



# POTASSIUM IODIDE

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Potassium iodide (KI) is a compound most commonly used in dermatology for inflammatory dermatoses but is also useful for certain fungal infections. Potassium iodide is compounded by reacting iodine with potassium hydroxide and is usually administered in the form of a saturated solution (SSKI) but is also available in tablet form. Taking this medication with food or adding it to other solutions such as milk, water or fruit juice can protect against common gastrointestinal symptoms. Potassium iodide is absorbed through the intestinal tract and the majority is excreted through the urine. Concomitant use of potassium iodide with other medications that contain or spare potassium can result in elevated levels of potassium including potassium toxicity and should be monitored by a physician. The use of potassium iodide with iodide containing drugs as well as drugs that inhibit thyroid function can cause hypothyroidism.

**Mechanism:** The mechanism by which potassium iodide treats inflammatory dermatoses is not well understood. It is thought that potassium iodide may produce a toxic effect on neutrophils or may affect neutrophil chemotaxis as many of the diseases that potassium iodide is indicated for display neutrophils in early stages. The mechanism by which potassium iodide produces a therapeutic effect for panniculitides as well as against fungi is unknown.

**Uses:** Potassium iodide is used for many inflammatory dermatoses including **erythema multiforme**, Wegener's granulomatosis, **granuloma annulare**, Behcet's syndrome, neutrophilic dermatoses (**pyoderma gangrenosum**, **Sweet's syndrome**), and panniculitides (**erythema nodosum**, subacute nodular migratory panniculitis, nodular vasculitis).

Potassium iodide is also used for certain fungal infections including cutaneous and lymphocutaneous **sporotrichosis**, cutaneous cryptococcosis, human pythiosis, lymphocutaneous nocardia brasiliensis, and entomophthoromycosis.

**Side Effects:** Common side effects of potassium iodide include diarrhea, nausea, vomiting and abdominal pain which can be improved by avoiding rapid increases in dosing. As previously mentioned, many of these symptoms can also be alleviated by taking this medication with food or adding it to other solutions such as milk, water or fruit juice.

Prolonged use of potassium iodide may result in symptoms of iodism, including burning or increased watering of the mouth, metallic taste in the mouth, tooth and gum pain as well as headache. Prolonged use can also result in symptoms of potassium toxicity which includes confusion, arrhythmias, hand numbness and generalized weakness. Those with renal impairment or those taking drugs that can increase potassium level (ACE inhibitors, potassium sparing diuretics) are at an increased risk for potassium toxicity.

Other side effects that have been reported with potassium iodide include acne, muscle aches, lymphadenopathy, urticaria, prolonged fever, pulmonary edema, angioedema, cardiac irritability, metabolic acidosis, vasculitis, polyarteritis nodosa, pustular psoriasis, iododerma and bullous pemphigoid. It has also been reported to worsen dermatitis herpetiformis.

Potassium iodide commonly affects the thyroid gland as iodine is used to synthesize thyroid hormone. For those with thyroid dysfunction, history of autoimmune disease or those taking medications that contain iodide (i.e. amiodarone) or affect thyroid function (i.e. lithium, phenazone, sulfonamides) should be carefully assessed prior to starting KI.

After discontinuation of potassium iodide, most side effects regress rapidly. Other medications such as corticosteroids can be of use in controlling side effects if needed.

**This information has been provided to you compliments of the American Osteopathic College of Dermatology and your physician.**

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