Frequently asked questions for malaria

1. **What is malaria?**
Malaria is an infectious disease caused by a parasite that is transmitted through bite of an infected mosquito at night. There are two main types of malaria: Falciparum and Vivax. Falciparum malaria is the more severe type and can be fatal. Vivax malaria is generally mild but can sometimes be fatal.

2. **What are common signs and symptoms of malaria?**
The common signs and symptoms of malaria consist of high fever, headache, chills and shivers, nausea and vomiting. In severe form of the disease the signs and symptoms included severe vomiting and diarrhoea, generalized convulsion, delirium and impaired consciousness, followed by persistent coma and may be death.

3. **How long is the incubation period?**
The incubation period in malaria means the time between mosquito bite and the first appearance of signs and symptoms, of which fever is the most common. Generally, the symptoms start approximately 9 to 14 days after the biting of an infective mosquito. However, there are some types of malaria that the symptoms may start one to two or several months after mosquito biting.

4. **Which parts of the body do the malaria parasites usually infect?**
Malaria parasites are injected into the skin capillaries (small blood vessels) by mosquito bites. From there the parasites travel via the bloodstream to the liver. Here in the liver the parasites develop and multiply before entering the bloodstream again. In the bloodstream the parasites invade the red blood cells where further reproduction occurs. From there other internal organs like brain; kidney etc. can be affected as clumps of heavily infected red blood cells start
blocking small blood vessels (capillary) obstructing the blood flow thereby causing interruption in the normal functions of the organs affected.

5. **Geographically, where is malaria transmitted in the South East Asia region?**
   Malaria is endemic in all the 11 member countries in the South East Asia region except Maldives. The high burden of malaria in SEA Region is associated with various economic development activities like mining, forestry, plantation, subsistence farming, constructions of roads and dams. In some parts of India, malaria is also linked to urbanization.

6. **How malaria is transmitted?**
   Malaria is most commonly transmitted through the bite of an infected anopheline mosquito. It can also be transmitted by blood transfusion. In congenital malaria, malaria may be transmitted from mother to child before and/or during birth.

7. **For how long is a patient of malaria infectious to others after onset of symptoms?**
   In vivax malaria the patient is practically immediately infectious to mosquitoes after the onset of symptoms. In falciparum malaria the patient is infectious only after several days when mature sexual forms of the parasites (gametocytes) appear in the peripheral bloodstream.

8. **Can a survivor transmit Malaria to others after she or he has fully recovered?**
   Yes, a survivor may transmit malaria to others after she or he has fully recovered as an asymptomatic carrier of a malaria infection. Examples are people who have built up immunity to falciparum malaria or people who after having recovered from the primary attack of vivax or ovale malaria subsequently suffer a relapse. Antimalarial drugs such as chloroquine and mefloquine that are given to cure malaria do not eliminate mature sexual forms (gametocytes) of falciparum
parasites from the bloodstream and may remain infective for on average 2 months until the gametocytes die off naturally, or until another drug such as primaquine is given that does eliminate the gametocytes.

9. **How to prevent malaria?**

Malaria is preventable. Following measures can be taken to prevent malaria:

- Cover doors and windows with wire mesh/screens.
- Use mosquito nets (preferably insecticide treated).
- Arrange for indoor residual spraying with insecticide.
- Destroy mosquito breeding places around the habitat that reduces the number of mosquitoes.
- Apply insect repellants to the skin of the exposed part of the body.
- Wear shirts with long sleeves/long dresses and full trousers after sunset.
- While visiting malaria endemic areas take maximum protection, take drug prophylaxis and protection from mosquito bites.
- Start prophylaxis one week before arrival to malarious area and continue weekly for at least four weeks after return to a non-malarious area.
- If symptoms are suggestive of malaria, seek immediate medical help.

10. **What to do when someone has malaria?**

When someone living in malarious area or has the history of travelling malarious area and has ANY of the signs and symptoms mentioned above, it may be possible the patient has malaria. The patient’s life could be in danger if not diagnosed and treated early with effective drug. Urgent treatment is needed from health worker or a clinic or hospital to save the patient’s life.

11. **How can malaria be diagnosed?**

Malaria can be diagnosed by using rapid diagnostic test (RDT) or by microscopy. If you suspect that you have malaria you need to report immediately to the nearby health worker/clinic or hospital for appropriate diagnosis.
12. **How can malaria be treated?**
Malaria is curable. Treatment depends on the type of malaria (falciparum, vivax or other forms), degree of drug resistance, severity of infection, personal allergies and contraindications. Appropriate treatment is available with the health worker/clinic or hospital nearby.

13. **Is there any cure or vaccine?**
Adequately and promptly treated malaria is a curable disease. Various approaches to a malaria vaccine are under study, but none is expected to be commercially available soon.

14. **Does a patient after getting cured confer subsequent immunity?**
It depends on the intensity of malaria transmission of the area where patient lives and frequency of prior infection the patient suffered. In areas where malaria is seasonal and disease is infrequent, adequate protective immunity may never be build up. In areas with high levels of malaria transmission, newborn children are protected in their first few months of life by the antibodies of their immune mothers. After that they gradually develop their own immunity over the years, if they do not die from the disease. The immunity is reversible, and fully "immune" adults who leave malarious areas are known to return to a state of non-immunity over a period of 1 to 2 years.

15. **Where do the malaria mosquitoes breed?**
Malaria mosquitoes generally breed in:
- Clean, fresh or brackish water (slightly salty) that may be stagnant or slow- flowing;
- Open streams with very slow-flowing water along their shaded banks;
- Pools of water left after the rains or as a result of poor water management;
- Swamp, rice fields, and reservoirs;
- Small ponds, pools, burrow-pits, canals, and ditches with stagnant water;
- Animal hoof-prints filled with water;
• Cisterns (water tanks) for storage of water, and
• Anything that may collect water – plant pots, old car tyres, etc.

16. **How to control mosquito breeding places?**
Malaria mosquito breeding places can be controlled by:
• Eliminating places where mosquitoes can lay eggs;
• Reclaiming land by filling and draining;
• Cleaning the shades and vegetations (where possible) along the ponds, ditches, streams, canals etc.;
• Removing discarded containers that might collect water;
• Covering cisterns (water tanks) with lids or mosquito nets;
• Repairing leaks, preventing seepage of water and improving drainage;
• Introduce special fish that eat mosquito larvae; and
• Putting special insecticides (abate) in the water of cistern (water tanks) to kill mosquito larvae.

17. **Who are at risk of malaria?**
People working in mining, forestry, plantation, subsistence farming, constructions of roads and dams are at high risk of malaria. Other specific groups of people at risk of malaria are young children, pregnant women, people with HIV/AIDS, travelers travelling from non-malarious areas to malarious areas and immigrants from non-malarious areas to malarious areas.

18. **How can malaria be controlled?**
The goal of malaria control is to prevent deaths and reduce sufferings and social and economic losses through the progressive improvement and strengthening of local and national capabilities. Four basic technical elements of the malaria control strategy are:
• To provide early definitive diagnosis and prompt effective treatment;
• To plan and implement selective and sustainable preventive measures, including malaria mosquito control;
To detect early, contain or prevent malaria outbreaks; and
To strengthen local capacities in basic and applied research to permit and promote the regular reassessment of a country's malaria situation, in particular the ecological, social and economic determinants of the disease.

19. Is quarantine required or permitted as a preventive measure?
No.

20. Is isolation required for the patient?
No.

21. Is vaccination required or recommended for international travel?
No vaccine is yet available.

22. What is the name of the infectious agent (the parasite)?
Plasmodium, a protozoa of which there are five species infecting humans: Plasmodium falciparum, Plasmodium vivax, Plasmodium ovale, Plasmodium malariae and Plasmodium knowlesi.

23. When was it identified?
In 1880, Laveran, a French army surgeon in Algeria, first saw and described malaria parasites in the red blood cells of man.

TAKE ANTIMALARIAL MEDICINES IN PRESCRIBED DOSES AND FOR THE FULL RECOMMENDED NUMBER OF DAYS.
HELP PREVENT EMERGENCE OF RESISTANCE TO ANTIMALARIALS!