



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



Let the Storm Rage On

How to Survive Freezing Temperatures Without Electricity

Imagine If ...

- Natural Disasters
 - Earthquakes
 - Floods
 - Winter Storms
 - Solar Flare
- Man-made Disasters
 - War
 - EMP/Cyber Attack
- Pandemic
- Extended Power Outage



Important things you should know

Principles

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Rule of Threes

- Survive 3 minutes without air 
- Survive 3 hours without shelter 
- Survive 3 days without water 
- Survive 3 weeks without food 

Get Your Priorities Straight!

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Principles of Heat Loss

1. Conduction – heat loss through ground
2. Convection – heat loss due to air movement
3. Radiation – heat loss to space
4. Respiration – breath in cool, breath out warm
5. Perspiration – water conducts heat hundreds of times faster than dry air – Don't get wet!!

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Symptoms of Hypothermia



Help!

- **Initial Signs**
 - Bouts of shivering
 - Grogginess and confusion
 - Normal breathing and pulse
- **Danger Signs of Worsening**
 - Violent shivering or shivering stops
 - Inability to think and pay attention
 - Slow, shallow breathing
 - Slow, weak pulse
- **Signs of Severe Hypothermia**
 - Shivering has stopped
 - Unconsciousness
 - Little or no breathing
 - Weak, irregular or non-existent pulse

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Treatment for Hypothermia

• Mild (90-98° F)

- Reduce heat loss
 - Get into dry clothing
 - Increase clothing, blankets
 - Get into a shelter
 - Warm environment
- Increase heat production
 - Vigorous exercise if victim can eat
 - Apply heat sources (hot pads, hot water bottles)
 - Give lots of fluids (no alcohol or caffeine)



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Severe (82-90° F)

- Transport to hospital emergency room
 - Rapid rewarming is dangerous and may kill victim
 - Handle gently
- If unable to get professional help immediately:
 - Place victim in warm environment
 - Insulate body with blankets
 - Do not rub arms, legs or feet to increase blood flow
 - Give fluids if conscious (no alcohol or caffeine)

Frostbite -- Don't Let It Happen To You!



Our story of surviving freezing January temperatures

The Experiment

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High 18°F
Low 1°F

Day 1

Inside 51°F



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Set Up A Tent

- Increases warmth
- Provides privacy
- Great for sleeping
- Gives extra warmth during stationary activities:
 - Playing games
 - Reading
 - Just warming up



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High 18°F
Low -1°F

Day 2

Inside 51°F



Doesn't slow Dad down one bit!
He adapts almost as well as the children.
Reading material focuses on emergency topics

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- Outside Temp 21°F | 12°F
- Inside Temp (Low) 49°F

Day 3

“Look Mom!
I can see my breath inside the house.”



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Natural Gas Fireplace

- Nice to sit by and warm up
- Works without electricity
- Dependent on working natural gas lines
- Not very efficient without fan



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Day 4

Outside Temp 28°F | 16°F

Inside Temp (Low) 46°F

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By Day 4 Life Changed!

- Kids still having fun
- Mom no longer cared about having “hat hair” or looking presentable
- Grateful for light and heat!!
- Mom was DONE!!



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Lessons Learned

- You can survive without electricity
- Children are fascinated by open flame
- Cold results in survival mode
- Productivity is minimal
- Combination of cold and dark are depressing
- Wear a hat !!
- Store easy-to-prepare foods



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Tips and tricks to staying warm when power is out

Secrets

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Stay Hydrated

- Drink **plenty** of water
 - You may not feel thirsty
 - Drink, drink, drink
- Drink tepid water
 - Do not eat snow
 - Do not drink ice water
- Dehydration thickens blood, increasing risk of hypothermia
- Eat foods high in protein, carbohydrates and fats for energy



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Keep Your Core Warm

- Core = Head to knees
 - Wear hat!
 - Layer clothing
 - Warm Jacket
 - Insulate – stuff with newspapers, rags, whatever necessary to stay warm
- Dress warmly from the beginning – don't wait until you are chilled



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Layer Clothing



- Wear several layers of loose lightweight clothing as opposed to one heavy layer
- Wear a hat – most heat is lost through the head
- Wear gloves/mittens to keep hands warm
- Wear socks or slippers
- Keep clothing and footwear loose to ensure good circulation

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Blankets and Warm Clothing



- Lots of blankets
- Sleeping bags
- Coats, jackets, sweaters
- Hats, gloves, mittens, scarves, ear muffs
- Warm socks
- Boots, warm slippers
- Warm pants

You Can't Have Too Many Blankets!!

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Mylar Blankets/Sleeping Bags

- Good for 72 hour kit
- Wind and vapor barrier
- Returns radiant body heat
- Provides no insulation
- Small and portable
- Does not replace standard blankets or sleeping bags
- May provide shade and deflect heat on hot summer day



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Foam Clothing



Designed by
Jim Phillips

Preparemyfamily.com

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Be Active - Exercise



- A healthy body is more tolerant of cold
- 20 minutes of exercise can warm you up and keep you warm
- Exercise increases blood flow to extremities preventing frostbite
- Caution: Avoid sweating in severe cold – stay dry

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Warm Up Inside with Hot Drinks and Foods



- Hot cocoa, apple cider, etc.
- Hot cereals
- Hot broth, soups
- Chili
- Stew
- Hot meals

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Hand & Foot Warmers

- Effective for short term emergency heat
- Good for evacuation
- Rotate – short shelf life



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Bed Warmers

- Be creative
- Heated rock
- Hot water bottle
- Warmed blanket
- Another person
- Wear a cap, socks



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Special Needs

- Consider special needs of family members
- The very young, old, or individuals with compromised health can not tolerate cold temperatures or toxins in the air
- Plan carefully to ensure their safety



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Prepare Your Home

- Take time now to winterize your home
- Install weather stripping around windows and doors
- Check insulation especially in your attic, basement and exterior walls. Are they up to code?
- Check for cold air entry ports
 - External wall electrical outlets
 - Switch-plates
 - Gaps around windows or doors
- Clean chimney and vents
- Keep roof in good repair
- Insulate pipes exposed to cold (exterior walls)



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Select Living Area

- Close off all rooms except the one to be heated. Consider the following:
 - Fireplace or built-in heat source
 - Sink or kitchen facilities
 - South facing to take advantage of passive solar heat
 - Avoid rooms with large windows or uninsulated walls
 - Basements are good because the earth acts as natural insulator
- Confine emergency heat to a small area.
- Isolate the room from the rest of the house by keeping doors closed, hanging bedding or heavy drapes over doorways, or putting up temporary partitions of cardboard or plywood.

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Cover Windows

- Cheap clear shower curtain
- Thick clear plastic sheeting
- Blankets
- Cardboard
- Close blinds
- Curtains
- Bubble wrap (spray with water to adhere)
- Plywood
- Anything to insulate!



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Store Heavy Plastic

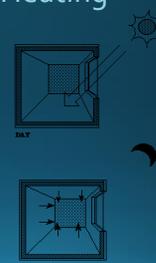
- Heavy plastic sheeting (6 ml)
 - Store plastic out of direct sun and weather
- Rolls of duct tape
 - Duct tape gets gummy as it ages – rotate it!



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Passive Solar Heating

- Capture the sun's heat within the building and release heat during periods when sun is not shining.
- Thermal mass can be concrete, bricks, tile, water, etc.
- Do not exceed 6 inches of thickness



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Our Sunroom/Solarium



- South-facing windows designed with sun angle optimization to maximize solar gain in winter with no heat gain in summer
- High mass floor and wall to retain heat

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Active Solar Heating

- Can be used for hot water heating or space heating
- Technology is mature and systems function extremely well
- Attractive
- Cost effective



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Alternative Heat Sources

Devices, fuels and safety considerations

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Carbon Monoxide Poisoning



- **Carbon monoxide is**
 - Odorless
 - Colorless
 - Tasteless
- **Producers**
 - Charcoal, coal
 - Gasoline
 - Diesel
 - Coleman fuel (white gas)
 - Kerosene
 - Natural gas
 - Wood
 - Any flame with incomplete combustion

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Side Effects of Carbon Monoxide Poisoning

- Short and intermediate memory loss for 6 months to 1 year
- Lifelong brain damage
- Symptoms similar to Parkinson's Disease
- Death

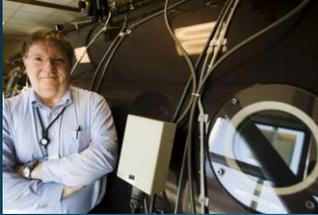


It may take 3-4 weeks for levels to build up before you recognize carbon monoxide poisoning.

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Hyperbaric Chamber

Utah Valley Regional Medical Center



Don't take chances!!
He may not be available to save you from a stupid choice!

Eugene Worth, M.D.

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Safety First!

- Do not burn any flame larger than a candle without providing adequate ventilation.
- Any appliance that has not been rated for indoor use should not be used indoors!
- Have one person watch for fire whenever an open flame is used.
- One person should also stay awake to watch for fire and make sure ventilation is OK. If you feel drowsy or have a headache, it may be a sign of poor ventilation.

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Working Carbon Monoxide Detector



- **MUST HAVE !!!!!**
- One on each floor of home
- One in the garage
- Place one near portable heater while in use

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Safety First!

- All homes should have battery-operated smoke and carbon monoxide detectors with alarms installed.
- Check batteries regularly.
- Keep firefighting materials on-hand. These include: dry powder fire extinguishers, a tarp or heavy blanket, sand, salt, baking soda and water.



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Fuel Storage & Safety



- Store safely and legally!
- Be selective
- Understand dangers and limitations
- Never store fuel inside your home
- Store fuel in a detached shed
- Keep away from children!

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Vented Heaters

Variety of vented household heating systems that burn a variety of fuels.

1. Buy quality
2. Professional installation
3. Maintain regularly
4. Vent / exhaust to the outside
5. Use according to manufacturer directions
6. Store fuel safely!



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Coal

- Stores well
 - Dark place
 - Away from moving air
- Store in plastic-lined pit or sheds, bags, boxes, or barrels
- Keep away from circulating air, light and moisture
- Cover to protect from weather and sun



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Wood

- Good, inexpensive fuel source
- Safe to store
- Takes a lot of wood to keep a home warm for the winter
- Storage life 4+ years



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Newspaper Logs/Bricks

- Inexpensive
- Easy to make
- Best if mixed with real wood
- Long shelf life
- Creates more ash than wood
- Do not make from slick ads



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Wood Stoves / Cookstoves



- Beautiful and welcoming
- Great for emergency heating and cooking
- Safe, secure option
- Proper installation and operation important
- Be sure to maintain and clean regularly
- Wood is safe and easy to store

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Propane

- Indefinite shelf life
- Produces carbon dioxide
- May produce carbon monoxide without complete combustion
- Pressurized cylinder of flammable gas
- Store away from home
- Heavier than air, may pool causing explosive risk



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Mr. Heater Portable Buddy

- Portable propane heater
- Rated for indoor use
- Low-oxygen shut off
- 4,000 – 9,000 Btu
- Use 1 or 20 lb propane cylinders
- Never bring 20 lb propane tank indoors
- Larger size available



Use at higher elevations (7000+ feet) may result in increased risk of carbon monoxide poisoning

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Alcohol

- Denatured alcohol
 - Grain alcohol with toxins added
 - Best choice for alcohol stove
 - Cheap - available at hardware stores
- Pure ethanol
 - Grain (potable)
 - Expensive - available at liquor stores
- Indefinite shelf life if store in airtight container
- May be burned indoors
- Not explosive



Open flames present a fire hazard – Use Great Caution!

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Alcohol Heater

- Heat Pal 5100
- Burns alcohol
- Produces carbon dioxide
- Stove and heater
- Alcohol has an indefinite shelf life
- Lightweight, small, portable



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Terracotta Pot Heater

- Two different sized clay pots
- Convection
- Thermal mass collects heat and radiates it back
- Place to warm hands
- Takes the chill off



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Kerosene



- Inexpensive
- Less explosive than gasoline or Coleman fuel
- 5+ year shelf life
- Requires very little oxygen to burn
- Must provide ventilation
- Store in approved blue containers

Use Great Caution Indoors! Produces carbon monoxide, nitrogen dioxide, and sulfur dioxide.

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Unvented Kerosene Heaters

- Produces dangerous gases
 - carbon monoxide
 - nitrogen dioxide
 - sulfur dioxide
- High fire risk
- High burn risk
- Avoid indoor use
- If you choose to use be sure to ventilate!!



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Generators

- Good for providing emergency power
- NEVER use indoors
- Do not use in garage
- Use a long extension cord and operate outdoors away from windows and doors
- Safely store fuel



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Important principles

- SAFETY FIRST!!
- When power goes out:
 - Don't panic
 - Keep doors and windows closed to conserve heat
 - Conserve fuel by warming only one room
 - Turn off all lights and appliances
 - Wear warm clothing
- Block movement of cold air (stuff blankets under doors, cover windows)
- Relax – you know what you are doing and have a practiced plan!

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Emergency Heating Checklist

- ✓ Educate self and family cold weather survival
- ✓ Prepare your home
- ✓ Prepare warm clothing, bedding, blankets, and special needs
- ✓ PRACTICE!!!



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Do Something NOW!

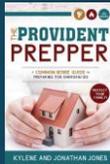
- Make your goal right now!
- Be realistic
- Do something in the next few days
- Report –share your success story
jbjones0529@gmail.com
kyleneanne@gmail.com
- Keep making progress!



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