



EMERGENCY PREPAREDNESS WORKSHOP:



Emergency Sanitation & Hygiene

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This presentation is available on my website:



www.iwillprepare.com
Emergency Preparedness



Sanitation in Emergencies

- Sanitation is one of the most important and most overlooked aspects of Emergency Preparedness.
- People affected by disasters are more likely to become ill and to die from diseases related to inadequate sanitation and water supplies than from any other single cause.
(World Health Organization)

When Cleanliness Stops...
...Disease Begins!





Sanitation in Emergencies

- Personal Hygiene is essential to your protection.
- Keeping clean and healthy helps to ensure your body is in its best working condition and free from illness.
- Your physical health directly impacts your psychological health.
- Not maintaining your personal hygiene can lead to a decrease in morale, and an increase in stress and illness or death.



Sanitation Overview

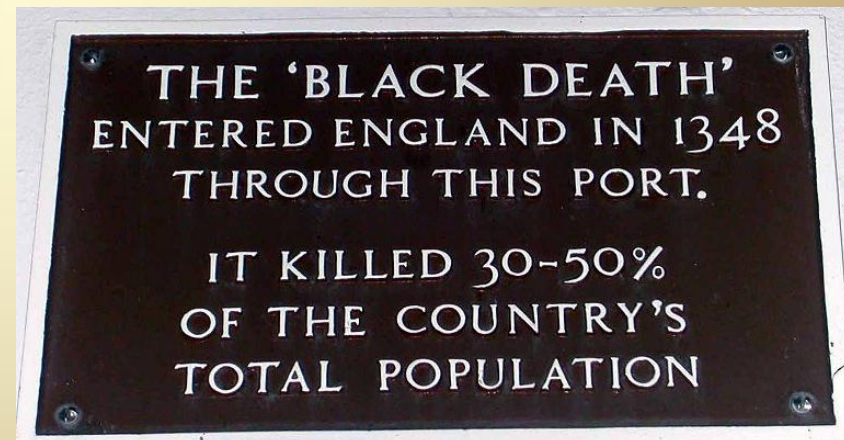
- Sanitation and Hygiene is certainly not the most glamorous topic in emergency preparedness however, it IS probably the most overlooked.
- It is so easy for us to take for granted our excellent water, sewage and waste disposal services that we have available to us today. What we also take for granted is that these services have done more to increase our life spans and prevent diseases than all medical advances combined ever could.
- Throughout history, many millions of people have died from diseases such as cholera and dysentery, from water contaminated by human waste.
- Even today, according to the World Health Organization, water borne diseases are responsible for the deaths of 4,000 children every day! Water contaminated by fecal matter is the single largest cause of disease in the world, and is killing over 4 million people each year with diarrhea and intestinal parasites.





Sanitation Overview

- We also take our garbage collection services for granted, until our garbage collectors go on strike and in a matter of days our streets are filled with waste. Many of the great plagues that have struck humankind have been the result of poor sanitation. The Bubonic Plague (Black Death), which spread from China through Europe during the Middle Ages, was transmitted to humans by fleas which were carried by rodents. The accumulation of garbage in the streets, and the resulting proliferation of rats, contributed largely to the deaths it caused. **The Black Death wiped out 1/3 of the population of Europe!**
- Sanitation and hygiene at a personal and municipal level are critical in keeping us safe and healthy. Please take this topic seriously and please prepare your family so they can be ready for sanitation related emergencies.
- Failure to properly dispose of human waste and garbage can lead to epidemics of such diseases as typhoid, dysentery, and diarrhea. At the same time, sewage must be disposed of in ways that will prevent contamination of water supplies used for drinking, cooking, bathing, laundering, and other domestic purposes.





Six Major Priorities

- When preparing to maintain proper hygiene and sanitation following an emergency, you must prepare the following:
- The primary goal is to prevent the spread of communicable diseases.
 1. Plenty of clean water for both drinking and washing.
 2. Means of human waste disposal.
 3. A way to dispose of trash/garbage.
 4. Ensure proper food handling.
 5. Pest/insect/rodent control.
 6. Means of maintaining regular hygiene habits.

A close-up photograph of two hands being washed under a stream of water. The water is splashing and creating many small droplets. The background is a solid blue color. The word "Water" is written in a large, dark blue, serif font across the middle of the image.

Water



Water Supplies

- We are fortunate to have clean water piped directly to our homes.
- Situations may arise that can interrupt or contaminate this supply of safe drinking water.
- These may include earthquakes, hurricanes, flooding, hazardous material spills, terrorist attacks, disease, strikes, etc...
- Some disasters, like earthquakes may rupture water mains and create a water shortage for days or even weeks.



Water Supplies

- With the lack of running water, besides losing our easy access to clean drinking water, we also lose our means of keeping ourselves clean, and of disposing of human waste.
- Finding a sufficient supply of clean water after a utility outage can be challenging, especially if a disaster has occurred.
- Following disasters, lakes, streams, rivers and groundwater are often polluted by leaking sewage or as people, in large numbers, looking for water, contaminate it.
- The best way to make sure you have enough water on-hand for drinking and cleaning is to store it ahead of time.
- Store 2 gallons per person per day for at least a 14-day supply. More if possible. Plan extra to share!



Water Storage

- What Kind of Water Should I Use?
 - Use Tap Water
 - Clean, inexpensive & easy to rotate frequently.
 - Storing in clean, opaque containers in a cool and dark location, you probably don't need to treat your water at all.
 - Under these conditions the water can actually get more pure with time.
 - Since there is no guarantee that the water or the container is actually bacteria-free I recommend treating it.



Water Storage

- The easiest way to store the bulk of your water is in 55 gallon, polyethylene (plastic) water barrels.
- These can be found new for \$45-\$65 or obtained locally from food storage or container companies or used for ~ \$20.
- Make sure your containers are food grade quality.





Portable Water Storage

- 55 gallon barrels are a good water storage option as long as you are staying at home.
- What if you can't stay at home?
- 55 gallon barrels are too large, heavy and awkward to transport.
 - 1 gallon of water weighs approximately 8.3 lbs.
 - A 55 gallon drum will weigh about 460 lbs.





Portable Water Storage

- In addition to your 55 gallon drums, store water in smaller, portable containers.
- Some possible portable storage containers include:
 - 2-liter soda bottles
 - 1 gallon apple juice bottles
 - 5 gallon water jugs.
- Store enough water in portable containers to supply each person 2 gallons for at least 3 days.
- Portable water containers also make refilling at streams, water trucks, or emergency water stations more practical.



Portable Water Storage



5 Gallon Containers



Portable Water Storage





Water Treatment

- Have the means to treat water in case you don't have enough.



The image shows four blue portable toilets with white arched roofs, lined up on a paved surface. Each toilet has a white label on its door that reads "PORTA-POTTY" and includes a phone number. The text "Human Waste Disposal" is overlaid in a large, stylized font across the center of the image.

Human Waste Disposal



Human Waste Disposal

- If you are able to stay at home, water is available and all sewer lines are intact and the power grid is up. Sanitation can usually continue as you normally do.
- If any of these four factors change, you could have serious problems.
- A sustained power outage can cause areas that rely on pumps to be without water.



Human Waste Disposal

- From an Article where a researcher is referring to his own official research submitted to the New Zealand Government:

“In 1998 in Auckland, New Zealand there was a lengthy power failure that in turn led to several days without water ...

People in general are not smart. Rather than try and conserve or make a plan once the water stopped flowing, they would flush their toilets. Without power from the force of water pressure the tank doesn't refill. The domino effect is not only gross but staggering, what human beings that have never lived beyond modern conveniences will do is unimaginable. What I researched and wrote about blew my own mind...when people were actually confronted with such a situation, they went where ever they could - they filled the toilet, the toilet tank, the tub, the shower, the sink - when the bathrooms became uninhabitable, they went in corners, boxes, bags, closets...most however left by the time they were using the tub. Guess how long that took? just **three days!**”



Human Waste Disposal

- If you are at home, the sewer lines are intact or you are on a septic system (except during floods)...but the water to your house has stopped, here is what to do:
- Use toilet as you normally would.
- Use grey water to flush it by pouring it from a bucket into the bowl. 1-2 gallons worth will cause the toilet to flush.
- Don't waste water!!!!
- Grey water is dirty water remaining after baths or dishes, pool water, etc...





Human Waste Disposal

- If you are at home and not on a septic system (not flooded), and the water is shut-off, here is what to do:
- Use your existing toilet.
- Get a large garbage bag and place it in the toilet bowl.
- Make sure there are no holes in the bag to prevent leaking. This will ensure no sewage leaks into the compromised sewage system.
- If possible, put shredded bits of paper, saw dust, corn starch or kitty litter in the bag to absorb urine.
- Keep the toilet, buckets or containers securely covered when not in use to prevent flies and reduce smells.





Human Waste Disposal

- Using your home toilet is only practical when you are staying at home and the toilet is intact.
- If you have to evacuate, you lose your toilet as well.
- Assembling a portable toilet sanitation kit can mean having sanitation needs wherever you are.
- Use a 5-6 gallon bucket with a toilet seat lid.





Wet vs. Dry Toilets

- There are two ways to manage your emergency toilet . Wet Method or Dry Method.
- The Wet Method is popular with RVs. Deodorants are used to control the smell and digester enzymes are used to reduce the volume (the enzymes eat the feces) and turn solids to liquids so there is no clogs in the RV plumbing and so it is easier to dump at RV dump stations. ½ cup bleach can be added daily to kill germs.
- The problem with the liquid method in emergency situations is that dump stations are not available. Storing liquid waste for future pickup or burying it is much more difficult, prone to leakage and harder to control the spread of diseases.
- Harmful pathogens are found in feces, not urine. Separating the two can keep your dry toilet dry and easier to manage.



Wet vs. Dry Toilets

- Where possible, collect urine separately from feces.
- If possible, dispose of urine directly onto your garden or outdoor plants. Otherwise, store it for disposal once the sewage system is up and running.
- If multiple toilets are used, identify the toilet that is for feces only.
- After each use of the dry toilet, add a scoop of dirt, kitty litter, saw dust, wood ash, etc... it will absorb liquids which will control the smell.
- Carefully replace the bag when necessary.
- If you have a yard or have access to an open area, you may bury the plastic bag. Make sure you bury it at least 18 inches deep to keep out vermin and at least 100 ft. from wells or open water.
- Otherwise you can store the sewage in a lined garbage can with a tight fitting lid for collection later.



Human Waste Disposal

- Emergency Toilet



PORTA-P
The portable urinal

EASY FLUSH HANDLE

WATER FIN DISPERSES WATER TO REMOVE SCENT

ATTACH RECEPTACLE OR DRAINAGE LINE

BACK

- STAY IN YOUR BLIND
- SUPPRESS YOUR SCENT
- REMAIN UNDETECTED

OVER 20 FLUSHES FROM A 20oz BOTTLE OF WATER

USE BOTTLE FOR COLLECTION OR ATTACH DRAINAGE HOSE (NOT INCLUDED)

MOUNTING BOLTS INCLUDED



Sanitation Kit Contents

- 5-6 gallon bucket
- Toilet seat lid
- Garbage bags [kitchen size] (to use as toilet liners)
- Large garbage bags for storing sewage.
- Toilet paper
- Liquid bleach
- Rubber gloves
- Kitty Litter
- Chemical deodorant and/or enzyme digester
- Rope, tarp and clothes pins or pop-up privacy shelter
- Anti-bacterial wipes or spray
- Wet-wipes, towellettes
- Feminine supplies
- Shovel
- Dish & hand soap & hand sanitizer





Sanitation Kit Contents

- You might decide to keep your portable toilet on the back porch to keep the smells down even further. If you do, you might want a little privacy. You can do this by stringing up a tarp or getting a pop-up privy. They'll also work for showering.





Trash & Garbage Disposal



Garbage and Trash

- What's the difference between garbage and trash?
- Garbage - Basically food waste, paper products or most things that come out of the kitchen or bathroom. Typically, rapidly decomposing waste.
- Trash - can be lots of things including grass clippings, twigs, hedge clippings; or it can be unwanted junk - generally, it's anything that doesn't come out of your kitchen or bathroom. Typically, slow decomposing, dry waste



Garbage and Trash Disposal

- Never let garbage or trash accumulate in your shelter. Dispose of it regularly.
- Much of “garbage” can be composted or fed to chickens or pigs if you have these resources available.
- Managing garbage and trash is relatively of small concern in urban areas if collection services are un-interrupted. If they are, disastrous conditions can be just a short week away.
(Less in flooded areas)
- If you suspect collection services will not return for more than a week, careful garbage and trash disposal planning must go into effect.



Garbage and Trash Disposal

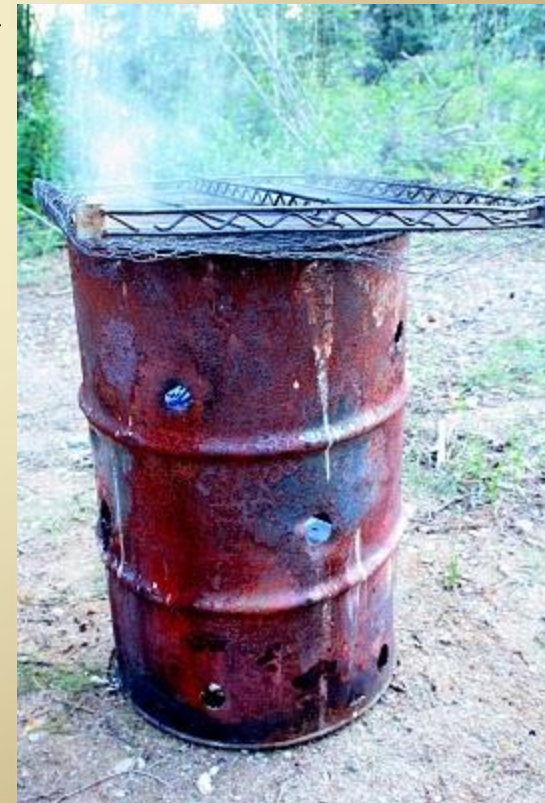
- Garbage/Trash Management begins first with sorting:
- Garbage is either **Dry** or **Wet**.
 - Wet garbage can be drained on the ground unless it contains fats or oils.
 - Garbage with fats or oils should be buried in a cat hole or sump pit. (hole at least 18 inches deep, pour liquid in and cover hole with dirt).
 - Cat holes and sump pits should be 100 ft. from wells or open water.





Garbage and Trash Disposal

- Trash is either **Burnable** or **Non-Burnable**.
 - Wet garbage should not be burned because it requires more fuel.
- Much of non-burnable trash is our recyclable packaging. This can be stored and recycled at a later date. Crush whatever you can to reduce volume.
 - Cans can be thrown in a fire to burn-out food residue.
- Dry garbage can be burnt or composted.
- Some may say... "Burning garbage has lost social acceptance."
- I would say..."In emergencies keeping my family safe and free from disease is my top priority."





Food Handling



Food Handling

- Consuming contaminated food or water can cause diarrhea, poisoning and intestinal diseases. Protect against diseases by:
- If electricity is available, keep appropriate foods frozen or refrigerated.
- If your power goes out, you can cook, dehydrate or smoke meat to keep it from spoiling.
- If refrigeration is unavailable, only prepare what food you will consume immediately.
 - No leftovers, no throwing-away uneaten food.
- Keep food covered.
- Fruits and vegetables should be washed in a 1-10 bleach/water solution.
- Keep body, hands, and cooking and eating utensils and areas clean.
- Use paper plates, cups, etc... if water is not available for washing dishes.



Cooking Food

Food should be cooked thoroughly to kill pathogenic bacteria.

The following indicators can be used to ensure food reaches a sufficiently high temperature and is well cooked.

- The food is steaming hot throughout.
- Meat and poultry juices run clear and the meat itself contains no pink or red parts.
- Soups, stews and other liquid based foods are held at a rolling boil for 15 minutes.

NOTE: Stir to ensure equal distribution of heat – this is of particular importance when large batches are being prepared. Between stirring keep spoons or other stirring utensils clean and away from sources of contamination.



Storing Food

- Food Spoils! Refrigeration can slow down that process. When electricity is unavailable, fresh food can spoil quickly.
- When cooking meals in emergency, utility outage, situations, its best to plan your meal size so there are no leftovers to store.
 - This is best for garbage disposal too.
- When food is cooked, it should be consumed within 2 hours from the time it finishes cooking.
- Food that is dehydrated or smoked can be stored for weeks without fear of spoilage. (kept in sealed containers in cool dark conditions)



Food Handlers

- Food handlers should be free of disease. They should not be exhibiting symptoms such as diarrhea, cold or flu symptoms, vomiting, skin lesions or open uncovered wounds.
- Hands should be washed before beginning and several times during preparation. Especially after handling raw meats, garbage, cleaning chemicals, eating, using the restroom, touching one's face, etc...
- More Info:
 - Wear gloves, but still wash hands regularly.
 - Keep nails short and clean.
 - Wear clean clothes.
 - Restrain long hair.
 - No eating, drinking, smoking, etc...
 - Don't wear Jewelry.





Food Handling

- Clean cooking utensils well with soap and water. Make sure to rinse properly . Soap residue can cause diarrhea.
- If water is in short supply, paper plates, cups, etc... can ensure you have clean eating utensils.
- Store some in a bin so you
Always have some on-hand
When you need them.



A close-up photograph of two hands being washed under a stream of water from a faucet. The hands are covered in white soap suds. The background is a plain, light-colored surface, likely a sink.

Maintaining Proper Hygiene



Maintaining Proper Hygiene

- The best way to stop the spread of germs from person to person is by:
 1. Washing your hands often.
 2. Controlling discharge associated with coughing and sneezing.





Washing Hands

- Hands should be washed with clean water and soap:
 - When they are dirty
 - After using the restroom
 - Before and after preparing meals
 - After cutting and handling uncooked meat
 - Before eating
 - After handling soiled bed linens and clothes
 - After cleaning the house
 - After caring for someone who is ill
 - After changing an infant's diaper
 - After cleaning up blood or body fluids
 - Before and after flossing teeth
 - After you cough or sneeze in them





Washing Hands

1. Adjust water to a comfortable level and wet hands. Dispense a small amount of soap into the palms of the hands creating lather.
2. Using as much friction as needed, thoroughly clean all surfaces of hands including between the fingers.
3. Pay attention to the nails and nail beds by rubbing the nails of one hand across the palm of the other, creating enough friction to clean underneath the nails. Hands should be washed for at least 20 seconds. Use of a memory aid, such as singing a song or reciting a poem, may assist in washing for an adequate period of time.
4. Rinse hands under running water, be sure to hold them in a downward position.
5. Use paper towels to thoroughly dry the hands.
6. Using the same paper towel, turn off the water supply and open the door.

Other Hand Cleaning Options

Alcohol-based hand cleaners can also be used to clean hands. Put a small amount on the hands and rub all hand surfaces until the hands are dry.

Hands will periodically need to be washed with soap and water because the hands will have a glycerin buildup with time.

Coughing and Sneezing

Without Contaminating



- 1** If you have to sneeze or cough, cover your mouth and nose with a tissue.



- 2** Dispose of soiled tissues in the trash.



- 3** If you do not have a tissue, turn your face into your shoulder or the bend of your elbow to sneeze or cough.



- 4** Wash your hands often. If soap and water are not available, use an antiseptic product.

IF YOU ARE ILL, AVOID VISITING FAMILY AND FRIENDS.





Hygiene (Oral)

- Maintain normal brushing and flossing habits as much as possible. Only use clean potable water for brushing teeth.
- Keep a toothbrush, toothpaste and dental floss in your sanitation and/or evacuation kit.
- Making a baking soda tooth paste or a salt water gargle can help when no toothpaste is available.
- Breath mints and chewing gum can be welcome in an emergency as well.





Hygiene (Head)

- If you have plenty of water and soap, wash your hair regularly.
- If water is scarce, dry shampoo or corn starch can be used to remove excess oils.
- Unwashed hair can actually develop a balance of oils and minerals. Rinsing is necessary to remove debris or smells.
- Watch for cuts or scratches on scalp that could become infected.
- Also look for bugs (ticks or chiggers) if in wooded areas.
- Wear a hat or sun block to keep from burning your scalp.





Hygiene (Body)

- Bathing may not be easy when clean water is in short supply.
- Pool water and rain barrel water can be used for bathing as long as the water is clear. (Pool water can turn green after a few days of no electricity)
- Store extra Potable water for hygiene purposes. (rubbing alcohol can be used too, it kills bacteria)
- Use a soapy rag or moist towellette to wash your face, hands, feet, armpits and private parts every day.
- I like to use a weed sprayer for bathing. It has low-flow so you use less water, and makes it easy to bath the kids. It also can be painted black and left in the sun for 3 hours for a hot shower. (Camping showers use too much water when water is in Short supply.)





Hygiene (Eyes)

- Wear Sunglasses to protect against bright sunshine or sun glare off snow, sand or water.
- Wear eye protection in areas of heavy smoke or particulate mater.
- Rinse eyes with water twice daily to protect against infection.
- Keep eye drops in your first aid kit





Hygiene (Ears & Nose)

- When out in the wild or in dirty environments, check and clean your ears at least once a day.
- Cotton Swabs should be included in your supplies.
- Blow your nose often in situations where there is a lot of smoke or dust in the air.
- Wearing an N-95 mask will help prevent breathing in large amounts of particulate mater.





- Toothbrush, toothpaste, dental floss
- Shampoo, conditioner
- Deodorant, lotion
- Soap, hand sanitizer
- Lip balm, sun screen
- Razors, shaving cream
- Hair gel, hair spray, hairbrush, comb
- Cotton swabs, Gold Bond powder
- Plastic loofah, antibacterial wipes
- Makeup, small mirror, feminine supplies
- Tissues, Toilet paper, hand towel
- Baby needs, denture needs, contacts solution, eye drops





Clothing

- The condition of your equipment and your clothing can affect your state of mind.
- Dirty or torn clothing can affect your morale, keeping them clean and in good repair can help you keep a positive attitude and improve your chances for survival.
- Keep your clothing as clean and dry as possible, especially under-clothing and socks.



Washing Clothes

- When sufficient (potable or non-potable) water is available but electricity is not, or you had to leave your home, you can make washing clothes a bit easier by making a simple washing machine.
- Take a 5 or 6.5 Gallon bucket cut a hole in the center of the lid that will fit a new plunger.
- I prefer gamma seal lids so it is easier to open and close the lid. (they screw on and off)





Washing Clothes

- Add water, detergent and clothes to bucket and agitate the clothes using the plunger.
- Remove clothes and wring them out.
- Dump soapy water and add fresh water, $\frac{1}{2}$ cup vinegar and clothes. Agitate to remove detergent from clothes. Remove clothes and wring them out.
- Hang up clothes to dry.
- Using two buckets means one can be for washing and the other for rinsing. This way, more loads can be done using the soapy water before it is replaced.



A brown rat is positioned on a dark, weathered wooden plank. The rat is facing towards the bottom left of the frame, with its long, scaly tail extending towards the top right. The rat's fur is a mix of brown and grey, and its eyes are dark. The wooden surface it sits on has a prominent grain and some visible wear. Overlaid on the image is the text 'Insect / Pest / Rodent Control' in a blue, serif font with a white outline. The text is arranged in two lines, with 'Insect / Pest / Rodent' on the top line and 'Control' on the bottom line, centered horizontally across the middle of the image.

Insect / Pest / Rodent Control



Pest/Insect/Rodent Control

- Pests, Insects and Rodents can be hard to control in normal conditions.
- If conditions deteriorate in your home due to the build-up of garbage and human waste, for example, pests can multiply quickly and become a serious nuisance.
- Now imagine that all your neighbors or your entire town are experiencing the same problem. Pest populations can grow quickly and exponentially.
- Commonly, disasters wipeout the animals that keep the insect and rodent populations in balance thus allowing for unchecked growth.



Pest/Insect/Rodent Control

- Pest control is primarily about prevention.
- Don't give them what they are looking for and they'll go somewhere else to find it.
- This can be achieved by following the principles we have already discussed above: proper human waste, garbage and trash disposal, proper food handling and maintaining proper hygiene habits.
- Unfortunately, if the infestation covers a large area, your efforts will not be enough when everyone else in your neighborhood is not following these guidelines.
- Start now by teaching your friends and neighbors how keep conditions sanitary following an emergency.



Pest/Insect/Rodent Control

- Review from previous sections:
- Keep your pool as clean as possible.
- Keep your yard and house clean of clutter or debris. Reduce the places critters like to live and hide.
- Garbage, trash and human waste should be bagged and stored in sealed containers for future collection or burned or buried by covering with at least 18 inches of dirt and 100ft away from any well or open water.
- Food prep areas and cooking and eating utensils should be cleaned and disinfected. Plan your meals so there are no leftovers to store. Keep food in covered containers.
- Keep yourself clean.



Pest/Insect/Rodent Control

- Some supplies would be wise to have on hand incase of an infestation to keep your home free of pests. Some might be:
- Insect repellant (with DEET)
- Citronella candles or tiki torches
- Mosquito repellant coil or stake
- Fly swatters
- Mouse/Rat traps, gloves, ziplock bags
- Insecticide
- Rat poison
- Bug zapper (if there is electricity)





Pest/Insect/Rodent Control

Pests and diseases likely to be present post disasters.

Pest	Main Diseases
Mosquitoes	Malaria, yellow fever, dengue, viral encephalitis, filariasis.
Houseflies	Diarrhea, dysentery, conjunctivitis, typhoid fever, trachoma.
Cockroaches	Diarrhea, dysentery, salmonellosis, cholera.
Lice	Endemic typhus, pediculosis, relapsing fever, trench fever, skin irritation.
Bedbugs	Severe skin inflammation.
Triatomid bugs	Chagas' disease.
Ticks	Rickettsial fever, tularaemia, relapsing fever, viral encephalitis, borreliosis.
Rodent (mites)	Rickettsial pox, scrub typhus.
Rodent (fleas)	Bubonic plague, endemic typhus.
Rodents	Rat bite fever, leptospirosis, salmonellosis, melioidosis.



Other Items to Research

To give you a more complete picture of Hygiene and Sanitation in Emergencies, You can research the following topics that I left out of this presentation.

- Soap making
- Shutting-off Utilities
- Baby Needs
- Constructing Sanitation infrastructure for a large stationary group.
 - Latrines
 - Kitchen and Mess Areas
 - Showers
 - Pump Sinks
- Managing portable toilets in enclosed fallout shelters
- Disposing of Animal and Human Carcasses
- How to find water in the wild.
- Means of treating water

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Emergency Preparedness



Uses for Corn Starch

Kill cockroaches

Mix equal parts Corn Starch and plaster of Paris. Sprinkle the mixture in cracks and crevices.

Cure athlete's foot

Sprinkle Corn Starch on feet and in shoes to absorb moisture and reduce friction.

Relieve sunburn pain

Add enough water to Corn Starch to make a paste, and apply directly to the burn.

Substitute for baby powder and talcum powder

Apply Corn Starch sparingly when diapering a baby. Corn starch is more absorbent than talcum powder so apply lightly since it does cake more readily.

Dry Shampoo your hair

Corn Starch can be used as a dry shampoo. Work into your hair then brush out, Works for pets too.

Underarm Deodorant

Use alcohol to remove bacteria, then apply cornstarch.

Soothe skin irritations

For rashes, hives, insect bites, poison ivy etc... stir 1/4 cup Corn Starch with 3 Tbsp. water until a thick paste forms. Apply to irritated skin lightly.

Facial Cleanser

Mix 2 Tbsp. Corn Starch, 2 Tbsp. glycerin and 1/2 cup water until smooth. Heat in a small pan placed in a water bath inside another pan. Heat until thick and clear (it will have the consistency of pudding). Do not boil. Cool completely. Use in place of soap to cleanse your skin. (If too thick, you can thin by adding a little water one tablespoon at a time)

Scented Body Powder

Mix fragrant flower petals such as rose or lavender with Corn Starch. Shake the mixture several times and let sit for one day. Sift the mixture to remove petals. Repeat process for 4-5 days or until powder is well scented.

Clean a carpet

Sprinkle Corn Starch on the carpet, wait thirty minutes, then vacuum clean.

Clean blood stains

Immediately cover the spot with a paste of Corn Starch and cold water. Rub gently, place the object in the sun until dry to draw the blood into the corn starch, then brush off. Repeat if necessary.

Prevent or kill mildew in damp books

Sprinkle Corn Starch throughout the book to absorb the moisture from damp pages, wait several hours, then brush clean. If the pages are mildewed, brush the corn starch off outdoors to keep mildew spores out of the house.

Remove grease or oil stains from smooth fabric

Apply Corn Starch to the spot, wait twelve hours, brush off, then launder as usual.

Clean stuffed animals

Rub Corn Starch onto the toy, let stand for five minutes, then brush off.

Clean Driveways

Absorb excess grease and oil stains on driveways by sprinkling with Corn Starch, then brush off.

Washing Windows

Take 1 quart of water and mix in 1/4 cup Corn Starch. Apply with a clean cloth to windows. Keep water and Corn Starch well mixed. Wipe windows dry with paper towels or a lint-free cloth.