiatry is something that you observe in another person. In the psychiatric context, symptoms are dysfunctional feelings or thoughts the person has about the self, others, or life in general.

Signs of depression

Withdrawal from other people, both emotionally and physically, is a common sign of depression. People suffering with this condition may appear less well groomed than usual, and their standards of personal hygiene can drop. They look sad and dispirited. Depression can cause people to be hypersensitive to comments made during routine conversation, appearing as inappropriate behavior such as an angry outburst, crying, or nervousness.
Their sleeping patterns can be disrupted, or they may want to sleep more than usual. Their eating patterns may change, and they can gain or lose significant amounts of weight.

**Symptoms of depression**
Sadness and loss of an interest in things that a person used to enjoy are cardinal feelings with depression. The patient may feel remote from others, isolated, and alone. Guilt is a common theme as is feeling worthless and "good for nothing". The depressed often carry on an incessant conversation in their minds, criticizing faults and weaknesses. They feel worthless, unloved, and unlovable. They have lost hope for redemption or forgiveness for the things about which they feel guilty. They also may experience survivor’s guilt, questioning why they are alive while their loved ones died. Some people may contemplate suicide. They feel unacceptable and unloved.

**Signs of anxiety**
Nervousness is the hallmark of simple anxiety. The nervous person seems unsettled and uncomfortable in most situations. They may seem restless, agitated, and fidgety, having trouble staying still. A special type of anxiety is a panic attack. One minute everything is fine with a person, while the next brings on uncomfortable behavior. A person undergoing a panic attack has a rapid heart and breathing rate and excessive perspiration.

**Symptoms of anxiety**
Symptoms of anxiety include feeling nervous and unsettled inside. The person feels that something is not right but is unable to say what is wrong. He may have difficulty sleeping, awakening in the morning more tired and sore than he went to bed. Back and shoulder pain are common as is tension in the neck. Eating can increase or decrease, with weight gain or loss, respectively. Some people suffer chest or abdominal pains that mimic serious medical disorders.

**Signs of post-traumatic stress disorder**
People with PTSD can become withdrawn but also argumentative with symptoms that overlap those with depression or anxiety. The incidence of alcohol and drug abuse is high in this group. They may present with angry outbursts that become violent. Irrational behavior and aggressive sexual acting-out are other features in patients with PTSD.

**Symptoms of post-traumatic stress disorder**
In addition to sharing similar elements with both depression and anxiety, the symptoms of PTSD include the distinguishing characteristic of *flashback*, or the reliving of the traumatic event with dream-like clarity. People with PTSD feel alienated and cut off from their family and friends. They feel sullen, have lost hope for a better future, and can become very cynical.
Temporary psychiatric care
During a time of crisis when access to professional psychiatric help is unavailable, a direct approach is preferred. This means to focus your efforts on helping the person cope with the direct consequences of the events rather than trying to delve deeply into their meaning or long-term consequences. The objective is to keep the person functional rather than doing anything that might cause them to breakdown. This simple approach relies upon suppression, denial, and regression to strengthen the mind’s natural way of healing itself.

Suppression of traumatic memories as an aid to a return to function
A natural way many people manage severe trauma is to suppress painful memories. This measure is very effective in helping people regain their footing and return to a functional level. Suppressing unpleasant memories is a form of active forgetting, as in changing the mental channel whenever painful thoughts arise. This active forgetting prevents people from becoming too absorbed in their misery. Thinking harmful thoughts repeatedly is a habit with bad consequences. This mental first aid technique concentrates on helping the victim suppress the memory of traumatic events. The person is encouraged to devote himself to one or more tasks that absorb his time and energy. The objective is to forget the events and refrain from dwelling on them.

Denial a good short term ego defense
Another natural way the mind has to deal with traumatic loss is denial. This mind tool allows us to pretend that everything is fine. Like an actor playing a part, the more we can let ourselves adopt this attitude, the better we feel. Denial is an important and useful technique for humans to weather tough times and keep going forward despite great loss and suffering. Denial, enhanced by the active suppression of traumatic memories or thoughts, is a powerful combined tool for combating mental collapse during an emergency.

Regression is the refuge of the psychiatrically injured
Mental regression among those who have experienced major losses or trauma is likely to be common during and after the pandemic. During regression, a person moves back to a lower level of maturity. It will be important for the family and friends of the regressed person to accept him in this new state and provide as much support as you can rather than demand he return to “normal”. The regressed state is the currently highest maturity level the traumatized person can maintain at the moment. As the person begins to recover, he will naturally regain his equilibrium and begin exhibiting more mature behavior.

The use of unconventional approaches during the emergency
Recommending the use of memory suppression, denial, and tolerance of regressed states are certainly unconventional and are suggested only for use during an emergency when access to mental health professionals is unavailable.

Serious psychiatric problems
Psychosis is a mental condition where the patient has lost contact with reality. They may hear voices, think that they are being persecuted, or become totally mute and motionless. These patients are very seriously ill. Besides being completely dependent upon others for
their care and the need for constant attention, in some cases they may become suicidal or even homicidal. These patients need immediate professional psychiatric care if at all possible. Otherwise, provide them with good food and water, a clean, dry, and warm place to sleep, and as much comfort and caring as you can spare.

**Remaining sane during the pandemic**

**Am I going nuts?**

While stress and change will affect everyone during a pandemic, most people will manage to carry on without being at risk of mental collapse. It is very likely that under severe conditions where there is a loss of access to healthcare facilities and civil services like policing then most people will be subjected to traumatic events including violence. This means PTSD will become epidemic among survivors. In the population as a whole, during times of great stress, one in ten folks will become dysfunctional. The majority will experience feeling sad, anxious, and hopeless in response to severe loss, trauma, and violence. This is completely normal. It does not mean you are developing one of the psychiatric problems or that you have PTSD that will require drug therapy or become disabled by it. PTSD is a spectrum of conditions from mild to severe with the vast majority of survivors experiencing the mild to moderate end of the spectrum. These normal feelings become disorders only when they totally dominate a person and make it hard or impossible for that person to carry out regular activities. These symptoms become disorders only when they distort a person’s view of himself and his world in irrational ways. So don’t assume you have a problem if you share some of the feelings typically associated psychological issues. No one is going to escape a pandemic without some psychic trauma including you and your family members. Love, compassion, understanding, and tolerance are the therapeutic tools at hand. Don’t underestimate the power of denial, regression, and suppression either.

**Supportive group discussion sessions**

A regular gathering each evening to discuss the day’s events, problems, and rumors is a good idea for neighborhoods in the time of pandemic. Meetings such as this can serve several important purposes, among the foremost is a way to establish and increase cohesion of the group, relieve fear and anxiety caused by rumors, and provide mutual support for the problems people experience day-to-day trying to cope with the such a long-lasting emergency. Group leaders should attend group sessions to monitor members for signs of instability and if those are noticed then steps need to be taken to intervene before they escalate into a serious problem affecting the health and safety of the group.

**Staying sane in an insane world**

Many people will find it difficult to adjust to the changed circumstances of an emergency lasting a year or two. This could happen if the power grid fails. Life will be different than before, more physically and mentally demanding. Each day, people will spend more time just satisfying the basic needs of their family and friends. While this work is important, it will not be what people are used to, and it will be hard because new skills are needed to carry it out. Much of the work will be more physically strenuous than people in the developed world are accustomed.
Maintain as normal a life pattern as possible

An important way for families and individuals to ward off negative psychological effects of the pandemic will be to maintain as much normality in their lives as possible. Patterns should follow a normal routine--going to bed in the evening, waking early, eating at meal times, and maintaining standards of home and personal hygiene. Letting these things slip will send you and your family down a degenerative slope and reinforce negative mind states like depression, anxiety, and anger. Maintaining standards of behavior, dress, and conduct is reassuring at a deep level. These standards are familiar and expected, and in return, everyone knows how to behave and react. This removes uncertainty about the immediate situation, helping to reduce stress as well as other negative emotions.

Reading is fundamental

Reading books will be an important pastime for many people, and particularly for all school-age children and adolescents. Throughout history, children have received their educations by reading books. Virtually all subjects except mathematics can be taught in this way.

Gardening for mental and physical health

Many adults already enjoy gardening. The pandemic period is likely to last between 12 and 18 months giving you plenty of time to grow fruits and vegetables. Even after the pandemic, stores will take time to reopen and restock with fresh fruits and vegetables. In most areas, gardeners can substitute store-bought produce with a large variety of fresh fruits and vegetables. Those with a green thumb will have an advantage, but even those with little or no experience can learn by beginning with a few basic books on gardening techniques.\(^\text{11}\)

Survival of the fittest

Adults will be responsible for many activities to keep their families fed, housed, clothed, and warm during a severe pandemic period. As discussed, the work will be different than what most people performed before the pandemic, and some of these tasks, while simple, will require greater effort because of unfamiliarity and the usual inactivity of most people living in advanced societies. Physically fit people will have of the advantage of surviving the challenge of pandemic.

\(^{11}\) This topic is covered in greater detail on the [www.birdflumanual.com](http://www.birdflumanual.com) website as an [Original Article](http://www.birdflumanual.com) entitled *Home Gardening During the Pandemic*. 
Addendums
About the Author

Grattan Woodson, MD practices Integral Internal Medicine in Brookhaven, Georgia. He became concerned about avian influenza after learning about the first human cases in Hong Kong in 1997. His interest grew when the disease re-emerged in 2003-04 and he began to study it in earnest. His work led to the conclusion that humankind was about to be visited again by a severe influenza pandemic resembling the 1918 Spanish Influenza. In order to help prepare his patients for this possibility, he began writing on this topic, which ultimately resulted in the publication of two books, *The Bird Flu Preparedness Planner* in November 2005 and *The Bird Flu Manual* in September 2006.

Dr. Woodson specializes in Woman’s Health from the endocrinologic perspective focusing on assisting women traverse menopause with an optimal health and wellness. For additional free copies of this booklet, go to www.DrGCWoodson.com under the Booklets tab.