Helping Child Care Providers Prepare for Radiation Emergencies

March 26, 2018

2018 Child Care Emergency Preparedness, Response, and Recovery Webinar Series

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Webinar Details

- This webinar is being recorded and will be made available to all webinar registrants within one week for viewing.

- Certificates of attendance will be e-mailed within two weeks to those participating in the webinar and sent to the e-mail address that you registered with.

- All participant lines are muted, but you can type a comment or question into the question box. We will allow for time at the completion of the presentation for a question/answer period. If we can not get to all questions, we will try to follow up with an e-mail response to you.

Is Your Child Care Program Prepared for Natural Disasters and Emergencies?

www.ChildCarePrepare.org

Look to Child Care Aware® of America for emergency preparedness, response and recovery resources!

- 2018 Webinar Series
- Preparedness List-Serv
- Active Shooter Training for Child Care Providers
- Mobile Texting Pilot Program
- Free Tools/Resources
- Request technical assistance

Today's Presenters:

Andrew Roszak, JD, MPA, EMT-P
Senior Director- Emergency Preparedness
Child Care Aware® or America

Dr. Adela Salame-Alfie
Senior Service Fellow
Emergency Management, Radiation and Chemical Branch – Radiation Studies
Division of Environmental Health Science and Practice
National Center for Environmental Health
Centers for Disease Control & Prevention

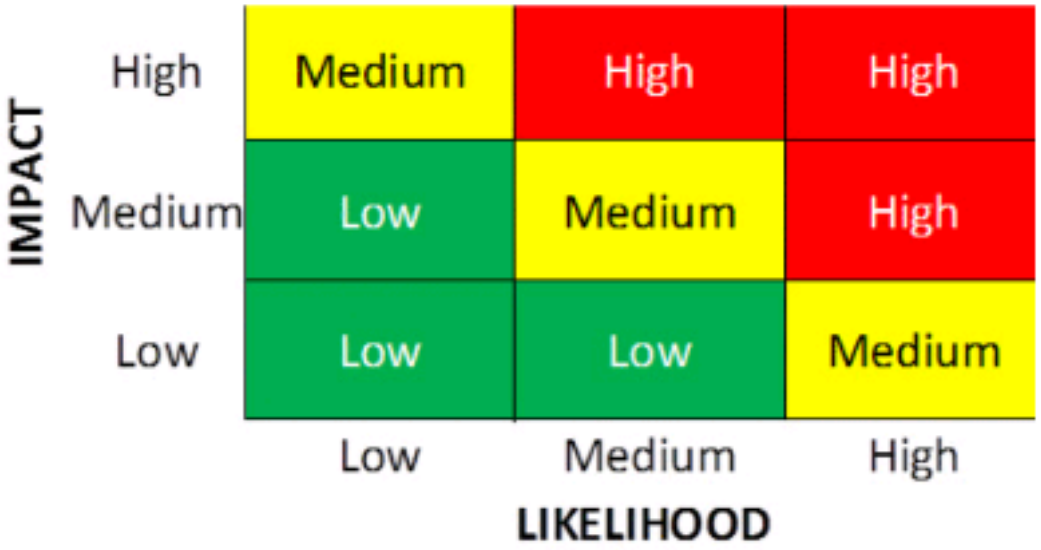
Today's Presenters:

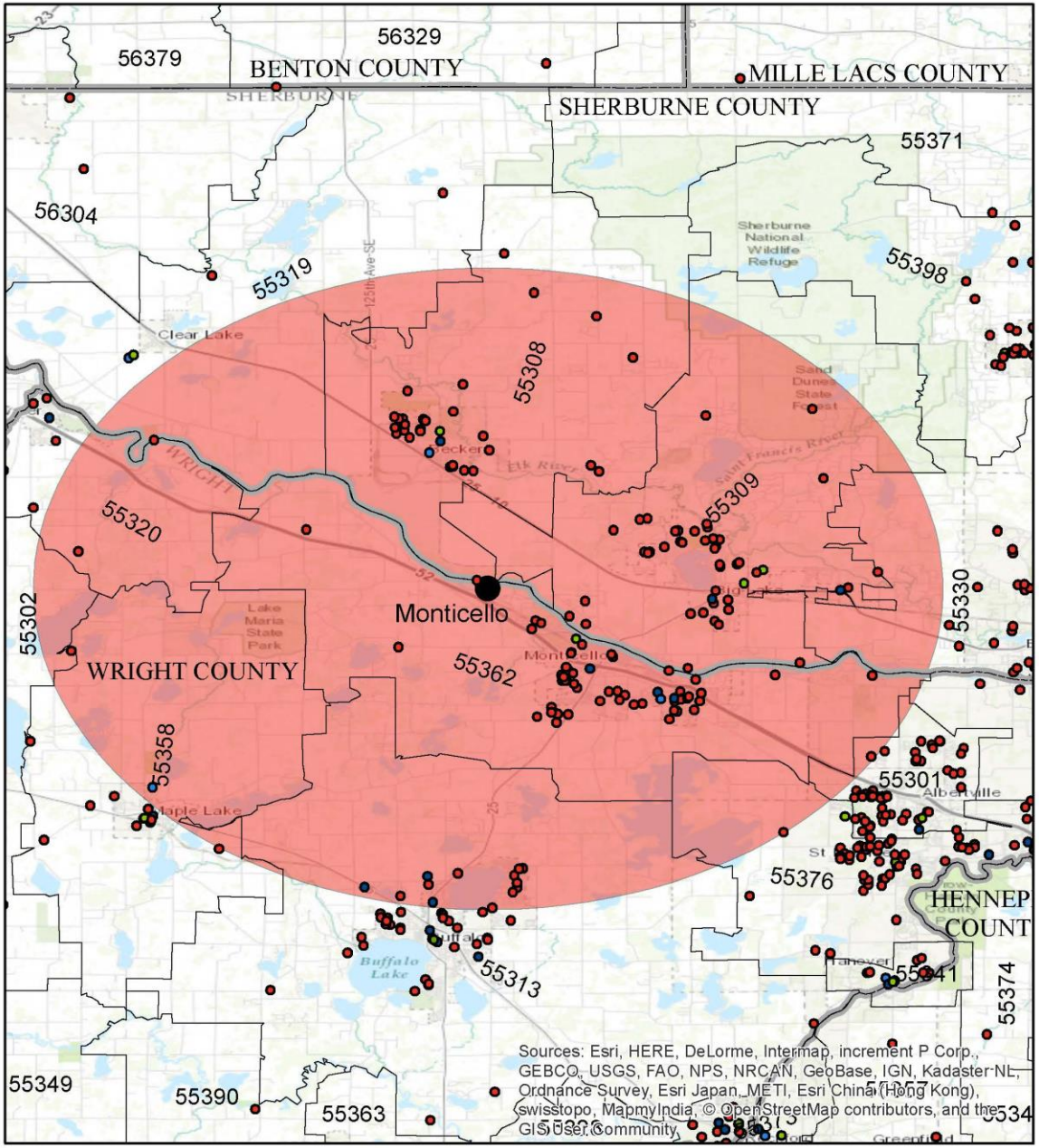
Sherwin Levinson, MBA
Executive Director
MRC GEM (Medical Reserve Corps
Georgia East Metro)

Betsy T Kagey, PhD
Academic and Special Projects Liaison
Office of Emergency Preparedness
Georgia Department of Public Health

What's The Risk: Radiation Emergencies

- How likely is this to occur?





Child Care Providers within 10 mi of Monticello Power Plant

Zip Codes Impacted:
55301 - Albertville
55319 - Clear Lake
55376 - St. Michael
55308 - Becker - 46 providers
55309 - Big Lake - 71 providers
55313 - Buffalo - 13 providers
55320 - Clearwater - 1 provider
55330 - Elk River - 2 providers
55358 - Maple Lake - 2 providers
55362 - Monticello - 62 providers

Total Providers Affected: 197

- Early Childhood Special Education (ECSE)
- Head Start/Early Head Start (grantee)
- Legally non-Licensed or License Exempt
- Licensed/Tribally Licensed Child Care Center
- Licensed/Tribally Licensed Family Child Care
- Public School Pre-K (individual site)
- School Age Program
- Tribally Licensed Child Care
- Zip Codes
- Monticello Power Plant
- Counties
- 10 mile Radius

*Closest Child Care Provider to Power Plant: 1.5 miles

ChildCare Aware® OF AMERICA

RADIATION BASICS AND BACKGROUND

ADELA SALAME-ALFIE, PHD

Emergency Management, Radiation and Chemical Branch

Division of Environmental Health Science and Practice

National Center for Environmental Health

Centers for Disease Control & Prevention

ASalameAlfie@cdc.gov

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BASIC RADIATION CONCEPTS

- Radioactive Contamination
- Radiation Exposure
- Radiation Dose
- Types of Radiological Emergencies

RADIOACTIVE CONTAMINATION

What is Contamination?

- **Radioactive material that is *somewhere it is not supposed to be***
  - ***External*** contamination: radioactive material that gets on your skin, hair or clothing
    - In most cases can be removed by simply changing clothes and washing with soap and water
  - ***Internal*** contamination: radioactive material that gets ***inside*** your body
    - It is harder to remove. Some medicines (known as medical countermeasures) can help remove some types of radioactive materials from the body

RADIATION EXPOSURE

What is Exposure?

- **Is a measure of the amount of ionizing radiation that interacts with your body.**
- **Think of a flashlight**
  - When it's on and it's shining on you: ***you are exposed.***
  - When it's off or if you are behind a wall or object: ***you are not exposed***

RADIATION DOSE

- **Radiation dose is the amount of radiation you receive from a source**
- **What determines the dose:**
  - Strength of the source
  - Proximity to the source
  - Amount of time you spend near the source

- **The best way to minimize your dose**

  The three cardinal principles of radiation protection:
  - Time – minimize time spent
  - Distance – maximize distance between you and the source
  - Shielding –place shielding between you and the source

POTENTIAL RADIATION EVENTS

- Transportation
- Power Plant
- Weapons
- Laboratory
- Industrial
- Medical
- Space
- Terrorism

RADIOLOGICAL DISPERSAL DEVICE (RDD)

- A device that disperses radioactive material by ***conventional*** explosive (dirty bomb) or other mechanical means, such as a spray.
- Contamination and exposure hazard

https://emergency.cdc.gov/radiation/typesofemergencies.asp

NUCLEAR EMERGENCIES

- A nuclear emergency involves the explosion of a nuclear weapon or improvised nuclear device (IND).
- The explosion produces an intense pulse of heat, light, air pressure, and radiation.
- Nuclear explosions produce fallout (radioactive materials that can be carried long distances by the wind).

https://emergency.cdc.gov/radiation/typesofemergencies.asp

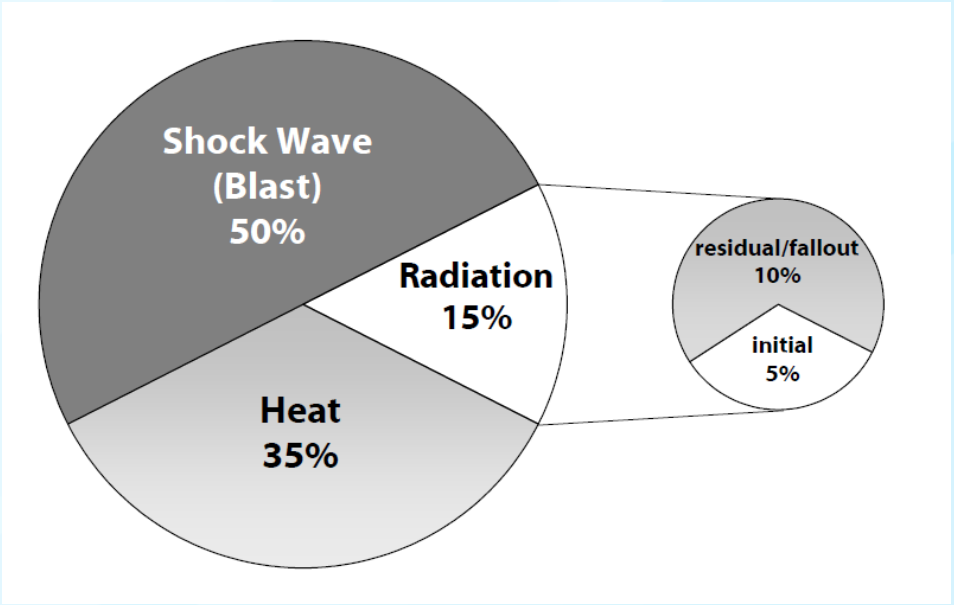
EXAMPLES OF NUCLEAR INCIDENTS

- **Strategic Nuclear Weapons**
  - Think Cold War (megaton range)

- **Improvised Nuclear Device (IND)**
  - Think Hiroshima “Little Boy”
  - Low-yield kiloton range
  - Possible tool of terrorism
  - No warning!
  - National Planning Scenario #1

Operation Teapot, *MET*, 22 KT, 4/15/1955

Immediate and massive destruction by a nuclear bomb is NOT caused by radiation!



Adapted from Glasstone and Dolan, the Effects of Nuclear Weapons, 1977
Printed in Ansari, Radiation Threats and Your Safety, 2009.

THREE PHASES OF RADIATION EMERGENCY RESPONSE

Early Phase (days to weeks)

- Those actions required for lifesaving and immediate protection from radiation and radioactive materials
- Often based on limited information or projections (modeling)

Intermediate Phase (weeks to months)

- Typically involve protecting individuals from *chronic exposure* to radioactive materials on the ground, bodies of water, or incorporated in or deposited on food products

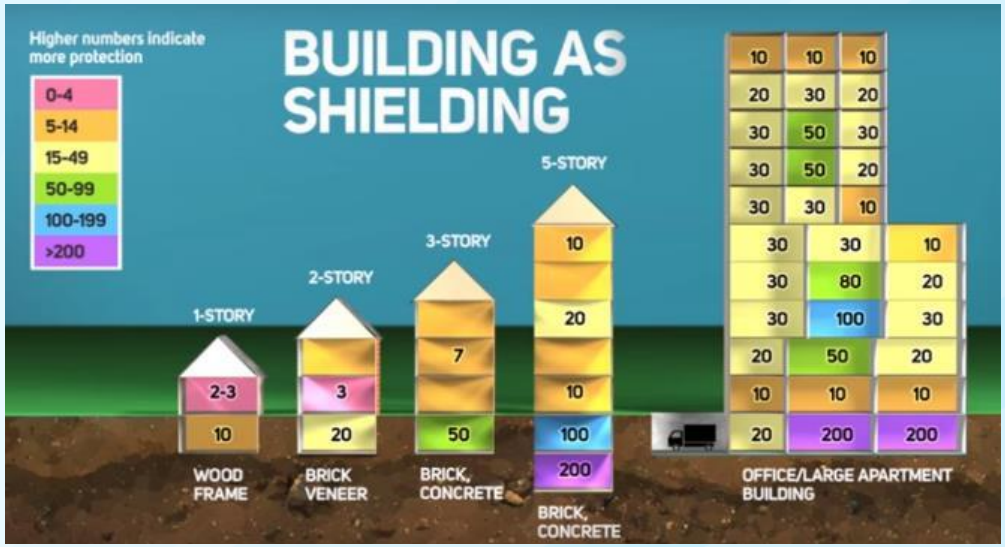
Late Phase (months to years)

- Activities designed to return the affected area to normalcy

SHELTER-IN-PLACE

- Involves directing people to get indoors and stay indoors during an incident
- Considered a *short-term protective measure*, lasting *a few hours to no more than 2-3 days*, depending on the nature of the incident
- Recommended by radiation professionals when either
  - Expected to be of short duration (ex. “puff release”)
  - During nuclear detonation where sheltering-in-place allows for radioactive fallout to decay, making it safer to evacuate

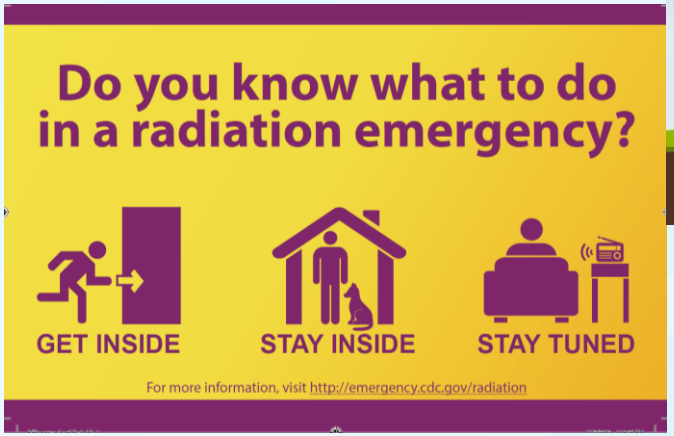
SHELTER-IN-PLACE
Building "Protection Factors"

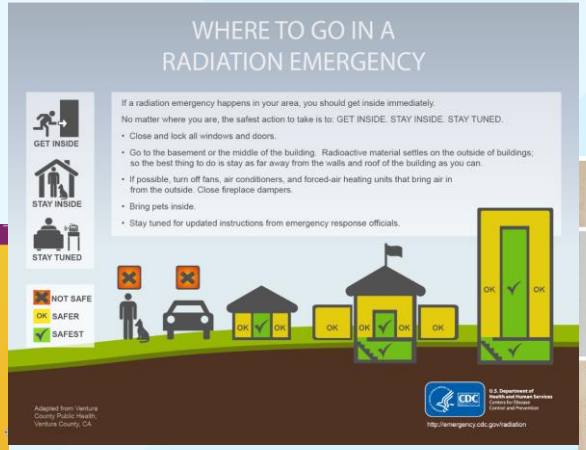


- **Sheltering in place provides protection while response officials coordinate evacuation efforts**
- **Multi-story buildings and basements offer the most protection**

https://www.fema.gov/media-library-data/20130726-1821-25045-3023/planning_guidance_for_response_to_a_nuclear_detonation___2nd_edition_final.pdf

EXAMPLE - INFOGRAPHICS





https://emergency.cdc.gov/radiation/resourcelibrary/all.asp

EXAMPLE – EDUCATIONAL VIDEOS

https://emergency.cdc.gov/radiation/protectiveactions.asp

CDC VIDEO: Where to Go In A Radiation Emergency

- https://www.youtube.com/watch?v=ux8trcUoCC8

VENTURA COUNTY VIDEOS

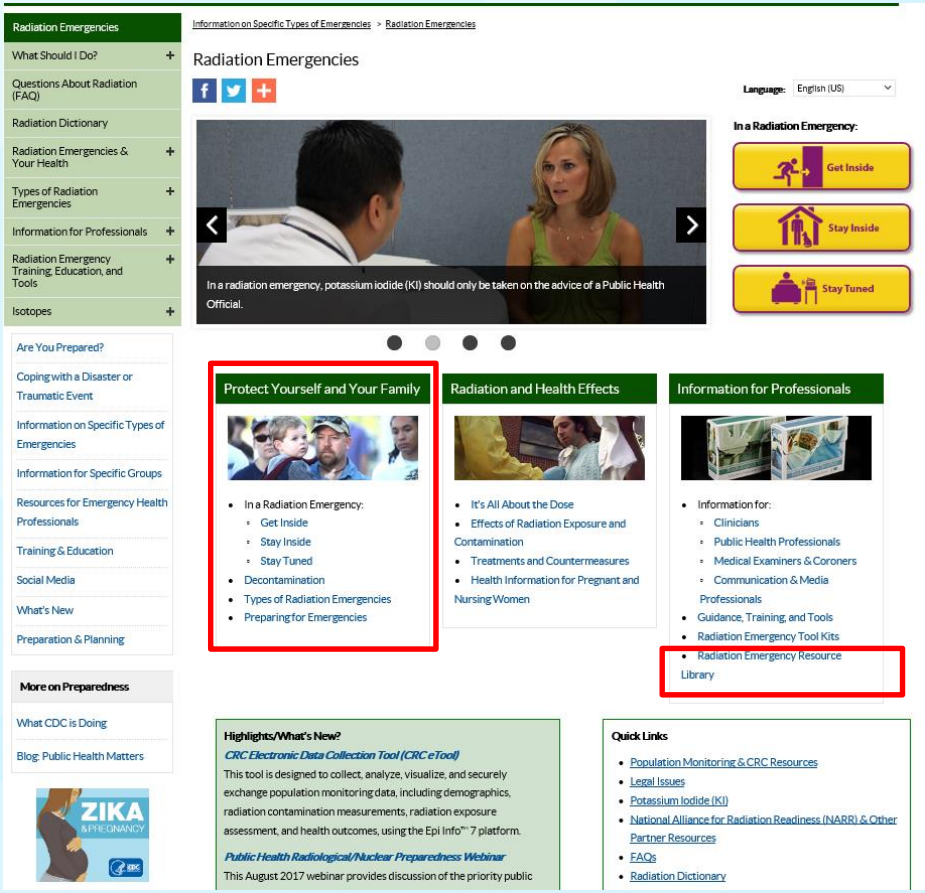
- https://www.youtube.com/watch?v=NId2BHU6_b0
- https://www.youtube.com/watch?v=2jIs-Lwh6U0
- https://www.youtube.com/watch?v=jGPetxZ3iMM

TOOLS AND TRAININGS

- **Radiation Hazard Scale**
  - https://emergency.cdc.gov/radiation/radiationhazardscale.asp
- **Myths of Radiation: Communicating in Radiation Emergencies**
  - https://emergency.cdc.gov/radiation/radiationmyths.asp

FOR MORE INFORMATION:

https://emergency.cdc.gov/radiation/



THANK YOU!

For more information please contact Radiation Studies, CDC

4770 Buford Highway NE, Atlanta, GA 30341
Telephone, 1-770-488-3800
E-mail: rsbinfo@cdc.gov
Web: emergency.cdc.gov/radiation

Public Health Considerations

Sherwin Levinson
Executive Director
MRC GEM (Medical Reserve Corps
Georgia East Metro)

Picture it this way…

You're six years old and have been playing outside. What would your very finicky parent expect you to do before sitting down to dinner?

- Change clothes?
- Take off your shoes?
- Wash your face and hands?

Radioactive contamination is mostly like playground dirt – easily removed by changing outer clothing and washing exposed areas of body.

Or think about where a gentle snowfall accumulates

Where to go?

The best shelter location would be similar to what you'd use for a tornado, with some key differences:

- Turn off fans, air conditioners, forced-air heating units that bring air in from the outside.
- Close and lock all windows and doors, and close fireplace dampers.
- See https://emergency.cdc.gov/radiation for more details.

WHERE TO GO IN A RADIATION EMERGENCY

GET INSIDE

STAY INSIDE

STAY TUNED

If a radiation emergency happens in your area, you should get inside immediately.

No matter where you are, the safest action to take is to: GET INSIDE. STAY INSIDE. STAY TUNED.

- Close and lock all windows and doors.
- Go to the basement or the middle of the building. Radioactive material settles on the outside of buildings; so the best thing to do is stay as far away from the walls and roof of the building as you can.
- If possible, turn off fans, air conditioners, and forced-air heating units that bring air in from the outside. Close fireplace dampers.
- Bring pets inside.
- Stay tuned for updated instructions from emergency response officials.

NOT SAFE

OK SAFER

SAFEST

https://emergency.cdc.gov/radiation/pdf/Infographic_Where_to_go.pdf

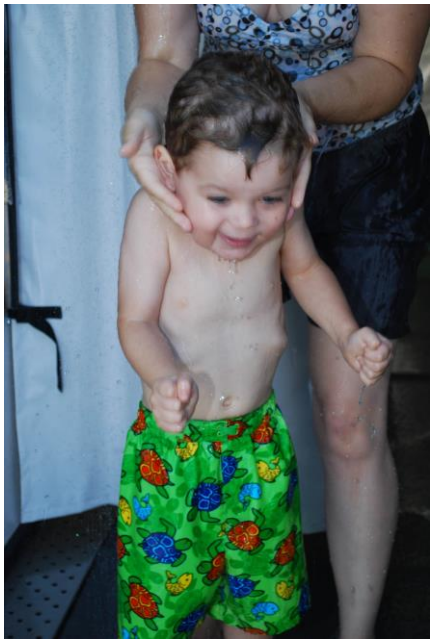
Adapted from Ventura County Public Health, Ventura County, CA

U.S. Department of Health and Human Services Centers for Disease Control and Prevention

http://emergency.cdc.gov/radiation

Important considerations:

- Shelter area should be secured.
- Anyone wishing to enter MUST remove outer clothing, shoes, accessories. Trash bags can be provided to hold these items, IF the bag is sealed before entering. Where is this done?
- All exposed skin surfaces and top of head should be washed or at least wiped down with damp toweling before shelter entry. Used towels should be treated as contaminated waste.



Other considerations

- Parents/guardians might be in a contaminated area even if the facility is not, so some children might need to be kept until a responsible adult is available.
- Parents/guardians might show up before your area is declared safe. Do you let them in? Release the child?
- Do any of the children in your care require meds? How would you assure an adequate supply?

How long will it last?

There's no way to tell for certain, but we can still plan for the most likely scenarios. Actual timeframes will depend on:

- type of disaster/accident/release.
- geographical area affected.
- number of trained response personnel available.

In most cases, it could be anywhere from a few hours to a few days before you can leave shelter.

What Happens Once You Can Leave Shelter?

Community reception centers (or CRCs) are opened 24 to 48 hours after a radiation incident. They are located outside of the affected area to serve the people living in that community, as well as the displaced population arriving there.

What Happens at a Community Reception Center?

The basic services provided at a Community Reception Center include:

- Screening people for radioactive contamination.
- Assisting people with washing or decontamination.
- Registering people for long-term follow-up.
- Prioritizing people for further care.

Other services, such as assistance in finding shelter, might also be provided

Top Tips for Child Care Providers

Betsy T Kagey, PhD
Academic and Special Projects Liaison
Office of Emergency Preparedness
Georgia Department of Public Health

Tips for Child Care Providers

Tip #1

- Know where to turn for emergency related alerts and instructions

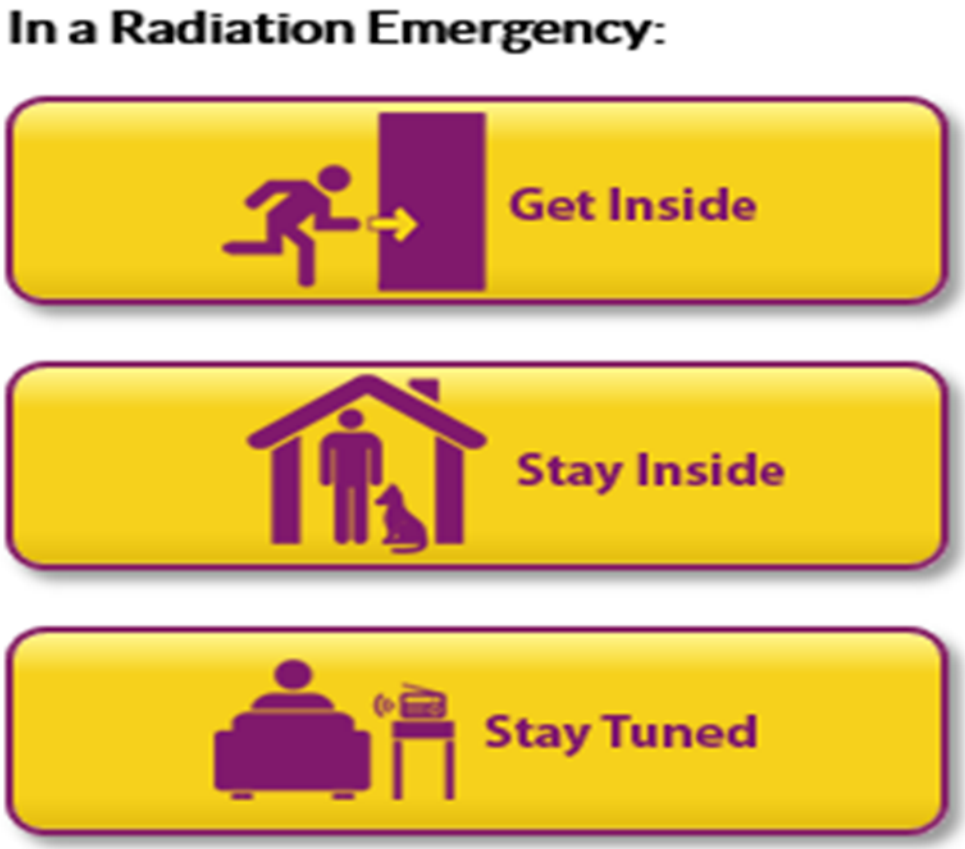
Tips for Child Care Providers

Tip #2

- Build off from your expertise and experience with your regularly practiced emergency drills, such as fire and tornado drills

Tip #3 Do I Stay or Do I Go?

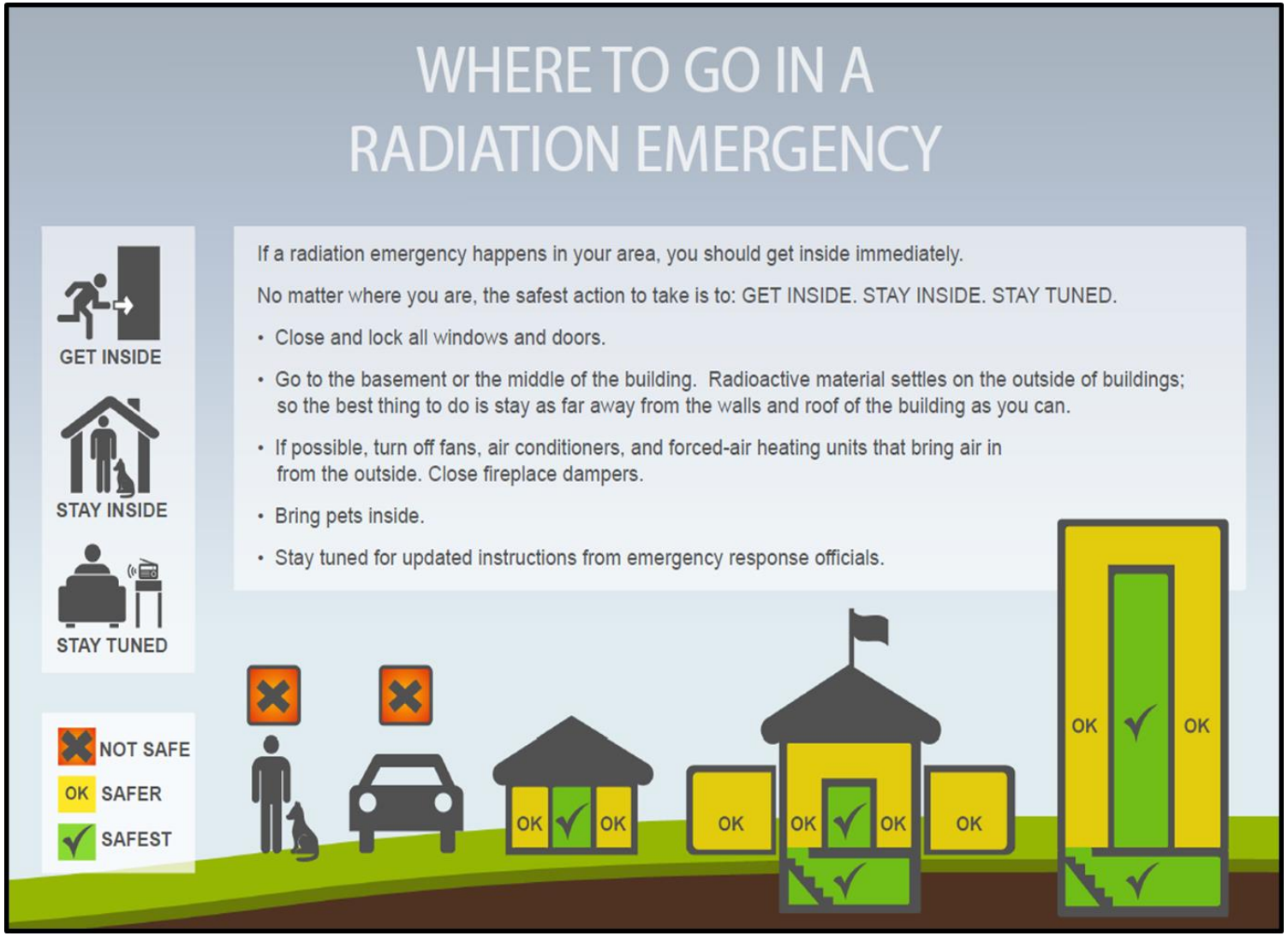
- Be aware of radiation emergency general protocol for response.



https://emergency.cdc.gov/preparedness/index.asp

Tip #3 Do I Stay or Do I Go?

- Be aware of radiation emergency general protocol for response.



Tip #4

- Prepare a well stocked emergency supply kit to meet children and staff needs for an extended amount of time

Emergency Supply Kit

It is best to prepare before a disaster happens by assembling the following supplies in advance:

	Short Term Emergency (Evacuation lasting up to 6 hours) *Pack listed supplies in a backpack, wheeled bin, or wheeled duffle bag*	72-Hour Emergency *Pack listed supplies in a sturdy, waterproof tote with wheels or garbage can with wheels*
Important Papers*	• Emergency information on each child in a small notebook or on cards • Emergency plan and numbers • Care plans • Medical releases • Relocation site agreements and maps	All short-term supplies PLUS: • Emergency Transportation Permission
Water**	• One-two gallons of water for every 4 children/staff	• One gallon per person per day
Food Infant Formula Labeled Breast Milk	• Non-perishable food items(i.e.: granola bars,crackers, cereal, etc.). Consider food allergies of currently enrolled children. • Formula /appropriate (pre-packaged) food for infants • Breast milk stored in small cooler • Disposable cups, plates, utensils, bowls, including infant bottles	• All short-term supplies PLUS • Extra formula/appropriate food for infants • Extra non-perishable food • Canned fruits and meat • Non-electric can opener
Clothing and Bedding	• Emergency blankets • Pair of work gloves	All short-term supplies PLUS • Change of clothes per person, especially socks and underwear • Extra bedding/blankets • Emergency blankets (one per person)

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	Short Term Emergency (Evacuation lasting up to 6 hours) *Pack listed supplies in a backpack, wheeled bin, or wheeled duffle bag*	72-Hour Emergency *Pack listed supplies in a sturdy, waterproof tote with wheels or garbage can with wheels*
First Aid	• Small first aid kit • Any needed medications (Epi-Pen, Insulin, etc.) for children/staff with special needs	• Large first aid kit • Any needed medications (Epi-Pen, Insulin, etc.) for children/staff with special needs
Sanitation	• Diapers and wipes • Tissues • Toilet paper • Paper Towels • Hand sanitizer • Disinfecting wipes	All short-term supplies PLUS • Extra diapers and wipes • 5-gallon plastic bucket with toilet seat • Large garbage bags/plastic bags -various sizes • Extra disinfecting wipes • Extra hand sanitizer • Extra paper products • Feminine supplies
Comfort and Safety	• At least one age appropriate play activity • Flashlight with batteries or crank-style • Paper and pen • Dust/filter masks (1 per person) • Towels • Utility knife or multi-tool • Teething rings/pacifiers • Walking rope • Emergency cash • Mosquito repllent and sunscreen	All short-term supplies PLUS • Additional age appropriate play activities to rotate • Glow sticks • Extra batteries for flashlights • Emergency cash • Waterproof tarps, duct tape and plastic sheeting
Communication	• NOAA weather radio (battery or crank powered) • Cell phone charger • Portable power pack	All short-term supplies PLUS • Walkie-talkie • Non-electric phone • Signal/flare

2

Handout available at
www.childcareprepare.org

Tips for Child Care Providers

Tip #5

Think about parental communication in advance of an emergency.

Parents need to stay safe in their setting and not put themselves in danger trying to reach your child care program. Reassure them that you are following safety procedures.

Tips for Child Care Providers

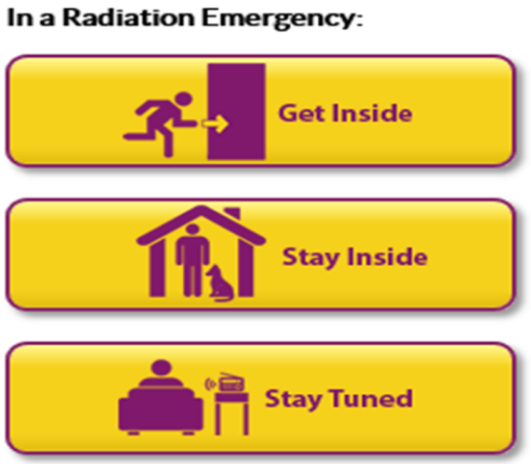
When little people are overwhelmed with big emotions, it is our job to share our calm, not to join their chaos.”
—L.R. Knost

Tip #6

- Model calm behavior with the children.

SUMMARY in 6 Tips

- Tip 1 – Know where to get Emergency Alerts
- Tip 2 – Build off your emergency plans and experience
- Tip 3 – Go inside, Stay Inside, Stay Tuned
- Tip 4 – Be Prepared – Emergency Supply Kit
- Tip 5 – Communicate with Parents
- Tip 6 – Remain Calm



Questions?

Thank you for your participation!