



**Be  
Prepared  
for the Typhoon**

**Issued In furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, In cooperation with U.S. Department of Agriculture.**

**C.T. Lee, Dean and Director  
College of Agriculture and Life Sciences  
Guam Cooperative Extension  
University of Guam  
U.O.G. Station  
Mangilao, Guam 96923**

**E.H.E. Booklet No. 10M 8-79 Reprinted 8-90  
Prepared by Karen Carpenter  
Extension Home Economist**

**Assited by Judy Beaver**

# Be Prepared for the Typhoon

Storm Definitions .....	2
Introduction .....	3
Before the Typhoon .....	4
Water Shortage .....	4
Food Buying and Safety .....	6
Securing Property .....	8
Children and Typhoons .....	10
Animal Care .....	11
Plant Care .....	12
Sanitation Tips .....	13
Avoid Panic .....	13
After the Typhoon .....	14
Treating Mildew .....	14
Shopping Check List .....	15

Guam Cooperative Extension  
University of Guam

# Definition of Storms

**Tropical Depression:** Maximum sustained surface wind speed of 40 mph or less.

**Tropical Storm:** Sustained surface winds between 40 mph and 75 mph.

**Typhoon:** Sustained surface winds between 75 mph and 150 mph.

**Supertyphoon:** Sustained surface winds greater than 150 mph.

## Guam Typhoon Conditions

**Condition IV:** Guam is always in Condition IV. A typhoon can hit the island within 72 hours.

**Condition III:** A typhoon can hit the island within 48 hours.

**Condition II:** A typhoon can hit the island within 24 hours.

**Condition I:** A typhoon can hit the island within 12 hours. Only emergency traffic is allowed on the roads.

# Introduction

The best way to cope with a typhoon is to be prepared. Even though the preparations may become tiresome and false alarms will occur, don't allow yourself the luxury of thinking "it won't hit this time." Such thinking can be very costly.

While typhoons can occur in this part of the Pacific at any time, the main typhoon season is from May through November. The highest frequency of typhoons is from July through September.

Modern detection and tracking devices usually provide ample time to prepare for a typhoon. Warnings are provided by Fleet Weather Central, Guam.

Typhoons are tropical hurricanes which develop in the Western Pacific Ocean or the South China Sea. They tend to develop slowly and can cut a destructive path several thousand miles long and several hundred miles wide.

Typhoons blow in a counterclockwise direction, increasing intensity from the outer edge to the center, or eye, of the storm. The eye varies from three to six miles in diameter. The wind increases as the typhoon approaches the island and stops suddenly as the eye passes over. Once the eye has passed over the island, the wind increases rapidly from the opposite direction.

By taking sensible precautions before, during, and after a typhoon, you can protect yourself, your family, and your property.



# Preparation Before the Typhoon

Avoid the last minute rush. These pre-typhoon tips can save you considerable time, money, and inconvenience in the event of a typhoon.

Always keep food on hand that does not require refrigeration. Avoid having to spend a large sum of money on suitable foods at one time by purchasing several extra cans of food on each shopping trip until you have an adequate supply. Good choices are canned meat, fruits, vegetables, canned and powdered milk and juices.

You may want to watch for sales on expensive items needed during a typhoon such as battery-operated radios, wind-up clocks and camp stoves. This will space out the cost of preparing for a typhoon.

Have a supply of candles and matches, a

first aid kit, masking tape for all the windows in your house (if you do not have typhoon shutters), battery-operated radio, flashlights and extra batteries. Check batteries for corrosion or rust. Extra batteries can be stored in the refrigerator for longer life.

Cooking gas, kerosene, charcoal-starter fluid and mosquito coils are good items to keep handy. Also have several large sheets of plastic to protect furniture and carpets in the event of water seepage.

If you use storm shutters, be sure that they are in good repair and that none are missing. Be sure your roof is in good repair before a typhoon strikes.

Keep an updated record of your belongings and their value for possible insurance claims.

## Water Storage

Guam is always in typhoon condition IV, meaning that a typhoon can pass within 72 hours. Condition III signifies that heavy rains can be expected within 24 hours and a typhoon can hit within 48 hours. Special preparations should begin at this time.

Water is the most essential item in an emergency. You can survive a long time without food, but only a few days without water.

Water stored in a closed container may acquire an unpleasant taste after being stored for some time, but it is still safe to drink. The flat taste can be improved by aerating. To aerate,

pour the water from one glass to another several times.

Water dipped from a large container to a smaller one for drinking, cooking and washing, can become contaminated. To avoid contamination, store the water dipper in a solution of water and chlorine bleach. Keep all water containers covered when not in use.

Purify water by adding eight drops of chlorine bleach to one gallon of water. Purified water should be allowed to stand for 30 minutes before drinking. Water can also be purified by boiling for 20 minutes. It must stay at boiling temperature the full 20 minutes.



Plastic garbage cans are good for large quantity water storage. Lining containers with plastic will help guard against leakage. Large containers, however, are heavy to lift when full. Smaller containers such as diaper-pail size may be more practical for carrying after being filled by water trucks (in event of a prolonged water outage).

Water can also be stored in your washing machine tub and bathtub for washing, or flushing the toilet. However, water will have to be dipped out of the washing machine with a small

container, and some water will remain in the washer until electric power is restored. If necessary, the water can be drained from the hot water heater and used for sanitary purposes.

Rain is another source of water. The best way to collect rain is to place a bucket where you can catch runoff from the roof. Place a piece of cheesecloth, thin cotton sheet or clean rice sack over the bucket to filter any particles in the water. This water is especially good for washing hair.

# Food Buying

When purchasing foods to use during and after a typhoon, select items that:

- require no refrigeration
- have a long shelf life
- require little or no water for preparation
- can be eaten without heating
- are packaged in one-meal sizes
- your family likes

Possible items include:

- canned luncheon meat
- canned corned beef
- canned sausage
- canned tuna and salmon
- canned baked beans
- canned macaroni salad
- canned or dry soup mix

- cheese spreads
- canned meat spreads
- peanut butter
- jam, honey, sugar, salt, pepper
- crackers, cookies
- canned fruits and vegetables
- powdered or canned juices and drinks
- instant coffee, tea, milk
- canned milk
- special foods for infants or invalids

Utensils:

- paper plates
- paper or plastic cups
- disposable silverware
- bottle and can openers
- easy-to-clean pots and pans
- dishwashing detergent
- plastic dishpan

# Food Safety

Clean the refrigerator the day before the typhoon hits to minimize odor in case the power goes off for a long time. Eat or discard leftovers that won't keep. Cook highly perishable foods such as fish and other sea food which spoil rapidly.

At least 12 hours before the typhoon, turn your refrigerator and freezer to the highest setting. Open the door as little as possible. Begin freezing water to use in the refrigerator, freezer, and portable ice chests. Empty milk cartons and coffee cans are good containers for making ice.

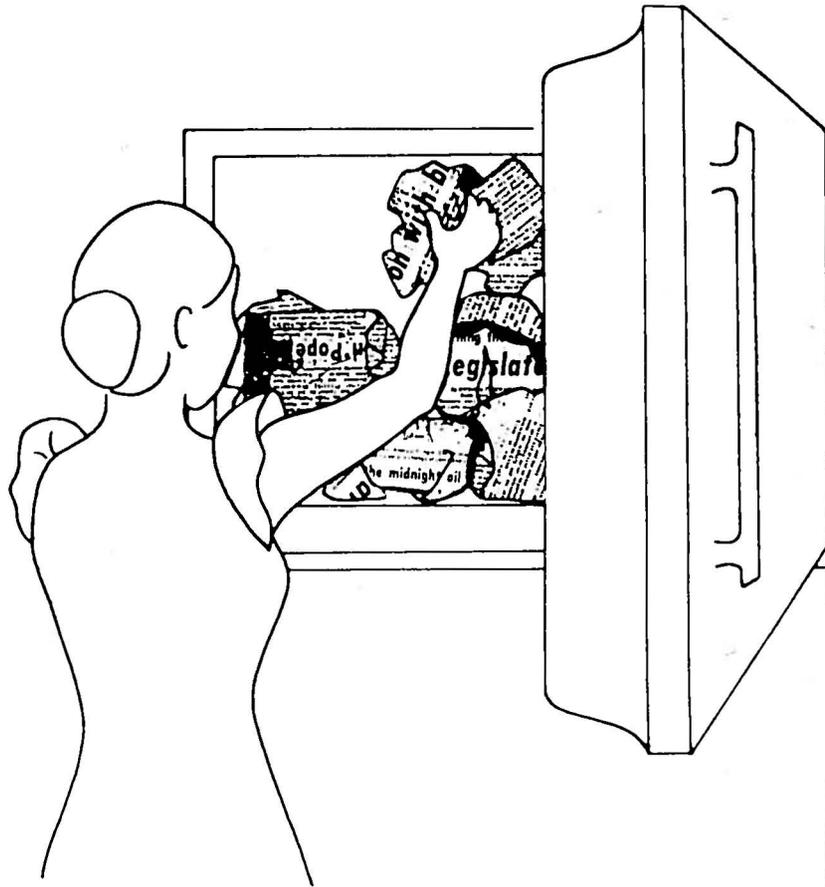
Remember that cooked food keeps longer than raw food. Meat cooked without a broth or

sauce, such as meat that is barbecued or broiled, will keep longer than soupy food such as stew and katonkatne.

Remember: food poisoning can be deadly. When in doubt, throw it out.

Frozen food can be wrapped in newspapers or towels to insulate them. Cook enough food to last two or three days and store in the front of your refrigerator so it is easily available.

If the refrigerator is kept closed, food should keep up to 36 hours. A freezer full of frozen food will keep for about two days. If your freezer is only partially full, fill the empty space with crumpled newspapers.



After the electricity goes off, cook only enough food for one meal. Keep some nonperishable snacks on hand for the children.

Dispose of leftovers and spoiled food. If garbage service is not available, bury spoiled food to prevent odor and to prevent attracting animals or insects. Bury food three feet deep in an area as far from your house as possible. Be sure to cover the garbage with sufficient soil.

After two days of no electricity, check food in the freezer for spoilage. Cook thawed, unspoiled food immediately.

When the power returns, items that have partially thawed, but still contain some ice crystals may be refrozen. Mark these packages with the date and use them as quickly as possible.

Completely thawed, raw meat, poultry and fish should not be refrozen. But if they have not been completely thawed for more than two hours, they may be cooked and frozen.

Thawed fruits can be used for jams, jellies, sauces and preserves.

# Securing Property

At least 12 hours before the typhoon hits, check everything outside that may blow away against your house or car. Garbage cans and empty oil drums, gardening tools, toys, lawn furniture, potted plants, coconuts, loose metal sheets and canvas awnings can become weapons during a typhoon. Firmly tie down any object that can't be stored indoors. Take down all temporary palapas and lawn umbrellas.

Remove window air conditioners if possible because air can blow through them. Wall-mounted units should be covered with plastic.

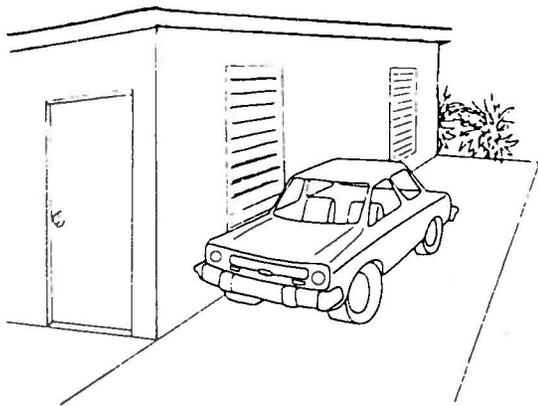
Park your car on high ground, preferably next to the cement wall of a house. Do not park by a brick wall because it is unstable in high wind. Be sure the area is free from debris and trees which may strike the car. Make sure your gas tank is full. In the event of a power failure, electrically-operated gas pumps will not work.

House windows are vulnerable to flying debris and wind pressure. Secure typhoon shutters to windows or tape windows with

masking tape. Although tape may not prevent a window from breaking, it is an effective way to prevent flying glass. It is a good idea to have at least one extra shutter because these can be torn from the house in high wind.

Open a window on the opposite side of the prevailing wind to equalize pressure and help prevent breakage. When the eye has passed and the wind begins from the opposite direction, be sure to close the open window, and open one on the other side of the house.

When the power goes off, unplug the refrigerator, range, air conditioners, freezer and television sets, or any other electric appliance. This is necessary to avoid damage when the power returns, and sometimes surges. Be sure to unplug heating appliances and check that your range burners and the oven are in the "off" position. Fires have been caused because burners were left "on" during a power outage and then became hot once the power was restored.



Do this ...



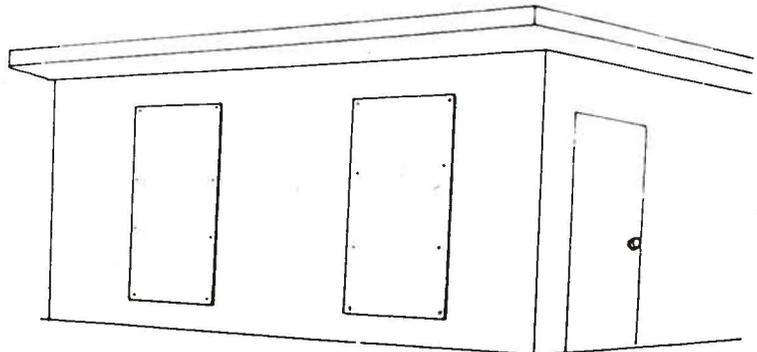
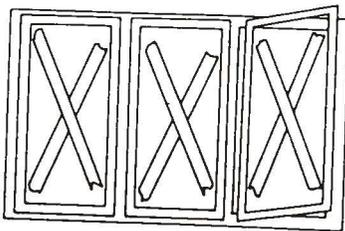
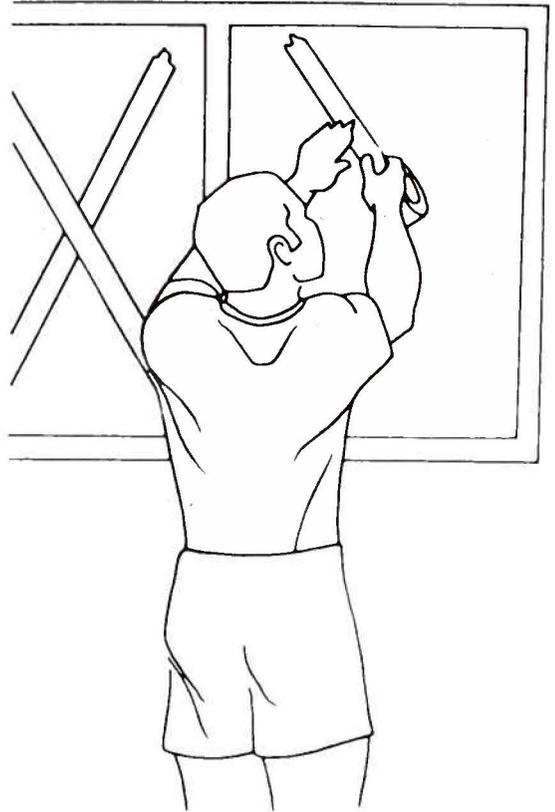
Not this !

During the typhoon stay indoors until informed that it is safe to go outdoors. Wind can snap power lines causing electrical shock and fire danger. Strong wind can knock down a child or adult. Flying debris can cause injury and death. Stay away from all windows during the storm. A windowless hall in a concrete structure is the safest place to stay.

When the center of the storm (eye) passes over Guam, the sky may clear and the wind cease, from several minutes to half an hour. Unless you must make emergency repairs, do not go outside during this lull. It is temporary. If you must go outdoors to make emergency repairs, dispose of any debris which might cause damage when the wind resumes from the opposite direction.

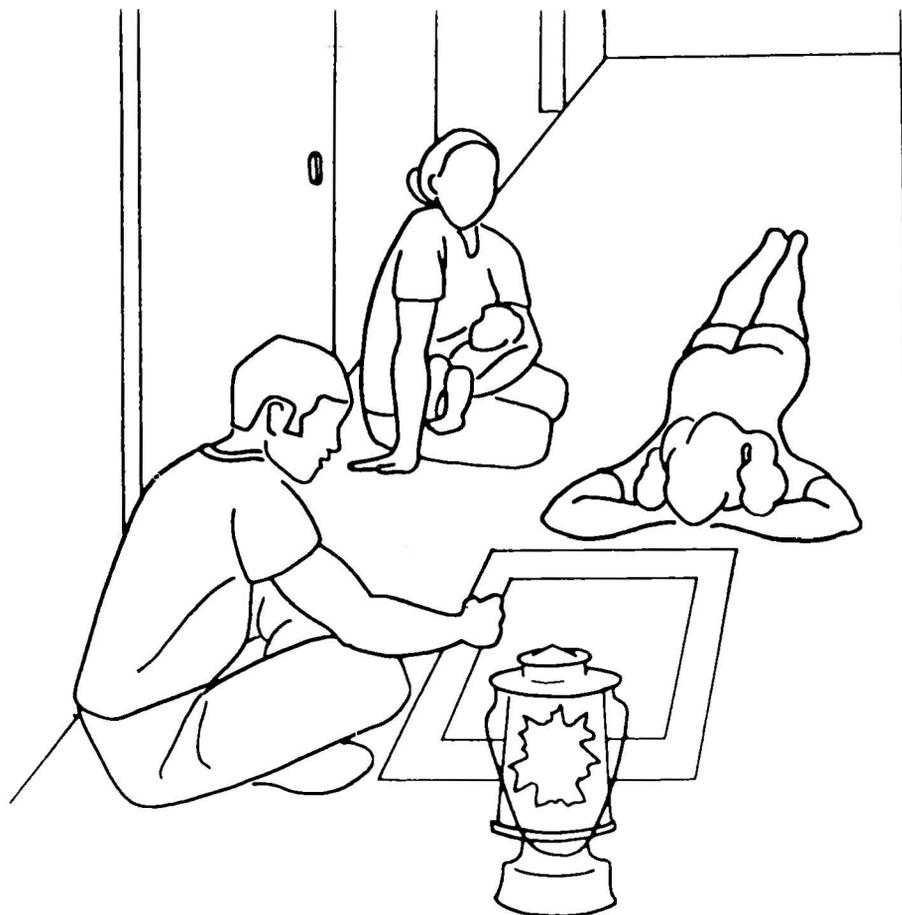
Have a battery-operated radio handy. It will not only keep your family in touch with the outside world during and after the storm, but will inform you of the storm's progress.

Keep radio, flashlights and snacks together in an accessible spot. Nothing is quite as dark as a boarded up house at night with no electricity.



One window ajar, opposite wind

Attach typhoon shutters securely.



## Children and Typhoons

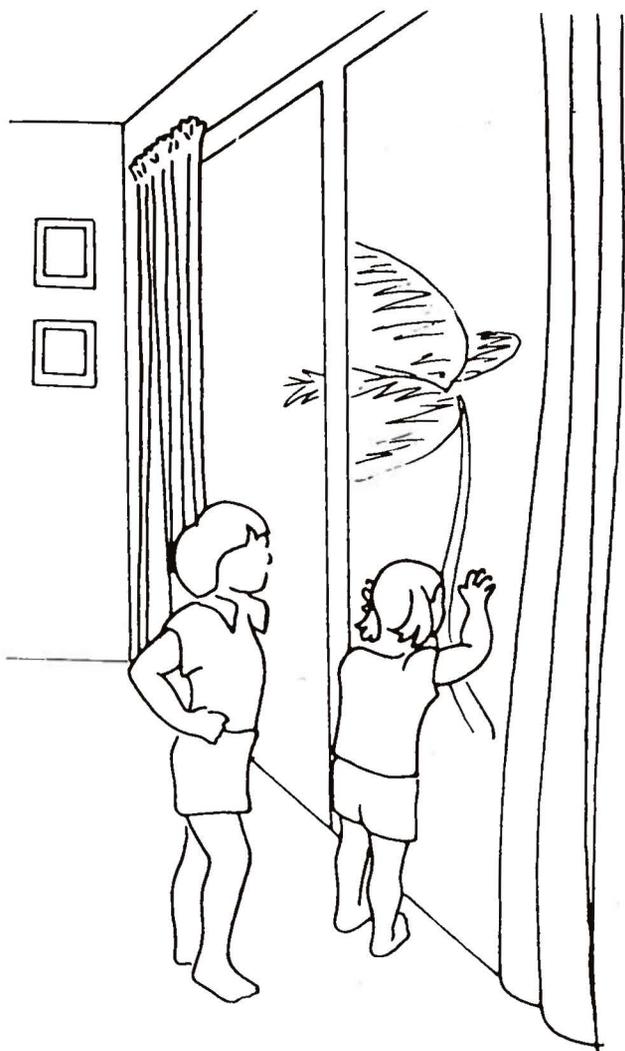
If you have children in your home, be sure they understand what is happening. Older children may help with the preparations. Very young children may be frightened by the disruption of their routine. They may panic when the power goes out. Remember that fear is contagious. Keep calm.

Keep a supply of games, coloring books and other toys that can be played by flashlight or candlelight to pass the long hours of the

typhoon. Try to follow your normal routine as much as possible.

Keep a supply of nonperishable snacks such as crackers or cookies on hand. Be sure you have a supply of diapers and baby food.

Children should understand what sanitary and safety precautions are necessary during and after the typhoon. Review these precautions periodically. Keep children away from all windows during a storm.



Keep children away from windows.

## Animal Care

Special precautions should be taken to insure the safety of livestock during a typhoon.

Food and water must be stored for your animals. Be sure the animals are protected from flying debris. Most adult animals can tolerate the wind and rain of a typhoon, but young animals need protection from chilling.

If animals are to be kept in a shelter, be sure it is sturdy enough to withstand the force of the storm. Do not put animals in a nontyphoon-proof building, or they may be trapped if the shelter collapses. It is better to let most animals loose to find their own shelter if you can't find a typhoonproof place for them. It is better to regather them after the storm than it is to take a chance on their being hurt by collapsing buildings.

Fowl should be loose, and recaptured later.

Pets can be kept in the house. Be sure to have a supply of special products such as cat litter and pet food available.

If you have a pet in quarantine, watch for the announcement to pick up your pet before the storm. The quarantine station has no typhoonproof shelters.



## Plant Care

Crops often receive the brunt of the storm. In most cases, it is not practical to do any large-scale protecting of crops. Cooperative Extension Service agricultural agents recommend that the following precautions be taken:

- Lay vines flat on the ground to protect them from the full force of the wind.
- Vegetables and fruits nearly ready for harvest should be harvested before the typhoon. Tie or otherwise support green fruit.

- Trim all but the smaller top leaves (growing tip) of papaya and banana.
- Trim bunched ornamentals to prevent limb breakage. Hanging plants should be stored in a safe place. Large potted plants such as crotons can lay on their side.
- Knock down mature coconuts on trees next to your house. A coconut flying through the air at 100 mph is no joke.

# Sanitation Tips

In the event of a prolonged water outage, using only one bathroom will simplify cleaning. Enough water remains in the toilet tank to flush it once. After that, it is necessary to flush it manually. To do this, pour about two gallons of water into the tank (not into the toilet bowl) and flush. To avoid possible blockage in the toilet it is best to store used toilet tissue in a plastic bag. Secure the bag tightly and dispose of daily.

Keep a container of chlorinated water (3 tablespoons of chlorine bleach to one gallon of water) in the bathroom for washing hands (Note: this a stronger solution than recommended for drinking purposes). Wash you hands thoroughly each time you use the toilet. Change this water daily.

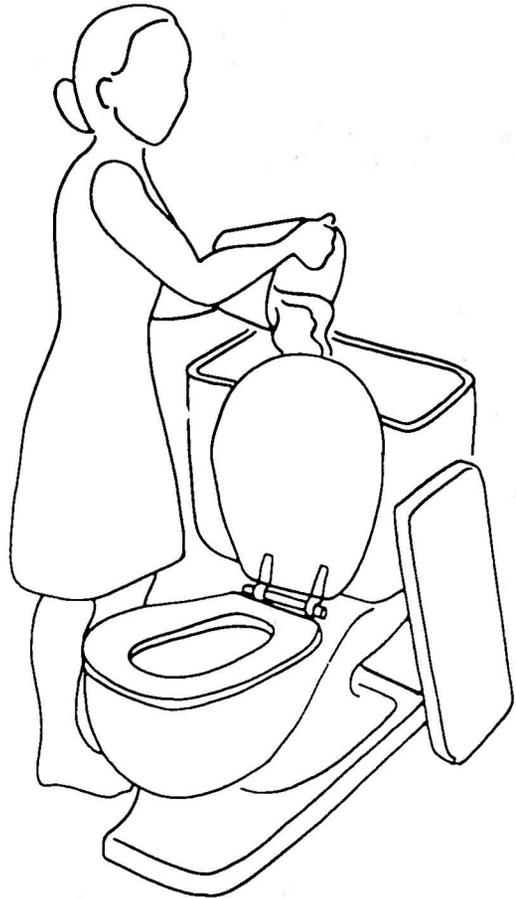
Leisurely warm showers aren't possible when there isn't any water flowing, but it is possible to stay clean by taking a bath in just two gallons of water. First, assemble a small wash basin, a bar of soap, wash cloth and towel. Start with your hands and face, soaping and rinsing as you go. Continue down your body: upper torso, then midhigh to ankle. Wash your genital area and feet last.

Keep a swimsuit handy. Refreshing mini-showers can be taken with a bar of soap during rain showers after the typhoon.

# Avoid Panic

The more you understand and prepare for a typhoon, the more rationally you're apt to react.

But whether it's your first or 21st typhoon, it can be a frightening experience. Emergencies bring out the best, or the worst, in people.



Pour water in tank, not bowl.

Keep your cool. Think before you act. Your thoughtless actions could endanger not only your life and property but those of others.

When you've made all the preparation possible, relax. Don't let your imagination run away with you. There's ample time after the typhoon to realistically assess what damage you've suffered. The Civil Defense Office and other agencies will be monitoring conditions on the island. If you have a serious problem, help will be on the way as soon as possible.

# After the Typhoon

- If you are in a designated shelter, stay there until informed by those in charge that it is safe to return home.
- Seek medical care for injuries.
- Avoid loose or dangling power lines and report them to Guam Power Authority, the police or fire department.
- Report broken sewer or water mains to the Public Utility Agency of Guam.
- Check all food that requires refrigeration, for spoilage.
- Unless you are qualified to render emergency assistance, stay away from disaster areas. You may hamper repair work.

**Note:** Be especially careful with fires. Lowered water pressure will make fire fighting difficult. Candles should be placed in a shallow dish to catch the hot wax. Never place candles in plastic containers because the container can catch fire. Be sure all candles are extinguished before leaving the house or going to bed. Never use candles near curtains or other flammable materials. Keep children and pets away from candles.

## Treating Mildew

Mildew is a thin, often whitish, growth produced on many surfaces by simple plants known as molds.

To prevent mildew, it is important to keep clothing and furnishings dry. Before the typhoon, roll the carpets away from the doors when possible and tie up the draperies to help prevent their becoming wet. If they do get wet, dry them as quickly as possible. Wet rugs can be removed and line-dried. Soaked spots on larger carpets can be propped up to provide good air circulation. Open doors and windows for ventilation. Spraying with an antimicrobial all purpose cleaner will help prevent mildew.

Don't stack wet clothing. This will promote mildew and attract bugs. Clothing can be hung in the sun to dry thoroughly. Remember that clean clothing will not mildew as soon as soiled clothing. Hang up towels and dish cloths after

- Drive with caution. Debris-filled streets are dangerous. Be on the watch for fallen wires, fallen trees and washed out areas. Do not drive any more than is absolutely necessary.
- Never barbecue in a closed house. Be sure you have adequate ventilation.
- Take down typhoon shutters. Repair any damage.
- Inform children of all safety measures they must take.
- Make an inventory of items needed for the next typhoon.

use and allow them to dry thoroughly.

If mildew does occur, treat the spots as soon as possible. Untreated, mildew can weaken or rot fabrics. Brush off any surface growth, preferably outside to avoid scattering mildew spores in the house.

Hang fabrics outside or in a place where they can dry thoroughly.

Wash mildew-stained articles with soap or detergent and water. Rinse well and dry in the sun. Unwashable articles should be drycleaned.

If any stain remains on a washable fabric, apply a mixture of lemon juice and salt. Then spread in the sun to bleach. Rinse thoroughly.

Fabrics that can't be bleached with chlorine can be soaked in a mixture of 2 tablespoons oxygen bleach to one quart of water. Sponge or soak the stained area in the solution about 10 minutes. Rinse thoroughly.



## Shopping Check List

- Canned luncheon meat
- Canned corned beef
- Vienna sausage
- Canned tuna and salmon
- Canned baked beans
- Canned macaroni salad
- Canned or dry soup mix
- Cheese spreads
- Peanut butter
- Jam, honey, sugar, salt, pepper
- Crackers, cookies
- Canned fruits, vegetables
- Powdered or canned juices and drinks
- Instant coffee, tea, milk
- Special foods needed by infants or invalids
- Paper plates
- Paper or plastic cups
- Disposable silverware
- Bottle and can openers
- Dishwashing detergent
- Paper towels
- Plastic bags
- Matches
- First aid kit
- Masking tape
- Flashlight
- Batteries
- Cooking gas
- Kerosene
- Charcoal
- Charcoal lighter
- Mosquito coils
- Plastic sheets
- Chlorine bleach
- Disposable diapers
- Toilet tissue
- Hand soap
- Candles
- Alarm clock
- Camp stove
- Lantern
- Battery-operated radio
- Portable ice chest
- Containers for storing water
- Nuts & bolts for securing typhoon shutters

