



HYDROXYCHLOROQUINE

<http://www.aocd.org>

Hydroxychloroquine (Plaquenil) was approved by the FDA in 1955 for treatment of malaria, and is structurally related to the other antimalarial **chloroquine**. However, hydroxychloroquine and chloroquine have some different uses in treating systemic and dermatologic conditions. Hydroxychloroquine is taken orally, and rapidly absorbed and metabolized by the liver. It is highly tissue bound and concentrates in melanin-rich pigments like the retina. It is excreted unchanged in the urine, and has a half-life of 45 days.

Mechanism: Hydroxychloroquine is thought to improve symptoms of systemic diseases by preventing inflammation. For example, to treat both rheumatoid arthritis and **systemic lupus erythematosus** (SLE), it has been hypothesized that the drug suppresses T-lymphocytes by increasing the pH inside lysosomes, which disables leukocyte chemotaxis. This prevents leukocytes from being activated which decrease the inflammation seen in many systemic diseases. Furthermore, some studies suggest that the drug decreases toll like receptors, thus inhibiting antigen processing and the impending inflammatory cascade. Hydroxychloroquine also inhibits rheumatoid factor and acute phase reactants in rheumatoid arthritis. For treatment of malaria, hydroxychloroquine inhibits parasites from utilizing hemoglobin in red blood cells. The drug works against the species *Plasmodium vivax*, *P. malariae*, *P. ovale*, and some strains of *P. falciparum*.

Uses: In addition to treating malaria, hydroxychloroquine is used for the following systemic conditions and dermatological conditions:

- Systemic and **discoid lupus erythematosus**
- Rheumatoid Arthritis
- **Idiopathic vasculitis**
- **Post Lyme disease arthritis**
- Sjögren's syndrome
- **Porphyria cutanea tarda**
- **Polymorphous Light Eruption**
- Graft Versus Host Disease

Treatment of SLE with hydroxychloroquine is recommended for the whole course of the disease. It has been shown to prevent flares and also increases long-term survival. There is moderate evidence that it prevents irreversible organ damage, loss of bone mass, thrombosis, and hair loss. In rheumatoid arthritis, hydroxychloroquine is known as a DMARD, or disease modifying antirheumatic drug. The drug improves joint mobility, decreases swelling and tenderness, but symptom improvement can take up to 6 months. Those with Sjögren's syndrome have benefited from the drug with decreased arthralgia, myalgia, lymphadenopathy, and skin manifestations. For prevention and treatment of malaria, it is suggested to take hydroxychloroquine 1-2 weeks before traveling and 8 weeks after returning.

Side Effects: Some common side effects include headache, visual changes, dizziness, and gastrointestinal symptoms such as loss of appetite, diarrhea, stomach pain, and vomiting. Others include skin rashes and neuromyopathy. Some less common side effects include anemia, leukopenia, and thrombocytopenia due hydroxychloroquine's effect on bone marrow, seizures, angioedema, bronchospasm, exfoliative dermatitis, Steven Johnson Syndrome, and psoriasis exacerbations. A more serious side effect is retinal toxicity since the drug accumulates in the retina. Less toxicity has been shown in comparison to chloroquine, but it is still recommended that patients on hydroxychloroquine see an ophthalmologist yearly. Drug-drug interactions can occur because hydroxychloroquine can slow the metabolism of penicillamine and propafenone. Patients with G6PD deficiency, liver, or renal

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

The medical information provided in this article is for educational purposes only and is the property of the American Osteopathic College of Dermatology. It is not intended nor implied to be a substitute for professional medical advice and shall not create a physician - patient relationship. If you have a specific question or concern about a skin lesion or disease, please consult a dermatologist. Any use, re-creation, dissemination, forwarding or copying of this information is strictly prohibited unless expressed written permission is given by the American Osteopathic College of Dermatology. For detailed information including links to related topics on this and many other skin conditions with photos, visit: <https://www.aocd.org/page/DiseaseDatabaseHome>



HYDROXYCHLOROQUINE

<http://www.aocd.org>

damage should use caution with this drug, as well as those taking digoxin, acetaminophen (to avoid liver damage), and injections of botulinum toxin, which can have decreased efficacy if taken with hydroxychloroquine. For pregnant patients, it is recommended to continue use for those patients with SLE, as it leads to less flare-ups and has not been shown to be teratogenic in some trials. However, it is a pregnancy category class C drug, and patients should discuss all medications with their doctor during pregnancy.

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

The medical information provided in this article is for educational purposes only and is the property of the American Osteopathic College of Dermatology. It is not intended nor implied to be a substitute for professional medical advice and shall not create a physician - patient relationship. If you have a specific question or concern about a skin lesion or disease, please consult a dermatologist. Any use, re-creation, dissemination, forwarding or copying of this information is strictly prohibited unless expressed written permission is given by the American Osteopathic College of Dermatology. For detailed information including links to related topics on this and many other skin conditions with photos, visit: <https://www.aocd.org/page/DiseaseDatabaseHome>