



Project Noah - Month 6

Billie Nicholson



Project Noah is a yearlong food storage and emergency preparedness program designed to help you set and obtain goals in the area of family preparedness. The program is divided into twelve monthly assignments touching on lots of short and long term preparedness subjects including a preparing, a reporting and a sharing segment each month. These lessons are designed to be used in church or community groups focused on preparedness. Start your own group and use these newsletters as a reference resource. Many articles will link to previous articles on SunOven.com or other sources. Click for additional information.

Our SIXTH month's lesson includes first aid tips on dealing with broken bones. We are continuing to add items to our 72 hour kits - including a multi-function knife, compass, matches/Firestarter, [cook stove with fuel](#) (optional), radio, [reusable glow lights](#) and folding shovel.

Our non-food item this month is laundry detergent. In addition to searching for the best buys on what you like to use, we have included an alternative recipe to store-bought products.

The long term storage item this month is Rice. We've included tips on storage, shelf life and recipes.

Our gardening info this month includes tips on preserving herbs for winter. How is your garden growing? We have turnips, radishes, carrots, and peas coming up from seeds and kale, Swiss chard, baby broccoli, radicchio and Savoy cabbage plants growing.

How is your three month supply coming along? What are some of your favorite food storage recipes? Where are you keeping them? We would love for you to share your favorites. Send them to editor@SunOven.com

Assignments on Page 10



Order Your Sun Oven® Today

Ask Billie

Q. How long does it take for the solar shower to heat up?

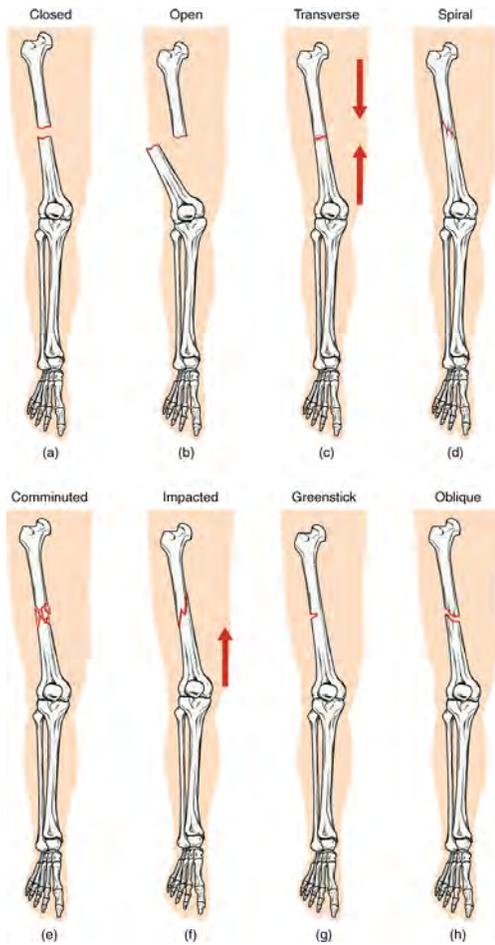
A. Our [Solar Shower](#) warms five gallons of water in about three hours of direct sunlight. It will also stay warm for an additional three hours after the sun stops shining on the bag. This will provide 11 minutes of non-stop shower time. The Solar Shower is a great addition to emergency preparedness sanitation supplies or to use camping.

What is your Most Burning Question about Food Storage or Emergency Preparedness? Send your questions to editor@sunoven.com

Billie Nicholson



Broken Bones



If more pressure is put on a bone than it can withstand, it will break. These are referred to as fractures. If a bone punctures the skin, these are referred to as open or compound fractures. A hairline crack, or stress fracture, can develop in a bone without parts showing a separation. Fractures are usually the result of an injury due to falls from heights, overuse during sporting activities, or as a result of aging or bone weakening due to osteoporosis or other diseases.¹

There are many types of broken bones:

- A simple or closed fracture is when the bone breaks into two pieces, but the skin is intact.
- An open or compound fracture has a piece of bone protruding through the skin.
- A transverse fracture occurs across the bone.
- A spiral fracture results when the break spirals around the bone usually when a force twists the bone.
- A comminuted fracture is when an injury caused the bone to shatter into at least three pieces.
- An impacted fracture results when a force presses against both ends of the bone, pushing the end together.
- A greenstick fracture happens in children when a break occurs on one side and the other side bends.
- A linear break occurs along the length of a bone.
- An oblique fracture occurs when the bone breaks diagonally and tend to occur on long bones.²

Anatomy & Physiology Connexions

How do you know if a bone is fractured? You need to follow the bone to see if there is any deformation or not using your hand. When you press on the area, the victim acknowledges pain. The bone bleeds when it breaks completely apart, so you will see a hematoma, under the skin. Swelling will also follow. The extremity will have limited mobility.³

First Aid steps should include:

1. Check person's airway and breathing; call 911 and begin rescue breathing, CPR or bleeding control.
2. Keep the person still and calm and examine for other injuries.
3. If medical help responds quickly, allow them to take further action.
4. If the skin is broken, it should be treated immediately to prevent infection. If possible, lightly rinse wound and cover with sterile dressings.
5. If needed, immobilize broken bone with a splint or sling. Possible splints include rolled up newspaper or strips of wood. Extend the splint above and below the injured bone.
6. Apply ice packs to reduce pain and swelling.
7. Take steps to prevent shock, but don't move the person if a head, neck or back injury is suspected.
8. Check blood circulation below the fracture by pressing on skin and releasing to see "pinking up."¹

Continued on page 3

Broken Bones (continued from Pg. 2)

9. If the circulation is poor, and trained personnel are not readily available, try to realign the limb into a normal resting position.
10. Do not move the person unless the broken bone is stable, nor if the person has a possible spine, pelvis, hip or upper leg, head or neck injury.
11. Place a clean, dry cloth over the wound to dress it, if bleeding continues apply direct pressure to stop it. Do not apply a tourniquet unless it is life-threatening.

A medical professional should be consulted. Your doctor will do a careful examination to assess your overall condition, including the fracture injury. He will have twenty questions, so just be patient. The most common way to evaluate a fracture is with x-rays, which provide clear images of bone. The x-ray will confirm the break and help the doctor assess the type of fracture.

The treatment for fractures is basic: put the bone pieces back together and prevent them from moving until they are healed. The broken bone ends heal by “knitting” back together creating new bone around the edges of the broken parts. Surgery is sometimes required depending on the type and severity of the break. During surgery the patient is anesthetized. Doctors use a variety of treatments:

Cast immobilization - a plaster or fiberglass cast is the most common type of treatment. Most bones can heal successfully once they have been repositioned and cast applied to keep the broken ends in proper position while they heal.

Functional Cast or Brace - this cast or brace allows limited movement of nearby joints.

Traction - usually used to align a bone or bones by a gentle, steady pulling.

External Fixation - in this type of operation, metal pins or screws are placed into the broken bone above and below the fracture site and connected to a metal bar outside the skin. This procedure is used in cases where the skin and other soft tissues around the fracture are badly injured and surgery cannot be tolerated.

Open Reduction and Internal Fixation - during this type of surgery, the bone fragments are repositioned into alignment, and then held together with special screws or by attaching metal plates to the outside surface of the bone. The fragments can also be held together by inserting a rod down the marrow space in the center of the bone.

Recovery takes several weeks to several months, depending on the extent of the injury and how well you follow your doctor’s advice. Pain usually stops before the fracture is solid enough to handle the stresses of normal activity. When the cast has been removed, limited movement may be the prescription as well as physical therapy to restore muscle strength, joint flexibility and motion.

To prevent breaks, eat a diet rich in calcium and Vitamin D to keep bones strong. Consult a doctor before increasing your calcium intake. Weight bearing exercise also helps keep bones strong.⁴

Disclaimer: This information is provided as an educational service and is not intended to serve as medical advice. Consult your personal physician.

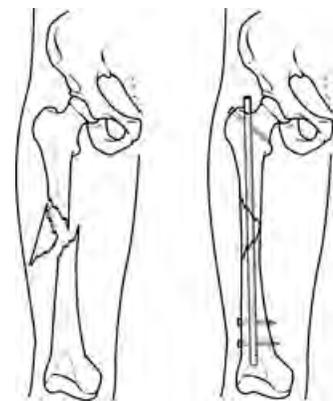


Photo: Orthoinfo.aaos.org

References

Preserving Herbs for Winter

As summer winds down, do you have lots of herbs still growing in your garden? If you're wondering what to do with them, we've collected several suggestions on preserving herbs for winter.

1. Adrienne from WholeNewMom.com recommends freezing herbs. Here is her technique: wash herbs and pat them dry. Spread them out on trays so they can dry overnight. The next morning, stack them and place in plastic bags, seal and place the bags into your freezer.
2. Herbalist Susan Belsinger makes [herbal syrups](#) to use in place of the liquid in cakes, pie fillings and other baked goods. Her recipe uses a standard sugar-syrup ratio of water and sugar, but you can reduce this when making syrups for drinks. Refrigerate in a container with a tightfitting lid for about 10 days or freeze as long as 8 to 9 months.

Ingredients:

- 1 1/2 cups water
- 1 1/2 cups raw organic sugar
- 8 -10 herb sprigs or a large handful of leaves (about 1 oz. total: see variations)

Directions:

- Combine water and sugar in a small saucepan over medium-high heat, stirring to dissolve sugar. Bring to a boil, remove from heat and add herb leaves. Use a spoon and bruise them against the side of the pan.
- Cover and let stand for at least 30 minutes, to steep and cool to room temperature.
- Discard the solids, squeezing them into the pan to extract the herbal essence.
- Transfer to a clean bottle or canning jar and label. Seal and refrigerate or freeze.

Note: When freezing, be sure to leave headspace for expansion. Partially thaw when needed and pour off what you need and return it to the freezer.

Variations:

Anise hyssop: 6 to 8 sprigs with flowers, or a handful of flowers

Basil: 6 to 8 sprigs of cinnamon, green or lemon basil; flowers are good

Bay: 10 to 12 leaves

Bergamot: 6 to 8 sprigs, or handful of flowers

Calendula: Petals only from 10 to 12 flowers

Chamomile: Large handful of flowers

Elderflower: 6 to 8 flower heads

Ginger root: 5 or 6 thin slices of peeled root

Lavender: 10 flower spikes or 1 tablespoon of flower petals

Lemon balm, lemon thyme or lemon verbena: 8 to 10 sprigs

Mint: 10 to 12 sprigs of orange mint, peppermint or spearmint

Rose: 1 generous cup of petals

Rosemary: 5 or 6 sprigs

Sage: 4 common sage sprigs; 6 fruit-scented or pineapple sage sprigs; flowers, too



Oregano Harvest

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3. [Drying Herbs](#) can be grouped into quick and slow dryers. Quick drying herbs include lavender, marjoram, mint, oregano, rosemary and sage. These can be bundled in bunches, tied and hung to dry in an airy, cool room out of direct sunlight. Slow driers like basil, dill, lovage, parsley and thyme need to have the leaves removed from the stems, cut into small pieces and laid on a screen to dry. Store these in glass jars.
4. Pestos and Vinegars can be made from a variety of favorite herbs. Use three or four sprigs per cup of vinegar. Pesto means to crush, so feel free to experiment. My favorite pesto recipe is [here](#).

Making Your Own Laundry Detergent

This month our non-food item to store is laundry detergent. How often do you do laundry? Have you determined how much you use each month? Does it take a bite out of your grocery budget? Answers to these questions will vary per person but if you'd like to consider making your own laundry soap you can do so using some of the same ingredients we've used for making other homemade cleaning products.

[Wellness Mama](#) has provided us with an easy recipe and one that saves money as well. Here's what she says:

“Conventional laundry detergent is loaded with chemicals like sulfates, fragrances, phenols and more. Many brands contain things like petroleum distillates, which are linked to cancer and lung disease. Fragrances in these detergents are made of a mix of harmful chemicals. Luckily, making your own laundry soap is an easy and fast process! You only need three basic ingredients to make either a powdered or liquid laundry soap:

- *Washing Soda (Arm and Hammer Brand available at most stores)*
- *Borax (20 Mule Team Borax available at most grocery stores)*
- *Bar Soap (Dr. Bronner's, Ivory, or other natural, unscented bar soap) – If you have ever made your own soap, [the laundry version of this coconut oil soap recipe is hands-down the best bar soap I've ever found for making laundry soap.](#)*

Washing Soda and Borax should be available at your local grocery store on the laundry aisle. Natural bar soaps are in the health, beauty, or organic sections of the store, or online. You can also add a couple tablespoons of baking soda to help freshen clothes.”

Natural Laundry Soap Recipe:

1. Grate the bar soap or mix in food processor until finely ground. Use the soap of your choice. I personally use [homemade coconut oil soap](#) if I have it or [Dr. Bronner's Pure Castille Bar Soap](#) because of its exceptional quality, and because it is available in several different natural scents like lavender, tea tree, peppermint, almond and others.
2. In a large bowl, mix 2 parts washing soda, 2 parts Borax and 1 part grated soap. (Add a few teaspoons of baking soda if desired).
3. Store in closed container. I keep mine in quart or half gallon mason jars. If you are using a big enough container, you can skip step 2 and just put all ingredients in a storage container or jar and shake.
4. Use 1/8 to 1/4 cup per load of laundry.

To make liquid Laundry Soap:

1. Grate one bar of soap with cheese grater or food processor.
2. Put grated soap in pan with 2 quarts water and gradually heat, stirring constantly until soap is completely dissolved.
3. Put 4.5 gallons of really hot tap water in a 5-gallon bucket (available for free in bakeries at grocery stores, just ask them) and stir in 2 cups of borax and 2 cups of Washing Soda until completely dissolved.
4. Pour soap mixture from pan into 5-gallon bucket. Stir well.
5. Cover and leave overnight.
6. Shake or stir until smooth and pour into gallon jugs or other containers.
7. Use 1/2 to 1 cup per load.

Sun Spiced Chicken with Onions and Apples

from our Solar Chef



This mild spice mixture is ideal for anyone who does not like things spicy hot.

*Solar Spiced Chicken with Apples and Onions**

INGREDIENTS

- 1/2 teaspoon mustard seeds
- 1/2 teaspoon cumin seeds
- 1/8 teaspoon whole black peppercorns
- 2 cloves garlic, minced
- 1 tablespoon minced peeled fresh ginger
- 1 tablespoon olive oil
- 1/2 teaspoon salt
- 8 chicken thighs
- 2 Granny Smith apples, cored and cut into 3/4 inch wedges
- 1 onion, thinly sliced

* (adapted for the Sun Oven from Weight Watchers, *One Pot Cookbook*)

PREPARATIONS

Set *Sun Oven*® out to preheat. Spray a baking pan with cooking spray.

Use a spice mill** to grind the mustard seeds, cumin seeds, and peppercorns into a large bowl. Stir in the garlic, ginger, oil, and salt. Use 1 tablespoon of the spice mixture to rub under the skin of each thigh. Arrange the thighs, skin side up, in the prepared pan. Add the apples and onion to the remaining mixture in the bowl; stir to coat. Scatter the apple onion mixture around the chicken. Cover the pan with a second baking pan and transfer to the Sun Oven. Cook until the juices run clear, 1 1/2 to 2 hours. Remove skin before serving. Serve over rice or couscous.

Makes 4 - 6 servings

**If you don't have a spice mill place the seeds and peppercorns in a large zip-lock plastic bag. Press out the air and seal the bag and use a meat mallet to crush the mixture.



The Ultimate Solar Appliance

For many years we have displayed Sun Ovens and taught classes at Mother Earth News Fairs. These fairs offer practical, hands-on training and experience taught by leading, sustainability-minded experts. Marjory Wildcraft, of The Grow Network, has teamed up with Mother Earth News to offer a BRAND NEW 100% online Homesteading Summit. Click the link below to reserve your free ticket.

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- * 5 ways to achieve FOOD ABUNDANCE in small urban spaces.
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Only registered attendees will get the complete schedule, with instructions for watching!

Emergency Sanitation

Sanitation is a dirty subject that no one really wants to talk about. But it is an often overlooked aspect of emergency preparedness. When a disaster creates a situation where the water sources are compromised, the lack of sanitation in the given disaster area will be a disaster in itself. A 50 mile radius of individuals could be affected by illness and disease. Preparing appropriately for this aspect of disasters will prevent the spread of communicable diseases.¹

In a disaster plumbing may not be usable as a result of disrupted water and sewer service. Each household will be responsible for sanitizing their human waste in a way that will avoid infection and the spread of disease. Cholera epidemics are caused by open-defecation in densely populated areas from the bacterium *Vibrio cholerae* contaminating the water and food sources. Infected persons will have profuse watery diarrhea, vomiting and leg cramps. The resulting rapid loss of body fluids leads to dehydration and shock. Without treatment death can occur within hours.² Such is the case on the island of Haiti today following hurricane Matthew.

What can you do if you lose water service during an emergency? We are assuming that you have some [water stored](#). First, turn off all faucets, valves and outlets. This includes the valve at your toilet. This will prevent flooding when water service is restored. Turn off gas or electricity to your hot water heater. If it runs out of water and keeps heating, the heater will be ruined or might explode.³

In a disaster situation all water will become valuable. Potable water is drinkable and can be used for cooking and washing. Save the washing water, which now is called gray water. This water can be used for plant irrigation or flushing toilets into a septic tank. Don't flush toilets if you're on a community sewer system which has become compromised. Black water is water contaminated with human waste. It needs to be handled and disposed of with great care. Each person creates an average of five gallons of human waste per week.

Families can set up their home toilet or a portable bucket toilet with trash bags to capture waste. Bag up the waste and store it in a can with a tight fitting lid in anticipation of community sanitation pick up later. Use sand or kitty litter to absorb liquid and odors in the bags. Should the disaster be a long term situation and the need to dispose of human waste arise, dig a pit 2-3 feet deep and 100 feet away from food and water sources. Cover it with dirt to keep out vermin.³

You can find a list of items to store for emergency sanitation [here](#). As much as possible, continue regular hygiene habits to prevent the spread of disease. To stay clean during an emergency:

- Wash your hands after using the toilet and before handling any food.
- Keep your fingers out of your mouth and avoid picking at bumps on your skin.⁴
- Only drink purified water - bottled, treated with chlorine bleach, water purification tablets, boiled for 10 minutes or pasteurized in the Sun Oven® using the provided [WAPI kit](#).
- Wash all dishes in purified water after using. Rinse well. Eating utensils can be [sterilized by heat](#).⁵
- Keep your clothing as clean and dry as possible, especially under-clothing and socks. Hand wash using laundry detergent, rinse well and save this gray water.
- If you get the clean up waste detail, in addition to above tips, use waterproof gloves and rubber boots and work clothes which you should remove after completing waste disposal. Goggles or face shields should be used, too.
- Do not smoke or chew tobacco or gum while handling human waste.
- Clean contaminated work clothing daily with 0.05% bleach (1 part bleach in 100 parts water.)⁶

References

Rice



[Wikipedia](#)

Rice is the seed of a grass species *Oryza sativa* (Asian) or *Oryza glaberrima* (African). It is the most widely consumed cereal grain in the world. Rice is the most important grain in regard to human nutrition and calorie intake by humans. Chinese legend and genetic evidence have shown that rice originated in the Pearl River valley region of ancient China. From there it has spread through trade around the world. Today there are many varieties and culinary preferences. It is well suited to countries with low labor costs and high rainfall because of its labor intensive cultivation and high water requirements. With today's

irrigation and other water controlling techniques, rice can be grown practically anywhere.¹

Brown rice is considered by many to be one of the world's healthiest foods. The difference between brown and white rice has much to do with the milling process. Only the outer hull is removed in brown rice preparation. White rice is the result of the removal of the bran and germ layers and many of its nutrients. A further polishing process produces what we think of as white rice. This removes the alerone layer of the grain, filled with essential fats, to extend the shelf life. Brown rice has a number of health benefits including energy and antioxidant protection from its manganese, it is rich in fiber and selenium, and it is recognized for cholesterol and type 2 diabetes risk lowering abilities.² It is the perfect baby's first food and brown rice flour can be used for vegetarian pancakes, breads and other gluten-free baked goods, providing a rich, nutty flavor.³

Rice is available prepackaged or in bulk containers. Be sure to check the "use by" date since brown rice is more susceptible to becoming rancid than white rice. Brown rice will keep fresh for about six months if stored in an airtight container. If you don't cook with it often, store it in the fridge. White rice, if stored properly, will keep fresh for 25-30 years. Rice can be stored in glass jars, mylar bags, food safe plastics. You can use oxygen absorbers in containers. Some people use bay leaves.

Like all grains, natural brown rice should be rinsed to remove dirt and debris before cooking. To bring out a good nutty flavor, toast the rice in a teaspoon of olive or sesame oil until it becomes dry and begins to look slightly toasted. Rice is cooked by boiling or steaming and absorbs water during cooking. [Different types of rice](#) vary slightly in the amount of water to add and in cooking time. It can be soaked prior to cooking to reduce cooking time, conserve fuel, and reduce stickiness. To cook brown rice, add two parts water or broth to one part rice, bring to a boil and simmer for 45 minutes or until liquid is absorbed. Let it stand for 10 -15 minutes off the heat, covered to absorb the final bits of water. Fluff with a fork and serve while warm. Store leftovers in the refrigerator, after they have completely cooled, for 3-5 days. Brown rice can also be frozen for up to 3 months.⁴

In your preparedness pantry, rice is economical as well as versatile. It can be used for desserts as well as main or side dishes. Long-grain rice cooks up dry and fluffy and is good in curries, pilafs, and casseroles. Medium-grain rice is also good for casseroles. Short-grain rice is more tender and sticky. It is good for breakfast cereals, puddings and oriental dishes. Instant rice has been precooked before dehydrating and packaging. It is fast but lacks the flavor and texture of regular rice. Combined with beans they provide all the amino acids required to make a complete protein. Families should store approximately 300 pounds of grains per person per year. This amount should include wheat, rice, oats, and pasta as well as rice.

References

Don't Miss These Recipes

Project Noah - Sixth Month Assignments



[Project Noah](#)

1. Pre-Disaster Preparation:
 - a. Study first aid tips on dealing with broken bones
 - b. Remember broken bones require the attention of a doctor
 - c. Keep any crutches you might need to acquire for your family, most are adjustable and can be reused
2. Pre-Disaster Preparation:
 - a. Put together a sanitation kit
 - b. Make sure to add disposable gloves and feminine hygiene supplies to your kit
 - c. Remember to add a multi-function knife, compass, matches/ Firestarter, [small cook stove](#) (optional), radio, [reusable glow lights](#) and folding shovel to your 72 hour kit

3. Non-Food Items: Laundry Detergent - Goals:
 - a. Determine how much your family will need for 90 days and for a year - is this doable?
 - b. Shop for the best prices and buy what you can afford
 - c. Explore alternatives, make your own
4. Short Term: Favorite Family Recipes
 - a. How is your three month supply coming along?
 - b. Collect some of your favorite recipes
 - c. Send your favorite recipe to share to Editor@SunOven.com
5. Long Term Storage Item: Rice
 - a. Store some in bulk cans or jars
 - b. Experiment with recipes
6. Prepare an emergency sanitation kit
 - a. Collect [supplies](#) for using your home toilet
 - b. Put together a [portable potty](#) to use in case your home is damaged
 - c. For personal hygiene get a [solar camp shower](#)

Next Month's topics will be: First aid tips on what to do for bug, spider and snake bites, additional items to include in your 72 hr kit; our Non-food item: Hand Sanitizer and tissues

Storing the Basics - making your own groceries

Boost your immune system with Four Thieves vinegar