



Jonathan and Kylene Jones

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They make a dynamic combination and present a variety of preparedness topics to a wide range of audiences

Learn more about them at
www.TheProvidentPrepper.org or www.YourFamilyArk.org



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What's That Smell?

Sanitation When Systems Fail

Inadequate sanitation, poor hygiene practice, and contaminated and insufficient water supplies are the leading causes of illness and death in disasters.



Proper Sanitation Reduces Odor and Saves Lives

Disasters Stink

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Personal Sanitation

Be as clean as circumstances will allow



- Wash your hands!
- Practice proper hygiene techniques:
 - Shower or bathe
 - Brush your teeth
 - Comb your hair
- Wear clean clothing
- Change bedding regularly

Shower/Bath Ideas

- Sponge bath – can use baby wipes
- Gravity solar showers
- Pressure tank sprayers
- Large tub or container for bathing
- Capture water to use for laundry, flushing toilets or watering plants



Baby Sanitation



- Lots and lots of baby wipes
- Stock disposable diapers at least one size ahead
- Cloth diapers, pins and plastic pants
- Appropriate soaps and shampoos

Wound Cleaners & Antiseptics



- Water
- Mild soap such as Ivory dishwashing liquid
- Alcohol
- Antiseptic Spray
- Betadine (Iodine)
- Hydrogen Peroxide



Prevent the Spread of Disease
Maintain a Clean Environment

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Clean and Disinfect

- Disinfect surfaces
- Disinfect dishes and utensils
- Disinfect contaminated clothing and bedding
- Practice sanitary techniques
- Dispose of all waste appropriately



Calcium Hypochlorite (68-70%)



- Use to make a stock solution to disinfect surfaces, dishes or laundry
- Powdered or granulated chlorine
- 10+ years shelf life
- Dangerous – store carefully!
- Will corrode metals and react with other chemicals.



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5 Percent Stock Solution

5% Chlorine Stock Solution Recipe Homemade Liquid Bleach -- Do not drink!	
Water	Dry Calcium Hypochlorite
1 ½ cup	1 teaspoon
1 quart	1 Tablespoon (2.7 teaspoons)
2 quarts	2 Tablespoons (5.3 teaspoons)
1 gallon	4 Tablespoons (10.7 teaspoons)

Use this stock solution as you would liquid chlorine bleach to disinfect water or surfaces.

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Separate Waste



- Separate cans, glass, and plastic from burnable items and wet garbage
- Wet garbage breeds bacteria and draws insects and animals
- Mixing garbage contaminates all of it
- Reduce bulk by smashing cans, flattening boxes, and compacting

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Compost

Wet garbage should be separated from other trash and put in a compost pit or bin. Mixture breaks down to create rich, dark soil full of nutrients for gardening.

- Keep away from home
- Yard waste
- Kitchen scraps
- Attracts insects and flies
- Turn to facilitate decomposition
- Do not compost:
 - Human waste
 - Dog or cat waste
 - Poisons or chemicals



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Burnable Trash



- Cereal boxes, paper, paper plates, cardboard, etc.
- May be used to fuel small fires for cooking or heating
- Use cool ashes to control odors and germs in outhouse
- Use caution and burn only if appropriate
- Do not burn plastic, Styrofoam or other items that release toxins when burned

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Bury Trash



- Prolonged crisis may require that garbage be buried
- Bury as far away from home as possible
- Dig a hole at least 4' deep
- Cover with at least 18" of dirt to prevent insect and animal infestation

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Important Things You Should Know

Human Waste

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Human Waste Disposal

- Plan ahead!
- Basic sanitation kit includes:
 - Lots of toilet paper!
 - Feminine products
 - Soap and cleaning products
 - Disinfectants
 - Plastic buckets
 - Various sizes of garbage bags
 - Disposable gloves
 - Duct tape
 - Disinfecting wipes
 - Baby wipes
 - Shovel
- Each person produces 5 gallons of waste per week.
- Never throw human waste on the open ground!



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Separate Waste

When possible, keep urine and fecal matter separate.

Urine is practically sterile when it leaves the body, making it safe to handle. Dilute it with gray water and pour it around plants. It provides nitrogen, phosphorus and potassium and makes a great fertilizer for your garden.

However, feces should always be treated as a dangerous hazardous waste material. It is deadly and can spread disease. An extended crisis may require burying it appropriately to avoid contamination.

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Toilet Paper



- One year supply of toilet paper for 1 person averages 100 rolls or 50 double rolls
- Reusable toilet paper can be made from 8 x 8 inch cotton flannel squares
- Reusable feminine products can be made or purchased
- Store disinfectant such as chlorine or vinegar
- Hang on outside clothesline for UV disinfection

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Paper Product Storage



Luggable Lou - Bucket Toilet



- Inexpensive
- Lightweight and portable
- Store basic supplies inside
- Line with garbage bag
- Poo Powder gels, solidifies and controls odors
- Toilet waste bags with bio-gel
- Add sanitizing chemical after each use and plan for odor control
- Keep additional buckets to store waste until it is possible to dispose of properly

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Permanent Port-a-Potty



- Convert your household toilet into a port-a-potty
- Empty toilet bowl, place garbage bag in toilet and tape securely with duct tape.
- Add kitty litter, sawdust, or even dirt between uses
- Use disinfectant between uses, if desired
- Keep black plastic bag over the top to control odors
- Transport filled bag in sturdy plastic bucket.
- More comfortable, familiar option



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Chemical Toilet



- Regularly used by boaters and campers
- Portable
- Requires very little water
- Chemicals keep smell and spread of disease to a minimum.
- Keep plastic buckets to store waste until proper disposal is available.

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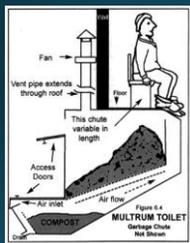
Bedside Commode



- Sturdy, stable and portable
- Gel liners solidify waste and control odors
- Bag can be used 3-5 times before changing
- Removable bucket for easy disposal and cleaning
- Adjustable seat height
- Purchase new or at second hand stores

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Composting Toilet



- Biological toilet
- Dry toilet
- Waterless toilet
- Used in remote locations
- Converts human waste into fertilizer (not for vegetable gardens)
- Expensive
- Uses little or no water
- Odorless

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Outhouses



- Trench latrine
 - Dig trench 1x4 feet wide and 2½ feet deep.
 - Used by squatting or straddling trench
- Deep pit latrine
 - Longer term solution
 - Build over 2x6x6 foot pit
 - Add dirt, ashes, or lime after each use to control odor and flies.

Always locate away from home and water sources!

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Prevent Sewage Back-Up



- Pneumatic plug or test ball
 - Plumbing supply stores
 - Pumped air expands device to seal off
- Bag of rags
- Foam ball in long stocking
- Place into the sewer clean-out until danger of back-up is over

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Installing Flapper Valve



- 1 - Expose sewer line and mark sections to be removed.
- 2 - Remove the marked section of sewer line.
- 3 - PVC flapper valve installed in sewer line.
- 4 - Flapper valve with water flowing (normal operation).

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Solutions for Cleaning Clothes Without Power

Laundry

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Laundry



- Goal is to remove dirt, sweat and germs
- Water-saving techniques
 - Recycle shower/bath water, hand washing water, etc. to be used for initial wash
 - Used laundry water can be poured onto the soil (not directly on plants) to water plants
- Heated water cleans best
- Store laundry soap
- Chlorine bleach or vinegar can be used to disinfect clothing

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Drying Clothes

- Clothes can be dried indoors or outdoors
- Remove as soon as dry to prevent fading
- Increase exposure time for contaminated items as UV rays may help with disinfection (flannel squares, cloth diapers, rags, etc.)



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Disasters are Breeding Grounds for Pests

Pest Control

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Insect Control

- Standing water is a breeding ground for mosquitoes
- Keep area free from garbage and waste products.
- Store insect repellent, bug killers, traps, etc.
- Store fly-swatters
- Package food storage appropriately to prevent infestation

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Rodent Control

- Prevent breeding grounds by keeping area clean
- Package food storage to prevent infestation
- Mice can quickly chew through Mylar bags
- Place vulnerable items in sealed plastic buckets
- Store traps and poisons

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Proper Sanitation is Critical

- ✓ Educate family members on appropriate personal sanitation
- ✓ Stock personal sanitation supplies (toilet paper, feminine products, soaps, shampoos, toothpaste, floss, etc.)
- ✓ Store cleaners and disinfectants
- ✓ Plan for alternative shower, toilet and laundry options.
- ✓ Devise a way to dispose of garbage
- ✓ Buy supplies to control insects and rodents
- ✓ Practice



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Do Something NOW!

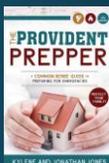
- Make your goal right now!
- Be realistic
- Do something in the next few days
- Report –share your success story
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- Keep making progress!



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