

Hydroquinone Therapeutic Cheat Sheet

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TRADE NAME

- > Hydroquinone 4% cream

MECHANISM OF ACTION

- > Hydroquinone or 1,4-dihydroxybenzene is a derivative of phenol and metabolized to glutathione.⁵ Through topical application of hydroquinone, there is reversible depigmentation of the skin via inhibition of tyrosinase which normally converts tyrosine to 3,4-dihydroxyphenylalanine (dopa).^{5,6,7} Additionally, there is suppression of other melanocyte metabolic processes decreasing melanin formation via selective damage to melanosomes and melanocytes through production of reactive oxygen radicals.^{6,7,8}

FDA APPROVED FOR

- > Hydroquinone is currently only FDA-approved in combination with fluocinolone acetonide 0.01% and tretinoin 0.05% cream under the trade name TRI-LUMA for moderate to severe melasma of the face.⁹

OFF-LABEL USES

- > Disorders of hyperpigmentation including but not limited to chloasma, melasma, ephelides, and solar lentigines.^{5,6,8}

DOSING

- > Topical application to affected areas twice a day.⁶ If there is no improvement in 2 months, use of product should be discontinued.⁶
- > Efficacy improves with use of daily sunscreen.¹⁰
- > There is no standardized treatment duration, but most studies utilized twice a day dosing for 12 to 24 weeks duration.¹⁰

SIDE EFFECTS

- > Mild erythema
- > Burning sensation
- > Dryness
- > Fissuring of paranasal and infraorbital areas
- > Stinging
- > Localized hypersensitivity
- > Pruritus
- > Scaling
- > Exogenous ochronosis

WARNINGS

- > Contains sodium metabisulfite which may cause an allergic-type reaction including anaphylactic symptoms and life-threatening or less severe asthmatic episodes in susceptible people.
- > An effective broad-spectrum sun blocking agent should be used and unnecessary solar exposure avoided.
- > Hydroquinone may produce exogenous ochronosis, a gradual blue-black darkening of the skin. If this occurs, discontinue treatment.

CONTRAINDICATIONS

- > Prior history of sensitivity or allergic reaction to hydroquinone or any other ingredients in the product.

PREGNANCY

- > There are no studies or adequate data on risk associated in pregnant women. Animal reproduction studies have not been conducted with topical hydroquinone.
- > No data on the presence of hydroquinone in human milk, effects on milk production, or effects on infants who are breastfed.

MONITORING

- > No recommended monitoring guidelines