

Disaster Preparedness for the Medical Professional at Home and in the Workplace

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Dedication

I dedicate my article to the late Dr. David McCann, a friend, mentor, and colleague to many as well as myself. A finer humanitarian would be extremely hard to find. His family's loss is also the world's loss. He will be greatly missed.

Most MDs were trained, in some capacity, to handle victims of disasters. Some are drilled on a regular basis, but very few physicians are truly prepared for a major disaster that directly impacts them and/or their family while at home, in school, in their car, or in a clinic setting (at work). The lack of data in the literature very loudly supports this notion. There appears to be an unstated mindset among some physicians that their hospital will remain an oasis amidst the turmoil, and that they, as physicians, will also be able to reach the hospital to help. Or, that they already know enough about preparedness. These ideas are dead wrong. Just take my Community Emergency Response Team class. There are over 400,000 citizens (overwhelmingly non-medical) who are trained, serving over 3,000 communities. They are our community's boots on the ground.

The 9.2 Alaskan earthquake/tsunami (1964) or the Katrina hurricane and subsequent flooding (2005) are extreme examples, but there are numerous devastating disasters that happen frequently around the world that seriously injure or kill loved ones and isolate victims for extended periods of time. Rescuers may be stuck elsewhere (at home, in the station, along destroyed highways), short-handed, or attending to a much bigger problem, such as a collapsed high-rise building or school.

There are several small earthquakes across this country every day. Every city, town, farmland, and forest of our country has

the potential for one or more catastrophic events, and every citizen is at risk every minute of every day of his/her life – note the Oklahoma bombing, the Midwest tornadoes of 2011, the New York Towers, or Columbine. There is a high likelihood the northwest will have another 9.0+ earthquake this century. Forest fires are almost guaranteed in some parts of the western half of the USA every summer. Hurricanes have not missed a fall yet. Terrorists can easily show up in any neighborhood with explosive devices.

One might view preparedness as a kind of immunization. It may not protect everyone from every strain (disaster), but it might modify the symptoms – protect one's life – buy time.

The purpose of my presentation was to teach MDs a few of the basics, to challenge some of their outdated knowledge, and to give them ideas to think about and hopefully act upon. Not everything could be covered – that would require a very thick text, a lot more time, and hands-on practice. Many suggestions within this presentation might be considered simply common sense, but one would be surprised to see how many people have not given preparedness the slightest thought. Many people think “it won't happen to me” or “the government will always take care of us.” Experience says that will not be the case, and help may come in unexpected and limited ways. Some are too poor to plan for the day after tomorrow.

Once the disaster strikes, it may be impossible to get help for protracted periods of time. By then, it may be too late to get supplies, to escape, to find safety, to refill medications, to help neighbors, or even to save your own family. A comprehensive talk on this subject could take many hours, but I tried to cover some of the more pressing items in the forty-five minutes allotted me.

For example, do you have enough supplies for everyone in your family – the so called 72-hour kit? Do you have enough water? That would be one gallon per person per day, although one can barely make it with two quarts per day. Some families keep several racks of water bottles and rotate them out every six months. Pick holidays, such as July 4th and New Year's Day, to check your supplies and expiration dates. Remember, your water heater has 40 gallons of safe water. You might close it off so it doesn't drain backwards. Do you know how/have a way to clarify water? Do you know how to purify water?

Some authorities recommend that we keep much more than 72 hours, perhaps a week's worth of supplies, because three days is not enough for the worst types of disasters. Most of us who are overweight can make it without food for a few days, but not water. Clean water remains critical for one's survival. Remember, more water might be needed in hot, more humid climates or for those working the hardest. Also, try lifting a five-gallon tank of water and then consider the problems a large family would have moving these if evacuated.

Canned foods are probably best. They last for many months and often come with water or juice. There are packaged meals that will heat up on their own and freeze-dried foods that will last years. The Mormons have a technique for storing food for years. If there is a prolonged after-crisis isolation without power, use up your perishable foods in the refrigerator first (do not open the door frequently) and use frozen foods, which should have been packed tightly together, last. At 72 hours you might want to make one giant stew.

Disaster preparedness has become huge business. There are scores of different emergency kits, first aid kits, ear plugs, masks, whistles, gloves, helmets, eye wear, tools, tents, flashlights, generators, and protective clothing. Watch out for "easy to carry" kits that last extended periods of time. They often forget to include water (the heaviest item). Know your local threats. Hurricane prep differs in some ways from earthquake prep. A dirty bomb requires another set of reactions. Rehearse now, especially with children. Studies show that their chance of survival will improve. Always have two routes of escape, whether it is a theater, a classroom, an office, or your home. Carry a whistle so responders can find you.

Be sure to accommodate any special needs for your family in your emergency kit; for example, extra medications (prescription and OTC), diapers, extra glasses, formula. If you need dialysis, know where else to report. If you are dependent on oxygen, know distant options.

Do you have the right equipment? Can you move or roll your emergency kit into a vehicle at a moment's notice? A flashlight should easily be found next to every bed (with a flashing pinpoint light on its side or a fluorescent top so as to not waste your time searching). Have back-up batteries. Check your flashlight monthly. Use LED lights – they last much longer and are often brighter, but note they cannot sort out the color red very well.

Have a pair of slip-on shoes and gloves next to your bed. Night-time earthquakes commonly lead to lacerated bare feet from broken glass and cut hands from climbing through rubble. Have a portable radio with back-up batteries to help insure that you have the latest news to make the best decisions. Your escape route might just be too dangerous or washed out. Do not drive through large pools of water on any highway as there may be a washout beneath, and next thing you know, you are floating (and sinking) downstream.

Do you have the right plans? Power and utilities may be down. Police and Fire Departments may not be available. Garbage collection may be nonexistent. Public transportation may be on hold. Commonly traveled roads may not be usable. Previously planned shelters may be too damaged, and new ones need to be set up. A portable radio can tell you where the newer shelters are located and how best to get there. If you're contaminated with a dirty bomb or nerve gas, undress immediately and hose down with cool water. Do not go inside any buildings, especially hospitals, where you can contaminate others. Being quickly decontaminated trumps modesty. Watch out for looters, sexual predators, con men, and kidnappers. Consider walkie-talkies for every member of your family.

If there is an emergency evacuation, plan to have Mom or Dad get the emergency kit while the other partner gets the important papers (hopefully, all stored in one place), and the kids round up the pets. By law, pets can be taken to shelters, but you need to know your state's requirements and plans. Remember to bring pet food, cleanup materials, and immunization records. Do not bring aggressive dogs or your six-foot alligator. Never forget that the people in shelters might be going through the worst day of their lives. They might not be themselves. Babies cry all night, older men snore, food may be late in coming, and space is limited.

Working toilets may be rare. Instead, for bowel movements, carry large, plastic garbage bags to line the inner bowl which can be tied up and discarded rather than lugging five gallon containers of water to flush each time or reuse putrid toilet bowls.

Have you checked your stored food and water for expiration dates or the presence of vermin lately? Cardboard and cellophane are easily chewed through. Your gas tank should never drop below half. Gas stations may be closed or empty. Carry cash in small bills – ATMs will be down and banks closed. An orange might cost you \$20 if the seller claims no change. Credit and debit cards will be useless if lines are down. Don't count on checks working.

Has your family memorized emergency options, such as having a meeting place outside the house in case of fire, so no one runs back in to save a life? Have they memorized phone numbers of a faraway relative or friend so everyone can check in to report their location and status? Knowing what to do when the family is separated is different and just as important as knowing the drill at home when together. Does your cell phone have among

its contact ICE (In Case of Emergency) or MY SPOUSE or MY KID so paramedics know whom to call.

One's health, indeed, one's ultimate survival, may totally depend on preparation now. Know that no downed power line is safe until the utility company has deemed it so. Downed stoplights are now four-way stops. Large aftershocks nullify any previous "safe" postings by building inspectors. Never re-light your pilot light without the utility company making sure it is safe.

Do you, at a minimum, have a flashlight and a few protein bars in your car? How about flares? Remember to check the expiration dates on flares and reconsider buying electronic, flashing devices as they are safer and will last many more hours. If you really want to be prepared, have a folding bike(s) in your trunk in case traffic cannot move.

Take preparedness classes/training. There are many options offered through the Red Cross and city emergency departments. CPR is always good to know but sometimes useless in major catastrophes as a defibrillator probably is not coming and other victims may have a better chance at surviving if given your time. Join one of the volunteer groups under Citizen Corps, which is under FEMA's umbrella, such as the Medical Reserve Corps (MRC), back-up doctor and nurse groups for hospitals that are down or filled to capacity. Or you can join DMAT, federalized teams of medical personnel who can be transported anywhere, Neighborhood Watch, Volunteers in Police (VIP), Fire Corps. Map Your Neighborhood and/or Community Emergency Response Teams (CERTS) to learn what every neighbor and family member needs to know, as they may be the very first responders. They are "The Boots on the Ground." More lives have been saved by those at the scene than paramedics and hospitals, which are later participants. Uninformed but well-intentioned bystanders often become victims or get in the way.

Whether you can take the training or not, and most of this is not taught in medical school, everyone should go to Ready.gov and drill down to virtually any topic related to Disaster Preparedness, as there is much, much more. Get the booklet "Are You Ready." There are many texts (including my own book, Common Sense

and Disaster Preparedness, 2011) to read. The AMA, the Red Cross, and various community groups have information.

Among the preparedness planning that is distinctly doctor-oriented – telling your reliable patients what to do with their medications in case of a disaster. Hold that diuretic if you're not getting enough fluids or have lots of diarrhea. Slowly wean off Coumadin onto aspirin. Do not stop XXXX medication abruptly but wean down. Give a small prescription for antibiotics, a tranquilizer, and a narcotic pain medication to keep in their emergency supplies. The last statement may be controversial, but then this might be the time when they most need them and cannot get medical help. Perhaps, consider only reliable patients. Be thorough in checking immunizations at all times.

Before I took my first of eight CERT classes, I foolishly thought I knew it all as might other doctors. That changed within minutes the first night. I now train trainers and train trainers of trainers as well as doing grassroots teaching. It is amazing how much we as MDs do not know.

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