

Water Purification

Five methods for making questionable water safe to drink, with the exact steps, ratios, and times behind each one. This is the hands-on skill the Water & Food chapter and its addendum both assume you'll go build; this guide is where you build it. To confirm a source or a finished batch is actually safe rather than assuming it, see Water Testing: Strips, Labs & Field Methods.

The core principle: clarify, then disinfect

Every method below works better, and some barely work at all, on clear water. Cloudy or turbid water isn't just harder to look at: suspended particles use up chemical disinfectant before it can reach pathogens, block UV light from reaching microorganisms, and can physically shield bacteria from a filter's contact time. If your water isn't already clear, clarify it before you disinfect it, not instead of disinfecting it.

- **Let it settle.** Sand and silt sink on their own. Pour water into a container and let it sit undisturbed for a few hours, then draw off the clear water from the top without disturbing the sediment at the bottom.
- **Speed it up with alum.** Stir ¼ teaspoon of alum powder into a quart of cloudy water for a few minutes, then let it sit. The suspended particles clump together and settle faster than they would on their own. *Where to find it:* sold as food-grade "pickling alum" in a grocery store's spice or canning aisle, or from any online retailer.
- **Pour it through cloth.** A clean cloth, paper towel, or coffee filter catches visible particles in one pass. This is the fastest option when you don't have time to wait for settling.

None of these three steps disinfect the water on their own. They just get it clear enough for one of the five real methods below to actually work.

Which method, when

Situation	Best method	Why
Clear tap water under a boil-water notice	Boiling or bleach	Fastest options; no special gear needed
Cloudy stream, pond, or floodwater	Clarify first, then boil or filter (0.1 micron or finer)	Bacteria and protozoa risk; an unclarified filter clogs fast
Suspected sewage contamination (flooded municipal line, backed-up septic)	Boiling, or a 0.01 micron / “purifier”-rated filter, or chemical disinfection	Standard 0.1 micron filters do not remove viruses
Treating many gallons for a household over several days	Bleach or chlorine dioxide tablets	Scales cheaply; no filter cartridge to wear out
No fuel, no chemicals, full sun, water already looks clear	Solar disinfection (SODIS)	Free, but slow and the least certain of the four
Clear water, want a fast, chemical-free treatment and have charged batteries	UV pen sterilizer	Treats a liter in under 2 minutes; depends entirely on battery power and clear water

Method 1: Boiling

The surest method against biological contamination, bacteria, viruses, and parasites alike. It does **not** remove chemical or heavy-metal contamination, so it's the wrong tool if you suspect a fuel spill or industrial runoff rather than a pathogen problem.

1. Clarify the water first if it's cloudy (see above).
2. Bring it to a **rolling boil**, vigorous, full bubbling across the whole surface, not just a few bubbles at the bottom of the pot.
3. Keep it at a rolling boil for **1 minute**. Above 6,500 feet elevation (much of the Wasatch Front's higher canyons and mountain valleys), extend that to **3 minutes**, since water boils at a lower temperature at altitude.
4. Let it cool before drinking. If the flat taste bothers you, pour the water between two clean containers a few times to reintroduce air, or add a pinch of salt per quart.

You need: a heat source and a pot. Nothing else.

Mixing infant formula with this water

Water boiled per the steps above and cooled is safe to mix with powdered formula for most infants. If the baby is under 2 months old, was born prematurely, or has a weakened immune system, use an extra precaution against Cronobacter, a bacterium that particularly threatens high-risk infants: mix the powder with water that's still hot, at least 158°F, rather than fully cooled water, then cool the prepared bottle before feeding.

Method 2: Chemical disinfection (bleach)

Use **plain, unscented household bleach only**, 5–9% sodium hypochlorite, with no added scents, dyes, or "color safe" formulations. Bleach is effective against bacteria and viruses but is less reliable against Cryptosporidium, a parasite resistant to chlorine at these concentrations; if you suspect Cryptosporidium specifically (common in water contaminated by livestock or wildlife feces), boiling or filtration is the better choice.

Bleach concentration	Dose per gallon of clear water	If water is cloudy, colored, or very cold
6% sodium hypochlorite	8 drops	Double the dose
8.25% sodium hypochlorite	6 drops	Double the dose

1. Clarify the water first if it's cloudy.
2. Add bleach at the dose above for your bottle's concentration, printed on the label.
3. Stir and let it stand for **30 minutes**.
4. The water should have a faint chlorine smell. If it doesn't, repeat the dose and let it stand another 15 minutes before drinking.

Where to find it: any grocery, big-box, or hardware store carries it. The plain, unscented version of a major brand like Clorox Regular is the standard example; check the label for 5–9% sodium hypochlorite and confirm there's no added scent, dye, or "color safe" formulation.

Stored bleach loses strength, plan to rotate it

Sodium hypochlorite degrades on the shelf, losing roughly 10-20% of its available chlorine per year even unopened, faster in a hot garage or shed than in a cool closet (ideally 50-70°F). A bottle that's a couple years old may no longer disinfect reliably at the doses above even though it still smells like bleach. Replace stored bleach intended for water treatment roughly once a year, write the purchase date on the bottle, and don't count on a bottle of unknown age as your only disinfection method.

Alternatives to bleach

Chlorine dioxide tablets (follow the package instructions exactly) are more effective against *Cryptosporidium* than bleach and pack well in a kit; Potable Aqua Chlorine Dioxide and Katadyn Micropur MP1 are both EPA-registered chlorine dioxide products effective against bacteria, viruses, *Giardia*, and *Cryptosporidium*, sold at outdoor retailers, pharmacies, and online. Not every "purification tablet" on the shelf is chlorine dioxide, though: Aquatabs, for example, uses a different active ingredient and isn't rated against that same full range of pathogens, so check the active ingredient on the label rather than the word "purification." Iodine works but shouldn't be used by anyone who is pregnant, has a thyroid condition, or is relying on it for more than a few weeks at a time.

Method 3: Filtration

Filters work by physically straining out organisms, so the pore size (measured in microns) determines what actually gets removed:

- **0.1 micron** removes bacteria and protozoa (*Giardia*, *Cryptosporidium*). This covers most portable backpacking and emergency filters.
- **0.01 micron**, often marketed as a "purifier" rather than a "filter", also removes viruses. So does reverse osmosis.

Look for **NSF/ANSI P231** certification specifically if you want a filter rated for untreated, potentially unsafe water (the standard built for travel and emergency use, requiring demonstrated bacteria, virus, and protozoan cyst reduction). NSF/ANSI 53 covers contaminant reduction in already-treated water and isn't the same guarantee; NSF/ANSI 58 covers reverse osmosis systems specifically.

Where to find it: outdoor and camping retailers, general retailers, and pharmacies all carry portable filters, but marketing language on the box isn't the same as certification. NSF maintains its own searchable database of currently certified products; it's worth checking a specific model there before relying on it. The

gap between "meets the standard" and "is certified to the standard" is real: as of this writing, LifeStraw's Go line carries third-party NSF P231 certification, while Sawyer's popular MINI filter is marketed as meeting that same protocol's requirements without holding the formal certification itself. That's not a verdict on either product; it's the exact reason to check the database yourself rather than trust the packaging.

1. Pre-filter cloudy water through cloth first; this single step is the biggest thing you can do to keep a filter from clogging mid-use.
2. Follow the manufacturer's flow procedure exactly; most portable filters are designed to be primed and used a specific way.
3. Dry and store the filter per its instructions between uses. A damp filter left in a bag is exactly the environment mold and bacteria grow in.

Watch it: LifeStraw, "How to Use Your LifeStraw Personal Water Filter".

A 0.1 micron filter is not enough on its own if you suspect viruses

Standard portable filters don't catch viruses; they're too small to be physically strained out at that pore size. If the water source might carry human sewage, a flooded municipal system or a compromised septic line, pair a 0.1 micron filter with boiling or chemical disinfection, or use a 0.01 micron purifier instead.

Method 4: Solar disinfection (SODIS)

A World Health Organization–recognized method that needs no fuel and no chemicals, at the cost of being the slowest and least certain option here. It only works on water that's already reasonably clear; if you can't read text held behind the container, the water is too cloudy for this method.

1. Use a clean, clear (colorless, not tinted) plastic PET bottle, the kind most bottled water comes in, with the label removed. Check the small recycling triangle on the bottle's bottom for a "1" or "PET"/"PETE" inside it to confirm the plastic type; skip any bottle that's scratched, cloudy, or brown/green tinted, since those all block the UV light this method depends on.
2. Fill it about three-quarters full, cap it, and shake it for about 20 seconds to add oxygen, which helps the disinfection process.
3. Fill the rest of the way and cap it again.
4. Lay it on a reflective surface (a metal roof, foil, light-colored pavement) in direct, unobstructed sun for **6 hours** on a clear or up-to-half-cloudy day, or **2 full days** if it's mostly overcast. If the water is already above 122°F (50°C), 1 hour is enough.

You need: sun, and a clear plastic bottle. That's it, which is exactly why it's worth knowing even though it's a backup method, not a first choice.

Method 5: UV pen sterilizers

A UV pen (SteriPEN is the best-known brand) is a battery-powered wand that uses UV-C light to disable the DNA of bacteria, viruses, and protozoa so they can't reproduce or make you sick, without heat, chemicals, or a filter cartridge. Independent lab testing contracted by manufacturers has found devices in this category meet EPA microbiological water purifier requirements, at least 99.9% reduction of bacteria, viruses, and protozoa including Giardia and Cryptosporidium.

1. Clarify the water first if it's cloudy. This matters even more here than with other methods: suspended particles block UV light from reaching organisms and can physically shield them from exposure, so UV pens are only reliable in already-clear water.
2. Fill a wide-mouth bottle or container with the water to be treated.
3. Insert the lamp end into the water per the device's instructions and stir continuously for the rated time, typically **48 seconds for half a liter or about 90 seconds for a full liter**.
4. Most devices signal success (usually a light or symbol) when the full treatment time completes without interruption; if it's interrupted, start over.

Where to find it: outdoor and camping retailers and online sell UV pens, SteriPEN is the longest-established brand. **Carry spare batteries** (or keep a rechargeable model topped off), since the entire method fails the moment the battery dies, and cold temperatures reduce battery life faster than at room temperature. Like other methods here, it doesn't remove chemical contamination or improve bad taste, only clarify and disinfect first.

Watch it: Tentworld, "Steripen Ultra UV Water Purifier Demonstration & Review".

What doesn't work

Common myths, and why they're wrong

Freezing does not purify water. Giardia and Cryptosporidium both survive freezing and reactivate once the water thaws; chemical contaminants are entirely unaffected by temperature. Freezing is a storage tool, not a treatment method.

Alcohol, including high-proof liquor, does not purify water. Even a strong vodka isn't concentrated enough to reliably kill the bacteria and parasites that cause waterborne illness, and it adds a dehydration risk on top of whatever contamination was already there.

Taste, smell, and clarity are not reliable safety indicators. Water that looks and tastes completely normal can still carry a dangerous pathogen load. Treat based on the source and situation, not on how the water presents.

None of these five methods work on a harmful algal bloom

Every method above is built to handle biological pathogens, bacteria, viruses, and protozoa. A harmful algal bloom (cyanobacteria) is a different problem entirely, and boiling it doesn't help: it doesn't remove the toxin, and can actually concentrate it as water boils away while the toxin stays behind. This isn't hypothetical here: Utah Lake and the Jordan River both get recurring bloom advisories. If a water source has a visible bloom (thick green/blue-green scum, paint-like streaks) or an active health advisory, don't try to treat it with any method on this page; use a different source entirely, and never let pets drink from it either.

Before you need it

The Water & Food addendum's own Stage 2 goal is to actually treat a batch of water with bleach at the correct dose and separately with a filter you own, timed, without instructions in front of you, and its Stage 4 goal is owning at least two independent treatment methods so a single point of failure doesn't leave you without safe water. Reading this guide once isn't the same as being able to do it under pressure. Pick two methods, and actually practice them before you need them for real.

Write your own plan, in one sentence

Reading this once isn't the same as being able to do it under pressure. Finish this sentence with your own real plan:

"The next time *I do my seasonal water rotation* , I will actually practice
the bleach method, timed ."

Know someone this guide would actually help? Being the person who's ready includes being the person who says something.

Send them this page ›

Sources

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- CDC, infant formula preparation in emergencies and Cronobacter precautions for high-risk infants: CDC
- EPA, harmful algal blooms and cyanotoxins in drinking water (boiling does not remove them): EPA
- Utah Division of Water Quality, harmful algal bloom advisories for Utah Lake and the Jordan River: Utah DEQ
- Sodium hypochlorite shelf life and degradation rate: Solenis; Alliance Chemical
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Working through this from Ready, Set, Ready? Head back to pick your next topic once this one's real.

Fire-Starting & Generator Safety

Four separate skills that all live in the Energy & Heat chapter and its addendum: building a fire you can actually count on, running a generator without becoming one of the roughly 100 people who die every year from doing it wrong, knowing why an indoor propane or kerosene heater carries the same kind of risk, and knowing how to shut off your home's gas, water, and electricity before you actually need to.

Building a reliable fire

A fire is heat, cooking, light, morale, and, per the water purification guide, the surest method for making water safe to drink. The skill isn't lighting one fire once; it's being able to get one going reliably, in bad conditions, with whatever you have on hand.

Carry redundant ignition

A single point of failure for fire-starting is a real risk: a lighter runs out of fuel, matches get wet. Carry at least two independent methods.

- **Matches or a lighter** as your primary method. Store matches in a waterproof container; a basic butane lighter is cheap, small, and reliable until it isn't.
- **A ferro rod (ferrocium rod)** as your backup. Scraped with the back of a knife, it throws sparks over 3,000°F, hot enough to ignite proper tinder even when wet, and it doesn't run out the way fuel does. Get the technique right or it feels unreliable even though the rod itself is fine: plant the rod's tip right against your tinder, hold the striker (the spine of your knife) steady against the rod at roughly a 90-degree angle, and pull the rod back toward you in one firm motion, don't push the striker forward against a rod you're holding still. Pushing the striker tends to knock the tinder bundle over right when you need it undisturbed; pulling the rod keeps the striker, and the sparks, aimed exactly where you planted it.

Get the tinder right

More fires fail from bad tinder than from a weak spark. The combination that consistently works: a cotton ball worked through with petroleum jelly until it's fully saturated but still has some dry fibers pulled loose at the center for the spark to catch. It lights with a single spark, resists wind and light rain, and burns for 3 to 5 minutes, long enough to dry out and ignite small twigs even in damp conditions. *Where to find it:* cotton

balls and petroleum jelly are both sold at any grocery or pharmacy; premade version are also sold at outdoor retailers as "fire starter cubes" or similar. Making your own costs pennies and stores indefinitely in a sandwich bag.

Watch it: MerkWares, "Ferrocerium Tinder Tricks: Cotton and Petroleum Jelly".

1. Build your tinder bundle first, before you strike anything: prepared cotton balls, dry grass, birch bark, or dryer lint all work.
2. Stack kindling (pencil- to finger-thick dry twigs) around or over the tinder in a loose teepee shape that leaves airflow underneath.
3. Ignite the tinder, not the kindling directly; let the flame climb into the kindling on its own.
4. Add fuel wood gradually as the kindling catches, thumb-thick pieces first, then larger, always leaving gaps for air.

Check current fire restrictions before you practice

Utah's public lands use a standardized Stage 1–3 restriction system: Stage 1 limits fires to designated sites, Stage 2 bans open fire entirely, and Stage 3 closes the area outright. Restrictions change through the season and are exactly the kind of thing this document's own record 2026 wildfire year makes more likely to be in effect when you'd otherwise want to practice. Check the BLM Utah fire restrictions page before you build a practice fire, and never during a red flag warning.

Running a generator without it killing you

This isn't an exaggeration for effect. The CDC attributes more than 400 U.S. deaths a year to carbon monoxide poisoning, and the Consumer Product Safety Commission puts the number specifically tied to portable generators at close to 100 a year, most of them after storms, when a generator is exactly the tool people reach for. Carbon monoxide is colorless and odorless; by the time you notice symptoms, you're already being poisoned.

Infants, pregnant women, older adults, and anyone with heart or lung disease are especially vulnerable, sick at concentrations too low to seriously affect a healthy adult. A fetus is at particular risk since fetal blood cells bind CO even more readily than an adult's do. If anyone like this is in the home, treat the earliest symptoms and the smallest suspected exposure as urgent, rather than waiting to see if it gets worse.

WARNING

The rules that actually prevent deaths

Never run a generator indoors, not in a house, garage, basement, crawlspace, or shed, even with doors and windows open. Opening a window does not provide enough ventilation to prevent lethal CO buildup.

Never run it on a porch or in a carport either. Both are common mistakes and both are too close to the home.

Keep it at least 20 feet from your home, with the exhaust pointed away from windows, doors, and vents, even ones that are currently closed. A portable generator produces roughly as much carbon monoxide as hundreds of cars, and it can linger in and around a home for hours after the generator has been shut off.

Install carbon monoxide detectors with battery backup on every level of your home, so they still work if the utility power (not your generator) is out. *Where to find it:* any hardware store or general retailer; look for UL listing on the package.

Watch it: U.S. Consumer Product Safety Commission, "CPSC PSA: One portable generator produces the same amount of Carbon Monoxide as hundreds of cars".

Never backfeed your house

WARNING

Backfeeding kills lineworkers, not just a theoretical risk

Plugging a generator into a regular wall outlet with a double-male "suicide cord" to power your house's circuits from the outside in, called backfeeding, is illegal in every U.S. jurisdiction and has directly killed utility workers. The power doesn't stay in your house: it travels back through your breaker panel to the transformer outside, which steps it back up to line voltage and can energize the entire neighborhood's utility lines, including for a lineworker who has every reason to believe those lines are dead while repairing the outage your generator is now feeding power into.

The legal, safe alternative is a **transfer switch** (manual or automatic), which physically isolates your home's wiring from the utility grid before your generator's power can reach it, making backfeeding impossible by design. An **interlock kit** on your breaker panel does the same job at lower cost. *Where to find it:* transfer switches and interlock kits are sold at hardware and electrical supply stores and online, but installation belongs to a licensed electrician; this is not a DIY wiring project given what's actually at stake.

Basic safe operation

Rule	Why
Let the engine cool before refueling	Spilled gasoline on a hot engine or muffler can ignite instantly
Keep the generator dry and on a dry surface	Operating it wet risks electrocution
Don't overload it	Check the generator's rated wattage against your total load; overloading damages the generator and connected appliances and is itself a fire risk
Store fuel outside the home, in approved containers	Gasoline vapor is itself a fire and health hazard indoors

See [Sizing a Fuel-Powered Generator](#) for the actual sizing math behind "check the generator's rated wattage against your total load," real fuel consumption by type, and why an inverter generator matters if a CPAP or other medical electronics are in the picture.

Indoor propane and kerosene heaters carry the same risk

When a generator isn't the tool, an unvented propane or kerosene space heater often is, and it comes with the identical twin dangers of fire and carbon monoxide poisoning, for the same underlying reason: burning fuel indoors without a chimney or vent to carry the byproducts outside.

WARNING

Rules for using one anyway

Every kind of portable propane or kerosene heater sold for home use is classified as unvented. Health authorities don't recommend using them indoors at all; treat one as a genuine last resort, not routine heat.

If you do use one: run it only in a room with real ventilation (a cracked window or door), never in a small closed space, never while sleeping, and never in a bedroom. Use only the fuel specified for that heater (1K kerosene specifically, never gasoline or any substitute). Confirm it has an oxygen depletion sensor (standard on newer unvented heaters), which shuts the heater off automatically before oxygen depletion becomes dangerous, and pair it with the same battery-backed carbon monoxide detectors already covered above.

Kerosene heaters specifically cause an estimated 90 deaths and 2,300 house fires a year, most from flare-ups; keep anything flammable well clear of one and never refuel it while it's running or still hot.

Know how to shut off your utilities before you need to

This is a genuinely different skill from anything above: not preventing a fire or CO buildup you're causing, but responding to damage, most commonly from an earthquake, that's already happened. Find and test each of these now; a real emergency is the worst time to be locating a valve for the first time.

- **Gas:** locate your main shutoff valve (usually near the meter, on the pipe running out of the ground, typically 6-8 inches up from it) today, and keep a 12-inch or larger adjustable wrench, or a dedicated gas shutoff wrench, attached nearby. Fit the wrench snugly over the valve's tab and turn it a quarter turn in either direction; the valve is **on** when the tab runs parallel to the pipe and **off** once it's turned crosswise (perpendicular) to it, that crosswise position is what you're turning it to. **Don't shut it off unless you smell or hear gas, or suspect a leak;** once it's off, only a professional can safely turn it back on and relight pilot lights. If you smell gas, leave the house on foot immediately, don't operate light switches or anything electrical on the way out, and shut off the valve from outside only if you can do so safely without going back in.
- **Water:** the main shutoff is typically at the meter box where the line enters your property; turn the valve clockwise to close it. Check now that it isn't rusted stuck, a valve that won't turn is useless in the moment you actually need it, and replace it in advance if it is.
- **Electricity:** shut off power at the main breaker panel if you see sparking, smell something burning, or the building has visible structural damage. Know which breaker is the main before you need to find it by flashlight.

Where to find it: a gas shutoff wrench is inexpensive and sold at any hardware store; keep it attached near the valve itself with wire or tape so it's never missing when needed.

TIP

Glow-in-the-dark tape at the breaker panel and the flashlight's spot

A roll of cheap photoluminescent tape charges under normal room light and glows for roughly 20 minutes once the lights actually go out, long enough to find a flashlight in a nightstand or locate the breaker panel without fumbling in the dark. Worth knowing: most power outages are a tripped breaker, not a utility failure, so being able to find that panel fast in the dark solves more outages than it might seem.

Write your own plan, in one sentence

A shutoff valve you've never found before is a valve you won't find fast during an actual earthquake. Finish this sentence with your own real plan:

"Before the end of this month, I will find my gas shutoff valve."

Know someone this guide would actually help? Being the person who's ready includes being the person who says something.

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Sources

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- Utah public-lands fire restriction stages: BLM Utah
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- FEMA and Red Cross, utility shutoff procedures for gas, water, and electricity: FEMA; Red Cross
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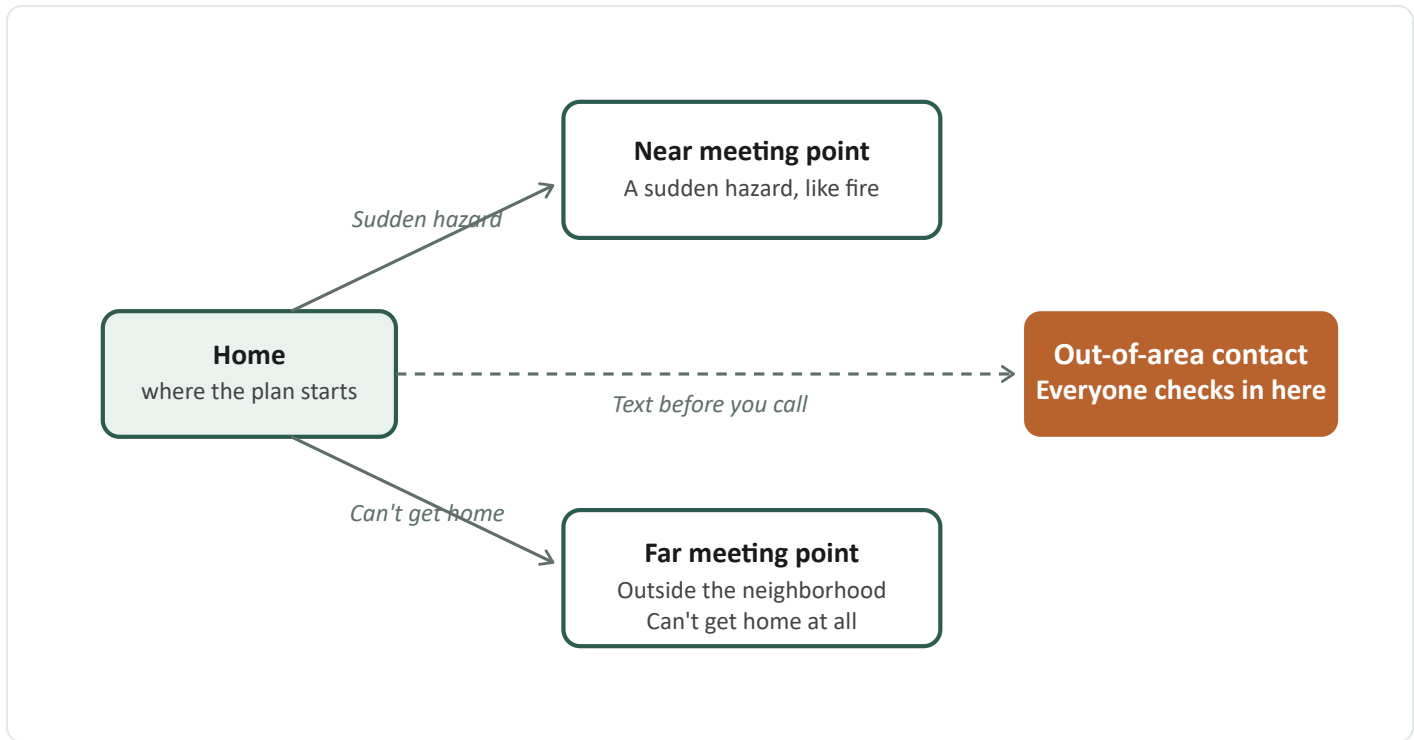
Family Communication Plan & Emergency Radio

A plan for reaching your family when the phone network is jammed, and the radios that keep working when it's down entirely. This is the hands-on side of the Communication chapter and its addendum.

Build the plan before you need it

The single biggest mistake is assuming a phone call to a family member two miles away will just work. In a real local disaster, it's often the opposite: local cell circuits jam with everyone calling at once, while a call or text to someone out of the area goes through fine.

1. **Pick one out-of-area contact** for the whole family to check in with. A relative or friend in another state works well, since they're unlikely to be affected by the same local event, and long-distance routing often isn't as congested as the local network you're standing in.
2. **Text before you call**, unless it's a genuine emergency. A text uses a fraction of the network capacity a voice call does, so it's far more likely to get through when circuits are jammed, and it leaves the limited voice capacity open for actual 911 calls. Don't compose it from scratch under stress, use the same short check-in text every time: *"[Name] here. I'm safe, at [location]. Will update when I can."* Short, factual, and it answers the two questions anyone reading it actually has: are you okay, and where are you.
3. **Set two meeting points**: one right outside your home for a sudden hazard like a fire, and one outside your neighborhood in case you can't get home at all.
4. **Write it all down on paper**, not just saved in a phone that could be dead, lost, or destroyed. Include everyone's out-of-area contact, both meeting points, and each family member's school or workplace emergency plan.



Where to find it: Ready.gov publishes a free, fillable family communication plan card built around exactly this structure; print one for each family member's wallet or backpack.

This whole plan assumes home is the safe place and everyone in the household benefits from the same shared information. For a household living with domestic violence, that's not true, a shared plan can be turned against you; see [Safety Planning When Home Isn't Safe](#) instead.

Make it a real plan, not just a good idea

A plan that only lives in your head competes with panic for your attention at the exact moment you need it most. Finish this sentence, out loud, with your own household:

"If we can't reach each other, I will text Aunt Carol and we'll meet at the library on Main Street."

A NOAA weather radio is the baseline

A battery- or crank-powered NOAA Weather Radio All Hazards receiver keeps working when the power, internet, and cell network don't, and it's built to wake you up for exactly the alerts that matter.

The feature that makes this useful instead of annoying is **SAME** (Specific Area Message Encoding): every county in the U.S. has a 6-digit SAME code, and a radio programmed with your county's code only sounds its

alarm for alerts actually issued for your area, not every warning issued anywhere in the broadcast range.

1. Look up your county's SAME code on the National Weather Service's own listing.
2. On the radio, navigate to its SAME or county-setting menu (typically Menu → SAME → Set County → Add) and enter the code.
3. Consider adding neighboring counties too if you work, commute through, or have family in one.

Where to find it: electronics, hardware, sporting goods, and marine-supply stores all carry NOAA weather radios, as do general retailers and online. Look for "Public Alert" certification on the box, which confirms it meets NOAA's own performance standard; the Midland WR400 is one widely available example with SAME programming for up to 25 locations.

For anyone in the household who is Deaf or hard of hearing, a weather radio's audible alarm isn't enough on its own. Many models have an output jack for external alerting devices, bed shakers, pillow vibrators, and strobe lights, that trigger on the same alert instead of (or alongside) the speaker. NOAA maintains dedicated guidance and sign-language resources for exactly this.

Watch it: ABC 33/40, "Programming a NOAA Weather Radio".

When you need to talk back: GMRS and ham radio

A weather radio only receives. For two-way communication when cell service is down entirely, family separated across a property or a neighborhood, or coordinating with neighbors, you need a radio that transmits too.

	GMRS	Ham radio (Technician license)
Licensing	\$35 fee, no exam, covers your whole immediate family under one license	Pass a 35-question FCC exam (26 correct to pass); most people study 1–2 weeks
Range and capability	22 fixed UHF channels, roughly a few miles handheld, more with a repeater	Access to VHF/UHF repeaters (50–100+ miles), HF bands, digital modes, and emergency nets (ARES/RACES)
Best for	Most households: simple, fast, family-wide coverage	Anyone who wants real depth and range, and is willing to study for it

Where to find it: GMRS radios are sold at any outdoor or electronics retailer; the license itself is a \$35 online application through the FCC directly, no test required. For ham radio, the ARRL's licensing guide lists exam sessions near you; sessions typically run about \$15.

Watch it: Ham Radio 2.0, "Ham Radio vs GMRS: A Reality Check".

TIP**Height beats power for range on any handheld radio**

Get the antenna up higher and you'll out-perform a stronger radio held low almost every time; height matters more for range than transmit power does. Standing up instead of crouching, climbing to a porch or a second story, or moving to high ground before you transmit can turn a call that doesn't get through into one that does, with the exact same radio in your hand.

Verify an alert is real before you act on it, or share it

A genuine Wireless Emergency Alert or NOAA broadcast is real most of the time, but not always: security researchers have demonstrated that WEA messages can be spoofed over cellular networks, and unverified rumors and screenshots spread on social media faster than any official channel can correct them. Two habits close most of that gap:

- **A real emergency alert never asks you to click a link, log in, or provide personal information.** That's a scam pattern riding on a real alert's format, not a WEA or NOAA behavior. Treat any alert that does as fake regardless of how official it looks.
- **Cross-check against your local emergency management office's own channels,** their official website or verified social media account, before you evacuate, share, or act on something you saw forwarded or screenshotted rather than received directly. If you can't reach them, your county's non-emergency dispatch line can usually confirm whether an alert is genuine.

This matters as much for what you forward as what you act on: sharing an unverified rumor "just in case" is exactly how false information outruns the correction, treat forwarding as the same decision as acting on it yourself.

Give kids their own version of the plan, not just a role in yours

A plan that only lives in an adult's head doesn't help a child who gets separated from every adult who knows it. What a child actually needs depends on age, not on repeating the same instructions at every age and hoping they stick:

- **Ages 5-7:** too young to reliably memorize a phone number under stress. Give them a card instead, worn on a lanyard or clipped inside a backpack: their full name, a parent's phone number, home address, and who's allowed to pick them up. Practice the meeting point with them like a game, not a lecture.

- **Ages 8-12:** old enough to memorize a home address and one parent's phone number, and to call 911 independently. Teach them to do exactly that with an old, disconnected phone so it's a real rehearsal, not just a conversation, and give them a real, small role, like helping a younger sibling find the meeting point, so the plan includes them instead of just describing them.
- **Ages 13 and up:** capable of being a genuine part of executing the plan, not just following it. Make sure they know the out-of-area contact's number themselves, understand the check-in text above well enough to send it on their own, and know they may need to be the calm one for a younger sibling if no adult is reachable yet.

A card young enough to need one

Print or copy this by hand for a child who can't yet reliably recall this under stress:

My name is

Call my parent at

My address is

If we're separated, go to

Press Ctrl/Cmd+P to print just this page, or copy it onto an index card by hand.

Neither radio replaces the plan

A radio is only useful if the people on the other end know how and when to use it. Agree on a channel, a check-in schedule, and a backup meeting point as part of the same conversation where you write down the family communication plan above, not as a separate afterthought.

Know someone this guide would actually help? Being the person who's ready includes being the person who says something.

Send them this page ›

Sources

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- NOAA Weather Radio All Hazards and SAME county-code technology: National Weather Service
 - Accessible weather radio alerting for Deaf and hard-of-hearing users: National Weather Service
 - GMRS licensing and FCC requirements: FCC
 - Amateur radio Technician license requirements and capabilities: ARRL
 - Antenna height as the dominant factor in two-way radio range, for both fixed and handheld radios: Rugged Radios; Herda Radio
 - WEA/IPAWS message authentication and demonstrated spoofing vulnerabilities: FEMA, IPAWS Myths vs. Facts; researcher-demonstrated WEA spoofing
 - Age-appropriate emergency information for children, by age tier: NYC Emergency Management; Twiniversity
-

Working through this from Ready, Set, Ready? Head back to pick your next topic once this one's real.

First Aid Basics

The hands-on skill behind the Medical Care chapter and its addendum, with one difference from every other guide in this section: it tells you upfront what it won't try to teach.

What this guide covers, and what it deliberately doesn't

Wound cleaning, bleeding control with direct pressure, recognizing shock, basic splinting, choking response, heat illness, hypothermia, severe allergic reactions, burns, nosebleeds, and knowing when to call 911 can all be taught accurately in writing, since each is a clear sequence of steps rather than a feel-calibrated technique, and are covered below, including where infants and children need a different response than adults.

CPR and tourniquet use are not covered here on purpose. Both are correct-technique-under-pressure skills that certified courses teach through hands-on practice with an instructor watching and correcting you, exactly because getting the technique wrong (compression depth and rate for CPR, placement and tightness for a tourniquet) matters and is hard to self-assess from a page of text. The "where to get trained" section below links to free and low-cost hands-on courses for both.

Choking

1. If the person can cough forcefully, speak, or breathe at all, encourage them to keep coughing; that's still the most effective way to clear an airway.
2. If they cannot cough, speak, or breathe, have someone call 911 immediately while you act.
3. Lean the person forward and deliver **5 back blows** between the shoulder blades with the heel of your hand.
4. If that doesn't clear it, stand behind them, make a fist, place the thumb side against their stomach just above the navel, cover it with your other hand, and give **5 abdominal thrusts**, pulling inward and upward.
5. Alternate 5 back blows and 5 abdominal thrusts until the object clears or the person can cough, cry, or speak.
6. If they become unresponsive, lower them to a firm, flat surface and begin CPR, starting with chest compressions, at whatever level of training you have.

For an infant under 1 year, use chest thrusts, never abdominal thrusts

An infant's abdominal organs are too immature for the abdominal thrusts described above; used on an infant, they risk real internal injury. Instead: lay the infant face-down along your forearm, supported on your thigh with the head lower than the body, and give **5 back blows** with the heel of your hand between the shoulder blades. Then turn the infant face-up, still head-down along your forearm, and give **5 chest thrusts** with two fingers on the center of the breastbone, just below the nipple line. Alternate the two until the object clears or the infant becomes unresponsive, at which point begin infant CPR.

Watch it: American Red Cross, "What to Do When an Adult is Choking (Responsive)" and "...(Unresponsive)".

Heat exhaustion and heat stroke

These look similar at first but demand different responses, and mistaking one for the other is the actual danger.

- **Heat exhaustion:** heavy sweating, cool and clammy (not hot) skin, weakness, muscle cramps, nausea, headache, dizziness. Move the person to a cooler place, loosen clothing, apply cool wet cloths, and offer sips of water if they're fully alert.
- **Heat stroke:** hot, red, dry or damp skin, confusion, a body temperature above 103°F, a rapid strong pulse, or loss of consciousness. **Call 911 immediately;** heat stroke can cause permanent disability or death without emergency care, and cooling the person down while you wait (cool cloths, a cool bath if available) helps but does not replace calling.

Children heat up faster than adults, a higher surface-area-to-body-mass ratio and a slower rate of acclimatization mean heat exhaustion can progress to heat stroke in less time. Treat the same symptoms as more urgent in a child, and don't wait to see if they worsen before calling 911.

Watch it: Mayo Clinic, "Mayo Clinic Minute: Heat exhaustion and heatstroke".

Hypothermia

Watch for the progression, not just a single symptom: shivering that gradually gives way to slurred speech, stumbling, and confusion. **Shivering that suddenly stops without rewarming is a warning sign, not an improvement;** it often means the condition is getting worse, not better.

1. Move the person somewhere warmer and remove any wet clothing, replacing it with dry, loose layers.

2. Warm them gradually: wrap them in blankets or a space blanket, or use your own body heat. **Don't rub their skin or apply direct high heat;** both can injure cold-damaged tissue.
3. If they're fully alert and able to swallow, a warm, non-alcoholic, non-caffeinated drink helps. Don't give anything by mouth if they're confused or drowsy.
4. Call 911 for anyone showing confusion, stumbling, or slurred speech; that's beyond mild hypothermia and needs real medical care.

Infants and young children have a higher surface-area-to-body-mass ratio than adults, so they lose body heat faster from the same cold exposure. Warm a cold child sooner and more urgently than you would an adult with the same symptoms, rather than waiting to see if it's serious.

Severe allergic reaction (anaphylaxis)

Watch for severe swelling of the face, lips, or throat; widespread hives; difficulty breathing; or repeated vomiting after a known or suspected allergen exposure. This can become fatal within minutes.

1. Call 911 immediately, before doing anything else.
2. If the person has their own epinephrine auto-injector (EpiPen or similar) and can't use it themselves, help them: pull off the safety cap, then swing and push the tip firmly against the outer thigh until it clicks, and hold it in place for the count specified on the device.
3. Epinephrine buys time; it does not replace emergency care. Go to the hospital even if symptoms improve, since a second wave of reaction can follow the first.

Epinephrine auto-injectors come in two doses: the smaller EpiPen Jr (0.15mg), prescribed for children roughly 33–66 lbs, and the standard adult EpiPen (0.3mg), prescribed at 66 lbs and up. Use whichever device is actually prescribed to that person, not whichever one happens to be at hand; the injection technique itself is identical either way.

Watch it: official EpiPen® channel, "How to Use an EPIPEN® Auto-Injector".

Stopping bleeding

1. Apply firm, direct pressure to the wound with a clean cloth or gauze.
2. If blood soaks through, add more gauze on top without removing the original layer; lifting it off restarts the clotting process that's already begun.
3. Elevate the injured area above the heart if possible, unless you suspect a broken bone underneath.
4. Keep steady pressure for a full 10 minutes by the clock before checking. Most bleeding that's going to stop, stops in that window.

If bleeding is severe or won't stop with direct pressure

Life-threatening bleeding from a limb (spurting blood, blood pooling rapidly, bleeding that soaks through dressing after dressing) may need a tourniquet or wound packing. Both require hands-on training to do correctly and safely; see "Get hands-on trained" below. Call 911 immediately either way.

Cleaning and dressing a wound

1. Wash your own hands first if at all possible.
2. Once bleeding is controlled, clean the wound with soap and water, or clean water alone if that's what you have.
3. Pat dry with a clean cloth and cover with a clean, non-stick dressing, taped or wrapped so it stays in place.
4. Change the dressing daily, or sooner if it gets wet or dirty, and watch for spreading redness, warmth, swelling, or pus over the following days, all signs of infection that need medical attention.

Get medical care, not just a bandage, for a wound that's deep, gaping, won't stop bleeding after 10 minutes of firm pressure, or came from a dirty or rusty object (tetanus risk).

WARNING**A thin red streak from the wound is a different emergency than redness around it**

Redness that stays around the wound itself, especially if it's expanding slowly, is worth watching. A thin red streak traveling away from the wound toward the armpit, groin, or behind the knee is lymphangitis, infection spreading through the lymphatic system toward the bloodstream, and it moves fast. Combined with fever above 100.4°F, chills, or tender lymph nodes, treat it as a true emergency requiring evacuation to real care, not something to watch overnight and reassess in the morning.

Animal bites

1. Any bite or scratch, wild or domestic animal, gets the same immediate first response: scrub the wound with soap and running water for a full **5 to 10 minutes**. This reduces both bacterial infection risk and rabies risk.

2. **Don't tape or butterfly-bandage a bite wound closed.** Closing it traps bacteria inside instead of letting it drain.
3. Get evaluated for rabies post-exposure treatment as soon as possible after any bite or scratch from a wild animal, or from a domestic animal whose vaccination status and behavior you can't confirm. It's nearly 100% effective at preventing rabies when started promptly, but doesn't work once symptoms begin, so speed matters more here than with almost any other wound.

Raccoons, skunks, bats, and foxes carry the real rabies risk in most of the country. Never approach a wild animal that looks sick, injured, or is acting strangely, especially a normally nocturnal species that's active and aggressive in daylight; that behavior itself is a warning sign, not just an unusual sighting.

Burns

1. Cool the burn under cool (not ice-cold), gently running water for at least 20 minutes. Cooling still helps even started up to 3 hours after the burn happened, so don't skip it just because time has passed.
2. **Never use ice.** It causes its own tissue damage on top of the burn. Never apply butter, oil, or ointment either, both trap heat in and can worsen the injury.
3. Remove rings, watches, or tight clothing near the burn before swelling sets in, but don't try to peel away anything that's stuck to the burned skin.
4. Cover loosely with a clean, non-stick dressing once cooled. Don't break any blisters that form; an intact blister is protecting the wound underneath.

A **first-degree burn** (red, painful, no blistering, like a mild sunburn) is reasonable to manage at home with the steps above. Any burn that blisters (second-degree) over a large area, or looks white, leathery, or charred (third-degree), or covers the face, hands, feet, groin, or a major joint, needs real medical care, not just a bandage. If you're cooling a large area of the body, especially in a child, watch for shivering or confusion, signs the cooling itself is starting to cause hypothermia, and shorten the cooling time if that happens.

TIP

Raw honey, once a burn is cooled, is different from the butter and oil above

For a small, already-cooled first- or second-degree burn, plain raw honey under a clean dressing has real clinical evidence behind it, its acidity, sugar content, and natural hydrogen peroxide production create a genuinely antibacterial environment, and studies show it performing as well as or better than conventional treatment for exactly this kind of wound. This isn't the same advice as the butter or oil the guide already tells you to avoid: those trap heat and have no antibacterial effect, honey does

neither. It's not a substitute for the cooling step above or for real medical care on a burn serious enough to need it.

Nosebleeds

1. Sit up and lean slightly forward, not back. Leaning back sends blood down the throat, which can cause choking or vomiting, not stop the bleed.
2. Pinch the soft part of the nose (not the bony bridge) firmly shut with thumb and finger, and breathe through the mouth.
3. Hold that pressure continuously for a full **10 to 15 minutes**. Don't let go early to check, even at 5 minutes; releasing pressure early is the most common reason a nosebleed that would have stopped doesn't.
4. If it's still bleeding after 15 minutes, pinch for another 10 to 15 minutes before giving up on direct pressure.

Get medical care if the bleeding hasn't stopped after two full rounds of pressure, if it's heavy enough that it's hard to keep up with, if breathing becomes difficult, if it followed a real blow to the face or head, or if the person is on a blood thinner.

Recognizing and responding to shock

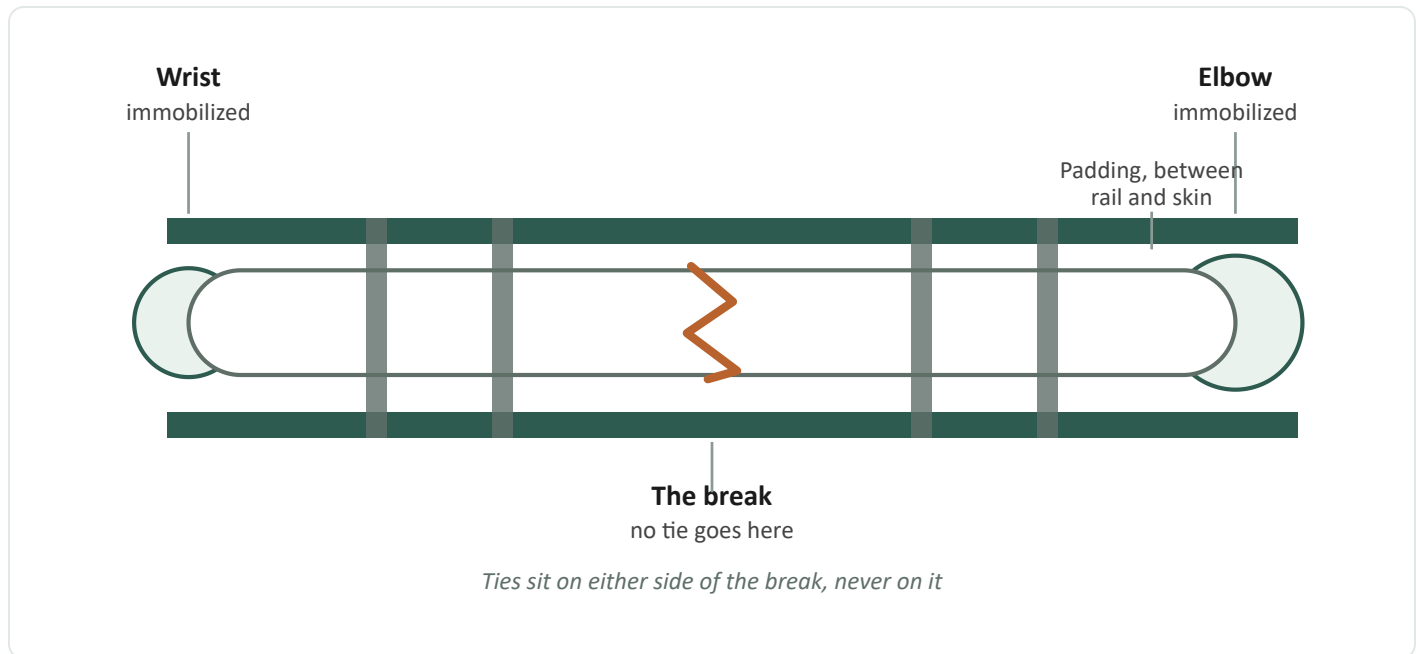
Shock is the body's response to inadequate blood flow, and it can follow any serious injury, not just heavy bleeding. Watch for: cool, clammy, or pale skin; a bluish or gray tinge to the lips or fingernails; a rapid, weak pulse; rapid, shallow breathing; nausea; confusion, anxiety, or restlessness; and dizziness or fainting.

1. Call 911 (or get to help) if you suspect shock at all; it can worsen quickly.
2. Lay the person down and elevate their legs slightly, unless you suspect a head, neck, or back injury, or it causes pain or breathing trouble.
3. Keep them still, warm, and calm. Loosen tight clothing.
4. Don't give food or water; a person in shock may need surgery, and an empty stomach matters for that.

Children compensate for shock longer than adults do, their heart rate and blood vessels adjust to maintain normal-looking color and blood pressure well after significant blood loss or fluid loss has started, then can decompensate suddenly rather than declining gradually. Don't let a child "looking okay" talk you out of calling 911 after any injury or illness that could plausibly cause shock.

Basic splinting

The core principle: a splint should immobilize the joint above *and* the joint below the injury, not just the injury site itself. A splinted forearm, for example, should keep both the wrist and the elbow from moving.



1. Don't try to straighten or realign a suspected fracture. Splint it in the position you found it.
2. Use whatever's rigid and available, a stick, a rolled magazine, a piece of wood, padded with cloth or gauze so it doesn't dig in.
3. Wrap snugly enough to immobilize the limb, but not so tight it cuts off circulation.
4. Check the skin below the splint every hour: color, warmth, and whether the person can feel you touch it. If it's cool, pale, numb, or tingling, the splint is too tight, unwrap it and redo it more loosely.

Watch it: Global Health Media Project, "Splinting a Fracture".

When to call 911 without hesitating

Bleeding that doesn't stop after 10 minutes of direct pressure; any difficulty breathing; chest pain; a person who is unresponsive or won't wake up; signs of shock; a suspected head, neck, or back injury; a severe allergic reaction; or any injury that simply looks worse than you can handle. Calling and being wrong costs nothing. Not calling and being wrong can cost a life.

What to actually say, in order

Panic makes it hard to compose sentences from scratch. Say these four things, in this order, then stop talking and answer whatever the dispatcher asks:

1. **Your location first.** "The emergency is at [address or nearest cross streets/landmark]." Say this before anything else, even before what happened, since a dropped call with your location already given still gets help moving.
2. **A callback number.** "My number is [your phone number]," in case the call drops.
3. **What's happening, in one sentence.** "[Person] is [bleeding heavily from their leg / not breathing / having chest pain]."
4. **Stop talking, then answer.** The dispatcher will ask follow-up questions and may walk you through what to do before help arrives. Stay on the line until they tell you to hang up, not before, they may need to relay updates or give you further instructions.

Get hands-on trained

Reading this page once is a start, not a substitute for practicing under an instructor's eye. Both of the following are widely available and, in several forms, free:

- **CPR and AED use:** the American Red Cross runs in-person, online, and blended CPR/AED courses nationwide through its Find a Class tool; certification is valid for two years, and cost varies by format and location. Infant, child, and adult CPR are taught as distinct techniques (different compression depth, hand placement, and rate), so if the person you're most likely to need to help is a baby or young child, ask for a course that specifically includes the infant/child modules, not an adult-only class.
- **Severe bleeding control and tourniquet use ("Stop the Bleed"):** the American College of Surgeons runs a free Stop the Bleed program with both an interactive online course and in-person hands-on sessions nationwide. The Red Cross's First Aid for Severe Trauma course is offered at no cost to anyone under 19, and its shorter First Aid for Severe Bleeding online course (about 30 minutes) is available through the same class finder. *Watch it:* American College of Surgeons, "How To STOP THE BLEED®".

Write your own plan, in one sentence

A kit you've never actually opened isn't the same as one you know how to use. Finish this sentence with your own real plan:

"The next time *I check my first aid kit* _____, I will *check one expiration date* _____."

Know someone this guide would actually help? Being the person who's ready includes being the person who says something.

Send them this page ›

Sources

- American Red Cross, bleeding control and wound care guidance: Red Cross; Red Cross, Wounds
- Mayo Clinic, shock signs, symptoms, and first aid: Mayo Clinic
- American Red Cross, adult and child choking response: Red Cross
- American Red Cross, infant choking response (back blows and chest thrusts, no abdominal thrusts): Red Cross
- CDC, heat-related illness symptoms and first aid: CDC; Mayo Clinic, heat exhaustion first aid: Mayo Clinic
- Children's faster heat-illness progression (surface-area-to-mass ratio, acclimatization): UNICEF
- Hypothermia stages and first aid rewarming guidance: First Response Training
- Anaphylaxis recognition and epinephrine auto-injector use: HealthyChildren.org (American Academy of Pediatrics)
- EpiPen Jr vs. EpiPen weight-based dosing: GoodRx
- Basic splinting technique and immobilization principle: First Aid for Free
- Pediatric shock: prolonged compensation followed by sudden decompensation, versus gradual decline in adults: CPR Cart (PALS)
- American College of Surgeons, Stop the Bleed training program: stopthebleed.org
- American Red Cross, CPR/AED and First Aid for Severe Trauma class information, including infant/child/adult CPR distinctions: Red Cross
- Lymphangitis (red streaking), symptoms, and when it's an emergency: Cleveland Clinic
- Animal bite wound care and rabies post-exposure prophylaxis: CDC; high-risk wildlife species: Johns Hopkins Medicine
- Burn first aid, cooling duration, and degree classification: Cleveland Clinic; Red Cross
- Clinical evidence for honey as a wound dressing, including for burns specifically: PMC, evidence review; PMC, burn wound comparative study
- What to say when calling 911, correct order (location, callback number, nature of emergency) and staying on the line: UPMC Minutes Matter; City of Minneapolis 911
- Nosebleed first aid technique and duration: Mayo Clinic; Red Cross

Document Go-Bag & Digital Backup

The paperwork you'd need to prove who you are, file an insurance claim, or access your accounts, if the originals burned, flooded, or were left behind. This is the hands-on side of the Digital Data & Documents chapter and its addendum.

What to include

Category	Documents
Identity	Driver's license or state ID, passport, birth certificates, Social Security cards, marriage/divorce/custody papers
Insurance	Policy documents, agent contact info, policy and account numbers
Property	Home deed or lease, vehicle titles, mortgage or loan statements
Medical	Immunization records, current prescription list, allergies, major diagnoses, health insurance card
Financial	Bank and investment account numbers, recent statements, a list of recurring bills and creditors
Legal	Wills, financial and healthcare powers of attorney, advance healthcare directives/living wills, and any custody or guardianship documents
Identification aids	Recent photos of each family member and pet, useful for reunification or proving a pet is yours

Which of these matter most depends on who's in the household: custody and guardianship papers matter most for families with children, especially in a split-custody or blended household, while a healthcare power of attorney and advance directive matter most for elderly or medically vulnerable family members, since those are the documents that let someone else make medical decisions on their behalf if they can't. Without a signed advance directive or healthcare power of attorney on file, a family can end up needing a court-ordered guardianship to make medical decisions for an incapacitated relative, a slower and more expensive process than having the paperwork ready in advance. This list assumes the "Legal" documents already exist; see Wills, Power of Attorney & Guardianship if they don't yet, most households' don't.

Physical copies: a real go-bag, not just a folder

1. Gather originals or clear copies of everything above. Copies are fine for most of this list; keep the true originals (birth certificates, titles, wills) in the same bag if you can, since re-issuing them is its own bureaucratic ordeal.
2. Store them in a fireproof, waterproof document bag or safe, not a regular folder or drawer. A basic fireproof/waterproof bag is inexpensive and rated to survive real house-fire temperatures for long enough to matter.
3. Keep it somewhere you'd actually grab on the way out the door, not in a back closet you'd forget under stress.

Where to find it: fireproof document bags and small fireproof safes are sold at office supply stores, hardware stores, and general retailers; look for a stated temperature and duration rating (not just the word "fireproof") and a separate water-resistance claim, since the two are tested differently.

Digital backup: copies in more than one place

Physical documents can burn, flood, or simply get left behind in a fast evacuation. Back up digitally too, and in a genuinely different location than the physical copies, not just a second folder on the same laptop that could be destroyed alongside the go-bag.

1. Scan or photograph every document in the list above.
2. Save one copy to an encrypted USB drive kept with (or near) the physical go-bag.
3. Save a second copy to encrypted cloud storage, so it survives even if your home and everything in it is destroyed at once.
4. Use a password manager for account logins rather than relying on memory or a written list that could be lost with everything else; most password managers also let a trusted family member access your accounts in an emergency if you set that up in advance.

Utah's own preparedness program covers this too

Be Ready Utah, the state's household preparedness program, maintains its own guidance on protecting important documents and money specifically; it's worth reading alongside this guide since it reflects what Utah's own emergency managers point residents toward.

Write your own plan, in one sentence

A list of documents you meant to back up isn't the same as a copy that actually exists somewhere safe. Finish this sentence with your own real plan:

"This week, I will scan my birth certificate and save a copy to an encrypted cloud folder."

Know someone this guide would actually help? Being the person who's ready includes being the person who says something.

[Send them this page ›](#)

Sources

- Ready.gov / FEMA, important documents and Go-Bag guidance: Ready.gov
- Be Ready Utah, "Important Documents & Money": Be Ready Utah
- Advance directives, healthcare power of attorney, and guardianship alternatives for incapacitated adults: National Institute on Aging

Working through this from Ready, Set, Ready? Head back to pick your next topic once this one's real.

Financial Preparedness Basics

Two habits that cost little but matter a lot once something's already gone wrong: keeping real cash on hand, and documenting what you own before you ever need to prove it was there.

This is the hands-on side of the Economic & Financial chapter and its addendum.

Keep a real cash reserve

During a power outage, severe storm, or network disruption, ATMs, card readers, and even bank websites can stop working, sometimes for days, even when the stores themselves stay open. Cash doesn't depend on any of that.

1. Work toward \$500–\$1,000 in cash kept at home. If that's out of reach right now, even \$100–\$200 is meaningfully better than nothing; add to it \$10 or \$20 at a time.
2. Keep it in **small bills**: a mix of \$1s, \$5s, \$10s, and \$20s. A store running on a generator or a skeleton staff often can't break a \$50 or \$100 bill, which makes a large bill close to useless in exactly the situation you're planning for.
3. Store it with your document go-bag, in the same fireproof, grab-and-go location, rather than scattered around the house.

Where prep spending fits if money is tight

Everything above assumes some room to maneuver. If money is genuinely tight, this isn't about doing less, it's about doing things in an order that protects you fastest. Credit counselors work through this exact tradeoff with households every day, and the order they land on is more consistent than most other financial advice out there.

1. **A small starter cushion first, not a full emergency fund.** The \$500–\$1,000 cash reserve above (or closer to \$2,000 if you're carrying more than \$10,000 in debt) does double duty here: enough to absorb a surprise expense without reaching for a credit card, before anything else.
2. **Then high-interest debt, before adding much more to any reserve.** A credit card charging 20%+ interest is a guaranteed, compounding loss no savings account can outpace. Paying it down is the highest-return move available to most households, ahead of most further gear spending on this site's own Tiers.
3. **Then a full 3-to-6-month general emergency fund**, separate from anything in the Shopping List or this site's gear tiers, once high-interest debt is cleared. A fund you'd have to raid to stay on top of debt

payments isn't actually functioning as an emergency fund yet.

4. **Disability insurance before life insurance, if you have to choose between them.** A 20-year-old worker today has roughly a 1-in-4 chance of becoming disabled before reaching retirement age, a real risk this site's physical-preparedness content doesn't otherwise cover. Group disability coverage through an employer is often inexpensive; if it isn't offered, it's worth pricing on its own.

None of this means waiting to start the rest of this site's plan. Tier 1 already fits inside almost any budget, see the Shopping List. This sequencing is for the point where more spending starts competing with debt or a real safety net, not the starting line.

Document what you own before you need to prove it

An insurance claim after a disaster goes faster and further when you can show what you had, not just describe it from memory under stress. Do this now, while nothing is wrong.

1. Go room by room, including closets, the garage, and any storage unit, and take wide photos of each room, then close-ups of higher-value items: electronics, jewelry, tools, artwork, appliances.
2. For anything valuable, photograph the serial number or model plate and keep the receipt if you still have it.
3. Photograph the exterior too: roof, siding, and landscaping, so there's a "before" record if a storm damages it.
4. Keep the resulting photos and a simple room-by-room list somewhere that survives the same disaster your house doesn't: cloud storage, or the encrypted backup described in the document go-bag guide.
5. Redo this once or twice a year, or whenever you buy something expensive enough that its absence would actually matter to a claim.

TIP

Narrate a video walkthrough, not just still photos

Walk through the house with your phone recording video, opening cabinets and closets, and say brand names, approximate purchase prices, and anything else worth remembering out loud as you go. The audio does the work a photo alone can't: an adjuster or your own later memory has to guess at a still image, but a narrated video answers "what was that worth" on its own, months or years after the fact.

Know your policy before you need to use it

Write down your insurance policy numbers, coverage limits, deductible, and your agent's direct contact information, and keep it with the same documents. In the aftermath of a real disaster, tracking down which company insures you and what your policy number is can be its own frustrating delay, on top of everything else.

Write your own plan, in one sentence

Knowing the target number and actually having it in a drawer are two different things. Finish this sentence with your own real plan:

"By my next payday, I will add \$20 in small bills to my cash reserve."

Know someone this guide would actually help? Being the person who's ready includes being the person who says something.

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Sources

- Be Ready Utah, "Important Documents & Money": Be Ready Utah
- Emergency cash reserve amount and small-bill guidance: Utah State University Extension
- Home inventory and insurance-documentation guidance: United Policyholders
- Narrated video walkthrough as a home-inventory technique: Let's Get Moving
- Starter emergency fund before debt payoff, then a full 3–6 month fund after high-interest debt is cleared: National Foundation for Credit Counseling, NFCC
- Disability risk during working years: Social Security Administration, Actuarial Note 2025.6

Vehicle Emergency Kit & Roadside Basics

What belongs in your car before you need it, and the roadside skills most people never actually practice: changing a tire, jump-starting a dead battery, handling an overheating engine, and knowing what to do if you're genuinely stuck. This is the hands-on side of the Transportation chapter and its addendum.

What belongs in the kit

Item	Why
Jumper cables or a portable jump starter	A dead battery is the single most common roadside failure
Tire plug/repair kit and a 12V tire inflator	Handles a slow leak or puncture without a tow
Properly inflated spare tire and a working jack	Useless if you've never checked either before you need them
Flashlight and extra batteries	For a breakdown after dark, or working under the hood
First aid kit	See the separate first aid guide for what to put in it and how to use it
Water and non-perishable food	For a stranded wait that runs longer than expected
Basic tool kit (pliers, adjustable wrench, screwdriver)	Covers most small roadside fixes
Reflective triangles or flares	Makes a stopped vehicle visible to other drivers, especially at night or in bad weather

Add this for winter driving, especially in Utah's canyons and mountain valleys

An ice scraper and snow brush, a small folding shovel, a bag of sand or non-clumping cat litter (or foldable traction mats) for tire traction on ice, a heavy blanket or mylar thermal blankets, and extra warm clothing: gloves, a hat, dry socks.

Being stuck in a canyon during a winter storm is exactly the scenario this matters for, and it's a realistic one here, not a hypothetical: winter storms are Utah's single deadliest weather hazard, per the state's own hazard data cited in the Case for Preparedness document.

If you regularly drive with an infant, add diapers and wipes, a pre-measured supply of formula (or a plan that doesn't depend on clean water if you're formula-feeding), a full change of clothes, and a blanket sized to fit around a car seat, not just the general-purpose blanket above. A stranded wait is a very different problem with a baby in the back seat.

Where to find it: auto parts stores and general retailers carry every item above individually, and also sell pre-assembled roadside kits; building your own from individual items is usually cheaper and lets you skip whatever a prepackaged kit includes that you don't actually need.

How to change a tire

1. Pull fully off the road onto a flat, firm surface, away from a curve or blind spot, and turn on your hazard lights.
2. Apply the parking brake. If you have wheel wedges or heavy rocks handy, chock the wheel diagonally opposite the flat.
3. **Loosen the lug nuts before you jack up the car**, about a quarter turn each, while the tire still has the ground to resist against. Trying to loosen them once the wheel is already off the ground just spins the tire in place.
4. Position the jack under the vehicle's frame near the flat tire (check your owner's manual for the exact jack point) and raise the car until the tire is a few inches off the ground.
5. Finish unscrewing the lug nuts, remove the flat tire, and set it aside.
6. Mount the spare, then thread the lug nuts back on by hand in a **crisscross, star pattern**, not straight around in a circle, so the wheel seats evenly.
7. Lower the car back to the ground, then fully tighten the lug nuts in that same crisscross pattern.

Most spares are only rated for lower speeds and limited distance; drive gently to a tire shop rather than treating it as a full replacement.

Watch it: Eide Subaru, "How to Change a Flat Tire (Step-by-Step for Beginners)".

How to plug a slow leak instead of changing the tire

A plug kit only fixes a puncture in the tread, not a sidewall puncture or a tear larger than about a quarter inch; a sidewall puncture or a bigger tear still means a full tire change and a shop visit, not a plug.

1. Find the object causing the leak (often still stuck in the tire) and pull it out with pliers.
2. Push the reamer tool from the kit into the hole and work it up and down while rotating it, widening the hole slightly and roughening the inside so the plug will actually bond.
3. Thread a plug through the eye of the insertion tool the way you'd thread a needle, so an even length hangs out both sides, and coat it with the rubber cement that comes with the kit.
4. Push the insertion tool straight into the hole with a firm, twisting motion until most of the plug is inside the tire, leaving a bit protruding on the outside.
5. Pull the insertion tool straight back out quickly; the plug stays behind, sealing the hole from both the inside and outside.
6. Trim the excess plug flush with the tire's surface, then reinflate with the 12V inflator and check the repair by wiping soapy water over it, watching for new bubbles.

A plugged tire is a get-you-to-a-shop fix, not a permanent one; have it properly patched from the inside or replaced once you're off the road.

How to jump-start a car safely

If your kit includes a battery-powered jump starter instead of cables, you don't need a second vehicle at all: with both engines and accessories off, connect the starter's red clamp to the dead battery's positive terminal and the black clamp to an unpainted metal surface on the frame or engine block, the same way as the last cable step below, then turn the jump starter on and try starting the car. A jump starter box runs at a lower, safer voltage than a running vehicle's charging system, which is part of why it's considered the safer option of the two, remove jewelry and wear eye protection either way, and keep it away from open flame or anything flammable while it's connected.

To jump-start with a second vehicle and cables instead: a car battery can vent flammable hydrogen gas, which is the reason the connection order below isn't arbitrary, it's built so that if a spark happens, it happens away from the battery itself.

1. Park the working vehicle close enough that the cables reach, then turn off both engines, set both parking brakes, and turn off accessories (lights, climate control, radio) in both cars.
2. Inspect both batteries first. If either is visibly cracked, swollen, or leaking, stop and call for help instead; damaged batteries can be dangerous to work with.
3. Connect one **red** clamp to the **positive** terminal of the dead battery.

4. Connect the other **red** clamp to the **positive** terminal of the working battery.
5. Connect one **black** clamp to the **negative** terminal of the working battery.
6. Connect the last **black** clamp to an unpainted metal surface on the dead car's engine block or frame, **not** to the dead battery's negative terminal. This is the step that keeps any spark away from the battery itself.
7. Start the working vehicle and let it run a few minutes, then try starting the dead one.
8. Once it starts, remove the cables in exactly the reverse order you attached them.

Watch it: ChrisFix, "How to Properly Jump Start a Car".

If your engine overheats

1. Pull over to a safe, level spot as soon as you notice the temperature gauge climbing or steam coming from under the hood. Don't keep driving to "make it home"; a few more minutes of overheating can warp or crack engine components.
2. Turn off the engine and let it sit. Don't open the hood right away; escaping steam can burn you.

Never open a hot radiator cap

A hot cooling system is under real pressure, and opening the cap releases it all at once as a spray of near-boiling coolant capable of causing serious burns. Wait at least 15–30 minutes for the engine to cool before touching anything under the hood, and even then, cover the cap with a thick cloth and turn it slowly to release any remaining pressure before removing it fully.

If the overheating was brief and the coolant level looks normal once it's safe to check, you may be able to continue cautiously to a repair shop. If it's serious, or you're not sure, call for a tow instead; continuing to drive a badly overheated engine risks far more expensive damage than the tow itself.

Watch it: Scotty Kilmer, "How to Fix a Overheating Car Engine".

If you get stranded in a winter storm

This is the scenario the winter kit additions above are actually for, and it comes with a real, specific danger beyond the cold itself.

A snow-blocked exhaust pipe can fill the car with carbon monoxide, fast

If snow packs in around your tailpipe while you're stopped, running the engine for heat can let carbon monoxide back up into the cabin instead of venting outside. NHTSA data attributes roughly 147 U.S. deaths a year to vehicle exhaust carbon monoxide poisoning, and dangerous levels can build up in under two minutes with a fully blocked pipe. It's colorless and odorless: you won't notice it happening. **Every time before you run the engine, get out and clear snow away from the exhaust pipe first.**

1. **Stay with your vehicle** rather than trying to walk for help. It's far easier for rescuers to spot a car than a person on foot in blowing snow, and it's easy to lose sight of your own vehicle and get disoriented within a short distance of it.
2. Make yourself visible: tie a bright cloth to the antenna or a rolled-up window, turn on your hazard lights, and use the dome light at night; it draws very little power.
3. Run the engine only sporadically for heat, roughly 10 minutes each hour, after clearing the exhaust pipe every time, and crack a window slightly whenever it's running.
4. Don't exhaust yourself trying to dig or push the car out. Conserve your energy and your phone's battery, and share your location with anyone you can reach.

Write your own plan, in one sentence

A kit list you read once isn't the same as a kit that's actually in your trunk. Finish this sentence with your own real plan:

"The next time I'm at the gas station, I will check my spare tire's air pressure."

Know someone this guide would actually help? Being the person who's ready includes being the person who says something.

[Send them this page ›](#)

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Emergency Shelter Basics

Two different problems: hardening the shelter you already have against extreme wind, and improvising one if you don't have your home to rely on at all. This is the hands-on side of the Shelter & Structural Safety chapter and its addendum.

Hardening your home: safe rooms

FEMA's own standard for wind protection, developed after decades of tornado and hurricane damage assessment, is specific and demanding for a reason: a properly built safe room is designed to provide **near-absolute protection** even in an extreme tornado, resisting wind loads and flying debris at up to 250 mph regardless of what your local storm risk normally looks like.

- **Location:** a safe room can be built inside an existing home (often a reinforced closet, bathroom, or basement space) or added as a standalone structure; FEMA's guidance (publication P-320) covers both approaches for single- and two-family homes.
- **Window and door protection:** safe room openings must be tested to survive a 15-pound two-by-four fired at 100 mph without failing, which is a genuinely different standard than ordinary storm shutters or plywood.
- **This is a construction project, not a weekend DIY job.** FEMA explicitly recommends involving a licensed design professional, since site-specific conditions (soil, existing structure, local wind zone) all affect what a safe room actually needs to withstand.

Where to find it: FEMA's P-320 and P-361 publications are free and detail specific construction criteria; a licensed contractor or structural engineer familiar with safe room construction can use them directly. Some states and FEMA hazard mitigation grant programs have historically helped fund residential safe room construction, worth asking a local emergency management office about.

If you rent, or a real safe room isn't realistic

A safe room is a construction project, not something a renter can build. FEMA's own fallback guidance for this exact case: pick the best available refuge instead, a small interior room with no exterior walls (a bathroom or closet, often the best option in an apartment), away from windows, masonry chimneys, trees, or power poles, and avoid rooms with high ceilings, which are more prone to roof collapse. It isn't near-absolute protection the way a real safe room is, but it's the meaningfully safer choice among what's actually available to you.

Improvising shelter when you don't have a building at all

A different problem: no home to harden, because you're stranded away from it entirely, a vehicle breakdown, or an evacuation that didn't go as planned.

The three things that actually matter

An improvised shelter is really just a system for fighting three specific ways your body loses heat, and getting all three wrong is how a survivable night becomes a dangerous one.

- **Get off the ground.** Bare earth pulls heat out of your body through direct contact (conduction) faster than cold air does. A layer of dry leaves, branches, a pack, or anything between you and the ground matters more than most people expect.
- **Block the wind.** Moving air strips heat away (convection). A shelter with gaps and drafts fights you the whole night; solid walls, even improvised ones, are what actually work.
- **Stay dry.** Wet skin or wet clothing loses heat through evaporation faster than almost anything else. Staying dry is usually the single biggest factor in avoiding hypothermia, more than temperature alone.

Fastest option: a tarp shelter

A simple lean-to, a tarp strung at an angle and staked or weighted at the edges, is the quickest shelter to build and works well as a wind and rain barrier above about 50°F. It won't retain body heat the way an enclosed structure does, so pair it with insulation underneath you and warm layers, not rely on it alone in genuinely cold conditions.

1. Tie a ridgeline between two trees at roughly chest height, using a trucker's hitch (a slip loop partway down the line that the working end runs back through, giving you real leverage to pull the line drum-tight) so you can tension it without a second person.
2. Drape the tarp over the ridgeline, one edge high against the line and the opposite edge angled down toward the ground on the side you want to block wind and rain from.
3. Stake the low edge out at roughly a 45-degree angle from directly under the ridgeline, about 5 to 6 feet out, so the tarp forms an angled wall rather than lying flat.
4. Secure each stake-out line with a taut-line hitch (a knot that grips under load but slides to re-tension by hand), so you can tighten the tarp again after the fabric stretches or a stake shifts.



Chris 73, CC BY-SA 3.0, via Wikimedia Commons.

Trucker's hitch, taut-line hitch, and five more knots this site's guides assume you already know, actually taught step by step: see Basic Knots.

Watch it: REI, "4 Ways to Set Up an Ultralight Tarp Shelter".

Cold-weather option: a debris hut

When it's cold enough that wind and rain protection alone isn't enough, a debris hut is the standard improvised option, built to trap "dead air" around your body the same way a down jacket does.

1. Find a ridge pole roughly a foot longer than you can reach with your arm stretched overhead, about 9 feet for someone 6 feet tall, strong enough to bear the weight of the debris piled onto it.
2. Lean the ridge pole against a support (a low branch, a rock, a fallen log) at a height that leaves the frame body-sized once you account for the debris layer: just large enough to fit your body plus roughly 6 inches of debris on all sides, not a roomy interior. A smaller interior means less air volume your body has to warm.
3. Rest smaller branches along both sides of the ridge pole, angled from the ground up to the ridge, to form a rib structure close enough together that the debris piled on top won't fall through.
4. Pile dry leaves, grass, or other debris over the frame, 2 to 3 feet thick on all sides and the top. This is the actual insulation; a thin layer does very little.
5. Fill the inside floor with the same dry debris before you get in, so you're insulated from the ground too, not just covered from above.
6. Build or gather a door plug before you get in for the night: a bundle of debris tied together with pliable sticks or cordage, sized to fill the entrance, or simply a pile of loose debris (or your pack)

positioned to pull in behind you. Without something plugging the entrance, the warm dead air the whole structure is built to trap just drains back out the opening.

Watch it: The Survival Summit, "How to Build a Debris Hut".

TIP**A hard-plastic water bottle makes a real hot water bottle**

If you have a way to boil water and a hard-sided bottle rated for it (a Nalgene-style bottle, not a disposable one, which can warp or leak), fill it with hot water, check the outside isn't too hot to hold bare-handed, wrap it in a sock or spare layer if it is, and tuck it into your sleeping bag against your core or between your legs. It adds real, lasting heat to a debris hut or tarp shelter overnight, more water means more heat that lasts longer, and it costs nothing beyond the fuel to boil it.

Where to find it: a lightweight tarp, paracord or similar cordage, and a compact emergency bivy or mylar space blanket are all inexpensive, pack small, and are sold at any outdoor retailer; keeping one in a car or bag costs almost nothing and covers the tarp-shelter option even with zero natural materials around.

This is a backup, not a plan

Sheltering in place at home, the manual's own default guidance, is almost always safer and more comfortable than improvising outdoors. These skills matter for the specific situations where that's not an option: stranded away from home, a vehicle breakdown, or an evacuation that goes sideways.

Write your own plan, in one sentence

Deciding where to go under stress is slower than deciding it now, once, calmly. Finish this sentence with your own real plan:

"If *my home becomes unsafe* , I will go to *my sister's, on Elm Street* ."

Know someone this guide would actually help? Being the person who's ready includes being the person who says something.

Send them this page ›

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Pet Evacuation & First Aid Basics

A kit and a plan for the members of the household who can't pack their own bag, plus how to safely help an injured pet without getting bitten. Dogs and cats are the default case here, but birds, reptiles, and small mammals each have their own real differences, covered inline below. This is the hands-on side of the Pet Evacuation & Shelter chapter and its addendum. Pack it alongside the rest of the household's kit; see Go-Bags & 72-Hour Kits for what goes in that one.

Never leave a pet behind

An animal left behind in an evacuation has far less ability to escape a fire, flood, or collapse than a person does, especially if it's caged, tied up, or shut inside. If it isn't safe for you to stay, it isn't safe to leave them there either.

The practical exception is fish: they generally can't be evacuated at all. Leave an automatic feeder and clear care instructions for anyone checking on the house instead.

TIP

Calm a storm-panicked dog before trying to load it into a carrier

A dog too frightened to cooperate makes an already-fast evacuation slower. Wrapping it snugly in a towel, like swaddling, applies gentle, steady pressure that has a real calming effect on many dogs, and a towel that already smells like you or home makes it more effective, dogs read a familiar scent as a signal of safety. If the storm or chaos has built up static in the dog's coat, a lightly damp cloth wiped over it first can discharge that static and take the edge off before you even reach for the towel.

Build the kit

Item	Notes
Sturdy carrier, leash, and harness	A carrier is often required at shelters even for calm pets
Food, water, bowls, and a manual can opener	At least a few days' supply; rotate it like you would your own food storage
Medications and copies of medical/vaccination records	Kept in a waterproof container or bag
A basic pet first aid kit	Gauze, vet wrap, tweezers, a muzzle sized for your pet, saline solution
Current photos of you together with each pet	Helps prove ownership and aids reunification if you're separated

Where to find it: pet supply stores and general retailers carry every item individually; a properly sized muzzle specifically is worth buying ahead of time rather than improvising one for the first time during an actual injury.

What's different in the kit for birds, reptiles, and small mammals

Reptiles are cold-blooded and need their own heat source in the kit, a reptile-shipping heat pack, not a human hand warmer, which consumes oxygen and can suffocate a reptile in a closed carrier. Add a thermometer to check the carrier stays warm enough. Most adult reptiles can go about a week without food as long as they have water, so heat and hydration matter more than food here.

Birds need a fully covered, secure carrier to reduce stress and prevent escape, and are extremely sensitive to temperature swings and airborne fumes; see the first aid section below for the specific danger overheated non-stick cookware poses to them.

Rabbits, guinea pigs, and chinchillas need constant access to hay above almost everything else in the kit. These are hindgut-fermenting herbivores where the stress of evacuation alone, not just injury, can trigger gastrointestinal stasis, a life-threatening shutdown of the digestive tract; a pet that stops eating or producing droppings after a stressful move needs a vet, not just time to calm down.

Watch it: FEMA, "Preparing Makes Sense for Pet Owners"; Fire Safe Marin, "Pack a Go Bag for your pets".

Know where you're actually going, before you need to

Many general-population disaster shelters don't accept pets, service animals are the one guaranteed exception. Work this out in advance, not during an evacuation:

- Identify friends, relatives, boarding facilities, or veterinary clinics outside your immediate area who could take your pet in an emergency, and keep their contact information with your kit.
- If you may need a Red Cross shelter, know that staff will try to accommodate pets, but they may end up housed separately through a local animal welfare partner rather than in the same room as you.

Basic first aid for an injured pet

An injured animal is a scared animal, and even the gentlest pet can bite reflexively out of pain and fear. Muzzling before you touch the injury protects both of you, and lets you actually help instead of getting hurt trying.

1. **Assess breathing first.** If the pet is struggling to breathe, panting heavily, or in obvious respiratory distress, **do not muzzle it**; closing the mouth on an animal that can't breathe through its nose alone can be fatal. Get to a vet immediately instead.
2. If breathing looks normal, muzzle before treating anything else. A commercial muzzle is best; a loop of gauze, a leash, or a long stocking laid over the bridge of the nose, crossed underneath, and tied behind the ears works as an improvised version.
3. Control any bleeding with direct pressure using clean gauze, the same principle as the human first aid guide.
4. Keep your face away from the pet's mouth throughout, and avoid hugging or restraining an injured animal tightly against your body.
5. Get to a veterinarian as soon as possible. First aid buys time; it isn't a substitute for actual treatment.

For cats, wrap instead of muzzle

Cat muzzles have poor real-world effectiveness, and scruffing a stressed cat adds more stress than it controls. The safer, more effective technique is a towel wrap ("cat burrito"): lay the cat on the center of a towel and fold the sides snugly around its body to pin all four legs against it, leaving only the head exposed. This controls a frightened, injured cat far better than trying to muzzle one.

Birds and household fumes: a different kind of emergency

Birds are extremely sensitive to airborne toxins, especially fumes from an overheated non-stick (PTFE/Teflon) pan, which are odorless and invisible to people but can kill a bird within minutes. Never use non-stick cookware, aerosols, or scented candles in a room with a bird, evacuation or not. If you suspect exposure, get the bird to fresh air immediately, turn off the source, and get to an avian veterinarian right away; survival is poor once symptoms appear, so speed matters more than with most other pet emergencies.

If a dog or cat is choking

1. Open the mouth and pull the tongue forward, then look inside; if you can see the object, sweep it out with a finger, but don't blindly push at something you can't see, that can lodge it deeper.
2. If that doesn't clear it, for a small dog or cat, lift them with their spine against your chest, clasp your hands together just behind the last rib, and give 5 quick upward thrusts. For a larger dog, stand or kneel behind them, wrap your arms around the body just behind the ribs, and give the same 5 rapid inward-and-upward thrusts.
3. Check the mouth again after every 5 thrusts and remove anything you can see. Alternate thrusts and mouth checks until the object clears or the animal loses consciousness.
4. Get to a vet immediately either way, even if the object clears, don't wait at home to see how they're doing afterward.

If a dog is showing signs of heatstroke

Watch for heavy panting or trouble breathing, collapse, wobbliness, bright red gums, excessive drooling, or vomiting, especially after time in a hot car or direct sun. A dog's normal temperature runs 99.5-102.5°F; a reading above 104°F means heatstroke.

1. Move the dog out of the heat immediately.
2. Wet the belly, armpits, groin, and paw pads with cool, not ice-cold, water. Ice-cold water constricts blood vessels near the skin and actually traps heat in the body's core instead of releasing it.
3. Offer small amounts of cool water to drink if the dog is alert and willing, never pour water directly down the throat, which risks choking or aspiration in an animal that's already distressed.
4. Stop active cooling once the temperature comes down to about 103°F, cooling further than that risks overshooting into hypothermia.
5. Get to a vet regardless of how quickly the dog seems to recover; heatstroke can cause organ damage that isn't visible from the outside, and even a dog that looks fine again needs to be checked.

Write your own plan, in one sentence

An animal left behind wasn't a choice anyone made on purpose, it's what happens when no one decided in advance. Finish this sentence with your own real plan:

"If we have to evacuate, I will grab the carrier by the back door, and our pet's out-of-area contact is Aunt Carol, fenced yard."

Know someone this guide would actually help? Being the person who's ready includes being the person who says something.

[Send them this page ›](#)

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Backup Power for Medical Equipment & Caregiving

For any household where a power outage isn't just an inconvenience, it's a medical risk. This is the hands-on side of the Access & Functional Needs chapter and its addendum.

Most people in this exact situation aren't ready for it

In one survey of durable medical equipment users, only about 25% had any alternative power source for equipment like CPAP machines, oxygen concentrators, or power wheelchairs. If that's a gap in your household, the steps below are worth doing this week, not eventually.

Know what you're actually powering

Device	Typical power draw
CPAP machine	30–60 watts
Oxygen concentrator	300–600 watts or more
Power wheelchair or scooter (charging)	200–500 watts, 6–8 hours to fully charge

A CPAP is realistic to run off a mid-size portable power station for a full night. Be honest with yourself about an oxygen concentrator, though: a stationary concentrator running continuously draws roughly 7,000-8,400 Wh a day, and even the largest single portable power stations on the market top out around 4,000-5,000 Wh, less than half a day's worth. A big power station buys real time, but it isn't a way to run a stationary concentrator indefinitely off battery power alone; the backup oxygen cylinders and portable oxygen system below are what actually cover a multi-day outage, not a bigger battery.

Home dialysis is a different scale of problem

A home dialysis system doesn't have a generic wattage figure the way a CPAP does; the real number depends on your exact machine plus whatever heater, water system, and dialysate equipment run alongside it, and treatment schedules are often fixed by clinical necessity (some peritoneal dialysis cyclers run unsupervised overnight). Confirm the full backup-power requirement with your dialysis provider directly rather than estimating from a device label, and enroll in your utility's priority restoration program specifically as a dialysis patient; most utilities treat this the same as oxygen and other life-sustaining equipment.

Build the backup plan

1. **Call your equipment supplier** if you rent or lease your device. Some home health equipment providers offer emergency battery backup support directly; it's a five-minute call to find out.
2. **Size a portable power station to your device's actual wattage**, not a guess. The math: a power station's capacity is rated in watt-hours (Wh); divide that number by your device's watts, then multiply by roughly 0.85 to 0.90 to account for real-world inverter loss, to get an honest estimate of runtime in hours. A CPAP without a heated humidifier typically needs 300-500 Wh for a full night; add a heated humidifier or heated tubing and that climbs to 700-1,000 Wh. If your power station has a DC output that matches your CPAP's power brick, use that instead of the AC outlet: it skips a second DC-to-AC-to-DC conversion step and loses less power to inefficiency along the way. Check the device's rated draw (usually on a label or in its manual) against the power station's rated capacity before buying, and see *Sizing a Solar Array & Battery System* for the same math applied to a larger whole-house setup.
3. **Enroll in your utility's medical baseline or priority restoration program** if one exists in your area. Many utilities maintain a list of customers with life-sustaining equipment and prioritize them for restoration after an outage; it costs nothing to sign up and does nothing for you if you never do.
4. **Ask about backup oxygen cylinders or a portable oxygen system** with your medical provider if you rely on an oxygen concentrator, so a dead battery isn't your only fallback.

Where to find it: portable power stations are sold at electronics and outdoor retailers in a wide range of capacities; medical baseline and priority restoration programs are run by your electric utility directly, check their website or call customer service to ask what they offer.

Keep refrigerated medication like insulin in its safe range

Power loss doesn't just threaten devices; it threatens medication that has to stay cold. Unopened insulin needs to be stored between about 36–46°F, and **freezing destroys it just as surely as overheating does**, so

packing it directly against ice is its own mistake.

- **Use a cooler with ice packs, not loose ice**, and keep the insulin in a sealed bag or container so it never touches ice directly. This keeps most insulin viable for roughly 24 to 48 hours, long enough to bridge a typical outage or get to a pharmacy.
- **Know your specific insulin's rules.** Most insulin, once in use (opened), is actually fine unrefrigerated at room temperature for about a month, check the specific product insert, so a short outage may not be the emergency it first feels like; it's unopened, backup insulin that needs the cold chain protected.
- **A dedicated battery-powered medical cooler or a small 12V mini fridge** is worth it for a household that depends on refrigerated medication regularly, rather than relying on a cooler and ice restock for every outage.
- **If you're ever unsure whether a dose was compromised**, insulin that's been frozen, overheated above about 86°F, or looks cloudy when it shouldn't or has clumps or discoloration, don't use it; call your pharmacist or provider before your next dose.

Where to find it: insulated medication travel cases and cooling packs are sold at pharmacies and online; battery-powered medical coolers designed specifically for insulin are sold by medical supply retailers and typically run for 24+ hours on a charge.

Formalize a backup caregiver

A plan that only lives in one person's head is a single point of failure. If someone in your household depends on another person for care, medication management, or help with equipment, name a specific backup caregiver, in writing, and have them actually learn the routine hands-on rather than just agreeing to help in theory. The addendum's own Stage 2 goal is exactly this: sitting down together so the backup caregiver learns the specific care routine directly, not just knows it exists.

Write your own plan, in one sentence

Only about 25% of people in this exact situation have any alternative power source in place. Finish this sentence with your own real plan:

"By this Friday, I will call my CPAP supplier and ask what backup power option they actually offer."

Know someone this guide would actually help? Being the person who's ready includes being the person who says something.

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Sources

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Psychological First Aid

A real skill, not just kindness: a structured way to support someone, including a child, through the acute stress of a disaster, and to recognize when they need more help than you can give. This is the hands-on side of the Mental Health chapter and its addendum.

Psychological first aid is a World Health Organization–endorsed approach, and one of its defining features is that it doesn't require a mental health professional to deliver it. The model is three words: **Look, Listen, Link.**

Watch it: IFRC Psychosocial Centre, "Psychological First Aid: Look Listen Link".

Look

Before you say anything, observe. Who's showing signs of acute distress, shaking, crying, frozen, unusually silent? Who might need immediate physical safety or medical attention first? Psychological support comes after immediate safety, not instead of it.

TIP

Box breathing, a real tool you can offer or use yourself

Inhale through the nose for a count of 4, hold for 4, exhale through the mouth for 4, hold for 4, then repeat. It's the technique military special forces, pilots, and first responders train on to stay clear-headed when their own heart rate spikes, and it works by slowing breathing enough to shift the body out of acute fight-or-flight. Offer to walk someone through it out loud alongside you rather than just telling them to do it; doing it together is easier to follow under real stress.

Listen

1. Approach calmly and respectfully. Ask simple, open questions rather than leading ones: "What's happening for you right now?" rather than "Are you scared?"
2. Listen without pressuring them to talk, and without judgment about how they're reacting. There's no single correct way to respond to a disaster.
3. Don't rush to fix or minimize ("it could be worse," "at least you're safe"). Acknowledging what's actually happening for them matters more than reassurance at this stage.

4. **Don't press for a detailed account of what happened.** This isn't just gentleness, it's evidence-based: structured debriefing that pushes people to recount trauma in detail shortly after it happens has been studied directly, and it doesn't prevent PTSD, and in some studies actually raised the risk of it. The WHO and NIMH both recommend against it for exactly this reason. Let the person share what they want to share, at their own pace, rather than asking them to walk through the event.
5. Stay physically present and calm yourself; your own steadiness is part of what helps.

Link

This is the step that actually changes the outcome, connecting the person to what they need next, not just having a conversation and walking away.

- Reconnect them with family or their support network if they're separated.
- Connect them with practical help: medical care, shelter, food, information about what's happening.
- Connect them with professional support if their distress is severe, or isn't easing, using the resources below.

Supporting a child specifically

Children take cues from the adults around them. Stay as calm and matter-of-fact as you can in front of them, answer their questions honestly at a level they can understand rather than avoiding the topic, and keep familiar routines (mealtimes, bedtime) going as much as the situation allows. A child who regresses (thumb-sucking, bedwetting, clinginess) after a disaster is having a normal reaction, not a discipline problem.

Sensory overload and meltdowns are a different response, not a bigger version of panic

For an autistic person or anyone with a sensory processing difference, the noise, crowding, and disrupted routine of a disaster or shelter can trigger a meltdown: an involuntary response to overload, not a tantrum and not something the person can simply choose to stop. The Look, Listen, Link steps above still apply, but the actual technique during the meltdown itself is different:

- **Reduce the input, don't add demands.** Dim harsh lighting if you can, move to a quieter space, and stop asking questions or giving instructions, "calm down," "use your words," and "take a deep breath" are all additional demands on a system that's already overloaded, not help.
- **Stay calm and physically present without crowding.** A steady, quiet presence helps; grabbing or restraining someone doesn't, unless they're at real risk of injuring themselves or someone else, in

which case use the minimum physical intervention needed to prevent that specific harm.

- **A pre-written card helps with strangers, not just the person melting down.** Something as simple as "This person has autism and is experiencing sensory overload, not a medical emergency" hands off an explanation neither of you has the bandwidth to give in the moment.
- **Pack for this in advance if it's a known need in your household:** noise-canceling headphones or earplugs, a fidget item, and a weighted lap pad or blanket are the standard sensory-kit contents, and they belong in a go-bag the same way medication does. See Go-Bags & 72-Hour Kits.

Where to find it: Autism Speaks maintains its own natural disaster resources, adapted specifically from Ready.gov, FEMA, and Red Cross guidance for this exact population.

Survivor's guilt and identity loss are real, and often show up later

Feeling guilty for still having a home when a neighbor doesn't, or grieving a role, not just a possession, "the one the block came to for help," "the one who always had it together", is a documented, common reaction, distinct from the acute stress the rest of this guide covers, and it often surfaces weeks or months out, not in the first hours. SAMHSA names guilt directly as a common disaster reaction, one that can happen even when the survivor had no control over what occurred. Naming it accurately for someone, "that's survivor's guilt, not something wrong with you," is often the single most useful thing psychological first aid can do at this later stage.

Where longer-term support actually lives: SAMHSA's **National Helpline**, 1-800-662-4357, is free, confidential, and provides ongoing treatment referrals rather than crisis counseling, the right resource once the acute crisis has passed and what's actually needed is longer-term support, not an immediate intervention.

When it's beyond what psychological first aid can do

Seek professional help for anyone expressing thoughts of self-harm or suicide, showing signs of severe dissociation or panic that isn't easing, or whose distress is significantly interfering with basic functioning days after the event. This isn't a failure of the support you gave; some reactions need more than psychological first aid was ever designed to provide.

Crisis resources, for you or someone you're helping

The **988 Suicide & Crisis Lifeline** is free, confidential, and available 24/7 by call, text, or online chat at 988lifeline.org. It's not just for suicidal crisis; it covers mental health distress broadly, and offers specialized

support for Spanish speakers, people who are Deaf or hard of hearing, and veterans and their families (routed to the Veterans Crisis Line).

SAMHSA's **Disaster Distress Helpline**, 1-800-985-5990 (or text "TalkWithUs" to 66746), is the one built specifically for exactly this situation, emotional distress tied to a natural or human-caused disaster, rather than crisis in general. It's free, confidential, multilingual, and staffed 24/7; worth having written down alongside 988 rather than assuming one number covers both use cases.

After a federally declared disaster specifically, FEMA's **Crisis Counseling Assistance and Training Program** funds free, local, disaster-specific crisis counseling delivered through a state or tribal agency, not FEMA staff directly. It only activates once a state or tribe requests it after a Presidential disaster declaration, so it won't exist for every event, but where it's active it's a real, no-cost option worth asking about through your state's health or human services department.

Supporting someone else through acute stress is itself draining. Use the same resource for yourself if you need it, not just the people you're helping.

Write your own plan, in one sentence

Look, Listen, Link is easy to agree with and easy to forget under real stress. Finish this sentence with your own real plan:

"The next time someone around me is in acute distress, I will *stop and ask what's happening*
instead of *rushing to reassure them*."

Know someone this guide would actually help? Being the person who's ready includes being the person who says something.

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Sources

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- Sensory kit contents (noise-canceling headphones, fidget items, weighted lap pads) and communication cards: The Ability Toolbox; Autism Speaks, natural disaster resources
- Guilt, including survivor's guilt, as a common and documented disaster reaction: SAMHSA, Survivors of Disasters Resource Portal
- SAMHSA National Helpline, free treatment referral service: SAMHSA
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Physical Readiness for Emergencies

Not a generic fitness plan: the specific physical demands an actual emergency places on your body, and the handful of exercises that train for them directly. This is the hands-on side of the Fitness chapter and its addendum.

What an emergency actually demands physically

Evacuating on foot, carrying water or supplies over distance, clearing debris, or helping move an injured person all draw on the same underlying capacities: leg and back strength, a stable core, grip strength, and the cardiovascular stamina to keep working under stress rather than perform one all-out effort. This is the same reasoning first responders use to train functionally rather than for appearance or a single fitness metric.

The exercises that train for it directly

- **The farmer's carry.** Pick up a heavy object in each hand (a loaded pack, a pair of jugs of water, dedicated weights) and walk for distance or time. This is close to a direct simulation of carrying supplies or a bug-out bag, and builds grip strength, core stability, and the specific muscular endurance that matters most. Start light: roughly a quarter of your bodyweight per hand at most, for a first session, walking about 20 to 40 meters (a short block, or a distance you can mark off in a yard or driveway). Do 3 sets with 90 seconds of rest between them. Add weight before you add distance as it gets easier, not both at once.
- **Loaded carries over uneven terrain,** a sandbag, a duffel, anything with weight that shifts unpredictably as you move it. The instability itself is the point: it trains the same stabilizing muscles you'd use carrying an awkward load or an injured person, not just raw strength.
- **Walking for distance with a loaded pack.** Work toward being able to walk 3 to 5 miles comfortably while carrying a real load, roughly what your own bug-out bag actually weighs, not an empty one. Start from your current comfortable walking distance, not from zero, and add distance gradually, roughly 10% more per week, rather than jumping straight to a multi-mile loaded walk in your first session.

Watch it: Runna, "Farmer's Carry Tutorial - Proper Form and Technique".

TIP

Break in the actual shoes in your go-bag before you need to walk in them

A blister that would just be annoying on a normal day can turn a multi-mile evacuation on foot into a real problem. Wear the shoes or boots you'd actually grab for 30 to 45 minutes around the house on day one, then add 20 to 30 minutes each following day until you've done a full day comfortably, and take them on a few short real walks before trusting them for distance. Thick, moisture-wicking socks and a blister patch over any spot that starts rubbing prevent most of the damage before it starts.

Start with what you can actually do

None of this requires a gym or a structured program to begin. A loaded backpack and a walk around the neighborhood is a real farmer's-carry-adjacent workout. The goal is a body that can do what an emergency asks of it, not a specific number on any single exercise. If you have an existing heart, back, or joint condition, check with a doctor before starting loaded carry work specifically, the combined grip, core, and cardiovascular demand is real exertion, not a gentle warmup.

For older adults, balance matters more than load-bearing

Falls are the leading cause of injury death for adults 65 and older, and an emergency raises fall risk directly: debris, uneven ground, darkened stairwells, and unfamiliar temporary shelter all remove the predictable footing most falls are avoided by. For this group, the highest-value physical preparation isn't the loaded carries above; it's balance and lower-body strength training aimed specifically at fall prevention.

- **Balance practice:** tai chi, yoga, or simply standing on one foot near a counter for support, done regularly, measurably reduces fall risk. A real starting target: hold each side for 10 seconds, working up to 30 seconds, for 3 holds per side, daily.
- **Lower-body strength:** sit-to-stand repetitions from a chair, or light resistance-band work, build the specific strength that prevents a stumble from becoming a fall. A real starting target: 2 to 3 sets of 8 to 10 repetitions, using your hands on the chair's arms or seat for support at first and working toward doing it hands-free as it gets easier. The CDC's own STEADI program recommends this kind of balance and strength work 2 to 3 times a week.
- **Address what makes falls more likely** alongside the exercise itself: get vision and hearing checked regularly, since even small declines in either raise fall risk, and ask a doctor or pharmacist whether any current medication causes dizziness or drowsiness.

None of this replaces the value of being able to carry a load if you're able to; it's a matter of which physical capacity actually reduces your risk most, and for many older adults that's staying on your feet, not how much you can carry while doing it.

Sleep debt is a real cost during a sustained response, not something to push through

Everything above trains the body. This is about protecting the part of you that decides what to do with it. Sleep deprivation measurably degrades decision-making, not just alertness: it shifts choices toward riskier options, slows reaction time, and pushes people toward mental shortcuts under exactly the kind of uncertainty a disaster creates. This is the same decision-fatigue cost the Act of Surviving's Tier 2 guidance names for a household running a sustained response over weeks; a fixed sleep rotation, decided once rather than renegotiated every night, addresses both the physical and the decision-quality problem at the same time.

- **If someone needs to be awake overnight** for security, a sick household member, or monitoring conditions, split sleep into two blocks rather than one interrupted one, the military's own watch-rotation research on sustained operations shows split sleep that totals 7–9 hours works about as well as one continuous block, while an irregular, constantly-renegotiated schedule measurably hurts mood and reaction time compared to a fixed rotation.
- **A short nap works when a full block isn't available.** About 20 minutes is the real sweet spot: long enough to restore alertness for roughly 2–3 hours, short enough to avoid the grogginess of waking from deeper sleep, the same guidance the Army's own fatigue-management training uses for sustained operations.
- **Decide the rotation in advance, then follow it,** the same "decided once, not re-decided daily" principle the Extended Plan applies to the household's other standing responsibilities. Assign who covers which hours before the first night, not by whoever's still awake when it matters.

Write your own plan, in one sentence

A body that can do what an emergency asks of it is built in advance, not discovered in the moment. Finish this sentence with your own real plan:

"This week, I will practice a loaded farmer's carry, starting with 20 meters, 3 sets."

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Sources

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- Split-sleep and fixed watch-rotation schedules outperforming irregular ones in sustained operations: Brown, Matsangas & Shattuck, Navy watch-schedule research
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Filing Claims After a Disaster

The order of operations matters here as much as any individual step: document first, insurance second, FEMA third, and contractors only after you know what's actually covered. This is the hands-on side of the Post-Disaster Recovery & Rebuilding chapter and its addendum.

1. Document before you clean anything up

Photograph and video the damage before you throw anything away or start repairs, even temporary ones. This is exactly what the financial preparedness guide's home inventory is for; if you built one before the disaster, this is the moment it pays off. If you didn't, document what you can now: every damaged room and item, from multiple angles, before touching anything.

2. File with your insurance company first

Contact your insurer as soon as possible after a disaster. Filing late can actually affect your eligibility for FEMA assistance later, since FEMA is designed to supplement insurance, not replace it, and generally expects you to have gone through your insurer first.

What to actually say on that first call

Have your policy number ready if you can find it, but call even if you can't, the agent can look it up by your name and address. Stick to facts you actually know; don't guess at a cause or a dollar amount.

"I need to report a claim. My name is [name], my policy number is [number, or 'I don't have it handy'], and my property address is [address]. [Brief, factual description: 'A tree fell on my roof during the storm last night' or 'My basement flooded when the sewer backed up.'] I have photos and I'm available at [phone number] to answer questions."

Write down the claim number, the adjuster's name and direct number, and the date before you hang up, then follow up in writing (an email restating the same facts) so there's a written record beyond the call itself.

3. Apply for FEMA individual assistance if you still need it

Apply online at disasterassistance.gov (fastest) or by calling 1-800-621-3362.

If English isn't your first language, disasterassistance.gov itself is also available in Spanish, French, Haitian Creole, Vietnamese, Chinese, and Korean, and the FEMA Helpline offers interpreters in roughly 250 languages, press 2 for Spanish or 3 for any other language after calling.

1. Have ready: your contact information, Social Security number, a general list of damage and losses, household income, and banking information if you want direct deposit.
2. If you have insurance, you'll need to provide proof of your insurance settlement, or a written explanation if coverage was denied, before FEMA can determine what it can still cover.
3. After you apply, FEMA typically schedules a home inspection and requests supporting documentation.
4. Decisions usually come within about 30 days of FEMA receiving your proof of loss, though large disasters or missing documentation can extend that to as long as 180 days.

Watch it: FEMA, "FEMA Accessible: Three Ways to Register for FEMA Disaster Assistance".

This whole process assumes a household that can freely give a Social Security number and immigration status without concern. If that's not your situation, real non-cash aid is still available, and a mixed-status household can often still apply on a citizen or qualified-alien child's behalf; see [Preparing Without Relying on Official Systems](#).

4. Hire contractors carefully

Post-disaster reconstruction is one of the most heavily scammed situations in American life, precisely because people are stressed, displaced, and need work done fast.

Red flags and how to verify a contractor is real

Red flags: going door-to-door uninvited, especially from out of town; pressuring you to sign a contract on the spot; asking for full payment upfront (a partial deposit for materials is normal, the full amount up front is not); and claiming to be "FEMA certified." FEMA does not certify or endorse contractors at all; anyone who says otherwise is lying to you.

Before you hire: get written estimates, verify licensing and registration through the National Association of State Contractors Licensing Agencies, ask for proof of liability and workers' compensation insurance and actually call to verify the policy, and get references you can check. Never share your insurance policy numbers or other personal details with a company before you have an actual signed contract in place.

Older survivors are targeted more aggressively than other groups, per both FEMA and AARP; scammers specifically look for people they expect to be less likely to verify a claim or report fraud. If you're helping an older family member through this process, treat unsolicited contractor visits and calls with extra scrutiny, and report anything suspicious to the FEMA Disaster Fraud Hotline (866-720-5721) or the Senate Aging Committee's Fraud Hotline (1-855-303-9470), which specifically handles fraud against seniors.

5. If you're denied, appeal, and know about SBA loans

A FEMA denial is often a paperwork problem, not a final answer, and it isn't the end of the road even when it's correctly decided: **FEMA grants are capped and meant to cover only basic needs**, not full recovery, and a separate federal loan program exists for exactly that gap.

- **Read the denial letter closely.** The single most common reason FEMA denies a claim is missing documentation, proof of occupancy, proof of ownership, or insurance settlement paperwork, not ineligibility. The letter states the specific reason.
- **You have 60 days from the date on the letter** to file a written appeal with FEMA, addressing that specific reason directly and attaching whatever documentation was missing (a lease, a utility bill, an insurance denial letter, updated repair estimates).
- **Consider an SBA disaster loan**, whether or not FEMA approved you. The U.S. Small Business Administration offers low-interest disaster loans directly to homeowners and renters, not just businesses, covering real estate repair and personal property loss beyond what FEMA's grant caps or insurance settlements reach. Applying for an SBA loan does not obligate you to accept one, and for many households it is the largest source of actual recovery funding available.
- **If the SBA declines your loan application**, you have 6 months from the decline letter to request reconsideration with updated financial information. A second decline can be appealed further to the SBA's Office of Hearings and Appeals.

Where to find it: apply for an SBA disaster loan at disasterloanassistance.sba.gov or by calling 1-800-659-2955. FEMA appeal instructions and the required format are included with every denial letter and at fema.gov/assistance/individual/appeals.

Write your own plan, in one sentence

Tracking down your own policy number during an actual claim is its own frustrating delay. Finish this sentence with your own real plan:

"Before anything happens, I will write down my policy number and keep it with

my document go-bag ."

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Sources

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- Post-disaster contractor fraud red flags and verification steps: Texas Office of Public Insurance Counsel; NAIC
- Post-disaster fraud targeting older survivors, and FEMA/Senate Aging Committee fraud hotlines: FEMA; AARP

Bathroom & Hygiene Without Running Water

The Sanitation & Hygiene chapter names these as Tier 1 and Tier 2 skills to build (sponge bathing, a bucket toilet) in one line each. This guide is the actual how-to: exact setup, materials, quantities, and disposal steps for going to the bathroom, bathing, washing hands, washing dishes, and doing laundry, including drying it, when there's no running water at all.

Why this matters more than it sounds like it should

The manual's own framing bears repeating here: disease, not the disaster itself, is the leading cause of death in the days and weeks that follow most emergencies. Contaminated hands and mismanaged human waste are the two biggest drivers of that risk, and both are fully preventable with cheap materials and the right technique. This isn't a comfort issue, it's a survival one.

Setting up a toilet with no running water

The core method is the same whether you use your existing toilet bowl or a separate bucket: a sealed liner, an absorbent cover material, and a clear disposal plan. Don't wait until the water is actually off to figure this out.

Materials

Item	Spec	Notes
Container	5-gallon bucket, or your existing toilet bowl	A snap-on toilet-seat attachment makes a bucket far more usable, but isn't required
Liners	Two heavy-duty plastic garbage bags, one inside the other	Double-bagging is the standard recommendation; a single bag tears more easily under weight
Cover material	Cat litter, wood ash, or sawdust	Crushed dry leaves, shredded cardboard/paper, or small wood chips all work as a backup if none of the above is on hand
Disposal container	30-gallon garbage can with a tight, secured lid	For temporary storage until real disposal is possible

Setup and use

1. Line the bowl or bucket with two heavy-duty garbage bags, one inside the other.
2. Add a base layer, roughly a 1-inch layer of cat litter, ash, or sawdust, in the bottom of the inner bag before first use.
3. After each use, add about **2 cups** of the same cover material. This single habit does most of the work of controlling both odor and disease risk, don't skip it to save material.
4. Keep the lid or seat cover closed between uses to keep out flies and pests.
5. When the inner bag is full or needs changing, seal it tightly, insert a fresh liner, and add a new base layer for the next use.

A two-bucket system, if you're planning ahead

Separating liquid and solid waste into two buckets cuts down on both volume and odor. Empty the urine-only bucket after each use over a lawn or gravel area, where it evaporates and soaks in; rinse the bucket to reuse. Route solid waste into the second bucket using the liner-and-cover method above. This is more setup than a single bucket, but it fills far more slowly and smells far less.

Adapting an existing toilet

If your home's toilet still has a bowl but no water to flush it: turn off the water supply to the toilet, empty the tank and bowl, and plug the drain hole with a rubber ball wrapped in a sock (or a similar improvised plug) so sewer gas doesn't rise back up. Line the bowl the same way as a bucket, two heavy-duty bags, cover material after every use. This keeps the household using a familiar fixture instead of a bucket on the floor, which matters more than it sounds like it would, especially for kids and older adults.

Treating waste, not just containing it

Cover material controls odor, but on its own it doesn't destroy the pathogens that make human waste dangerous, containment and treatment are two different jobs. If you want real pathogen kill before disposal, not just after a long wait, hydrated lime is the fast, low-equipment option:

1. Buy **hydrated lime (calcium hydroxide)** specifically, a different, higher-strength product than the agricultural lime sometimes used as cover material. Store it separately and label it clearly so the two don't get mixed up.
2. Stir in roughly **1–2 cups of hydrated lime per 5-gallon bucket** of waste.
3. Let it sit, sealed, for at least **2 hours** before disposal. This is enough time at the resulting pH (above 12) to destroy the bacteria and viruses behind most disaster-related outbreaks.

4. Wear **gloves, a mask, and eye protection** while handling it. Hydrated lime is caustic, treat it with the same care as any corrosive cleaning chemical, and keep it away from kids and pets.

WARNING**What actually works, and what doesn't**

A light dusting of ordinary cover-material lime or kitty litter controls odor; it isn't a treatment dose and shouldn't be relied on to kill pathogens. An improvised backyard burn doesn't reach the sustained, even, oxygen-limited heat true pyrolysis needs, cool pockets let hardy organisms survive. And some resistant pathogens, notably the parasite in cat waste covered in the Household Trash & Pet Waste Disposal guide, aren't reliably killed by standard chemical disinfectants like bleach, so don't assume a method that works here automatically works there. When a method depends on reaching a specific dose, temperature, or time, verify it's actually reaching that number.

Disposal

Sealed bags need to actually go somewhere. In order of preference:

1. **Burial, if you have private property to do it on.** Dig a hole at least 2.5–3 feet deep, at least **200 feet** from any water source (well, canal, creek, pond) or living area. Open the bags and empty the contents into the hole rather than burying the bags themselves, then cover with dirt, followed by a layer of ash or lime if available.
2. **Temporary sealed storage.** If burial isn't possible right away (frozen ground, no private yard, an apartment), store sealed bags in a 30-gallon garbage can with a tight, secured lid, kept outside in a concealed area, away from kids, pets, and wildlife, until real disposal becomes available.
3. **Regular trash collection,** only if local officials have specifically authorized it during a declared emergency. Don't assume this is allowed by default; check with your city or county first.

Northern Utah note: frozen ground

Burial isn't practical once the ground freezes, which along the Wasatch Front is most of the winter. Plan on temporary sealed storage as your primary method for a cold-weather emergency, and treat burial as a warm-season option only.

This covers human waste specifically. Household trash and pet waste are their own two waste streams once collection stops, see Household Trash & Pet Waste Disposal.

When toilet paper runs out

The Tier 1 and Tier 2 supply lists above cover a 14-day stock, but a longer disruption means planning for what happens after that runs out, not just how much to store.

Bidets: which kind, and when they stop working

"Bidet" actually covers two different tools with very different disaster relevance.

A **fixed bidet seat or attachment** installs on your existing toilet. The cheap, non-electric kind (roughly \$30–50) needs no power at all, it runs purely on your home's water line pressure, so a power outage alone doesn't stop it. But it still depends on two things a disaster commonly knocks out together: an actual water supply to the house, and a working drain or sewer line. That's the same pair of failures that triggers this guide's own bucket-toilet setup. In practice, a fixed bidet is a real Tier 1 tool, useful exactly until water or sewer service goes down, and not a Tier 2+ answer.

A **portable, handheld bidet bottle** (the camping or travel kind, a squeeze bottle with a nozzle tip) needs no plumbing at all: fill it from your stored water, roughly **4–16 ounces per use**, about a third to a full cup. That's genuinely usable at any tier, including right alongside the bucket toilet above. Set against the 14 gallons/person Tier 1 figure, or the fuller WHO/Sphere hygiene allowance, a few uses a day at roughly a cup each is a small, absorbable addition, not a real strain on stored water. Pat dry afterward with cloth or minimal paper; hand hygiene below still applies.

Reusable cloth wipes, done safely

Soft cotton or flannel squares (often called "family cloth"), washed and reused, are a real, practiced option, not a fringe idea, but they carry a genuine infection risk if handled carelessly. The safety protocol is the same one cloth diapering already established, since it's the same underlying problem: reusable cloth contaminated with human waste.

1. **Never share cloth between people.** Assign each household member their own marked set, a color or a stitched initial, the same logic as not sharing a toothbrush.
2. Store used cloth in a covered pail until wash day; don't launder after every single use.
3. **Pre-rinse cold**, not hot. Hot water on a fresh stain sets it into the fabric instead of flushing it out.
4. **Wash hot**, ideally 140°F, using the three-basin or bucket-and-plunger method below, since heat is what actually inactivates pathogens. If heating that much wash water isn't practical, add unscented bleach to the wash water instead, the same disinfecting logic this guide already uses for dish sanitizing.
5. **Wash cloth wipes as their own separate load**, never mixed with other laundry; this is the real cross-contamination risk, not a minor suggestion.

6. **Dry thoroughly**, ideally on a line in the sun for the same UV-disinfecting benefit covered in the laundry section below.

Washing a batch this way costs roughly **4–6 gallons per household per wash cycle** (using this guide's own bucket-wash figures), done every day or two rather than per use. That's a genuinely different water tradeoff than the portable bidet bottle above, sometimes more, sometimes less depending on household size and wash frequency, worth weighing against your own stored-water budget rather than assuming one option is automatically cheaper.

If anyone in the household has an active stomach illness, suspend cloth-wipe use for that person specifically and switch to disposable, bagged wipes until they recover, rather than adding their laundry to the batch.

Other short-term substitutes

Newspaper, paper towels, napkins, and coffee filters all work in a pinch, crumpled first to soften them. Soft leaves are a genuine last resort, but only with confident plant identification; poison ivy, oak, and sumac exposure this way is a real, avoidable, and miserable mistake.

WARNING

Never Flush Wipes, Even Ones Labeled Flushable

Baby wipes, cleaning wipes, and products marketed as "flushable" don't break down in water the way toilet paper does. They're a common, real cause of clogged pipes and septic system damage, marketing claims aside. Bag and dispose of them with household trash, or through the human-waste disposal method above if used on the body, never down a toilet or drain, working or not.

Menstrual hygiene without resupply

A reusable menstrual cup or washable cloth pads remove the resupply dependency entirely; wash cloth pads using the same protocol as the reusable wipes above, their own separate hot load, never shared between people.

WARNING

Never Extend a Tampon Past Its Wear Time to Ration a Limited Supply

Toxic shock syndrome is rare but genuinely dangerous, and how long a tampon has been left in is the single most consistent factor across real cases: 8 hours is the real limit, not a conservative suggestion. Early symptoms can look like a mild viral illness, then progress to high fever, low blood pressure, and organ failure within a day or two. If disposable supply is genuinely limited, switch to a

reusable cup or cloth pads, or a lower-absorbency product changed on schedule, rather than stretching wear time on what's left.

Hand hygiene

This is the single cheapest disease-prevention tool available, and it doesn't require running water at all.

1. Wet hands with any available water, even a small poured amount from a jug is enough.
2. Apply soap and lather, covering the backs of hands, between fingers, and under nails.
3. Scrub for at least **20 seconds**.
4. Rinse with a small poured stream of water rather than dipping hands into a shared basin, which recontaminates the water for the next person.
5. Dry with a clean towel or let air-dry.

If no water at all is available, an alcohol-based hand sanitizer with **60% or more alcohol** is an acceptable substitute, though it doesn't remove visible dirt or grease the way soap and water does.

Wash hands: before eating or preparing food, after using the toilet, after coughing or sneezing, before and after caring for someone who's sick, and after handling waste of any kind.

Dental hygiene without a full toothpaste supply

Brushing itself is the part that matters most, not the paste. A six-month clinical trial found that mechanical brushing alone, no toothpaste at all, cut plaque buildup by 63% and bleeding by 55%; the paste adds fluoride's extra cavity protection on top of that, a real benefit, but it isn't what's doing most of the work. Brush twice a day for two minutes, and it barely needs running water: wet the brush from a small cup or a poured splash, brush, then rinse the same way.

When the stocked toothpaste supply runs out:

1. **Plain baking soda** is a genuine substitute, not a last-resort compromise. It rates far lower on the abrasiveness scale dentists use to judge toothpaste safety than most people assume, gentle enough for daily use, and it neutralizes acid in the mouth as a real side benefit, reducing enamel erosion rather than just cleaning. A pinch on a wet brush works the same way paste does.
2. If the toothbrush itself is lost or worn past use, a **clean cloth wrapped around a finger**, with a little baking soda or salt, still provides the actual mechanical cleaning that matters most.
3. A **saltwater rinse** (a teaspoon of salt in a cup of warm water) is a genuine antiseptic adjunct worth using alongside brushing, not a substitute for it: real research shows it measurably reduces plaque and

bacterial counts and supports gum health.

WARNING

Untreated Dental Infection Doesn't Stay Contained to the Tooth

Bacteria from an abscess can track into the jaw and neck tissue, and in a rare but real worst case become Ludwig's angina, a rapidly spreading infection that can close off the airway; adult mortality for that specific complication runs 8–10% even with treatment available. Treat a spreading jaw or neck swelling, especially with fever or trouble swallowing or breathing, as a true emergency requiring evacuation to real care, not something to manage with home remedies and wait out. See the Sanitation & Hygiene chapter's Tier 3 guidance for emergency dental care once professional care isn't available at all.

Sponge bathing

1. Warm a basin or bucket of water. It doesn't need to be hot, just comfortable, warm water dissolves oils and dirt far better than cold. If you're bathing someone else, test the temperature on the inside of your own wrist first.
2. Dip a cloth or sponge in the water, wet your body, then apply soap to the cloth.
3. Scrub in order from **cleanest to dirtiest**: face and head first, while the water is freshest, then work down the body, ending with the feet and groin area last.
4. Rinse the cloth and use it to wipe soap off the body in the same order.
5. Change or re-wet the water partway through if it gets visibly dirty.

Unscented baby wipes or body wipes are a reasonable substitute or supplement, especially for a quick clean between full sponge baths, and are worth keeping in a go-bag for exactly this reason.

Laundry without a washer

The three-basin method works with whatever you have on hand, buckets, a bathtub, or a sink.

1. **Presoak**: put clothes in a basin of water with detergent, roughly **1 teaspoon per gallon of water** for standard detergent (less for a concentrated "2X" or "4X" formula, check the label), a real measuring spoon rather than an eyeballed amount, and let them sit for about **15 minutes** to loosen dirt.
2. **Wash**: agitate the clothes by hand, swishing them up and down or side to side, and rub visibly dirty spots against themselves or scrub gently with a brush.
3. **Rinse**: wring out as much soapy water as possible, then move clothes to a second basin of clean water and agitate again to work the soap out.

4. **Wring:** wring out as much water by hand as possible before moving to drying. The less water you're asking the air to evaporate, the faster and easier the next step is.

A clean 5-gallon bucket and a new toilet plunger (used only for this, never after toilet use) makes a serviceable hand-agitator: fill with water, detergent, and clothes, leaving about 1.5 inches of headspace, and plunge vigorously for about 10 minutes in place of hand-agitating.

Drying laundry

A line strung between two fixed points does the job: paracord or any strong cord tied to two trees, posts, or fence points with a **taut-line hitch**, an adjustable loop knot that lets you pull the line drum-tight and re-tighten it later as it stretches or sags. A warm, sunny, breezy day dries clothes fastest and also helps disinfect them via UV exposure, so an outdoor line is worth using whenever weather allows.

Bad weather or no outdoor space: a line strung across a shower or bathtub, an over-the-door or collapsible drying rack, or clothes draped over chair backs near, not touching, a heat source all work. Give it more time and more airflow than an outdoor line would need.

Freezing weather: line-drying outside still works below freezing, ice sublimates directly to vapor, but it's slow. A practical hybrid: hang clothes outside for an hour or two to wring out the bulk of the moisture, then finish drying indoors.

Washing dishes without a sink

Same three-basin logic as laundry, scaled down, plus one step laundry doesn't strictly need: dishes touch food directly, so a sanitizing rinse isn't optional.

1. **Scrape first.** Wipe or scrape food scraps into the trash before any water touches the dish. This is the single biggest water-saver in the process, and it keeps grease out of the wash water and out of whatever you're disposing of it into afterward.
2. **Wash:** hot water with dish soap in the first basin. Wash cleanest items first, glasses and utensils before greasy pans, so the water stays usable longer.
3. **Rinse:** a second basin of clean water to flush off soap residue.
4. **Sanitize:** a third basin mixed at **1 tablespoon of unscented household bleach per gallon of water** (about 100 ppm). Submerge each item for a few seconds, then lift it out and let it air-dry on a rack. Towel-drying can recontaminate what the sanitizing step just cleaned.

Batch dishes once or twice a day instead of washing after every meal. It's the same three basins either way, so running them once for a whole day's dishes instead of three or four times cuts total water use substantially.

Disinfecting after flooding, and preventing mold

Mold can start growing on a wet surface within **24 to 48 hours**, a real deadline, not a rough guideline. Open doors and windows, run fans, and keep indoor humidity under 50% to actually dry a wet space out inside that window. If a space genuinely can't be dried within 24 to 48 hours, treat it as an active mold problem rather than hoping it dried out in time.

WARNING

Floodwater-Contaminated Surfaces Need a Much Stronger Bleach Ratio Than Dishes

The dish-sanitizing dilution above (1 tablespoon bleach per gallon) is nowhere near strong enough for a surface that actually touched floodwater. Use **3/4 cup regular-strength bleach, or 1/2 cup concentrated bleach, per gallon of water**, keep the surface visibly wet for at least 2 minutes, then rinse and dry. Wear gloves, goggles, and an N95 or better respirator, the same PPE this site's re-entry guidance already calls for, and never use bleach in a closed, unventilated space. Anything porous that was actually submerged, carpet included, can't be fully disinfected; discard it rather than trying.

Write your own plan, in one sentence

Disease, not the disaster itself, is what actually kills people in the weeks after. Finish this sentence with your own real plan:

"This week, I will actually build *a real bucket toilet* and keep it
in the garage, ready to go ."

Know someone this guide would actually help? Being the person who's ready includes being the person who says something.

Send them this page ›

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Firearm Safety, Storage & Self-Defense Basics

The Security & Self-Defense chapter and its addendum already cover firearms as one legitimate home-security option among several, and the addendum builds a real licensing and training pathway (CFP, NRA Basics of Pistol Shooting, Defensive Pistol). This guide is the safety and legal foundation underneath that pathway: universal handling rules, real storage options, Utah's actual self-defense statutes, and honest coverage of non-firearm self-defense for households that don't own or carry one.

WARNING

Owning a firearm is not the same skill as being proficient with one

If a firearm is part of your household's defense plan, ownership alone doesn't make you capable of using it safely and effectively under real stress. That takes actual trigger time, live practice under qualified instruction, repeated over time, and no guide, book, or website can substitute for it. The addendum's own training pathway, an NRA Basics of Pistol Shooting course, then Defensive Pistol, then ongoing practice, is the real path to proficiency. Treat everything below as the safety and legal floor underneath that training, not a replacement for it.

The four rules that apply every single time

Every certified course this site cites, and the firearms industry generally, builds on the same four rules. They're redundant by design: following all four means a mistake on any one of them still doesn't result in an unintended discharge hitting something you didn't mean to hit.

1. **Treat every firearm as if it's loaded**, even one you just personally checked and cleared.
2. **Never point it at anything you're not willing to destroy**. Muzzle direction matters at all times, not just when firing.
3. **Keep your finger off the trigger** until your sights are actually on target and you've made the decision to fire.
4. **Be sure of your target and what's behind it**. A wall, a door, or a person's body doesn't reliably stop a bullet.

Safe storage: a real safety practice, not a legal requirement here

The standard guidance, backed by real research on suicide, unintentional injury, and theft prevention, is **"unload, lock, and separate"**: store the firearm unloaded, in a locked device, with ammunition stored separately from it. As of this writing, only an estimated 36% of U.S. firearm owners store all of their firearms locked.

Option	Tradeoff	Best fit
Cable lock	Cheap, often included free with a purchase; slower to remove under stress	A low-cost baseline, especially for a firearm not kept for immediate home defense
Lockbox / handgun safe	Fast key or combination access; a physical box can still be pried or carried off if not secured to a structure	A firearm kept accessible for home defense
Biometric safe	Fastest access when it works; real documented concerns about failure to read a fingerprint under stress, battery death, and electronic failure	Households prioritizing speed of access, with a mechanical backup key kept as well

A lockbox or safe that isn't actually anchored to the structure isn't much of an upgrade over a cable lock, someone can simply carry the whole box away and defeat it at leisure. Bolt it to a solid floor joist or wall stud, never to drywall alone, which won't hold real weight. Use a stud finder to locate the framing under the intended spot, mark the safe's mounting holes, then drill through only the safe's bottom feet (not its back, on a fireproof model, drilling the back voids the fireproofing) into the joist or stud with lag bolts sized for the hardware the safe came with. Bolting to both the floor and a wall stud, where the safe's design allows it, resists both prying and carrying it off.

Utah has no legal safe-storage requirement, which makes this a judgment call, not a checkbox

Utah imposes no penalty on an adult for leaving a firearm accessible to a minor, and doesn't require a locking device to be sold with a firearm; state lawmakers have rejected a secure-storage bill four years running as of this writing. That means safe storage here is entirely a household safety decision, not a compliance requirement, worth deciding deliberately rather than defaulting to whatever's easiest.

Ammunition storage

Store ammunition in its original packaging or a dedicated ammo can, in a cool, dry, temperature-stable location; humidity and repeated temperature swings, not age alone, are what actually degrade primers and powder over time. Keeping ammunition physically separate from the firearm itself is the second half of "unload, lock, and separate," and matters most for preventing a firearm found and loaded by someone who shouldn't have access to it.

Utah's actual legal framework

This is general information, not legal advice; a real self-defense claim depends on the specific facts of an actual incident. Utah's own statutes:

- **Use of force (Utah Code §76-2-402):** force, including deadly force, is justified when you reasonably believe it's necessary to prevent death, serious bodily injury, or a forcible felony. A defendant who makes a prima facie self-defense claim gets a pretrial justification hearing where the burden shifts to the state to disprove it.
- **Stand your ground:** Utah has had no duty to retreat before using force in self-defense, in any place lawfully entered, since 1994, one of the longest-standing stand-your-ground laws in the country.
- **Castle doctrine (Utah Code §76-2-405):** covers your home, vehicle, and place of business or employment specifically; deadly force is justified against someone unlawfully or forcibly entering one of those three.

These specific statutes and thresholds vary significantly by state; if you split time between states or are new to Utah, don't assume a previous state's law transfers.

Non-firearm self-defense: a real option, not a lesser one

The addendum is direct about this: non-firearm self-defense is the only realistic security skill for household members who can't or won't carry a firearm, and it's worth real preparation, not an afterthought.

Pepper spray has genuine, researched effectiveness, roughly 85–90% effective at stopping resistance in law-enforcement use, working by inflaming the eyes, nose, throat, and lungs on contact.

WARNING

Pepper spray is genuinely a poor choice for indoor or home defense specifically

In an enclosed space, overspray and drift affect the person deploying it as much as the target, a limitation most marketing doesn't mention. It's a strong option for an outdoor or open-space encounter; for inside your own home, a basic self-defense or de-escalation course (covered in the addendum's Stage 3) is the more realistic non-firearm skill to actually build.

"A self-defense class" isn't one thing, and the differences are real

The addendum's "basic self-defense or de-escalation course" line covers a lot of genuinely different territory. Three categories get lumped together under "martial arts" or "self-defense," and they train for different things:

Category	What it actually trains for	Examples
Traditional martial arts	Historically shifted from self-protection toward self-perfection, discipline, and form; many schools drill techniques against a cooperative partner rather than full resistance	Most karate, taekwondo, and kung fu lineages, though quality varies enormously by individual school, not just style
Combat sports	Real, full-resistance sparring against an opponent actively trying to stop you, but confined to a rule set built for fair competition, not survival	Boxing, wrestling, judo, Brazilian jiu-jitsu, Muay Thai; no eye strikes, groin strikes, weapons, or multiple attackers
Reality-based self-defense / combatives	Built explicitly for an unpredictable, no-rules encounter: simple, instinctive techniques emphasized over technical mastery, scenario training for poor lighting, multiple attackers, or a weapon involved	Krav Maga and similar military- or police-derived combatives programs

The real mechanism behind why this distinction matters is called **aliveness**: training against a fully resisting, unscripted opponent, with real timing and real intent, is what actually transfers to a real encounter under stress. A technique drilled only in a choreographed, cooperative pattern, no matter how many years or what belt rank, doesn't reliably hold up the first time someone is genuinely trying to stop you. This is exactly why combat-sport training, despite its rule-set limits, tends to build more functional pressure-tested skill than a traditional martial art practiced without resistance, even though neither one specifically trains for a multiple-attacker or armed scenario the way reality-based combatives do.

None of this replaces choosing an actual program and training in it consistently, which is the same limitation as everything else in this guide: reading about the difference between these categories doesn't confer the skill any one of them teaches. It does mean the choice of program is a real decision worth making deliberately, not by whichever class happens to be closest.

For anyone who carries: weapon retention is a real, often-skipped skill

Military and law-enforcement doctrine treats unarmed struggle as a fallback, not a plan: the actual goal isn't to win a fight on the ground, it's to protect the weapon and create enough separation to use it, since most lethal-force encounters develop at very close range, commonly inside six feet, and very quickly. This is a real, distinct skill, disengaging, stabilizing control of an attacker's grip on the weapon, or escalating, and it's a genuine gap worth naming honestly: **weapon-retention training is commonly skipped entirely in basic concealed-carry instruction**, including Utah's own CFP course covered above, which teaches the legal and safety layer but not this.

This is also the real, honest limit of combat-sport training specifically for someone who carries: boxing, wrestling, judo, and BJJ are all practiced with the explicit assumption that no weapon is involved on either side. That assumption is exactly backwards for a person carrying a firearm, which is a genuine, separate reason reality-based combatives programs exist as their own category rather than combat sports simply absorbing them.

Write your own plan, in one sentence

Reading the safety rules isn't the same as being trained, and an unanchored safe isn't much of a safe. Finish this sentence with your own real plan:

"Before the end of this year, I will anchor my safe to a stud and sign up for
an NRA Basics course."

Know someone this guide would actually help? Being the person who's ready includes being the person who says something.

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