

Provincial Antibiotic Advisory Team

To:	QEH / PCH Emergency Department Physicians, Internal Medicine Physicians, PEI Hospital Pharmacists, QEH / PCH Emergency Department Nurse Managers and Clinical Educators
From:	Dr. Greg German & Jennifer Boswell, Co-chairs of the Provincial Antibiotic Advisory Team (PAAT)
Date:	August 3, 2016
Re:	Canadian Malaria Network and parenteral malaria therapy availability and restrictions

The recommended treatment for **severe and complicated malaria** is IV artesunate or IV quinine. In Canada, these medications are only available through Health Canada's Special Access Program via the Canadian Malaria Network (CMN). The QEH is a CMN satellite site of Dr. Georges-L.-Dumont University Hospital Centre. The QEH Pharmacy stocks the Island's supply of IV artesunate and IV quinine. Oral agents for the treatment of uncomplicated malaria and follow-on therapy for severe malaria after initial IV therapy are available from the Pharmacy Departments of various PEI acute care hospitals.

The CMN Standard Operating Procedure (SOP) should be referred to when diagnosing and treating suspected severe malaria in collaboration with an Infectious Diseases consultant. The SOP contains the following information:

- Background information on CMN (purpose, history, etc.); Epidemiology of malaria (global and Canadian); Links to references on malaria prevention, diagnosis, and treatment. Helpful references include:
 1. *Summary of recommendations for the diagnosis and treatment of malaria by the Committee to Advise on Tropical Medicine and Travel (CATMAT)*. (2014). Canada Communicable Disease Report CCDR. Volume 40-7. ([Link](#))
 2. *Canadian recommendations for the prevention and treatment of malaria- An Advisory Committee Statement (ACS)*, Committee to Advise on Tropical Medicine and Travel (CATMAT). Public Health Agency of Canada. May 2014. ([Link](#))
 3. World Health Organization. *Management of severe malaria*. Third edition. April 2013. ([Link](#))
- Responsibilities and procedures for CMN stakeholders including treating physicians and pharmacists
- CMN 24-hour contact information
- Links to forms required by the CMN:
 - **Form A** - to be completed by the attending physician within 24 hours of administering IV artesunate or IV quinine.
 - **Form B** - to be completed by the attending physician within 7 days of administering IV artesunate or IV quinine.
 - **Suspected Adverse Drug Reaction Report** - to be completed by the physician as soon as any suspected adverse event from IV artesunate or IV quinine is detected (if applicable).
 - **Pharmacy Dispensing Record** – to be completed by Pharmacy when IV artesunate or IV quinine has been dispensed.

The CMN Standard Operating Procedure can be found on the following website: www.healthpei.ca/micro . Attending physicians have an immediate duty to report cases of Malaria to the Chief Public Health Office.

Please Note: currently, there is a supply issue with IV artesunate which has resulted in a limited restocking capability. At this time, the QEH has 8 vials of artesunate 110 mg which is enough for an IV treatment course for a 92 kg person, before switching to oral therapy. **The CMN urges all physicians and pharmacists to thoroughly evaluate the need and the indications for use of IV artesunate therapy.** IV quinine is an alternative parenteral therapy for severe malaria when IV artesunate is contraindicated or unavailable. IV quinine is also the preferred treatment for malaria when the only indication for parenteral therapy is continued vomiting or unable to tolerate oral therapy.

For Emergency Departments: please distribute / post the attached Emergency Department Notice.

Please direct questions to the co-chairs of PAAT, Dr. Greg German (Medical Microbiologist & Infectious Disease Consultant; 894-2515; GJGerman@ihis.org) and Jennifer Boswell (Antimicrobial Stewardship Pharmacist; 894-2587; JLBoswell@ihis.org).

Emergency Department Notice

Fever occurring in a traveller within three months of returning from a malaria-endemic area is a medical emergency and should be investigated urgently with a malaria rapid test and thick and thin blood films for malaria. Order "MALARIA TEST PANEL" in PowerChart.

Criteria for Severe Falciparum Malaria

EITHER

History of recent possible exposure and no other related pathology

OR

Asexual forms of *Plasmodium falciparum* on blood smear

AND

Any one or more of the following 15 features:

1. Hyperparasitemia (>2% in non-immune, >5% in semi-immune)
2. Impaired consciousness or coma
3. Prostration (unable to walk or sit up without assistance)
4. Multiple convulsions (>2 in 24 hours)
5. Respiratory distress (acidotic breathing)
6. Respiratory failure / Pulmonary edema / ARDS
7. Circulatory collapse / shock (SBP <80 mmHg adults and <50 mmHg children)
8. Acute kidney injury / renal failure (Cr >265 µmol/L or > upper limit for age for children)
9. Jaundice (total bilirubin >45 µmol/L)
10. Abnormal spontaneous bleeding / DIC
11. Hypoglycemia (<2.2 mmol/L)
12. Metabolic Acidosis / Acidemia (pH <7.25, HCO₃ <15 mmol/L)
13. Severe anemia (hemoglobin <50 g/L in children; <70 g/L in adults)
14. Hemoglobinuria (macroscopic)
15. Hyperlactataemia (lactate >5 mmol/L)

Severe Malaria Medication is IN STOCK! IV Artesunate and IV Quinine are in stock but restricted. These drugs are used to treat severe and complicated malaria infections, and are made available by Health Canada's Special Access program and are provided by the Canadian Malaria Network (CMN). Consult your local Infectious Diseases Physician for medical advice, or refer to the directory of malaria specialist physicians on the CMN website. Refer to the CMN Standard Operating Procedure on www.healthpei.ca/micro for more info including required forms to complete and a link to the CMN website.

For supply of IV Artesunate or IV Quinine: Contact a QEH Pharmacist at 902-894-2482 during normal hours of operation (Mon-Fri: 0800-1930h; Sat, Sun and holidays: 0800-1600h). Afterhours: call QEH Telecommunications (902-894-2111) to page the QEH Pharmacist on-call.