



## EMS System for Metropolitan Oklahoma City and Tulsa 2021 Medical Control Board Treatment Protocols



Approved 9/9/20, Effective 1/15/21, replaces all prior versions

### 15H – NUCLEAR WEAPONS

<b>EMERGENCY MEDICAL DISPATCHER</b>
<b>EMERGENCY MEDICAL RESPONDER</b>
<b>EMT</b>
<b>EMT-INTERMEDIATE 85</b>
<b>ADVANCED EMT</b>
<b>PARAMEDIC</b>

1. Potential nuclear weapon devices impacting the United States include:
  - a. Improvised nuclear device.
  - b. 1 kiloTon “suitcase nuke.”
  - c. Tactical weapons of 5-50 kiloTons.
  - d. Electromagnetic pulse detonation = nuclear weapon detonation in atmosphere wherein gamma waves hit radio waves, causing phones, pagers, radios, etc go down.
  - e. Ballistic missile attack.
  - f. 250 kiloTon nuclear bomb = “city killer.”
2. Nuclear detonation = 50% blast effect; 35% thermal effect; 10% fallout; 5% ionizing radiation effect.
3. Mass blindness is a concern due to retinal burns (non-thermal) from viewing detonation.
4. Radiation types include the following:
  - a. Irradiation = gamma radiation passing through a body.
  - b. External contamination = radioactive “dust” particles falling on a body.
  - c. Internal contamination = radioactive “dust” particles being ingested or inhaled.
5. Protection takes the simple format of:
  - a. Reducing time of exposure.
  - b. Increasing distance from exposure source – biggest factor in protection.  
Radiation does not travel far, but contamination can.
  - c. Shielding device use to minimize exposure uptake. (Airborne illness PPE protection is excellent for radiation protection as well). Think of radioactive particles as “dirt” that shouldn’t be inhaled (wear N95 masks) and shouldn’t be in contact with skin.



## EMS System for Metropolitan Oklahoma City and Tulsa 2021 Medical Control Board Treatment Protocols



Approved 9/9/20, Effective 1/15/21, replaces all prior versions

### PROTOCOL 15H: Nuclear Weapons, cont.

6. Three **myths** that can paralyze medical response:
  - a. “Radioactive contamination is highly dangerous & requires extraordinary protective measures.” (see above)
  - b. “Decon is highest medical priority.” Decon is actual very simple = remove clothing and shower. Most of radiation goes away with removal of clothing.
  - c. “Special skills are needed to handle radioactive patients.” (see above)
7. Multiple resources exist to aid in the understanding and response planning for nuclear weapons. The following are suggested resources:

Radiation Emergency Medical Management  
[www.remm.nlm.gov](http://www.remm.nlm.gov)

National Alliance for Radiation Readiness (NARR)  
[www.radiationready.org](http://www.radiationready.org)

Nuclear Regulatory Commission  
[www.nrc.gov](http://www.nrc.gov)

Society of Nuclear Medicine and Molecular Imaging  
[www.snmmi.org](http://www.snmmi.org)

Health Physics Society  
[www.hps.org](http://www.hps.org)

Planning Guidance for Response to a Nuclear Detonation June 2010 – Second Edition  
[www.remm.nlm.gov/PlanningGuidanceNuclearDetonation.pdf](http://www.remm.nlm.gov/PlanningGuidanceNuclearDetonation.pdf)

National Disaster Life Support training  
Basic Disaster Life Support (one day classroom course)  
Advanced Disaster Life Support (two day classroom/practical exercise course)

*Special acknowledgement to John C. White, CNMT, Radiation Safety Officer, The University of Texas Southwestern Medical Center at Dallas for material integral to this protocol's preparation.*