Diethylenetriamene pentaacetate (DTPA) A Forward Placement Program

NEW MEXICO
DEPARTMENT OF
HEALTH

BUREAU OF
HEALTH
EMERGENCY
MANAGEMENT

CDC
CENTERS FOR DISEASE
CONTROL AND PREVENTION

What Is DTPA?

- DTPA is a chelating agent
- Chelating agents work by binding radioactive materials or poisons in the body
- The chelating agent is then passed from the body in the urine.
- Chelating agents help decrease the time it takes to rid the body of radioactive materials or poisons.

What Does DTPA Do?

- When radioactive materials enter the body through breathing, eating, drinking or open wounds, we say that "internal contamination" has occurred.

- Since the 1960's DTPA has been used as a chelating agent to treat internal contamination from radioactive materials.

- DTPA is approved by the US Food and Drug Administration (FDA) for chelation of only 3 radioactive materials
  - Plutonium
  - Americium
  - Curium

What DTPA Cannot Do

DTPA cannot bind all of the radioactive materials that might get into a person's body after a radiological or nuclear event.

DTPA cannot prevent radioactive materials from entering the body.

DTPA cannot reverse the health effects caused by radioactive materials once they have entered the body.

How Does DTPA Work?

- DTPA comes in 2 forms
  - Calcium (Ca-DTPA)
  - Zinc (Zn-DTPA)
- Work by tightly chelating plutonium, americium and curium
- These bound materials are then excreted from the body in the urine.

How Well Does DTPA Work?

- Chelating agents work best when given shortly after internal contamination

- After 24 hours, plutonium, americium and curium are more difficult to chelate.

Who Should Get DTPA?

- Many people could be internally contaminated after a radiological or nuclear terrorist event.
- People contaminated with small amounts of radiological material may not need treatment with DTPA.
- Doctors and public health authorities will work together to decide who will likely benefit from DTPA treatment.

Who Should Get DTPA?

- Infants (including breastfed infants) and children under 12 years of age
- Young adults and adults
- Pregnant women
- Breastfeeding women

How Can DTPA Be Given?

- Injected directly into a vein
- Dripped into a vein intravenously (IV)
- Inhaled as a mist or spray

How Often Will I Need To Get DTPA?

- DTPA should be taken only as long as your doctor has determined you need it.
- In the past, many people who have needed DTPA have only needed one dose.
- People with very high levels of internal contamination may require treatment with DTPA every day for weeks or months

Medical Conditions That May Make It Harmful To Receive DTPA

- People whose kidneys do not function well
- People who have Hemochromatosis
- People with asthma
- People internally contaminated with uranium or neptunium

Possible Risks & Side Effects of DTPA

DTPA does not build up in the body or cause long term health effects.

- People receiving repeat doses within a short period of time may experience:

Nausea

Vomiting

Diarrhea

Chills

Fever

Itching

Muscle Cramps

Possible Risks & Side Effects of DTPA

- Ca-DTPA and Zn-DTPA can chelate certain important minerals that the body needs

- People receiving long term treatment with DTPA
should be given a vitamin and mineral supplement that contains zinc

Where Can I Get DTPA?

- CDC has included both Ca-DTPA and Zn-DTPA in the Strategic National Stockpile (SNS)

- During an emergency, these medications and medical supplies are given to doctors and hospitals for treatment of patients.

Other Information Sources

More detailed information on DTPA can be found at:

FDA Web site
http://www.fda.gov/cder/drug/infopage/dtpa

CDC Web site
http://www.bt.cdc.gov/radiation