Countermeasures for Treatment

Medication	Administered for Isotopes	Route of Administration & Dosage	Duration
Aluminum hydroxide†	Strontium-90	**PO**: 60-100 mL	Once
Aluminum phosphate gel†	Strontium-90	**PO**: 100 mL immediately after exposure	Once
Ammonium chloride†	Strontium-90, Radium-226	**PO**: 1-2 g q.i.d	6 days
Calcium†	Strontium-90, Radium-226	**PO**: Generous doses	
Ca-DTPA‡, Zn-DTPA‡	Plutonium-239, Americium-241, Curium-244, Californium-252§, Thorium-232§, Yttrium-90§	**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 **Nebulized Inhalation**: 1 g in 1:1 dilution with water or NS over 15-20 min	Up to 5 days
Calcium gluconate†	Strontium-90, Radium-226	**IV**: 5 ampules (500 mg calcium each) in 500 mL D5W over 4 h	6 days
Dimercaprol†	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‡	Iodine-131	**PO**: **Adults >40 years of age** with thyroid exposure ≥ 500 cGy: 130 mg/d (See details) **Adults 18-40 years of age** with thyroid exposure ≥ 10 cGy: 130 mg/d (See details)	• In some incidents only a single dose of KI is required. • Incident Managers may recommend

		Pregnant or lactating women with thyroid exposure ≥ 5 cGy: 130 mg/d (See details) **Adolescents approaching adult size (≥70 kg)** with thyroid exposure ≥ 5 cGy: 130 mg/d (See details) **Children and adolescents 3-18** with thyroid exposure ≥ 5 cGy: 65 mg/d (See details) **Infants 1 month to 3 years** with thyroid exposure ≥ 5 cGy: 32.5 mg/d (See details) **Neonates from birth to 1 month** with thyroid exposure ≥ 5 cGy: 16 mg/d (See details)	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. • See details
Potassium phosphate, dibasic†	Phosphorus-32	**PO**: 250 mg phosphorus per tablet. **Adults**: 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†	Iodine-131	**PO**: 50 mg tabs, 2 tabs tid x 8 days	8 days
Prussian blue‡	Cesium-137, Thallium-201	**Adults:** 0.5 g insoluble Prussian Blue per capsule • 1 - 3 g PO tid with 100-200 mL	≥3 weeks, titrated by urine and fecal bioassay and whole-body counting

		water, up to 10-12 g/d (based on Goiânia accident data) • 3 g PO tid (see FDA drug label) **Children:** 0.5 g insoluble Prussian Blue per capsule • Age 2-12 years: 1 g PO tid • Capsules may be opened and mixed with food • FDA drug label contains pediatric information • Age <2 years: not FDA approved (IND or EUA may be required)	
Sodium alginate†	Strontium-90, Radium-226	**PO**: 10 g powder in a 30 cc vial, add water and drink	
Sodium bicarbonate†	Uranium-235	**IV**: • 2 ampules sodium bicarbonate (44.3 meq each) in 1000 mL D5W, 125 mL/h, or • 1 ampule of	• Usually IV for the first 24 h, maybe continued as necessary; • Continuation of treatment for >3 days is rare and can be

		sodium bicarbonate (44.3 meq) in 500 mL D5W, 500 mL/h	done according to titration of uranium amounts in the body
Sodium phosphate†	Phosphorus-32	See Potassium phosphate	
Water†	Tritium (H-3)	**PO**: >3-4 L per day	3 weeks

† Not FDA approved for this indication / Off-label use
‡ FDA approved for this indication
§ Ca-DTPA/Zn-DTPA has not been approved by FDA for treating contamination with californium, thorium, and yttrium