

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)	<ul style="list-style-type: none"> • In some incidents only a single dose of KI is required. • Incident Managers may recommend

		<p>Pregnant or lactating women with thyroid exposure \geq 5 cGy: 130 mg/d (See details)</p> <p>Adolescents approaching adult size (≥ 70 kg) with thyroid exposure \geq 5 cGy: 130 mg/d (See details)</p> <p>Children and adolescents 3-18 with thyroid exposure \geq 5 cGy: 65 mg/d (See details)</p> <p>Infants 1 month to 3 years with thyroid exposure \geq 5 cGy: 32.5 mg/d (See details)</p> <p>Neonates from birth to 1 month with thyroid exposure \geq 5 cGy: 16 mg/d (See details)</p>	<p>additional daily doses if radioactive iodine ingestion (or inhalation) is a continuing threat.</p> <ul style="list-style-type: none"> In some incidents, a course of 7-14 days may be recommended. See details
Potassium phosphate, dibasic [†]	Phosphorus-32	<p>PO: 250 mg phosphorus per tablet.</p> <p>Adults: 1-2 tabs p.o. qid, with full glass of water each time, with meals and at bedtime.</p> <p>Children over 4y: 1 tab qid.</p>	
Propylthiouracil [†]	Iodine-131	<p>PO: 50 mg tabs, 2 tabs tid x 8 days</p>	8 days
Prussian blue [‡]	Cesium-137, Thallium-201	<p>Adults: 0.5 g insoluble Prussian Blue per capsule</p> <ul style="list-style-type: none"> 1 - 3 g PO tid with 100-200 mL 	≥ 3 weeks, titrated by urine and fecal bioassay and whole-body counting

		<p>water, up to 10-12 g/d (based on Goiânia accident data)</p> <ul style="list-style-type: none"> • 3 g PO tid (see FDA drug label) <p>Children: 0.5 g insoluble Prussian Blue per capsule</p> <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • 2 ampules sodium bicarbonate (44.3 meq each) in 1000 mL D5W, 125 mL/h, or • 1 ampule of 	<ul style="list-style-type: none"> • 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