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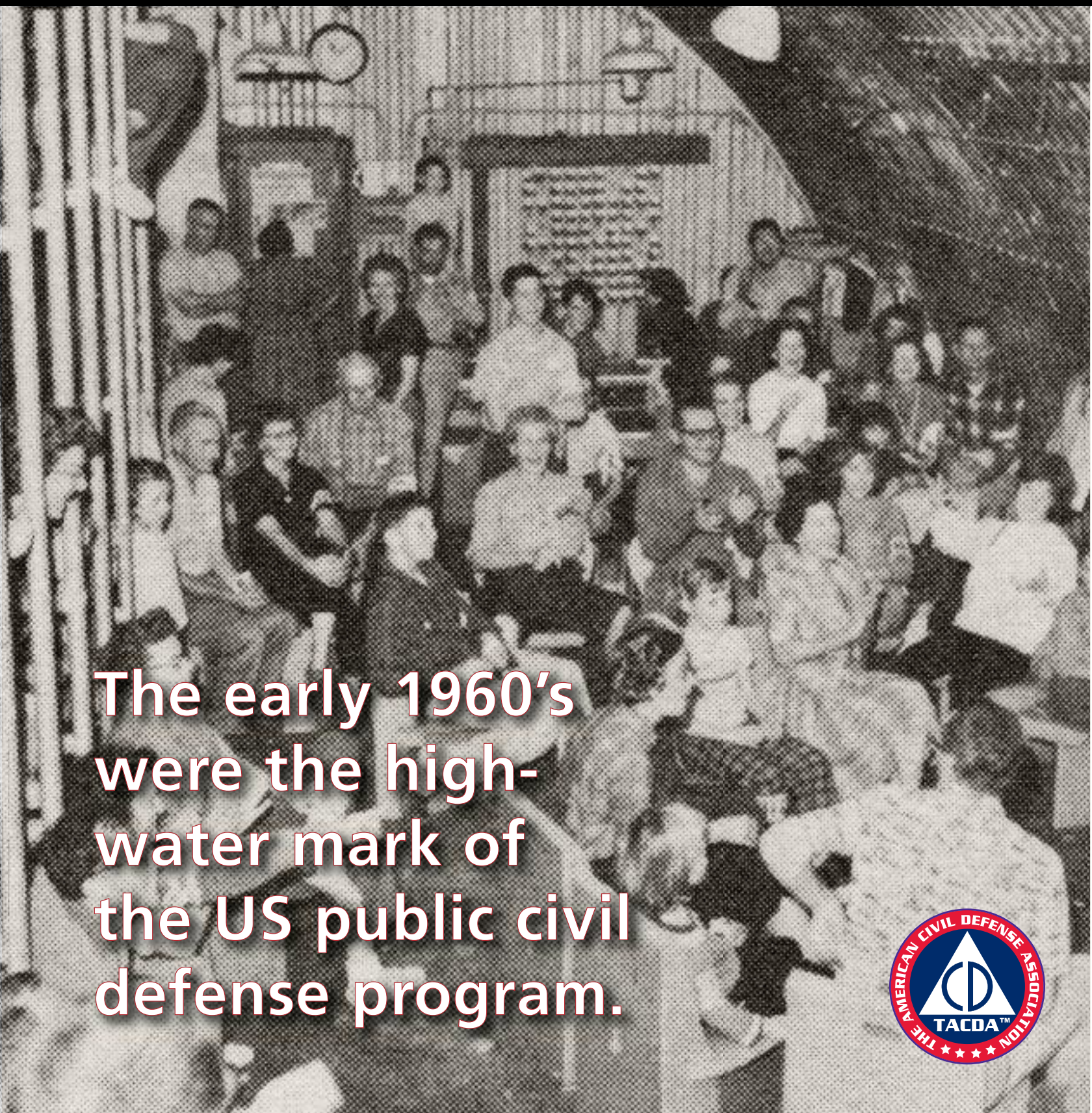

## The early 1960's were the high-water mark of the US public civil defense program.

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# IN THIS ISSUE






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## PRESIDENT'S MESSAGE

During this Presidential Administration's tenure, we have witnessed significant and ominous events that pose dire consequences for our future. These major events include:

- **Syria's civil war between the Assad regime and indigenous Syrian rebels.**

  This civil war has claimed over 100,000 civilian deaths. Iran and Russia's support of Assad is prelude to trouble in the Middle East.
- **The new regime in Iran under Hassan Rouhani.**

  Rouhani has brokered an international deal, supposedly to resolve the potential nuclear weapon development program in Iran. However, although major sanctions against Iran have been brokered, it appears that Iran's nuclear weapon development continues unabated. Israel's future response to these events is disturbing for the region and the US.
- **Russia's occupation of the Crimean district of Ukraine.**

  Vladimir Putin, with his revolving Presidency, has enunciated a doctrine of military intervention in support of ethnic Ukrainian Russians. Europeans should recall the 1930's with Adolf Hitler's annexation of Austria to secure the country's ethnic Germans and the subsequent chain of events that led to World War II. The Russian seizure of Crimea may again pose a challenge to the fate of the European Union. When Europe's leaders abandoned Austria in 1938, they conceded to Hitler the right to define the new Europe. After Austria had been abandoned, Europe betrayed democratic Czechoslovakia. Then, following the invasion of Poland, Europe realized it was engaged in the start of World War II.

These events, along with others, will likely result in dire consequences. I encourage you to prepare now.

Gary M. Sandquist
TACDA President

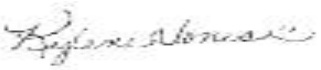
## FROM THE EDITOR

As I watch the events unfolding in the world around us, I am concerned for the safety and well-being of our fellow citizens. There is legitimate cause for alarm and we must work together to be a force for good within our circle of influence.

The American Civil Defense Association has been publishing the *Journal of Civil Defense* for over 50 years in an effort to educate our members on the best ways to prepare for challenging times. It is a powerful resource to understanding how to best prepare your family and home for a variety of disasters and emergency situations. We are pleased to present another valuable issue to add to your reference library. Now would be a good time to dust off past issues, or access them online, and review your preparations. Are you ready for an EMP? Nuclear assault? Economic collapse?

Thank you for your continued support to this worthy cause. Your donations help fund the production of the *Journal of Civil Defense*. Talented authors contribute their knowledge and experience with us in each issue, creating a wealth of information. I express my personal gratitude to each of them for their valuable contributions. The more prepared our community is, the safer we will all be.

Sincerely,



Kylene Jones
Editor, *Journal of Civil Defense*

# **Active Shooter, Bomb Threat,** or Just Rumors

*By Bruce Curley, TACDA Board Member*

*"There's an active shooter at South Carroll High School!!! God, I hope Eamon is safe! What can we do?"*

That is what I heard through my wife's sobbing when I picked up the phone at 2:48 on March 20, 2014.

As my son had played "Amazing Grace" on violin for the grieving families of the two victims of the Columbia Mall active shooting just two months earlier, my mind went into full alert overdrive, my vision narrowed, and my hands began to sweat.

"How do you know there is an active shooter? Who told you?" I asked my wife.

*"Kim," she said.*

Now I was even more alarmed. Kim is the mother of my son Eamon's girlfriend. She also works for the Carroll County school system … so … she would know, right?

I brought up the police scanner app on my phone and dialed into the Carroll County feed. I knew that they had likely gone to a secure channel, but it was another potential source of information. Then I began to text Eamon. Here are those text messages. Eamon's are italicized.

2:41 PM "What's the code red 4?"
2:41 PM "Is it an active shooter?"
2:42 PM *"They haven't told us I heard it's a bomb threat but it might be a rumor."*
2:43 PM "If so, stay out of the hallways and stay out of the doorways."

[I had taken an active shooter class from the Carroll County SWAT Team just three months ago. That was their advice based on a number of incidents they had studied. Shooters have an easy line of sight to target victims if they are in the doorway or hallway.]

2:43 PM *"We have to stay in class."*
2:44 PM "Keep texting."
2:46 PM "Listen to your police scanner app." I had him install a police scanner app and I was hoping he would have some channel to the outside world.
2:49 PM *"Apparently the police are here now."*
3:19 PM *"The cops are making sure the inside and outside of the school is clear."*
3:22 PM "Barricade the door if there's an active shooter in the building."
3:23 PM "Text to everyone in the other classrooms tell them to barricade the doors if there's an active shooter."
3:23 PM "Confirm you received this message."
3:24 PM *"Yes where did you find that out [about the active shooter]?"*
3:27 PM "Kim told mom."
3:28 PM "Turn your phone ringer off so you don't attract the shooter."
3:34 PM *"We're all in the back of the class."*
3:36 PM "Pray stay calm text everyone else to barricade their doors."
3:38 PM "Finally got the prerecorded message from South Carroll saying you were in a lockdown about time."
3:38 PM "Pat Rockinberg and Scott Strong [a Councilman] and I are on our way as are others."
3:41 PM *"Apparently the school received a threatening phone call at 2:18."*
3:41 PM "Be confident the sniper who gave us our training for the active shooter will be able to cap this guy quickly."
3:44 PM *"I'm not sure it's a shooter."*

With that, I had an adrenalin dump. Ever since my wife's tearful phone call, I had assumed that this was an active shooter situation and my senses went

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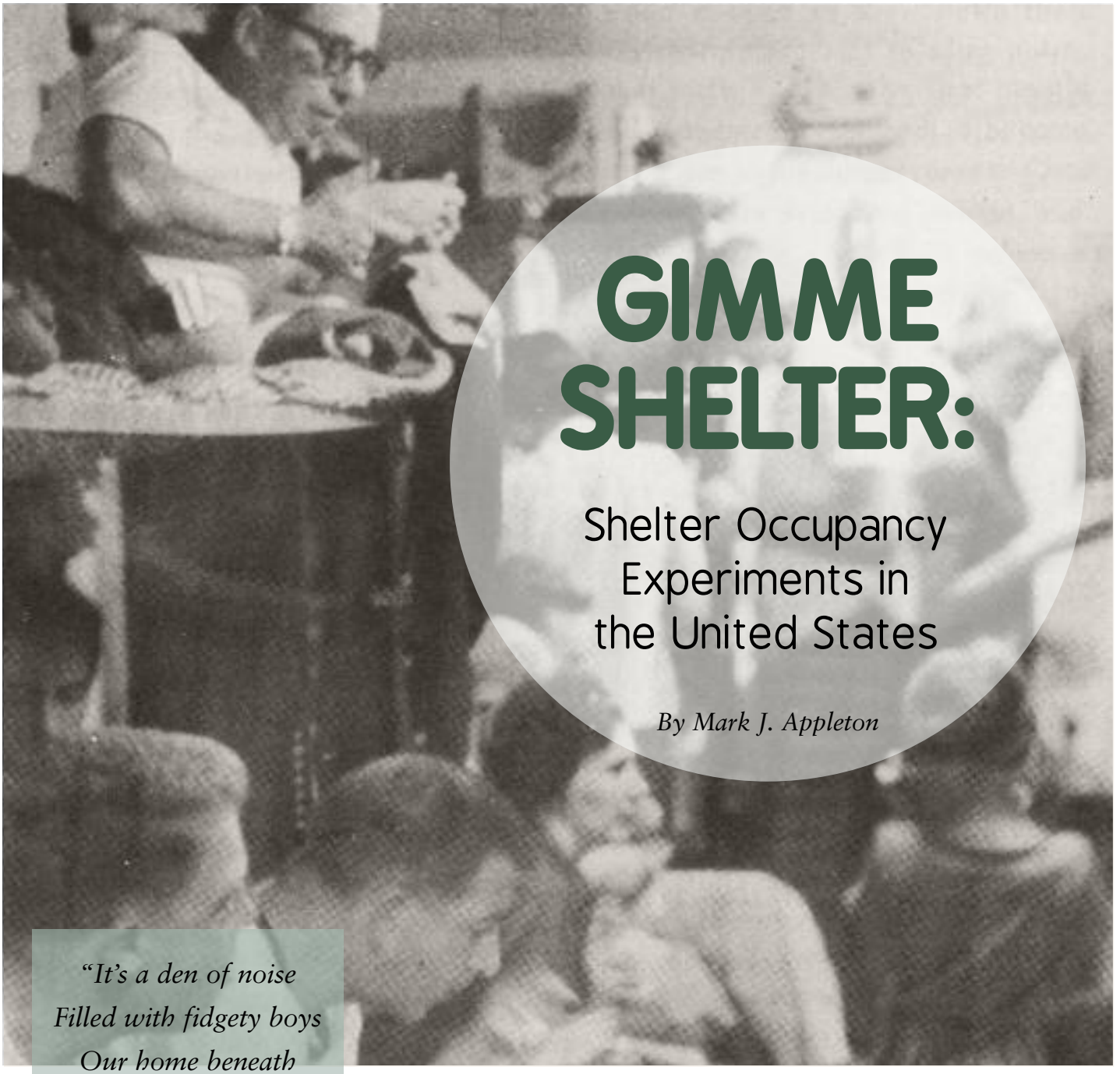


# GIMME SHELTER:

## Shelter Occupancy Experiments in the United States

*By Mark J. Appleton*

*"It's a den of noise*
*Filled with fidgety boys*
*Our home beneath*
*the firmament*
*And I'm glad it's a phase*
*Just lasting two days*
*Rather than something*
*that's permanent."*

-The Shelter

On July 31st, 1959, two young parents and their three children entered an 8-foot-by-9-foot soundproof room in the basement of a laboratory at Princeton University. They stayed inside for the next fourteen days.

This was the first shelter occupancy experiment in the United States. There had been previous stays in fallout shelters, but these had been essentially publicity stunts by shelter manufacturers. Princeton's "Project Hideaway" was the first effort to gather empirical data on how untrained people would react to being confined underground for long periods of time – but it was not the last.

The early 1960's were the high-water mark of the US public civil defense program. President Kennedy strongly supported civil defense, and two foreign crises in

quick succession led Congress to give substantial funds to the Office of Civil Defense (OCD) for the first time. Kennedy's shelter push is still visible in the rusting yellow-black fallout signs on public buildings across the country, and many experts and advocates hoped that it would lead to a large-scale public shelter program. However, if war did break out, no one knew how the average citizen would react to living in a fallout shelter.

To find out, government contractors recruited volunteers from the general population and locked them into simulated shelters for up to two weeks. The studies included volunteers as young as three months and as old as 79 years, including one study of 28 children supervised by only two adults. Groups ranged in size from 5 to 1,046.

*Life in the shelters was difficult. Common complaints included the noise of ventilation equipment, heat, the stench from the group toilet, the inability to bathe or wash clothes, and the quality of shelter rations and water.*

Early studies were tentative and exploratory, intended just to determine whether or not people could stand being cooped up underground for so long. They tended to use relatively spacious, luxurious simulators with amenities such as beds and kitchens. A typical example was the American Institute for Research's shelter simulator. The AIR's simulator had three-tier bunk beds, a "radio" playing CONELRAD messages, canned food, a stove, a moveable wall to adjust the space available to the occupants, and ubiquitous microphones and one-way mirrors.

As research progressed, and it became clear that the average American could tolerate more austere conditions than they had been given credit for, the shelters became more spartan. The University of Georgia built several shelters of this type, in one of the longest-running research programs the OCD sponsored. The Georgia researchers at times seemed to be trying to test how awful they could make conditions in the shelter before occupants decided they would prefer a lingering death to remaining inside. In their most extreme study, shelterees slept on bare concrete floors and lived on just 315 calories of OCD "biscuits" per day. Eight of the study's volunteers defected before it had finished – but twenty-two stayed inside.

Shelter leaders tried to follow a daily schedule, with mixed success. A typical schedule had shelterees waking at about 7:30. After group exercises and shelter clean-up, breakfast was served at 8:30. From 9:00 to 11:00 the children had "school" while adults filled out their study diaries and had other quiet activities. Group games were held from 11:00 to 12:00, followed by lunch and then a rest period until 2:00. A second exercise and game session was held from 2:00 to 2:30, then a training lecture and discussion session on civil defense topics. An afternoon snack was served at 3:30, followed by a second round of schoolwork for the children. Dinner was at 6:00, followed by group singing and whatever special events the shelterees could improvise. A second round of study diaries were filled out at 9:00, and lights out scheduled for 11:00.

Most studies followed a similar arc. After an initial period of disorganization, occupants settled into some sort of regular schedule. Morale and energy would initially be quite high. Over time, stress and boredom would take their toll and sprits would drop. Occupants never acted out violently, but became irritable, withdrawn, and apathetic. Then, some time after the halfway point, people would begin to perk up again, returning to normal by the time they were scheduled to leave.

Life in the shelters was difficult. Common complaints included the noise of ventilation equipment, heat, the stench from the group toilet, the inability to bathe or wash clothes, and the quality of shelter rations and water. Many shelterees complained about the bad taste of stored water and the dryness and flavorlessness of the OCD "biscuits".

Shelterees also often had trouble sleeping. Shelter sleeping accommodations varied between hard bunk beds and bare concrete, and with thirty or more people crammed into a small room, a single noisy person could disturb everyone else. In the most extreme

*"... despite the odors, the bad food, the lack of privacy, and the general discomfort, most shelterees described their experience as a positive one that they would be willing to repeat ..."*

case, the shelter manager – an unemployed 35-year-old youth instructor, who had not received any OCD training – became convinced the other shelterees were planning to remove him from leadership. He stopped sleeping altogether, apparently to ensure no one could plan against him while he was unconscious. After three days he became convinced the scientists were irradiating the shelterees through the one-way mirrors and started carrying a screwdriver for "self-protection". He was finally coaxed out after several mothers in the shelter slipped notes under the door demanding his removal for the safety of the children. He reportedly recovered fully.

Despite the hardships of living in a concrete box, most shelterees reported a strong sense of espirit de corps, especially in the smaller groups. In some cases people with legitimate medical or personal reasons for leaving insisted on remaining inside so as to not let the group down. Being trapped in a small room with complete strangers for days was an intense bonding experience; many shelterees continued to socialize with their fellows for some time after the experiment finished.

Shelterees proved impressively adaptable and innovative in finding ways to stay occupied while under cover. Card games and singing were very popular, especially since they could be done as a group. Religion was a particular source of strength; most groups improvised some form of non-denominational Sunday service.

In fact, despite the odors, the bad food, the lack of privacy, and the general discomfort, most shelterees described their experience as a positive one that they would be willing to repeat – and no shelteree reported any long-lasting negative consequences of their stay.

Interestingly, at least four large studies at the University of Georgia were racially integrated; between 10% and 20% of the shelter populations of 150 to 504 were black. No racial conflicts were reported in the surviving documents.

OCD researchers were particularly interested in shelter leadership. In most early studies leaders were appointed and trained by the researchers, although several studies were conducted with "emergent" leadership. Pre-shelter training, even for just a few hours, dramatically improved results; shelters with trained leaders had stronger morale, fewer mid-experiment defections, and higher post-study evaluations than shelters without. However, in a war, there would probably not be enough trained personnel for more than a handful of shelters; the shelterees would have to organize themselves, with the aid of whatever instructional material was stocked in the shelter.

The University of Georgia conducted several experiments between 1964 and 1968 where leaders were determined in the shelter through a byzantine system of cards and pamphlets. The first three shelterees inside were greeted by a sign appointing them "Temporary Shelter Managers", with leaflets to explain what that meant. They were then supposed to select a (rather sizable) temporary staff, who operated the shelter for several hours while passing out information cards for the other shelterees to fill out. The cards were then used to select a permanent staff on the basis of instructions in the temporary shelter manager's leaflet, who were then provided with still more pamphlets and manuals to explain their duties.

Despite repeated tinkering by the researchers in between studies, this system never worked very well. Staff members, particularly among the temporary staff, often didn't read or follow instructions properly, or decided that this was more than they had signed up for and just ignored their appointment. In one of the University's largest studies, the pamphlets for the permanent staff were accidentally distributed to the temporary staff, leading to much confusion. Eight members of the shelter staff defected from the experiment. Still, in every study the permanent staff was eventually formed and began to operate, and things settled into some sort of routine.

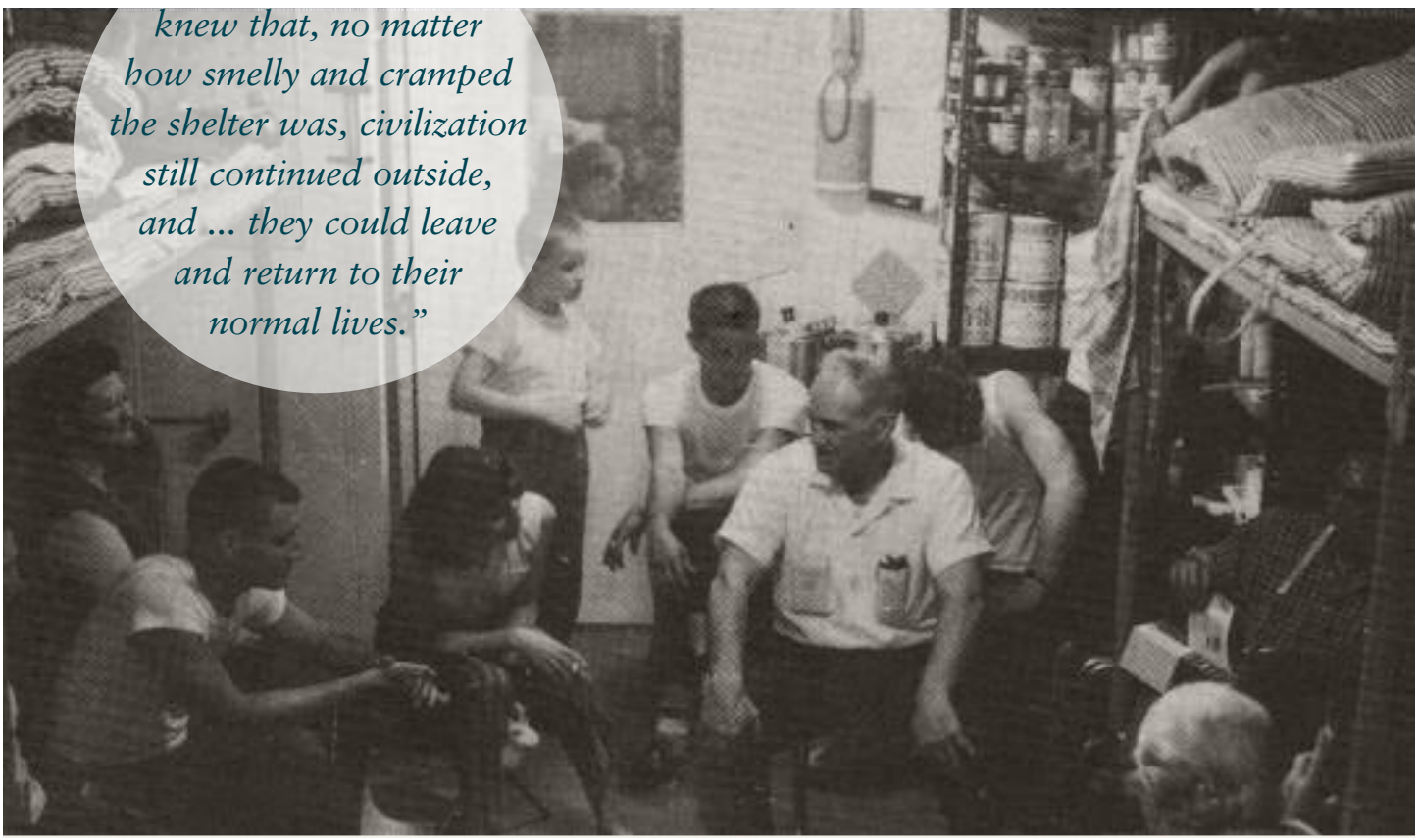
Obviously, these experiments could never truly replicate the conditions of nuclear war, and the scientists running them understood that. Their test subjects knew that, no matter how smelly and cramped the shelter was, civilization still continued outside, and that after a fixed period of time they could leave and return to their normal lives. A few studies tried to make the experiments more realistic: in one study in West Virginia, an actor with faked leg wounds was included among the shelterees as a simulated casualty. A second actor, "contaminated" by fallout and armed with a hatchet, attempted to force his way into the shelter, screaming "Let me in! Let me in! I'm dying! You god-damned bunch of Communists!", and had to be forced back out the door. Later in the exercise the shelterees improvised a defense plan with pen knives after they were told via "radio" that a band of looters was heading for their shelter. Even more dramatic approaches to realism were considered: the use of hypnosis to convince people that an attack was imminent or had taken place was discussed in a 1963 study. But the OCD decided that, while informative, such extreme measures could not be morally justified – not in peacetime, anyway.

Despite the limitations, research pressed on through the 1960's. Bad data was, after all, better than no data at all. By 1970, over 7,100 people had participated in 82 simulated shelter studies. However, after the early 60's, the projects gradually dried up. OCD researchers tried to find other sponsors for these studies, but were unsuccessful. Cresson Kearny at Oak Ridge National Laboratory conducted experiments using his famous "expedient shelters" as late as 1976, but his work was unique.

I have not found any documents specifically addressing why the studies ended, but it is not hard to guess. The shelter occupancy experiments followed the same arc as the civil defense program in general. The funding that flowed into the OCD dried up once the crises of the early 60's receded and Kennedy died, and it never came back. With little money to do anything, research of this sort must have seemed like a luxury. Except for Kearny's work, I have found no records of similar studies in the United States after 1970. ●

*Mark J. Appleton blogs on nuclear history at: http://atomic-skies.blogspot.com.*

*"... subjects knew that, no matter how smelly and cramped the shelter was, civilization still continued outside, and ... they could leave and return to their normal lives."*



# EXPIRED MEDICATIONS

## What You Need to Know

*By Cynthia J. Koelker, MD*

# Expired medications: Are they safe?

Are they effective? Would you give them to your children if there's no other choice?

These are among the most common questions posed to me in my Survival Medicine classes. Having personally taken multiple rounds of expired antibiotics over the years (and having lived to tell about it), I do believe they're generally both safe and effective. But is there any science to support my experience?

To begin, one needs to understand this: what exactly is a drug expiration date? Since 1979 the FDA has required pharmaceutical companies to list an expiration date on all regulated medications. The date does not indicate when a drug goes bad, but rather a date through which the drug is guaranteed to be good. (Compare this to the "best if used by" date on a can of condensed milk. The product is guaranteed to be of high quality until the printed date, but possibly much longer.)

So how are these dates determined? Drug manufacturers use two ways: real-time testing and accelerated testing.

In real-time testing, medications are stored under manufacturer-recommended conditions, for example, the temperature range listed on the original factory-sealed bottle (usually room temperature with low-humidity, not your steamy bathroom nor a freezer). At specified intervals, the medications are tested for appearance, drug content, and stability. If a drug expiration date is two years hence, the manufacturer has assessed test lots for stability and has shown the drug to be stable for at least this period of time.

Alternatively, drugs may be tested under high-temperature high-stress conditions, intended to simulate longer time periods. For example, a new drug is not likely to have undergone five years of real-time stability testing. However, if a medication remains stable for a specified time period under adverse conditions, it is presumed to be likely stable and therefore safe for a much longer period of time.

Manufacturer-determined expiration dates are found only on the original packaging and apply only to unopened meds that have been stored as directed. This date is likely different than that listed on your actual prescription bottle, which is more of a "do-not-use-beyond" date. Pharmacies commonly purchase pills in bulk then dispense them into smaller containers, generally with a shorter expiration date. The longest this will be is a year beyond the original prescription fill date. Although the original manufacturer's bottle may have a date two-three years in the future, your own vial will be dated for one year (or less) from purchase, due to uncertainty about actual storage conditions and patient use. (Of course, this does not necessarily mean your own pills have "gone bad." If both the integrity and color of the pills have not changed, they likely remain good.)

One tip on stocking up, then, is to request your prescriptions in the original packaging, typically bottles of 100 (or sometimes 30 or 90). Your doctor may not know this information, but for name-brand drugs, you can look it up yourself in a PDR (Physicians Desk Reference) or online. (A used PDR can be purchased online for under $5.) However, many generic drugs are not listed in the PDR, so you may have to ask your own pharmacist about certain medications.

Remember 9/11? After this tragedy the government began stockpiling additional drugs for emergency use, particularly those used for injuries and infections. But the world didn't end and the medications expired. So what then? Rather than discard millions of dollars worth of expired drugs, the government tested representative lots for extended stability.

This information is compiled in what is the primary source of information regarding the prolonged stability of medications, i.e. - the Shelf Life Extension Program (SLEP) database, established in 1986. The most useful data for the layman is related to drugs to combat bacterial and viral infections.

Interestingly, the government once stepped in and granted extended use on known expired drugs. In 2009 as a result of the H1N1 scare, two anti-viral (anti-influenza) drugs were granted an Emergency Use Authorization (which has since expired): Relenza for up to one year after the original expiration date, and Tamiflu for up to an additional five years. Tamiflu is easier to use, has fewer side-effects, and comes in blister-packs of ten. A full dose is one 75-mg tablet twice daily for five days, to be started within the first day or two of known or suspected influenza infection (since this anti-viral can also be prescribed for mere exposure to influenza, flu season might be a good time to obtain a prescription from your doctor, even if you're not sick).

Of greater interest are the antibiotics which were tested for extended use and found to be safe as well, for an additional one to several years. I share the following from my book, **Armageddon Medicine:** "Of the antibiotics tested, all passed assays for stability, potency, and appearance for at least a year beyond the original expiration date.

Of the lots tested, the following had their expiration date extended by the number of months indicated."

A summary of the SLEP data is available in *The Journal of Pharmaceutical Sciences*, Vol. 95, No.7, July 2006.

*The Medical Letter*, a respected professional newsletter,

| MEDICATION NAME | DOSAGE FORM | AVERAGE EXTENSION IN MONTHS (RANGE) |
|---|---|---|
| Amoxicillin sodium | Tablets | 23 (22–23) |
| Ampicillin | Capsules | 49 (22–64) |
| Cephalexin | Capsules | 57 (28–135) |
| Ciprofloxacin | Tablets | 55 (12–142) |
| Doxycycline Hyclate | Capsules | 50 (37–66) |
| Erythromycin lactobionate | Powder | 60 (38–83) |
| Sulfisoxasole | Tablets | 56 (45–68) |
| Tetracycline HCl | Capsules | 50 (17–133) |
| Silver sulfadiazine | Cream | 57 (28–104) |

addressed the topic of expired medications in both 1996 and 2002. Regarding safety, they say: "The only report of human toxicity that may have been caused by chemical or physical degradation of a pharmaceutical product is renal tubular damage that was associated with use of degraded tetracycline. . . Current tetracycline preparations have been reformulated with different fillers to minimize degradation and are unlikely to have this effect." (*The Medical Letter,* Vol. 44, Issue 1142, October 28, 2002).

Liquid preparations may be much less stable, and degrade more quickly if frozen or heated. *The Medical Letter* advises that "Drugs in solution, particularly injectables, that have become cloudy or discolored or show signs of precipitation should not be used." For oral medications, color changes may also be related to the dyes rather than the drugs. The primary concern pertaining to eye drops is microbial contamination once the preservative becomes ineffective.

Overall then, the concern is not regarding safety, but rather effectiveness. "Many drugs stored under reasonable conditions retain 90% of their potency for at least 5 years after the expiration date on the label, and sometimes much longer," per *The Medical Letter.*

The SLEP data does not describe testing for any controlled-release antibiotics, such as Biaxin XL and Augmentin XR. Controlled-release delivery systems vary from drug to drug and would require testing not only of the medication itself, but the delivery system as well, to assure adequate drug delivery. Therefore, the regular versions of both Biaxin and Augmentin may be preferable for stockpiling. Essentially the only advantage of controlled-release antibiotics is less frequent dosing.

In the case of antibiotics, a 10–25% loss of potency over time may make little difference in treatment, and could be made up for by higher dosing in serious infections. Even now, generic medications are allowed a variance of +/- 20% in terms of bioavailability, whereas brand-name drugs are permitted only a 5% variance. Theoretically this might yield a nearly 50% difference from one generic to another, or from pill to pill. However, in recent studies the FDA states the average difference in absorption between generics and brand-name drugs is only 3.5% (see http://tinyurl.com/kvtaad). Also, generics may not be equivalent in terms of integrity, dissolution properties, or coatings. In the case of generics, "Made in the USA" is probably preferable to those manufactured elsewhere.

To sum it all up, the good news is that most tablets and capsules are very likely safe and quite likely effective for several years beyond the printed expiration date. Using expired medications may suffice for a decade beyond the end of the world as we know it . . (but what then)?

So far I have dealt primarily with antibiotics. But what about other common drugs used on a daily basis? If you or someone you know suffers from diabetes, chronic pain, arthritis, asthma, hypertension, heart disease, or other serious condition, will medications be safe and effective beyond their expiration dates?

The following is also excerpted from my book, **Armageddon Medicine**:

Published data has documented the safety of many medications beyond their expiration dates. *The Medical Letter* (Vol. 44, Issue 1142, October 28, 2002) states: "84% of 1,122 lots of 96 different drug products stored in military facilities in their unopened original containers would be expected to remain stable for an average of 57 months after their original expiration date." However, the products tested were pri-

marily antibiotics and other drugs used for emergency purposes. What information is available regarding common medications for other acute conditions, or chronic conditions? Only scattered reports are available. Per the same issue of *The Medical Letter,* captopril and Theo Dur tablets remained chemically and physically stable for 1.5–9 years beyond their expiration dates; amantadine and rimantidine remained stable after storage for 25 years; another theophylline preparation retained 90% potency for about 30 years. *The Medical Letter* concludes, "Many drugs stored under reasonable conditions retain 90% of their potency for at least five years after the expiration date on the label, and sometimes much longer." They also mention that there has only been one reported case of dangerous degradation of expired medication, and that was of a type of tetracycline product that is no longer in human use (I do not know if veterinary antibiotics might use the old preparation, however). Overall then, the concern is not regarding safety, but rather effectiveness.

Additional concerns exist regarding liquid preparations, which may be much less stable, and degrade more quickly if frozen or heated. *The Medical Letter* advises that "Drugs in solution, particularly injectables, that have become cloudy or discolored or show signs of precipitation should not be used." For oral liquid medications, color changes may be related to the dyes rather than the active drugs, however. Epinephrine in EpiPens was noted to contain less than 90% potency at 10 months after the expiration date. A significant problem with eye drops is microbial contamination once the preservative becomes ineffective. In short, medications for chronic illnesses have not been tested.

Nevertheless, it seems reasonable to extrapolate from the known data on drugs that were included in the Shelf Life Extension Program, and conclude that most tablets and capsules would be both safe and effective for several years past their expiration date, when stored in the original packaging at the recommended temperatures.

However, there are a few additional questions that deserve attention: extended-release medications, generics, and drugs which require blood testing. Of the medications tested in the SLEP program, few, if any, were of the extended-release variety. Because Americans like the convenience of once-daily dosing, many drugs have been developed with delayed-release technology. This includes any medicine with the following in the name: XR or XL (extended release), SR (sustained or slow release), CR (controlled release), "slo," "dur," or "contin." The methods by which the medications are slowly released in the stomach or intestine may not be as stable as the active drug itself, and have the potential to be effected by extremes of temperature or humidity. The release may be via a semi-permeable membrane of the entire tablet, or on each individual granule within a capsule, or by a layered tablet designed to dissolve at different pH (acidity) levels. Under adverse conditions, the active drug may be released more quickly or more slowly than intended, yielding unpredictable clinical results. For example, an extended-release blood pressure medication that enters the blood stream too quickly may lower your blood pressure too much or too rapidly. If released too slowly, it may not reduce your blood pressure adequately or at all. The dose of medication in a delayed-release narcotic may be lethal if absorbed all at once.

Although I have found no specific data regarding stability of delayed-release or extended-release medications, I question whether they would be as stable or reliably absorbed as the regular versions of the drugs. Having your doctor change your medication now to a non-delayed-release preparation is a consideration. Of course, these rapid-release medications often must be taken more than once a day. Examples include Toprol XL, Wellbutrin SR and XL, Biaxin XL, Diltiazem SR and XL, Xanax XR, Effexor XR, and many others. Fortunately, the older, immediate-release versions are usually less expensive.

Another question is the stability of generic extended-release drugs versus name-brand drugs. Although I expect brand-name drugs would exhibit greater stability, their cost is significantly more for most preparations. And though I believe the quality of most generic medications is excellent, I have, however, encountered some generic drugs that are difficult to swallow, or crumble easily, or stick together, or become discolored. Some of my patients swear by one generic and claim another is ineffective. If possible, investigate the country of origin of your generic prescriptions. Again, "Made in the USA" is a good sign.

One last concern lies with medications where blood levels or lab tests are usually monitored. Of course, at TEOTWAWKI, it's unlikely that blood testing will be performed. Drugs with "narrow therapeutic windows" pose a special concern. These drugs are ineffective at low dose but toxic at higher doses, with a small window between where the drug is therapeutic. Such drugs include digoxin, lithium, and theophylline. When serum drug levels or other biologic indices cannot be measured, dosing must be determined by clinical result and side-effects. Anti-seizure medications, thyroid preparations, and even insulin may fall in this category.

To sum it all up, the good news is that most prescription tablets and capsules are very likely safe and quite likely effective for several years beyond the printed expiration date. Therefore, using expired medications may suffice for a decade beyond the end of the world as we know it. ●

**About The Author:** Cynthia J. Koelker, MD is the author of the book **Armageddon Medicine, How to be Your Own Doctor in 2012 and Beyond.** She also hosts the popular Survival Medicine web site www.armageddon-medicine.net and teaches Survival Medicine classes across the country. Currently available classes are listed on her web site.

Alternative

# COOKING METHODS and FUELS

*By Jay Whimpey, TACDA Board Member*

"Cooking is far more important than most people realize. It makes food much more digestible and kills numerous disease causing organisms."

There are many alternatives to the electric or gas range and oven that we use every day for cooking the foods that we eat. A single alternative method will probably not be satisfactory to address all of our needs in all situations so a combination of some of these alternative methods would probably be required for acceptable results. Each method and device has positive attributes but also some drawbacks with the main criteria being cost and convenience of use. As in any situation, we usually have to deal with a compromise in order to get reasonable results. In this article, I will cover a broad range of alternative cooking devices and fuels to provide the reader with a few ideas that can be adapted to their particular situation.

Cooking is far more important than most people realize. It makes food much more digestible and kills numerous disease causing organisms. It will become much more important in an emergency situation where food of questionable quality and from less than ideal storage conditions make the condition of the food we eat somewhat debatable. Commercial (pre-prepared) foods go through several "kill steps" in order to make sure the final product is acceptable. This usually means that the temperature has to be above 160°F for at least a few minutes in order to kill any organisms that may have been introduced up to that point. Food handling equipment must also be cleaned and inspected regularly in order to make sure the quality of the food is not affected. We should be no less diligent in making sure food is properly cooked during an emergency situation. The health and comfort of our families and even overall survival will depend on it.

Many homes are equipped with a fireplace or fireplace inserts that make alternative cooking relatively easy and convenient. A wood or coal fired fireplace or insert with a cooking surface can be a great asset in emergency situations. Although the fireplace may be designed primarily for space heating it can also function as a convenient cooking location. The drawbacks would include the fact that the fireplace or insert must be fired with a significant amount of fuel in order to heat properly. There also may be times during warm weather when it would be uncomfortable to use the fireplace insert for cooking. The cost of retrofitting a house with a fireplace or wood-fired stove can also be prohibitive. This is a feature that should be considered when buying or building a house. An existing fireplace without a cooking surface can be retrofitted with an insert for a reasonable cost that makes a great cooking area. Many inserts are designed for cooking with a horizontal surface immediately above the firebox with one sheet of steel that becomes very hot when the stove is being used. Cooking is very convenient when the fireplace is already being used to heat the house.

The earth-type ovens that are used

in much of the less developed areas of the world are also a good alternative. They can be constructed using local soils or clays and can be relatively efficient. They consist of a large amount of clay formed into a mound with a cavity in the middle and a chimney for flue gases, with an opening on the side for adding fuel and for combustion air. The interior can be lined with brick or tile to add some strength to the cavity. Solid fuel, such as wood or charcoal, is added to the interior cavity, ignited, and the fire is allowed to burn until all of the fuel is consumed and the oven is heated to operating temperatures. The cooking container is then placed in the oven and the chimney and side access are blocked with wood or steel plugs. The food is cooked with the heat contained in the mass of the oven. These ovens can actually be used for several days with the heat remaining in the oven before another fire must be used to re-heat the oven.

A small wood-fired camping stove might also be considered for cooking outside when the weather is warmer and the house does not need to be heated. Many small stoves are available for less than a few hundred dollars. These small stoves can be used on a patio, in the backyard, without any substantial alteration. Everyone is familiar with small charcoal type stoves where either wood or charcoal fuels may be used. These stoves cannot be used inside the house because of the substantial amount of carbon monoxide that they produce. It may be uncomfortable to use them outside when the weather is poor, such as with high winds, but most of time they could be used in emergency situations in an open patio or covered area. (It is suggested that wood or charcoal stoves not be used in an attached garage because of the possibility of carbon monoxide exposure. The effects of carbon monoxide are cumulative and exposure to a little bit of carbon monoxide over an extended period can be harmful or fatal.)

The "Green Egg" charcoal cooker is an example of a small stove/oven that would be very convenient for everyday use and in emergency situations. The stove has a ceramic body so it insulates fairly well and has a tight fitting lid and closeable vent so the rate of burn, and thereby temperature, can be controlled. There is a temperature gauge to indicate the inside temperature. The vents can be closed when cooking is completed and the charcoal or wood fuel inside the unit can be conserved since combustion will cease when the supply of oxygen is interrupted. It should be emphasized that charcoal fuels should be stored in a sealed container since the fuel will tend to absorb moisture and become harder to start and the overall fuel value will deteriorate.

The Rocket Stove - reduces the fuel required for equivalent heating of a pot by roughly 90% as compared to an open fire.

One of the best and least expensive small stoves that can be used outdoors is called the rocket stove. The stove consists of a small firebox area that is insulated with a relatively lightweight ceramic material. There is a chimney leading up to a cooking surface on top with a relatively large open area on the side for combustion air. There is a surface on top with some small supports to hold the pan above the combustion gas channel allowing efficient heating and thus maintaining a good draft of combustion gasses. There is usually a substantial opening on the side of the stove for feeding solid fuels such as large sticks or lumber.

These stoves are used in less developed countries to conserve on cooking fuel. The stove reduces the fuel required for equivalent heating of a pot or pan by roughly 90 percent as compared to an open fire. They are very easy to light because of the low heat load from the stove itself and the good ventilation. The fuel heats quickly with very little energy being lost to the surrounding structure of the stove. With plenty of combustion air, it can produce a substantial amount of heat in a short period of time. A handful of twigs can be used to boil a pot of water in less than 10 minutes and continue heating for 20 to 30 minutes after that with the coals left inside the stove. A wooden board, such as a 2X4, can also be used for longer cooking periods, because of the large firebox opening. There is a convenient stand for larger boards and sticks to be fed into the stove a little at a time. The bottom of the stove does not warm substantially when the stove is being used so it can actually be used on a combustible surface, such as a wooden or plastic table. Overall it makes a great alternative heating device and convenient camping stove but it must be used in well ventilated areas. With small twigs, leaves, and sticks as fuel (along with excess lumber if it is available), this can be a very inexpensive stove to use as well.

Small butane and propane stoves

Earth type oven-can be used for several days with the heat remaining in the oven.

A fireplace in your home makes alternative cooking relatively easy.

"Green Egg" charcoal cooker - is convenient for everyday use and in emergency situations.

have the great advantage of being able to be used inside the house while not creating and an excessive amount of heat. They are a very good alternative for the gas range because they create the minimal amount of carbon monoxide and can be used on an indoor counter top. The major disadvantage of these types of stoves is the cost of the fuel, especially with the pressurized containers that must be used for butane and propane. The cost can be roughly 10 times higher than the equivalent cost for alcohol or kerosene fuel used in other stoves. There are also safety considerations because the butane and propane fuels are pressurized and if the containers develop a leak a hazardous situation can develop. Butane and propane are heavier than air and will collect near the floor and can actually cause a gas explosion if an ignition source is present. It is suggested that bulk containers of butane or propane be stored outside the house in a well-ventilated area to eliminate this hazard and brought inside the house only when cooking operations are occurring. These stoves can also be used outdoors, if conditions permit it. Butane and propane fuels last indefinitely but the small cylinders which have elastomeric seals will have a limited shelf life of only a few years. The larger cylinders of propane with metal to metal seals will last indefinitely under favorable conditions.

Kerosene fueled stoves have been used for many decades for cooking indoors and outdoors. The stoves are available at a reasonable cost of roughly $100 and the kerosene fuel in bulk containers costs roughly $1.00 per pound. The fuel value of kerosene is comparable to butane and propane, but usually costs less. Kerosene stoves do not burn as clean as small gas stoves and can produce a noticeable amount of soot or unburned carbon depending on how the wicks are trimmed. Kerosene fuels should be handled outside since it is difficult to clean the spill and kerosene has a noticeable odor. The fuel should last indefinitely if protected from oxygen and moisture. You can find kerosene handling equipment, such as water repellent filters and appropriate containers, at the stove providers. St. Paul Mercantile or Lehman's are other good sources.

Alcohol fueled stoves and heaters are also in wide use and used almost exclusively in ships and boats, mainly because alcohol flames can be doused with water and the fuel also dissolves quickly in water and will not sustain a flame on top of the water. Alcohol stoves can be used indoors and they produce very little carbon monoxide when used correctly. Small alcohol stoves and lamps can be manufactured at home or purchased at a reasonable cost. An alcohol stove can be as simple as a one-quart paint can with a roll of toilet paper stuffed inside to be used as a wick. The lid of the container can be placed on the can to extinguish the flame and keep the alcohol from evaporating between uses. Alcohol burners were used in chemistry labs almost exclusively until natural gas became widely available. Denatured ethanol is probably the most popular alcohol fuel and tends to burn very cleanly although methanol and propyl alcohols can be used as well. Alcohol fuels are comparable to kerosene in cost when purchased in larger containers. The fuel will last indefinitely. Alcohol is very clean with minimal odors and will completely evaporate if spilled. The fuel will evaporate rather rapidly and can also collect near the floor and can create an explo-

*Continues on page 21*


# NOAA Weather Radio Primer

## *Monitor Severe Weather Alerts & More*

*By Joseph Pasquini*

One of the best values for our federal taxpayer dollars – and of interest to radio enthusiasts and the general public alike – is NOAA Weather Radio (NWR). Just about every scanner and communications receiver ever produced is capable of receiving at least the audio transmissions from this VHF-based informational and early warning radio service. With advances in technology, the format and the scope of this National Weather Service (NWS) offering has evolved and matured over the years in order to better serve its listening audience. Thanks to such improvements as enhanced RADAR imaging and analysis, the leveraging of SKYWARN spotters, and the implementation of computer synthesized broadcasters, NWS forecasters are more prepared than ever to deliver potentially life-saving information in a more timely and efficient manner.

## WHAT IS NWR?

Best defined by the National Oceanic and Atmospheric Administration itself, NWR is an all-hazards public warning system broadcasting forecasts, warnings and emergency information 24 hours a day directly to the general public. Weather messages are repeated every four-six minutes and are routinely updated every one-six hours unless rapidly changing events warrant more frequent updates.

Recognized as the "Voice of NOAA's National Weather Service," NWR is comprised of a nationwide network of radio stations broadcasting continuous weather information and is offered by NOAA as a free public service. Each National Weather Service office is assigned an area of responsibility, and local NWR stations broadcast warnings, watches, special statements, forecasts and other hazard-related information 24 hours a day throughout the coverage area. Today, NWR includes more than 1,000 transmitters covering all 50 states, adjacent coastal waters, Puerto Rico, the U.S. Virgin Islands, and the U.S. Pacific Territories.

In the 1950's, the old Weather Bureau - the precursor of the modern National Weather Service began broadcasting aviation weather across two stations. During the 1960's, stations were added for marine users. By the late 1970's, the system spanned over 300 stations and increased to more than 600 transmitters by 2001. According to NOAA, the number of stations today exceeds 1,000 with coverage rates of over 90%.

There are seven frequencies used throughout the NWR network: 162.400, 162.425, 162.450, 162.475, 162.500, 162.525, 162.550 MHz. Each station is licensed to broadcast on one of these frequencies. NWR stations, by design, have a typical range of 40 miles, but it does vary by terrain and conditions. Depending upon your location, you may be able to monitor more than one station. In order to receive the most pertinent information, you should obviously try to listen to the NWR station that specifically serves your area.

## NOT ALL BROADCASTS ARE WEATHER RELATED

The National Weather Service is considered the primary communications medium for the Federal Communication Commission's (FCC) Emergency Alert System (EAS) and Homeland Security's National Response Plan. The purpose of the EAS is to broadcast official emergency information to the general public within a specific region; the National Response Plan establishes a comprehensive "All-Hazards" approach designed to enhance the ability of the United States to manage domestic incidents. In keeping with this all-hazards mantra, NWR is capable of disseminating information regarding a litany of hazards well beyond those that are weather related. The types of scenarios that may trigger such a broadcast include:

- Natural (e.g., weather, floods, earthquakes, volcanic activity, forest fires, etc.)
- Environmental, whether accidental or intentional (e.g., chemical spills, nuclear incidents, etc.)
- Law enforcement and other local emergency support activities (e.g., Amber alerts, bridge collapses, terrorist attacks, etc.)

According to the NWS, the radio network may be used to disseminate non-weather related emergency messages when the information originates from an official government source, time is of the essence, and the public safety is at risk. When governmental officials want to broadcast a non-weather message on NWR, the officials provide text information about the hazard along with any other associated instructions directly to the local NWS offices. In order to facilitate the process, NWS offices typically have pre-arranged agreements in place with the various governmental entities. Such agreements will vary from region to region.

## SOUNDING THE ALARM

During an emergency, NWS forecasters interrupt routine NOAA Weather Radio broadcasts and send a special tone intended to trigger capable local weather radio receivers. When the 1050 Hz tone is received by the weather radio, the receiver is activated so that the broadcast can be instantly

## NWR BROADCAST DEFINITIONS

- WARNING: A warning is issued when a hazardous weather or hydrologic event is occurring, is imminent, or has a very high probability of occurring. A warning is used for conditions posing a threat to life or property.
- WATCH: A watch is used when the risk of a hazardous weather or hydrologic event has increased significantly, but its occurrence, location, and/or timing is still uncertain. It is intended to provide enough lead time so that those who need to set their plans in motion can do so.
- EMERGENCY: An emergency refers to an event that by itself would not kill, injure or do property damage but indirectly may lead to other things that could result in a hazard.

heard by the listener. Though this method was functional and undoubtedly saved many lives, it also became a nuisance to some listeners due to the radio being activated for events often many counties away from the listener. As a result, early radios were often turned off altogether by their owners in exchange for a good night's sleep. While the alerts had their benefits, it was clear that a mechanism designed to target alerts towards a specific audience needed to be developed if the broadcasts were to be most effective.

In 1994, NOAA began broadcasting coded signals using its SAME (Specific Area Messaging Encoding) protocol. The SAME format contains coding which represents the type of message as well as the county or counties affected. Rather than turning off their radios in order to ignore alerts for distant areas during the middle of the night, NWR listeners could instead leave their SAME-capable receivers turned on all the time, content in the knowledge that their weather radio would only awaken if an alert was issued for the county or counties in which they were interested in monitoring. As a result, overall broadcast effectiveness was increased.

Each digitally encoded SAME alert contains information about the type of alert, as well as the specific geographic locations affected by the alert along with the expiration time of the message. The SAME burst is then followed by a ten second broadcast of the standard 1050 Hertz warning alarm tone. Once the tone is sent, an audio feed composed of additional information is then received.

While any VHF receiver and many transceivers are capable of picking up the audio portion of NWR broadcasts, a NOAA weather radio receiver or scanner is required to monitor alert broadcasts. An appropriately programmed NWR SAME receiver will then turn on for that message, with the listener hearing the 1050 Hz warning alarm tone as an attention signal, followed by the broadcast message. Depending on the characteristics of the receiver, the digitally encoded SAME transmissions may be heard as a very brief static burst by the listener. At the end of the message, listeners may hear another brief static burst which indicates an end-of-message. Following the broadcast, the NWR station may either resume its normal programming or preempt it with special statements regarding the situation if it is ongoing.

The geographic locations are designated using Federal Information Processing System (FIPS) codes. Each county or similar political division in the US and its territories are assigned a FIPS code. In addition, certain special regions and wildcard settings can be assigned. In order to program a SAME capable receiver, you need to know the six digit code for county or counties whose alerts you want to monitor. Once you have that information, program your NWR SAME receiver following the directions supplied by the manufacturer. FIPS codes are available from NOAA's website at http://www.weather.gov/nwr/ or by telephone at 1-888-NWR-SAME (1-888-697-7263).

FIPS codes are in the format nSSCCC:

- **n:** A special designator for dividing a county into more than one region. This is especially helpful for counties covering large areas that experience drastically different types of weather. For an entire county, a '0' is used.
- **SS:** The state code.
- **CCC:** The county code.

For example, Schoharie County in New York is assigned a FIPS code of 036095.

- 0 indicates the entire county
- 36 indicates the state of New York
- 095 indicates Schoharie County

County codes are typically assigned by alphabetical order starting with 001 and incrementing by a count of 2. As a result, a buffer zone is created between each code designation allowing for future growth caused by county or sub-county designation changes.

## EVENT FILTERING

In addition to the FIPS information, SAME transmissions also include information detailing the type of event. In May of 2002, the FCC amended the EAS rules in order to allow for additional alert types. The NWS added numerous new civil emergency, weather and natural disaster event code types in 2004 as a result of the changes in rulemaking.

Warnings, watches, and statements that may activate the NWR SAME system include, but are not limited to, the following broadcast products:

### Weather Related Events

- Blizzard Warning
- Coastal Flood Watch
- Coastal Flood Warning
- Dust Storm Warning
- Flash Flood Watch
- Flash Flood Warning
- Flash Flood Statement
- Flood Watch
- Flood Warning
- Flood Statement
- High Wind Watch
- High Wind Warning
- Hurricane Watch
- Hurricane Warning
- Hurricane Statement
- Severe Thunderstorm Watch
- Severe Thunderstorm Warning
- Severe Weather Statement
- Special Marine Warning
- Special Weather Statement
- Tornado Watch
- Tornado Warning
- Tropical Storm Watch
- Tropical Storm Warning
- Tsunami Watch
- Tsunami Warning

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# ROUTE SECURITY

*By Chuck S.*
www.survivalblog.com

Much has been written regarding bug-out bags, vehicle choice and maintenance, weaponry and retreat locations but the one issue missing is how you are going to get there. There are numerous issues to consider in selecting your primary and alternate routes to your bug-out location and hopefully the following will assist in your route selection and maintaining security en route.

Route selection can depend on numerous decision points such as fuel locations, traffic load, choke points and law enforcement roadblocks/checkpoints. Do the highway entry/exit points already have gates on them to close them off during inclement weather? Later in the article these issues are addressed in more detail. One of the most important points to remember is to travel both the primary and alternate routes and become familiar with them. Pay particular attention to what is normal today and make notes to refer to while traveling when the going gets tough. Get to know the folks at the mom and pop convenience stores so they will recognize you when the going gets tough - a little conversation and smile cultivated today could go a long way in the future.

Keep in mind that you are probably the safest while the wheels are rolling, as well as having an increased ability for evasive actions.

### PRIMARY ROUTE:

This should be the quickest route between point A and B. However, it very well may not be the best, most secure route. Is it traveling an interstate highway? If you are able to have enough lead time before the masses panic then you may be able to beat the rush of traffic that may use that route to escape the city. If you are looking at using a less traveled route such as a state highway or rural route, be sure to drive those and become familiar with them.

One of the inherent problems with interstate highway travel is that exits can be few and far between as well as the fact that they tend to run between larger cities and those could be where you might encounter the most problems. Also, most Americans have become accustomed to driving interstates and rarely get off those highways so they could become congested in short order. Of course, there is an advantage to having plenty of gas stations and maintenance facilities available in the event of mechanical problems.

### ALTERNATE ROUTE(S):

Always have a back-up route and be familiar with it. Traveling on less used state highways could afford one much more security, but there would be a trade-off in available services. While these routes could take longer; they might offer a higher security level. Often, on secondary roads, there will normally be more detours available to you such as county or farm roads that will allow you to bypass areas and still continue in your desired direction.

### DETOUR AROUND LARGE CITIES:

Check your maps and investigate the routes around large cities. Avoid them at all costs. It may take an extra hour to detour, but could well save you countless hours in road jams and lessen your odds of confrontation.

### ROAD ATLAS/MAPS:

Purchase a large road atlas and use wet erase or permanent markers for marking off primary and secondary routes using different colors. Get an atlas with large print so you can read it in low-light conditions or so that you don't need to find your "readers" to be able to see it. Also, if you have a traveling companion, have them review the maps and notes often to stay informed of what is ahead of you.

## POINTS TO CONSIDER

### CONCRETE / CABLE BARRIERS:

Numerous interstate highways have concrete/cable barriers dividing the lanes of traffic. Once you are on these roads you are committed until the next exit or highway. Normally there are few "official use only" turn around locations along these types of barriers so it is very important to travel the route and make note of these turn around locations. You can also record the GPS coordinates. I prefer to make notes on map sheets and a route planner. The biggest problem that I see in traveling on routes with these types of barriers is that it will be very difficult to reverse your route, as turning around could very well not be an option. Cable barriers (those two-four cables running in the center median) to prevent head-on collisions could possibly be defeated with any large set of bolt-cutters. One of my biggest concerns about highways with these types of barriers is that it

would be very simple to get caught in your direction of travel and not be able to reverse direction in the event of an accident or roadblock.

ENTRY GATES:
One of the observations that I have made over the past few years in snow/ice prone areas is that a number of cities are installing gates at the entry ramps so that in the event of inclement weather they can close off highways due to bad road conditions. They will more than likely use those during other "times of uncertainty."

CHOKE POINTS:
Keep your situational awareness up at any choke point such as four-way intersections, exits and overpasses.

FUELING LOCATIONS:
More than likely, at some point you will need to purchase fuel (if the grid is still up). Someone should always stay with the vehicle, this is not a time to mess around. Do not go shopping, get in and get out. If you are serious about not being tracked to your end location, do not use credit or debit cards as they can be easily tracked. Only take in a set amount of cash and get back out to the vehicle. If you pay for $40 in fuel and only pump $38 – forget about the change and get back on the road. Always keep your vehicle in view and whoever stays with the car needs to get out and maintain situational awareness. Another note, prior to getting out of your vehicle, take out whatever cash you need and put it in a pocket for the purchase. Never take out your wallet and allow others to see additional cash, or cards.

HILLS/HIGH POINTS:
If, along your route, there are hills and high points, stop before the crest and walk up. Use binoculars to view the road ahead and look for anything unusual.

ABILITY TO DIVERT/CHANGE ROUTE:
Keep in mind that each time you pass a turn off to an alternate route there is a good chance of not being able to make

that choice again. Basically, once you pass the point of no return, you are committed.

ROUTE SECURITY MEASURES:

Stay aware of your surroundings while driving at all times! Try not to get bunched up in a lot of traffic, always keep plenty of distance between you and the car(s) in front of you to allow you plenty of time to react in the event of an accident or other event. Never let yourself get boxed in, you never know if those around you are partners in crime.

Have a prearranged cover story and ensure all vehicle passengers are on the same page. If law enforcement personnel feel anything strange about the driver or occupants they will try to question everyone separately and then compare notes to see if you all are relaying the same story. Rehearse the story often and be sure and add in personal details which should include a name and mention that they are aging or sick. Try to work the sympathy card and stress that time is of the essence.

Try to have something from the bug-out location to show "officials" that you have a reason to be going there. Rent a post office box in the nearest town and show receipt, have a utility receipt or, better yet, a copy of your deed (this would be a last resort as giving the actual location may be recorded). Just have something to ease their curiosity and allow you to proceed.

RURAL AREAS:

This issue could be a mixed bag, while rural folks tend to be friendlier and willing to help out a stranger, who knows what could happen if things start going south. Depending on the rural area that you are planning on traveling through, they could have their fair share of bad guys as well. One way to mitigate this would be to keep up on news from the area. Are there a lot of burglaries, dope busts and such? If so, might be best to avoid.

ITEMS TO HAVE IN YOUR BUG-OUT VEHICLE:

- Compass/GPS
- Fix-a-Flat
- Spare fuel filter
- Fuel dryer/antifreeze (in case of bad fuel or water in fuel)
- Spare tire(s)
- Serpentine belt
- Coolant
- Duct tape
- Flat repair kit
- Water (yes, I know you know that, but it bears repeating)
- Tools for normal road repairs
- Neutral earth tone tarp or camo netting (in case you have to stop – to help hide vehicle)

BUG-OUT VEHICLE SECURITY MEASURES:

Disclaimer: I'm not advocating violating traffic laws, just giving you food for thought.

Turn off inside dome light so that if you open the door in the dark, you can do so without notifying everyone in the area that you getting out of the vehicle. If you can't turn it off, cover with duct tape or pull the bulb out.

If you need to see inside the vehicle, purchase a light that will plug into your power outlet and also try to find one with a red lens- even better.

Push bar or complete grill guard and install fog or driving lights with easily accessible interior on/off switch. If you feel that you are in an area with security concerns switch off your headlights and drive with the fog/driving lights.

Figure out how to disable your brake light switch- (normally) a spring loaded switch mounted in contact with the brake pedal. A simple wrap of electrical tape to hold the switch compressed will do the trick. Brake lights can be seen for miles and no reason to advertise.

If you have to stop for rest or repairs get at least a couple of hundred yards off the road in an out of sight location. Also, I would recommend that you don't sleep in the vehicle. Get 25 - 50 yards away in a hide sight where you can watch the vehicle. Today's vehicles are very quiet inside and you may not be able to hear approaching footsteps or voices and it could be very easy for a couple of bad guys to trap you inside.

Keep your maintenance up to date on your vehicles, especially the tires.

Make sure that everyone traveling with you has a set of keys and keep a set hidden somewhere under the car just in case you get separated.

In summary, I hope that this article can help you determine the safest, most secure routes and has given you some things to consider in your route selection. Look at your routes as if you were someone with ill-intent watching for prey, don't become a victim and most of all maintain your situational awareness at all times. God speed and may His blessings be with you.

**An added note:** I might add a 12-volt air compressor that plugs into your cigarette lighter or clamps to battery cables. Fix-A-Flat will not really inflate a tire all the way. On larger SUV and light truck tires, TWO cans of Fix-A-Flat are needed, or one can and an air compressor. Tire flat repair kits, featuring the push-in type plugs are cheap and available at auto parts stores.

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- Winter Storm Watch
- Winter Storm Warning

**Non-Weather-Related Events (National)**

- Emergency Action Notification (not currently implemented)
- Emergency Action Termination (not currently implemented)
- National Information Center

**Non-Weather-Related Events (Relayed from Local Authorities)**

- Avalanche Watch
- Avalanche Warning
- Child Abduction Emergency
- Civil Danger Warning
- Civil Emergency Message
- Earthquake Warning
- Evacuation Immediate
- Fire Warning
- Hazardous Materials Warning
- Law Enforcement Warning
- Local Area Emergency
- 911 Telephone Outage Emergency
- Nuclear Power Plant Warning
- Radiological Hazard Warning
- Shelter in Place Warning
- Volcano Warning

**Administrative Events**

- Administrative Message
- National Periodic Test (not currently implemented)
- Network Message Notification (not currently implemented)
- Practice/Demo Warning
- Required Monthly Test
- Required Weekly Test

While many NOAA weather radios and now scanners and communication receivers offer SAME decoding using the county FIPS codes, a few high-end NOAA weather receivers also feature the ability to filter received messages by both the FIPS regional code and the event type.

## CONCLUSION

For the average listener, monitoring NOAA Weather Radio on a normal, uneventful day may not be very exciting. But, when severe weather or other emergencies strike, not only is the information interesting – it more importantly has the potential to save both lives and property. For radio enthusiasts, however, NWR offers more than weather and other hazard information … it offers an often interesting and exciting source to monitor during turbulent events. And, even if you don't take advantage of the radio services offered by the National Weather Service, monitoring more distant NWR stations makes an excellent means of determining VHF propagation! ●

**NOAA Weather Radio Frequencies (in MHz)**

| | |
|---|---|
| 162.400 | 162.425 |
| 162.450 | 162.475 |
| 162.500 | 162.525 |
| 162.550 | |

## ALTERNATIVE COOKING METHODS, *continued*

sive gas mixture at temperatures above 55°F. Care should be taken to keep the containers sealed when not in use.

Solar ovens are also very useful under most conditions. All that is required to fuel the ovens is direct sunlight which is available a good portion of the day in most climates. A portable oven can heat a small container of a few quarts up to 300 to 350°F in a relatively short period of time and hold it there as long as sunlight is available. The oven must be directed to the sun and usually has to be adjusted at least every half hour to keep the stove pointed at the sun and working properly. The sun oven is a great addition to any emergency preparedness effort.

Small electric appliances can also be used for cooking as an alternative to normal cooking methods. Small convection ovens or microwave ovens can heat quickly using a small generator and a minimal amount of fuel in that generator for cooking necessary items. The generator must be placed outside the home to avoid carbon monoxide poisoning. The electricity produced by the generator is used inside the home through an extension cord for cooking small items. The efficiency will be dependent on the size of the generator and the heating device used, but this particular means of cooking should not be overlooked in emergency situations. It is suggested that one practice with any of these cooking devices to determine the actual efficiency and practicality of cooking using these methods.

There are many inverter type generator sets that use a DC generator driven by the engine with an internal inverter to produce AC current. These generators tend to be very fuel efficient since the engine can run at lower speeds when the load is relatively small. Most of the generator sets used in the past have an AC generator that must be driven at a specified speed by the engine to keep the frequency of the AC current within acceptable limits. When shopping for a generator set you should consider the efficiency, portability, and noise level of the generator. These factors become very important factors in emergency situations.

I hope this information has been useful in presenting a few ideas about how to cook when normal utilities are not available. As expressed earlier, a combination of these devices and methods should be used to take care of cooking needs during various situations and conditions. The usefulness, practicality, cost, and convenience will be different for each of these devices and methods and will depend on your individual situations. Please make a plan and prepare in advance to be able to properly prepare your food in times of emergency when many of the conveniences that we are used to may not be available. You will be generously rewarded for your efforts. ●

# ASSEMBLE YOUR SCANNING GO-KIT

*By Joseph Pasquini*

**Hurricanes… Wildfires… Tornadoes… Ice Storms… Flooding… Blackouts.** While these sorts of events may have nothing to do with the ending of the Mayan calendar, you nevertheless will probably be faced with the need to seek immediate shelter at least once during your lifetime due to some sort of emergency situation. Should that time arrive, timely and accurate information will be indispensable. A scanning go-kit will help you be ready both before and after the alarm sounds.

As electronic hobbyists and technology enthusiasts, we are already familiar with public safety radio communications and the value of information that such exchanges can provide to both the intended recipient and to the monitoring public alike. Unfortunately, the rapid turn of events that are so common during an unforeseen emergency often cancel out our best of intentions to simply grab a portable radio scanner and "go where we need to go" and "do what we need to do" to protect our families and ourselves.

It is just these types of stressful situations that leave us wanting for clear, concise and credible information without a source from which to receive such information in the first place. Sure, a web-enabled smartphone or a portable AM/FM radio will both provide broadcast media news feeds … assuming that the infrastructure is still capable of providing content. In addition, as anyone accustomed to monitoring a scanner will tell you, what is ultimately reported by the news media does not always equate to what is heard over the public safety radio airwaves as the events actually unfold in real time.

## THE GO-KIT CONCEPT

One tool that many first responders leverage is that of the go-kit which is nothing more than a collection of the basic implements and accessories that they will need to effectively do their job during an emergency. The contents of such a kit depend upon the responder's responsibilities as well as the projected duration and potential scope of events. This go-kit methodology is also utilized by some amateur radio operators who volunteer to provide emergency communications to governmental and charitable organizations during disasters or public service events.

With a portable scanner serving as its core component, the go-kit concept can be easily applied by anyone wishing to stay informed during an emergency. Basic items such as a pen and a pad of paper can also prove invaluable for recording information. But, what else might you need?

## DEVELOP A CHECKLIST

Before you can truly start to assemble an effective scanner go-kit, you need to give some consideration to the typical type – and especially the duration – of events that you believe you may need to confront. Events of shorter durations will obviously require fewer kit supplies than events of longer durations. The more supplies you need, though, the larger your kit bag or box will need to be.

In addition, you should also consider how often you expect to refresh your kit. For example, stocking your kit with lots of extra batteries for your radio(s) and other battery-consuming tools make perfect sense. However, what about battery shelf life? There's nothing worse than having a slew of batteries only to find that they're all dead when you need them most!

Let's take a closer look at some of the "must have" items that will build the underpinning of your scanning go-kit.

### Scanner

Your scanner selection is the most important (yes, and most expensive) decision you'll need to make regarding your go-kit's composition. The model and capabilities of scanner really depend on your unique monitoring requirements. Ideally, you'll want a scanner that is capable of monitoring your local emergency services, NOAA weather radio, local amateur radio repeaters for Skywarn traffic, and public utilities. The ability to receive AM/FM broadcasts is an added benefit. When deciding on a unit, be mindful that some are capable of only analog reception whereas others are capable of both analog and digital. Uniden (www.uniden.com), GRE America (www.greamerica.com), and Radio Shack (www.radioshack.com) are some of the more widely known scanner manufacturers.

**Batteries**

On the surface, this item seems like it should not need any further explanation. However, it really does, thanks to two questions: "What kind of spare batteries should I pack?" and "How should I pack them?"

In a nutshell, there are three general categories of AA batteries: rechargeable, alkaline and lithium. Thankfully, the last few generations of scanners have standardized upon the AA format. Rechargeable batteries are great for normal operating and help us to save some money while protecting the environment. Unfortunately, most of them are not so great when sitting in storage. Alkalines perform well and tend to last longer in storage. For superior shelf life, lithiums reign supreme and can better tolerate cold temperatures, however, they are also the most expensive choice. For purposes of your go-kit supply, you will most likely want to consider alkalines or lithiums.

Let's not forget the proprietary battery packs commonly seen on the older generation of scanners. If your go-kit radio uses a proprietary pack, you will also need to keep your AC charger included with your kit. Some radios also take "dry-cell" AA battery packs which are often available as an optional accessory.

Once you've decided on what kind of batteries to use, you may be tempted to simply, loosely toss some spares into your kit. Stop. Don't do this! Loose batteries are a mess just waiting to happen. Rather, protect your batteries – and your kit – from accidental battery discharge by storing your spare batteries in an appropriately sized battery holder. Another suggestion that works well is to use the plastic in which your batteries were packaged in the first place. A couple of rubber bands will keep the package together and your batteries neatly organized.


An example of a basic scanning go-kit (Photo credit: Joe Pasquini)

*Assemble Your*

# SCANNING GO-KIT

SCANNING GO-KIT CHECKLIST

Essential items include:

- **MOAB 6 go-kit bag** www.511tactical.com, $69.99
- **Radio scanner receiver** from numerous manufacturers
- **Rubber duck antenna**
- **Extra batteries** properly stowed in battery holders
- **Fisher Space Pen** www.spacepen.com, $20
- **Small notebook**
- **Flashlight**

Optional items you may want to also consider incorporating into your kit:

- **Telescoping antenna** for improved reception
- **Antenna hanger for mounting the antenna on a car window or file cabinet** for further improved reception
- **Hardcopy listing** of all of the systems and frequencies programmed into your radio
- **Moist towelettes and/or hand sanitizer**
- **Good quality multi-tool** you never know when this might come in handy
- **Shortwave receiver** for national and international news coverage
- **Radio instruction manual(s)**
- **Basic first aid kit**
- **Energy bars or similar snacks**
- **Map of your surrounding area**

### Pen and Paper

While any pen or pencil will suffice for go-kit duty, you're better off selecting a writing implement that will withstand a little punishment. Builders wanting for something durable yet inexpensive may want to consider a Fisher Space Pen which features a pressurized ink cartridge capable of writing under virtually all kinds of conditions and temperatures. Thanks to a little experimentation, I've found that the refills for these pens also happen to fit a nice array of varying types of pen bodies as well! For those preferring pencils, consider a decent-quality 7mm mechanical pencil filled with extra lead.

While you're shopping for a pen or pencil, don't forget to buy some paper. Small spiral–bound notebooks, which can be purchased inexpensively from any of the office supply chain stores, are perfect for jotting down important information, new frequency information, etc.

### Flashlight

You never know the kind of conditions in which you may need to utilize your kit. After all, disasters both great and small can happen 24x7x365. This means you need to be prepared to potentially operate your radio equipment in the dark. Having a scanner with a back lit keypad will be a definite plus. However, you should also include a quality flashlight in your kit as well – leave the discount store flashlight at home. Maximize your spare batteries by using flashlights that are powered by the same size of battery as your radio.

## PUTTING IT ALL TOGETHER

As the saying goes, a home is only as good as its foundation. And the foundation of the scanning go-kit is the go-kit bag itself. This part of the selection process is really a personal decision based upon your needs and what you're willing to spend. Small "tactical" or "deployment" bags are commonly used for go–kits as they feature some expandability and lots of attachment points and/or compartments. Bags specifically designed with the needs of law enforcement or military usage in mind often have a pocket specifically dedicated for radio storage.

The sling-styled Mobile Operation Attachment Bag (MOAB) series from 5.11 Tactical (www.511tactical.com) offers such functionalities and is well suited to serve as the basis of your scanning go-kit. The series is available in two different sizes: the smaller "MOAB 6" ($69.99) and the larger "MOAB 10" ($99.99). Both bags feature pockets for smaller odds and ends as well as a central compartment with more than enough room to carry a larger scanner and power adapter. The smaller compartment on the main strap is perfect for carrying spare batteries or even a small handheld FRS or amateur radio transceiver. Since they are MOLLE (Modular Lightweight Load-carrying Equipment) compatible, the bags can likewise be extended even further through the addition of accessory pouches. It's difficult to pass on either of these bags as they are well made and are competitively priced. In addition to the MOAB series, 5.11 Tactical also offers the "COVRT 18 Backpack" which you may also find useful if you later decide to expand your scanning go-kit into a completely decked out "bug-out bag."

## CLOSING THOUGHTS

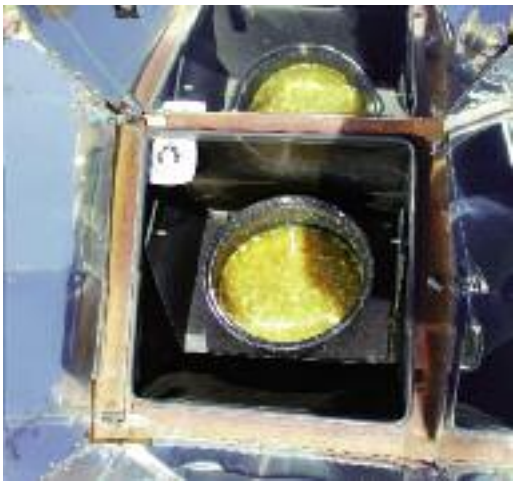
What I have presented has been intended to be used as a starting point for generating your own thoughts regarding "emergency go-kit building." Hopefully, I've given you some ideas for putting together your very own scanning go-kit. As you can see, the options are endless, and there is no reason at all why you cannot further expand your kit if you are so inclined; you're only limited by your imagination… and by the size of the bag! Nevertheless, the core kit components discussed within this article should be considered as the bare essentials. Whatever you decide, though, keep in mind the basis behind a well-maintained kit is that it should be functional yet still portable enough to *actually bring with you when you need it the most*. After all, that's what this all about in the first place, right? ●

# WHITE RICE

## A Great Storage Grain

*By Kylene Jones*

*www.theprovidentprepper.org*



White rice, or polished rice, has had the husk, bran and germ removed. This milling process changes the flavor, texture and appearance while significantly extending its storage life. It also strips the rice of critical nutrients which are abundant in the original form. Some raw rice is parboiled before milling. This process of soaking in water and steaming under intense pressure pushes the natural vitamins and minerals from the rice bran layer into the kernel. In the United States, white rice must be enriched, a process where vitamins B1, B3, and iron are added. Do not rinse enriched rice before cooking! Rinsing will wash away the critical nutrients.

White rice is typically found in one of three types:

**Long Grain** – results in firm, fluffy rice.

**Medium Grain** – has a soft, moist and sticky texture.

**Short Grain** – is very stick and sometimes called sushi rice.

Each of these types of white rice are good candidates for longer term food storage. Let your personal preference dictate the variety of rice you store. One cup of cooked white long-grain rice contains 4.2 grams of protein and 206 calories, but is missing many other essential nutrients. Be sure to store beans and dehydrated vegetables or fruits to complement the meal and ensure nutritional needs are met.

White rice will store up to 30 years in a cool, dry location if properly packaged. Rice is simple to prepare by simmering in water and therefore requires minimal fuel for cooking. It can be ground into flour and used in baked products. It does not contain gluten, which makes it unsuitable for use in yeast breads. (Rice flour can be used as a thickening agent.) It might be a great longer storage option for individuals that have Celiac disease or are gluten intolerant.

Making rice is as simple as stirring 1 cup of dry white rice into 2 cups of boiling water. Return to boil, stir, reduce heat to low, and simmer for 20 minutes or until done. We prefer to add little salt and butter to improve texture and flavor. Spices can dramatically change the flavor and prevent the diet fatigue which might result from eating the same white rice day after day.

Cooking rice in a solar oven requires less water to make great rice. Try a ratio of 1 cup white rice to 1 1/3 - 1 1/2 cups of water. The photo shows the delicious Lime Rice we created using stored foods and the energy of the sun.

## LIME RICE

2 cups of white rice
3 cups of hot water
2 teaspoons chicken bouillon
½ teaspoon lime pepper
½ teaspoon granulated garlic or
1 clove minced fresh garlic
1 tablespoon dehydrated onions
1 can of diced green chilies
½ of a bunch of fresh chopped cilantro
(optional)

Preheat the solar oven while you gather the ingredients. Place all ingredients in the black pot. Solar cooking time can vary depending on the sun. It will usually take around an hour or so. Frequent checking allows valuable heat to escape and increases cooking time. I don't check my rice until it has been in the oven for an hour and I see condensation on the inside of the oven glass. It is almost impossible to burn anything in a solar oven.

## RICE-A-RONI

1 cup long grain rice
1 cup broken vermicelli pasta or
thin spaghetti
2 tablespoons butter or oil
1 tablespoon chicken bouillon granules
1 teaspoon dried parsley
1/8 teaspoon white pepper
2 ½ cups hot water

Brown vermicelli and rice in butter or oil in a saucepan. Add all other ingredients and cook for 20 minutes. Rice will be light and fluffy. I used an insulated thermal cooker to make this batch of Rice-A-Roni. I browned the rice and pasta in butter in the cooking vessel, added the water and other ingredients, and brought it all to a strong boil. Then I placed the pot in the insulated cooker and covered it with a small blanket to increase efficiency. After a couple of hours, I opened the pot and served steaming hot, delicious rice.

Consider adding white rice to your mixture of stored grains. Beans and rice make a delightful, filling combination. While white rice may not be as nutritious as some of the other options, it is simple to prepare, versatile and delicious.

# FALLOUT PREPARATIONS

## A more natural approach

*By Dr. Kyle D. Christensen, DC, ND, MH*
*www.drkylechristensen.net*

The possibility of radiation exposure and nuclear fallout are ideas few want to entertain. However with a few simple preparations, you can minimize the potential effects of exposure and keep you and your loved ones healthy. With the recent meltdown of the nuclear facility in Fukushima, Japan those interested in preparedness have once again been alerted to the dangers of a radioactive fallout. Many have purchased, with a kind of knee-jerk response, enough potassium iodide for them and theirs. But with the purchase of KI (potassium iodine) there is often little understanding of what it does and the potential risks involved. I've talked with a few who felt that maybe they should start taking it as a precautionary measure, even though there was no imminent risk or danger in their area.

I have discovered that few really know what to do and how to prepare for a possible nuclear event. Let me share with you my understanding of how to prepare, prevent, and recover from exposure to radioactive fallout.

When a nuclear bomb goes off or a

nuclear reactor melts down, metals or minerals that are not normally a problem become unstable and have more energy than they should. The majority of the radiation emitted during a reactor meltdown or a nuclear detonation is the radioactive isotope Iodine-131. Normal non-radioactive iodine has 127 neutrons and protons and is stable. There are also Cesium-137, Strontium-90 and many radioactive metals/minerals which can pose dangers. But because Iodine-131 is the major player, that is what the media focuses on. Exposure to this radioactive iodine will most likely end up in the thyroid gland, which is where iodine is primarily utilized. If the iodine introduced in the thyroid gland is radioactive, the potential for injury or damage to the cells is very high. The most common cancer associated with the Chernobyl disaster was thyroid cancer, which was three times higher than the normal rates of thyroid cancer. Understand that using the supplement potassium iodine as your sole treatment, addresses only the thyroid gland and neglects all other aspects of radiation poisoning.

Here's how it works. The thyroid gland, like other organs and glands in the body, have receptor sites or loading docks specifically designed for the specific nutrients that are needed. If the nutrients go by a loading dock and the space is already occupied, it will move along until it finds an open space. The thyroid gland craves and prizes iodine and has a lot of docking ports for it. When we breathe in or ingest iodine, whether it is healthy iodine (found in salt, seaweed or a potassium iodine tablet) or if it is the radioactive isotope Iodine-131, it will most likely end up in the thyroid gland. The key during a radioactive exposure is to have all of the receptor sites, or loading docks, occupied by healthy iodine so that there is no room for the radioactive iodine. We can do this by taking potassium iodide or enough of the other forms or sources of iodine to ensure there is no room for the radioactive iodine to be absorbed.

Taking the recommended dose of potassium iodine can provide approximately 24 hours of protection. Once the iodine is accepted and assimilated, it is off loaded by the receptor site and then distributed throughout the body via the lymphatic system. The receptor site is then available for more iodine, good or bad. Typically one dose or 24 hours worth of protection is enough, assuming you are able to get out of harms way within that time.

Just because potassium iodide can flood the thyroid receptor sites, does not mean that continually or persistently taking it will be of benefit. Taking KI (potassium iodine) just in case and when not directed by local public health or emergency management officials is just plain fool-hardy and can have severe consequences to your endocrine system and even damage a healthy thyroid gland. Additionally, if you are suffering from an autoimmune disease such as Hashimoto's it may be best to avoid potassium iodine altogether. There are other options we will discuss, but it is my opinion that if the situation does not warrant dosing up on high levels of potassium iodine, don't do it.

Learn how to protect yourself from the effects of radiation exposure with proven, safe and natural alternatives.

When directed by local public health or Emergency Management Officials to take KI (potassium iodine), you should do it. And if at all possible: Get Out of Harms Way! According to the FDA, the following doses are appropriate to take just prior to and during a likely contamination with radioactive iodine:

- **Adults** should take 130 mg (one 130 mg tablet OR two 65 mg tablets OR two mL of solution).
- **Women who are breastfeeding** should take the adult dose of 130 mg.
- **Children** between three and 18 years of age should take 65 mg (one 65 mg tablet OR 1 mL of solution). **Children who are adult size** (greater than or equal to 150 pounds) should take the full adult dose, regardless of their age.
- **Infants and children** between one month and three years of age should take 32 mg (of a 65 mg tablet OR mL of solution). This dose is for both nursing and non-nursing infants and children.
- **Newborns** from birth to one month of age should be given 16 mg (of a 65 mg tablet or mL of solution). This dose is for both nursing and non-nursing newborn infants.

Fortunately, there are many natural methods and means to deal with radiation exposure that have proven successful with both the prevention and care of radiation injury. Much has been observed and learned as a result of the nuclear disasters in Hiroshima, Nagasaki, Chernobyl and Fukushima. My professional recommendations are to use the potassium iodine only during the risk of a direct confrontation with radioactive fallout and when directed by authorities (assuming you can get information from officials). However, before, after and during times of risk I would employ several of these other approaches as you are able.

## More Modest Approaches

The respected biochemist, Dr. Dan Newell has formulated a protocol using Standard Process supplements that will help protect your body in the chance of radiation exposure.

These supplements can be taken over a long duration and will have very little if any negative side effects on the body. His recommendations for an adult size are as follows:

- **Cal-Ma Plus** (4-6/day) - the main focus and KEY is to help your body chelate (deactivate) the major radioactive isotopes Strontium and Cesium which will aggregate in bone tissue causing even worse damage. According to Dr. Newell's research and experience, this is the most significant part of any radioactive exposure.
- **Cataplex F** (4/day): Great bioavailable source of iodine (lower dose than Prolamine Iodine)
- **Super EFF** (3-6/day) – Standard Process founder Dr. Royal Lee

originally formulated and worked on this product specifically for workers on shipyards that were at risk of being exposed to high levels of radiation

- **Cyruta Plus** (3-6/day) – Dr. Lee also originally worked on this product for workers in shipyards.

## Additional Herbal Approaches

Eleuthero (formerly known as Siberian Ginseng) is one herb that stands out and has been validated through much research as a result of the Chernobyl nuclear disaster. Research shows its ability to counteract the effects of radiation. In addition, it has long-standing adaptogenic and immune supporting functions. Eleuthero reduces the side effects of radiation exposure. In animal and in vitro studies, Eleuthero has demonstrated effects of radiation protection (Yonezawa et al.,1989) and stress reduction (Takasugi et al., 1985). After the 1986 Chernobyl nuclear disaster, many Russian and Ukrainian citizens were given Eleuthero to counteract the effects of radiation. Eleuthero was also commonly used in Russia in oncology hospital departments to increase the tolerance of the patients to the adverse effects of chemotherapy and radiation therapy (Gvamichava, 1966; Khatiashvili, 1964, 1966; Kupin, 1986a, 1986b).

Seaweeds such as Dulse, Kelp, Irish Moss and Bladderwrack provide an abundance of natural iodine and offer protection for the thyroid gland. Generally all seaweeds are good sources of iodine.

**Chlorella and Spirulina:** In Chernobyl, Spirulina was used to help save many children from radiation poisoning. By taking 5 grams of Spirulina a day for 45 days, the Institute of Radiation Medicine in Minsk even proved that children on this protocol experienced enhanced immune systems, T-cell counts and reduced radioactivity. Israeli scientists have since treated Chernobyl children with doses of natural beta carotene from Dunaliella algae and proved that it helped normalize their blood chemistry. Chlorella algae, a known immune system builder and heavy metal detoxifier, has also shown radioprotective effects. Because they bind heavy metals, algae should therefore be consumed after exposure to any type of radioactive contamination. Five grams per day based on a 150 pound body size is recommended.

With radiation exposure also comes heavy metal toxicity. Truth be told, because of the air we breathe, the food we eat and the water we drink, most of us are carrying too many heavy metals that have no business within us. For this reason, cleansing and detoxifying the body, radiation exposure or not, can be a very good thing.

Cilantro is referred to as the poor man's chelation therapy. The herb cilantro, which we love so much in our salsa, has the ability to grab hold of harmful heavy metals, deactivate and escort them out of the body. I often recommend two bunches of cilantro per week to my patients, which can be used with juicing, salsa, salads or with homemade pesto.

These herbs and several others are cited on the NIH.gov website as excellent protection and treatment for radiation. See the article entitled: Radioprotective Potential of Plants and Herbs against the Effects of Ionizing Radiation

Additional Herbal Standouts include: Rosemary, Gingko Biloba, Panax Ginseng, Dandelion, Turmeric, Maitake, Reishi and Cordyceps Mushrooms, and Ginger.

- http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2127223/
- http://www.naturalnews.com/026079_radiation_exposure_rosemary.html
- http://www.lef.org/magazine/mag2011/jun2011_Optimize-Your-Internal-Defenses-Against-Radiation-Exposure_01.htm
- http://www.larryrmiller.com/gpage6.html

## Bentonite Clay

Not only can you bathe in this to help pull toxins from your skin. Bentonite clay is used by Russian nuclear workers (slathered on their skin) before working with nuclear material. You can use it internally, safely, in moderation to help pull out toxins and absorb radiation. Bentonite clay is used in traditional medicine for treating heavy metal poisoning.

Bentonite clays can be used internally and externally. If you are using clay internally be sure that the product states that it is safe for internal use. Due to metals and other impurities that may be found in the clays, not all of them can be taken internally. If you are unsure of the purity of the clay contact the manufacturer.

**For internal use:** mix 1 to 2 teaspoons of the clay in at least 8 ounces of

### CILANTRO PESTO

**Ingredients**

3 garlic cloves garlic
peeled and coarsely chopped
2 cups fresh cilantro tightly packed
1/4 cup extra virgin olive oil
¼ cup parmesan cheese - crumbled
2 tablespoons pumpkin seeds or
pine nuts
2 tablespoons lemon juice
1/2 teaspoon sea salt
1/2 teaspoon freshly ground
black pepper

**Directions**

1. Place the garlic and cilantro in a food processor fitted with a metal blade. With the processor running, slowly add the oil, lemon juice, salt, and pepper. Process until smooth.
2. Serve with noodles, in sauces, as a sandwich spread or make into a salad dressing.
3. Make several batches and keep in the freezer. Frozen pesto will keep for nearly a year.

water. Drink the mixture and follow with another 8 ounces of pure water. It has also been found useful to add fiber to this process to help move the clay along through the digestive tract.

**For external use:** mix 1 to 2 tablespoons in a bowl with water or apple cider vinegar. Apple cider vinegar is antibacterial which may help alleviate some of the underlying causes that aggravate acne. Add the liquid slowly until you develop a muddy consistency. Wash and feel fantastic!

Clays may also be used as a bath. Add 1 to 2 cups of clay to your hot bath water and soak in it for at least 30 minutes for best results.

A foot bath is also useful for detoxing by adding 3 to 4 tablespoons to a tub of hot water and soaking your feet in it for at least 30 minutes. (http://www.foodmatters.tv/articles-1/bentonite-clay-a-safe-and-effective-detox-from-radiation-build-up)

**Miso Soup:** made from a paste of fermented soybeans has shown benefits repeatedly in preventing and treating radiation exposure.

One of the main ingredients in miso soup is kelp, but it also includes mushrooms (which have their own health benefits, as well). (http://naturalsociety.com/miso-soup-protects-against-radiation-exposure/)

**Iodine or Betadine:** If you find yourself unprepared and all you have at your disposal is iodine tincture or betadine, they can be useful. Do not drink or ingest iodine or Betadine! Avoid them if you have an allergy to iodine (which you most likely do if you're allergic to shellfish).

If stores in your area are out of potassium iodide tablets don't fret. Painting on iodine or Betadine will provide a good bit of protection against radioactive iodine. While not as reliable as ingesting potassium iodide (and not as thoroughly scientifically studied), your body will absorb the iodine, which will then travel to and hopefully protect your thyroid gland.

**How to paint on iodine:** Purchase a bottle of 2% tincture of iodine or Betadine at your local drugstore (you may have to ask for it at the pharmacy). Paint about 2 mL or so on your abdomen (a little less for children) and allow your skin to soak it in. Do this daily until the iodine remains a reddish-orange color on your skin (doesn't fade). When it stops fading, it means your body has enough iodine. If you're consistently exposed to radiation, you'll want to keep painting on the iodine every day.

So imagine with me if you will, we are in a situation where radioactive fallout may become an issue. No high radiation yet, but the potential is there. Here are my recommendations for me and mine. Do as many of these as you are able. These measures will also help to cleanse and detox the body in a non-radiation emergency situation. Determine for yourself how much you may want or need to do. But I suggest you have things on hand well before the threat of "an event."

## Preventative/Preparatory Measures

1) Begin taking the Standard Process Supplements as directed
2) Take daily Herbal Tincture – 2 dropperfuls 2-3 times daily.

Here is an example of a FALLOUT FORMULA you can make:

1 cup (8oz) Eleuthero root- cut
½ cup (4oz) Ginger root – cut
2 TBS (1oz) Dandelion root – cut
2 TBS (1oz) Maitake mushroom - whole
2 TBS (1oz) Reishi mushroom - slices
2 TBS (1oz) Cordyceps mushroom – powder
1 TBS (1/2oz) Ginkgo biloba leaf – cut

Blend all of the above in 40% vodka to fill a 2 quart jar. Shake daily for at least 2 weeks then strain.

3) Take Chlorella or Spirulina – 3 to 5 grams daily
4) Eat Cilantro daily – about 2 TBS
5) Miso soup – at least 2 cups daily
6) Move out of harms way as best as possible
7) Drink plenty of pure water

Immediately Before and During Fallout
1) Take KI (potassium iodide) as directed
2) Take Bentonite internally and use in a bath externally
3) Continue with Cilantro, Miso, Standard Process and Herbs

**After Fallout**

Continue supplements as these will continue to cleanse and heal your body whether you've had a significant exposure to radiation or not. All of these natural herbal protocols are safe for long-term use and can benefit for detox purposes whether you've participated in a nuclear disaster or are just participating in life on a polluted planet.

***FDA Disclaimer:*** *These statements have not been evaluated by the Food and Drug Administration. These products or recommendations are not intended to diagnose, treat, cure or prevent any disease. Consult a licensed health care professional before starting any supplement, dietary, or exercise program, especially if you are pregnant or have any pre existing injuries or medical conditions.* ●


# Are You Ready for an EMP?

*By TACDA Staff*

According to information provided in an article written by Rachel Ehrenfeld on Sunday, January 26, 2014, it is a good time to review your level of preparation for an EMP. A few points of interest include:

- The United States' electric power grid is more vulnerable today that it was 50 years ago.
- On December 23, 2013 the Defense Threat Reduction Agency issued a solicitation "to…conduct satellite system performance modeling, satellite system response-to-environments modeling, high altitude weapons electromagnetic pulse effects modeling, and disturbed atmosphere effects modeling…" However, on January 21, 2014 the Department of Defense stated: "The Department is unaware of any increase in the threat of a deliberate destructive use of an EMP device. Further, any reporting to the contrary by those without access to current threat assessments is both reckless and irresponsible…" It would appear that the "growing EMP threat seems to escape the Obama administration."
- The Geneva Accord (effective January 20th) increased an Iranian EMP threat. Iran's President Hassan Rouhani stated "in accordance with the parliament's law, in the future, we're going to need 20,000 mega watts of nuclear produced electricity and we're determined to get it at the hands of our Iranian scientists."
- Most of our satellites and civilian infrastructure remain exposed to an EMP threat.
- Former Secretary of Defense Don Rumsfeld stated, "Countries have placed ballistic missiles in ships—dime a dozen—all over the world. At any given time, there's any number off our coasts—coming, going. On transporter-erector-launchers, they simply erect it, fire off a ballistic missile, put it down, cover it up. Their radar signature's not any different than 50 others in close proximity." (Pentagon Press Briefing, September 16, 2003)
- Ambassador Henry F. Cooper stated, "… a single nuclear burst over the center of the nation could bring down the grid for an indefinite period and several hundred million Americans could die within a year. Solar storms can also bring down the currently unhardened grid with similar consequences—and a major solar storm will happen one day… The only question is when?"

Considering the current state of affairs, now is a really good time to check your preparations. Could you survive without public utilities or without purchasing food or supplies for an extended period of time … perhaps a year or more? Evidence is clear that the odds of an EMP and/or solar storm are increasing. Are you ready? ●

Read the article in its entirety at http://www.rightsidenews.com/20140126633792/us/homeland-security/initiatives-to-limit-emp-threat-to-u-s-power-grid.html

into hyper drive. Eamon was on the ground in the event and reporting that it was not. I had to trust him, now, regardless of what Kim had told Robin.

Law enforcement did an outstanding job of responding to this event, securing and protecting a large number of high school students, and methodically checking all classrooms, closets, rooms, hallways, doorways, vehicles, and the nearby woods for a shooter or explosives. They were great and I owe them a debt I cannot repay.

A summary of events was not released until 10:00 PM through the Carroll County Sheriff's Office. South Carroll High School administrators and the Carroll County Superintendent never transmitted it to parents. So, it was only read by those who, like me, found it on the Carroll Fire Wire on Facebook after a search in Twitter under "South Carroll High School Code Red."

More dangerous, neither parents nor students were informed during the event of what was happening.

The Carroll County Schools Superintendent sent out a letter the following day stating that he followed "procedures" and did not notify the parents until they had all the facts.

Here is the clear and present danger of the Superintendent's approach. In the meantime, people can die due to that huge information gap. Had that been a real event, law enforcement, fire companies and other professionals would need to do their job unimpeded. Because parents heard nothing from school officials, many flocked to the school.

Had a message been issued by the school asking parents not to go to the school, most parents would have listened and those who need to take care of the bad guy could have done their job. If the school authorities informed parents and students of the actual calls, both parents and students would have had facts on which to act, rather than rumors. So, most people were still getting most of their information, and misinformation, from their friends and their kids.

There has to be a better way to inform parents or the public in general during these emergencies. We have the social media tools to be able to do so. We need to use them better.

## Lessons Learned for Other Parents

- Teach your children well. Active shooters, terrorist attacks, in addition to the other ageless natural and man-made disasters, are a reality. Teach your children to be aware, react and think for themselves, have a plan, and be ready to be innovative and creative to deal with the current reality that even the best plan cannot possibly cover.

- Understand the power of text messages. My wife, son, and I, as well as most parents and high school students involved in this one, communicated via text messages. Know and understand the power of a text message to inform, save, help, teach, and reassure. Or, suffer the consequences when it is full of rumors, half-baked ideas, and misinformation.

- Make sure your children have a cell phone and charger in their backpack. They can only communicate if the cell phone is charged. With an extra charger in their backpack and their car, they are better able to recharge their cell phone as the hours pass. Gorillagadgets.com has very good external batteries for cell phones and car lighter chargers, but they are also available at many electronics stores and online.

- I understand the need for official school messages that are crafted, debated, and administratively and legally approved in advance. However, in the heat of the event and especially early on, there is a critical need for FACTS, real facts, to inform and obviate the natural human tendency to invent rumors to explain an emergency. School administrators need to be aware that their lack of communication inflames the emergency rather than improving it.

- Consult a second and third source for

all facts and rumors. My wife was acting on information from a trusted source when she called to tell me there was an active shooter at the school. When I checked with my son and the Maryland State Trooper, they had different information. Thank God, in this case anyway, my son and the Trooper were correct and my wife was wrong. That may not be the situation the next time.

- Download a police scanner app to your cell phone BEFORE an event. They usually include EMT, fire, rescue, and other channels as well. Although they will often go to a secure channel in an emergency (bad guys listen in, too), you may have another source of information to monitor events and to help you decide what to do.
- Use Twitter's power to find out information in real time. Some of the best information I received was by entering "South Carroll Code Red" in Twitter. As in past emergencies I've worked, Twitter is a valuable source of real information in real time. Now with photos, you can read about and view an event and react to it faster.
- When I asked my son what went on the day after the event, he answered in typical teenager fashion with one word, "Nothing." So I asked, did they catch the guy who did this?" "No. He disguised his voice." So, sadly, the bad guys know how to use technology...and how to use it in a very bad, life-ending, way.

The reality is that we live in the world where there are, God help us, school shootings, active shooters, and bombings. There never was and never will be a completely safe world, country, or neighborhood. We have to make sure our children know how to deal with that world, as much as they know how to say their prayers, balance a check book, eat healthy, enjoy healthy relationships with good friends, and learn how to support themselves.

Take a few minutes to hug your beautiful children tonight. I realized how blessed I am when I watched my wife caress my sons back and kiss his cheek at dinner as she had tears in her eyes. Remember that loving them and raising them right involves preparing them for the reality of this world as we find it, not as we would like it to be.

The complete account of this incident can be found at http://www.poetslife.blogspot.com/2014/03/active-shooter-bomb-threat-of-just.html. ●

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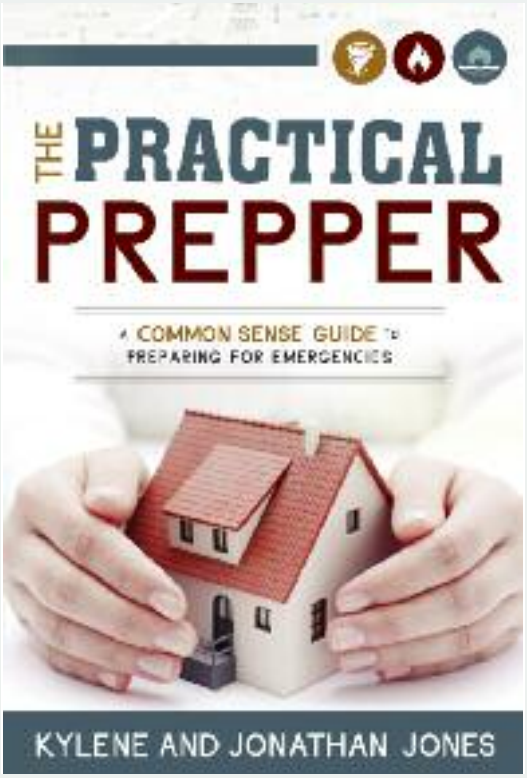


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