Countermeasures for Treatment

Medication	Administrated for Isotopes	Route of Administration & Dosage	Duration
Aluminum hydroxide[1]	Strontium-90	**PO:** 60-100 mL	Once
Aluminum phosphate gel[1]	Strontium-90	**PO:** 100 mL immediately after exposure	Once
Ammonium chloride[1]	Strontium-90, Radium-226	**PO:** 1-2 g q.i.d	6 days
Calcium[1]	Strontium-90, Radium-226	**PO:** Generous doses	
Ca-DTPA[2], Zn-DTPA[2]	Plutonium-239, Americium-241, Curium-244, Californium-252[3], Thorium-232[3], Yttrium-90[3]	**IV:** 1 g in 250 mL NS or 5% glucose, given in 1-2 h, or bolus over 3-4 min; given once daily as a single infusion **Inhalation:** 1g in 1:1 dilution with water or NS over 15-20 min	Up to 5 days
Calcium gluconate[1]	Strontium-90, Radium-226	**IV:** 5 ampules (500 mg calcium each) in 500 mL D5W over 4 h	6 days
Dimercaprol[1]	Mercury, Lead, Arsenic, Gold, Polonium-210	**IM:** 300 mg/vial for deep IM use, 2.5 mg/kg (or less) q4h x 2 days, then bid for 1 day, then qd for days 5-10	10 days

Potassium iodide[2]	Iodine-131	**PO:** **Adults >40 years of age:** with thyroid exposure ≥ 500 cGy: 130 mg/d **Adults 18-40 years of age:** with thyroid exposure ≥ 10 cGy:130 mg/d **Pregnant or lactating women:** with thyroid exposure ≥ 5 cGy: 130 mg/d **Adolescents approaching adult size (≥70 kg)** with thyroid exposure ≥ 5 cGy:130 mg/d **Children and adolescents 3-18** with thyroid exposure ≥ 5 cGy:65 mg/d **Infants 1 month to 3 years** with thyroid exposure ≥ 5 cGy: 32.5 mg/d **Neonates from birth to 1 month** with thyroid exposure ≥ 5 cGy: 16 mg/d	* In some incidents only a single dose of KI is required. * Incident Managers may recommend additional daily doses if radioactive iodine ingestion (or inhalation) is a continuing threat. * In some incidents, a course of 7-14 days may be recommended.
Potassium phosphate, dibasic[1]	Phosphorus-32	**PO:** 250 mg phosphorus per tablet. **Adult:** 1-2 tabs p.o. qid, with full glass of water each time, with meals and at bedtime. **Children over 4y:** 1 tab qid.	
Propylthiouracil[1]	Iodine-131	**PO:** 50 mg tabs, 2 tid x 8 days	8 days

Prussian blue[2]	Cesium-137, Thallium-201	**PO (Adults):** 1 - 3 g tid with 100-200 mL water, up to 10 g/d **Children:** * Not FDA approved for children under 2 years old (IND or EUA may be required) * Pediatric details in package insert	≥3 weeks, titrated by urine and fecal bioassay and whole-body counting
Sodium alginate[1]	Strontium-90, Radium-226	**PO:** 10 g powder in a 30 cc vial, add water and drink	
Sodium bicarbonate[1]	Uranium-235	**IV:** * 2 ampules sodium bicarbonate (44.3 meq each, 7.5%) in 1000 mL NS, 125 mL/h, or * 1 ampule of sodium bicarbonate (44.3 meq, 7.5%) in 500 mL NS, 500 mL/h	* Usually IV for the first 24 h, maybe continued as necessary; * Continuation of treatment for >3 days is rare and can be done according to titration of uranium amounts in the body
Sodium phosphate[1]	Phosphorus-32	See Potassium phosphate	
Water[1]	Tritium (H-3)	**PO:** > 3-4 L per day	3 weeks

NOTES

1. Not FDA approved for this indication / Off-label use
2. FDA approved for this indication
3. Ca-DTPA/Zn-DTPA has not been approved by FDA for treating contamination with californium, thorium, and yttrium