**DRUG:** Hydroxychloroquine (Adults)

**Introduction:**
Rheumatoid arthritis and inflammatory osteoarthritis, discoid and systemic lupus erythematosus, and dermatological conditions caused or aggravated by sunlight.

**Licensing Information:**
Treatment of rheumatoid arthritis, discoid and systemic lupus erythematosus, and dermatological conditions caused or aggravated by sunlight.

**Formulations:**
200mg film coated tablets

**Dosage & administration:**
Administered on expert advice, 200 mg or 400 mg daily (but not exceeding 6.5 mg/kg daily based on ideal body-weight). The minimum effective dose should be used.

**Contraindications & Warnings:**
- Known hypersensitivity to 4-aminoquinoline compounds e.g. chloroquine
- Pre-existing maculopothy of the eye
- G6PD deficiency
- Patients with rare hereditary problems of galactose intolerance, the Lapp lactase deficiency or glucose-galactose malabsorption
- Pregnancy (manufacturer contra-indicates) but note the British Society of Rheumatology states that hydroxychloroquine has been used relatively safely in pregnancy. The risks of stopping treatment should be weighed against the small possible risk to the unborn child

**Caution** should also be applied when it is used in the following:
- Patients with hepatic or renal disease, and in those taking drugs known to affect those organs.
- Patients with severe gastrointestinal, neurological or blood disorders.
- Breast feeding (patients should be advised not to breast feed)
- Patients with porphyria cutanea tarda which can be exacerbated by hydroxychloroquine and in patients with psoriasis since it appears to increase the risk of skin reactions.
- Myasthenia gravis – may be aggravated

**Interactions:**
- **Amiodarone, moxifloxacin and droperidol** increased risk of ventricular arrhythmias AVOID concomitant use
- **Ciclosporin** - concomitant use increases plasma levels of ciclosporin
- **Digoxin**- concomitant use increases plasma levels of digoxin. Monitor digoxin levels closely
- **Insulin and antidiabetic drugs**- doses of such medication may need decreasing due to enhanced effects caused by hydroxychloroquine
**Adverse Effects:**

- **Antacids** – antacids may reduce absorption of hydroxychloroquine. Avoid administration within 4 hours of dose

For full list see SPC at [www.medicines.org.uk/EMC](http://www.medicines.org.uk/EMC)

<table>
<thead>
<tr>
<th>Adverse Effects</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gastrointestinal disturbances such as nausea, diarrhoea, anorexia, abdominal pain</td>
<td>Usually resolve with dose reduction or on drug discontinuation</td>
</tr>
<tr>
<td><strong>Headache</strong></td>
<td>Resolves on drug discontinuation</td>
</tr>
<tr>
<td>Skin reactions including skin rashes sometimes occur</td>
<td>Usually resolve on drug discontinuation. Treatment may exacerbate porphyria cutanea tarda or psoriasis</td>
</tr>
<tr>
<td><strong>Corneal deposits</strong></td>
<td>These occur early and may be transient. They are reversible on stopping treatment</td>
</tr>
<tr>
<td><strong>Retinal damage</strong></td>
<td>May be permanent. See monitoring requirements below. The occurrence of retinopathy is rare if the recommended daily dose is not exceeded. The administration of doses in excess of the recommended maximum is likely to increase the risk of retinopathy, and accelerate its onset</td>
</tr>
<tr>
<td><strong>Muscle myopathy</strong></td>
<td>Is rare and reversible after discontinuation of the drug but recovery may take many months</td>
</tr>
<tr>
<td><strong>Bone marrow depression</strong></td>
<td>Is rare. Ensure patient is informed on how to identify signs of infection</td>
</tr>
</tbody>
</table>

For full list see SPC at [www.medicines.org.uk/EMC](http://www.medicines.org.uk/EMC)

**Responsibilities of the specialist initiating treatment:**

**General:**

- To assess the suitability of the patient for treatment
- As per national, regional and local guidelines, to ensure that the patient/carer has received counselling and understands the therapy, its benefits, limitations, continued monitoring (where applicable), adverse effects, and is aware of actions to take if adverse effects are suspected
- Go through patient information leaflet with patient
- Inform patients of the long term monitoring requirements
- Inform the GP of the information provided to the patient
- To review the patient at agreed intervals and copy any relevant results to the GP if required
- Carry out disease and initial drug monitoring as listed below
- Formally hand over to GP by letter and patient informed - send a copy (either electronically or paper copy) of the Shared Care Guideline to the GP and ask them to participate in shared care

**Prescribing:**

- Secondary care will prescribe the first month of treatment
Disease & drug monitoring:
- Carry out baseline monitoring as listed below

<table>
<thead>
<tr>
<th>Renal and Liver function</th>
<th>Adjust dose if impaired</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ophthalmological</td>
<td>• Ask patient about visual impairment (not corrected by glasses). If impairment or eye disease present, assessment by an optometrist is advised and any abnormality should be referred to an ophthalmologist</td>
</tr>
<tr>
<td></td>
<td>• Optional: Record near visual acuity of each eye (with glasses where appropriate) using a standard reading chart</td>
</tr>
</tbody>
</table>

- Discuss shared care arrangement with patient
- Support and advise GPs as required
- Assess response to treatment and initiate any dose changes as clinically appropriate including discontinuation of treatment

Responsibilities of other prescribers (GP):

General and Prescribing:
- To reply to the request for shared care within 2 weeks of receipt of the consultant letter
- Prescribe as recommended by the specialist. The GP will typically be asked to take up the monitoring and prescribing of hydroxychloroquine one month after it has been initiated
- Ensure continued prescribing of hydroxychloroquine remains clinically appropriate at the dose advised by initiating team
- Notify consultant if treatment with hydroxychloroquine is discontinued and patient still under the care of the specialist
- Ensure there are no drug interactions with any other medications initiated in primary care
- If patient develops renal or liver insufficiency review dosage and seek advice from specialist team accordingly
- Ask rheumatology team to review patient after 5 years if still on hydroxychloroquine and/or the cumulative dose of 1000g is reached and the patient has been discharged to primary care.

Disease & drug monitoring:
- Carry out drug monitoring as listed
- Urgent drug discontinuation/ referral to ophthalmologist as clinically appropriate
- To stop treatment on the advice of the ophthalmologist or specialist.
- To refer back to the specialist if the patient’s condition deteriorates
- To identify adverse effects if the patient presents with any signs and liaise with the hospital specialist where necessary. To report adverse effects to the specialist and where appropriate to the Commission on Human Medicines/MHRA (Yellow Card scheme)

Unless otherwise stated by the secondary care specialist, apply the following monitoring frequencies following handover from secondary care:
<table>
<thead>
<tr>
<th>At clinic appointments</th>
<th>Ask patient about visual symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reinforce advice that patients should be advised to stop</td>
<td>Reinforce advice that patients</td>
</tr>
<tr>
<td>taking the drug immediately and seek the advice of their</td>
<td>should be advised to stop taking</td>
</tr>
<tr>
<td>prescribing doctor if any disturbances of vision are noted,</td>
<td>the drug immediately and seek the</td>
</tr>
<tr>
<td>including change of colour vision.</td>
<td>advice of their prescribing doctor</td>
</tr>
<tr>
<td><strong>If patient presents with changes in visual acuity or if</strong></td>
<td><strong>If patient presents with changes</strong></td>
</tr>
<tr>
<td><strong>vision blurred</strong></td>
<td><strong>in visual acuity or if vision</strong></td>
</tr>
<tr>
<td><strong>If care not yet been transferred from secondary care</strong></td>
<td><strong>blurred</strong></td>
</tr>
<tr>
<td>• Contact the specialist for urgent advice.</td>
<td><strong>If care not yet been transferred</strong></td>
</tr>
<tr>
<td>• Request vision assessed by an optician. Then refer</td>
<td><strong>from secondary care</strong></td>
</tr>
<tr>
<td>to ophthalmologist depending upon findings.</td>
<td>• Contact the specialist for urgent advice.</td>
</tr>
<tr>
<td></td>
<td><strong>If care has been transferred to the GP, initially withhold</strong></td>
</tr>
<tr>
<td></td>
<td><strong>treatment:</strong></td>
</tr>
<tr>
<td></td>
<td>• Request vision assessed by an optician. Then refer to ophthalmologist depending upon findings.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Every 12 months</th>
<th>Optician to conduct an annual visual assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>The optician examination should include testing visual</td>
<td>The optician examination should include testing</td>
</tr>
<tr>
<td>acuity, careful ophthalmoscopy, fundoscopy, central</td>
<td>visual acuity, careful ophthalmoscopy, fundoscopy,</td>
</tr>
<tr>
<td>visual field testing with a red target, and colour vision</td>
<td>central visual field testing with a red target, and colour vision</td>
</tr>
<tr>
<td><strong>Discontinue hydroxychloroquine immediately and refer to an ophthalmologist</strong> if a patient develops a retinal pigmentary abnormality, visual field defect, or any other abnormality not explainable by difficulty in accommodation or presence of corneal opacities</td>
<td></td>
</tr>
</tbody>
</table>

### Responsibilities of the Patient / Carer:

**General:**
- Report any possible side effects to their GP
  - Stop taking the drug immediately, refrain from driving and seek the advice of their prescribing doctor if any disturbances of vision are noted, including change of colour vision.
- Attend appointments and annual optician visits (advise the optician of hydroxychloroquine treatment)
- Avoid breast feeding
- Inform GP if pregnancy is suspected, but can be continued

### Disease & drug monitoring:
As above – contact GP if side effects develop (see adverse effects) and attend appointments including those for ophthalmological monitoring

### Communication:

**Specialist to GP:**
- The specialist will inform the GP when they have initiated hydroxychloroquine and when there are any subsequent changes in treatment – standard clinic letter
- Send a copy (either electronically or paper copy) of the shared care guideline to the GP and ask whether they are willing to participate in shared care
- Inform the GP of the information provided to the patient

**GP to Specialist:**
- To reply to the request for shared care within 2 weeks of receipt of the consultant letter
- Irrespective of whether you accept prescribing responsibility or not,
you should inform the consultant of relevant medical information regarding the patient and changes to the patient’s medication regime irrespective of indication

- Notify consultant if treatment with hydroxychloroquine is discontinued

**Contact names & details:**
If you have any concerns regarding individual patients, see consultant letter for medical contact details or contact one of the following:

<table>
<thead>
<tr>
<th>Name</th>
<th>Title/Location</th>
<th>Telephone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rheumatology advice line (York)</td>
<td></td>
<td>01904 721854</td>
</tr>
<tr>
<td>York Rheumatology secretaries</td>
<td>Dr Isdale, Drs Brown and Green, Drs Quinn and Saleem</td>
<td>01904 725585, 01904 726308, 01904 721024</td>
</tr>
<tr>
<td>Scarborough Rheumatologists</td>
<td>Dr Z S S Al-Saffar</td>
<td>01723 342653</td>
</tr>
<tr>
<td>York Dermatologists</td>
<td>Dr Calum Lyon, Dr Kathryn Thomson, Dr Jasmina Mikeljevic, Drs Stainforth, Williams and Love (Senior Clinical Fellow)</td>
<td>01904 726622, 01904 722988, 01904 725603, 01904 725842</td>
</tr>
<tr>
<td>Dermatology Nurse Specialist (York)</td>
<td></td>
<td>01904 726048</td>
</tr>
<tr>
<td>Scarborough Dermatologists</td>
<td>Drs Highet and Williams</td>
<td>01723 342155</td>
</tr>
</tbody>
</table>

**Cost:**

**Drug Tariff Nov 2013**  -  60 x200mg £5.05

**References:**

- BNF 65
- SPC for Plaquenil accessed 5th September 2013
- BSR/BHPR guideline for disease-modifying anti-rheumatic drug (DMARD) therapy in consultation with the British Association of Dermatologists. Rheumatology 2008

This information is not inclusive of all prescribing information and potential adverse effects. Please refer to the SPC (data sheet) or BNF for further prescribing information.

The original Microsoft Word file of this document is located on:
York Teaching Hospital NHS Foundation Trust Pharmacy Department X:\MEDICINES INFORMATION\Shared Care Guidelines\Approved Shared Care Guidelines\HYDROXYCHLOROQUINE Shared Care Guideline V1

Shared Care Guidelines are also available electronically via [http://www.yorkandscarboroughformulary.nhs.uk/](http://www.yorkandscarboroughformulary.nhs.uk/)

Prepared by: Katie Dore (Pharmacist YH)

Checked by: Jane Crewe (Pharmacy YH), Diane Tomlinson (Pharmacist NY and Humber Commissioning Support Unit)- for suitability in primary care

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Approved by: Drug and Therapeutics Committee, November 2013