



## MALARIA 2006

No. 24, 2007

In 2006, Danish laboratories reported a total of 101 cases of imported malaria, [Table 1](#). Among the cases in which the presumed country of infection was stated, 83% (80/96) were acquired during stays in Sub-Saharan Africa, 14% (13/96) in Asia and 3% (3/96) in Oceania or Central and South America.

Among the cases with a species-specific diagnosis, 71% were caused by *Plasmodium falciparum* and among these, the majority (92%) were acquired in Africa. The majority of Asian malaria cases were caused by *P. vivax*, while nearly a third (4/13) of the cases were caused by *P. falciparum*. Furthermore, a single case of *falciparum* malaria was reported from Oceania. A total of 65% of malaria patients were males, 35% females. A total of 75% of patients were of Danish origin, 22% of non-Danish origin and in 3% of the cases, origin was not stated.

### Prophylaxis levels

The recommendations regarding malaria prophylaxis types continues to have four levels corresponding to the WHO levels, EPI-NEWS 24/06. The various prophylaxis regimes will be detailed further in a future edition of EPI-NEWS. Prevention of mosquito bites is always essential, irrespective the use of any kind of chemoprophylaxis.

### Pregnancy and children

Pregnant women are generally advised not to travel to areas with a high incidence of chloroquine-resistant *falciparum* malaria. Furthermore, the choice of chemoprophylaxis to infants requires careful consideration, EPI-NEWS 19/05.

### Malaria in India

The period from December 2006 to February 2007 saw an unusually high number of *falciparum* malaria cases among European short-term tourists returning from Goa in India, EPI-NEWS 1-2/07. Outside the rainy season, the level of malaria transmission is normally considered to be low in Goa, and *P. vivax* is regarded the dominant species. Consequently, the standard recommendation for short-term tourists travelling to Goa is to rely on mosquito bite prophylaxis exclusively. In view of the relatively high number of *falciparum* cases among short-term tourists, this recommendation has been changed. Currently, all travellers to Goa are recommended level IV chemopro-

**Table 1. Imported cases of malaria in Denmark, 2006**

	Africa	Asia	Central and South America	Oceania	Not stated *)	Total 2006	Total 2005
<i>P. falciparum</i>	61	4		1	4	70	52
<i>P. vivax</i>	2	9	2			13	21
<i>P. ovale</i>	8				1	9	7
<i>P. malariae</i>	6					6	3
Mixed	1					1	2
Not stated	2					2	2
<b>Total</b>	<b>80</b>	<b>13</b>	<b>2</b>	<b>1</b>	<b>5</b>	<b>101</b>	<b>87</b>

\*) Incl. travellers to more than one continent

phylaxis (mefloquine/doxycycline/atovaquone/proguanil). Furthermore, the risk of *falciparum* malaria in India is particularly high in Assam and the other north eastern states, in Orissa and on the Andaman and Nicobar islands. For these areas, the recommendation to all travellers, except group 1, remains level IV prophylaxis. According to the WHO, level IV prophylaxis is now also recommended to group 2-4 travellers visiting the following Central Indian states: Chhattisgarh, Gujarat, Jharkhand, Karnataka (except the city of Bangalore), Madhya Pradesh, Maharashtra (except the cities of Mumbai, Nagpur, Nasik and Pune) and West Bengal.

Alternatively, primary prophylaxis may be used and level IV prophylaxis, e.g. Malarone, may be prescribed for standby treatment, EPI-NEWS 24/06.

As a principal rule, level III-prophylaxis (chloroquine and proguanil) is recommended to group 2-4 travellers visiting the remaining Indian states when travelling at altitudes below 2000 m.

### Commentary

The number of imported malaria cases in 2006 remained at a similarly low level as the preceding 3-4 years, but four cases of *P. falciparum* related to India were observed. For comparison, the 2001-2005 period only saw a total of three *falciparum* cases related to all of Asia.

However, the risk of contracting the serious *falciparum* malaria remains related almost exclusively to stays in Africa and a few areas in Asia and South America. This suggests that a high degree of individualisation of malaria prophylaxis recommendations for travellers outside Africa still be beneficial, EPI-NEWS 24/06.

As the malaria transmission level may change rapidly in an area, as was seen recently in Goa, India, MDs involved in travel medicine are recommended to keep being updated with the malaria situation on travel destinations; [www.ssi.dk](http://www.ssi.dk).

(L.S. Vestergaard, Dept. of Epidemiology, H.V. Nielsen, Parasitology Lab., DBMP)

### SUGGESTED VACCINATIONS FOR FOREIGN TRAVEL, 2007

As last year, EPI-NEWS 21-22/06 and 23a+b/06, a reference group has reviewed and updated the SSI vaccination recommendations for foreign travel. This year there are only minor changes/amendments.

#### Cholera

Vaccination against cholera is not recommended for ordinary tourist travellers. Vaccination may be relevant in connection with stays in areas with cholera outbreaks. The protection against ordinary travel diarrhoea provided by the cholera vaccine is so limited that the vaccine is no longer recommended for this indication.

#### Influenza

This year, the vaccine for the southern hemisphere is identical to the 06/07-vaccine for the northern hemisphere.

#### Measles

MMR vaccination may be considered for unvaccinated children > 9 months before travelling to an area where measles occur. Furthermore, MMR vaccination is recommended to older children and adults who have not had the measles nor been vaccinated previously, EPI-NEWS 25/06.

#### Rotavirus

Vaccination is recommended to infants < 6 months before prolonged stays with parents in countries with poor hospital standards, EPI-NEWS 34/06. The first vaccination may be administered from the age of 6 weeks. All doses should be administered by the age of 6 months.

(The Working Group for Revision of The SSI Recommendations for Vaccination for Foreign Travel, EPI-NEWS 23a+b, 2007)

## Individually notifiable diseases

Number of notifications received in the Department of Epidemiology, SSI (2007 figures are preliminary)

Table 1	Week 23 2007	Cum. 2007 <sup>1)</sup>	Cum. 2006 <sup>1)</sup>
AIDS	0	26	22
Anthrax	0	0	0
Botulism	0	0	0
Cholera	0	0	0
Creutzfeldt-Jakob	0	4	6
Diphtheria	0	0	0
Food-borne diseases	14	221	155
of these, infected abroad	1	36	41
Gonorrhoea	7	159	203
Haemorrhagic fever	0	0	0
Hepatitis A	0	14	8
of these, infected abroad	0	6	1
Hepatitis B (acute)	1	12	10
Hepatitis B (chronic)	9	121	189
Hepatitis C (acute)	0	2	5
Hepatitis C (chronic)	26	150	293
HIV	4	123	95
Legionella pneumonia	2	36	37
of these, infected abroad	0	4	8
Leprosy	0	0	0
Leptospirosis	0	6	5
Measles	0	1	23
Meningococcal disease	0	30	43
of these, group B	0	16	23
of these, group C	0	9	6
of these, unspec. + other	0	5	14
Mumps	0	4	8
Neuroborreliosis	3	30	15
Ornithosis	0	1	7
Pertussis (children < 2 years)	1	33	25
Plague	0	0	0
Polio	0	0	0
Purulent meningitis			
Haemophilus influenzae	0	1	1
Listeria monocytogenes	0	5	4
Streptococcus pneumoniae	1	45	48
Other aethiology	0	4	2
Unknown aethiology	0	7	12
Under registration	8	32	-
Rabies	0	0	0
Rubella (congenital)	0	0	0
Rubella (during pregnancy)	0	0	0
Shigellosis	0	23	23
of these, infected abroad	0	13	21
Syphilis	1	41	28
Tetanus	0	0	1
Tuberculosis	11	172	161
Typhoid/paratyphoid fever	1	6	14
of these, infected abroad	1	6	14
Typhus exanthematicus	0	2	0
VTEC/HUS	1	65	50
of these, infected abroad	0	22	11

<sup>1)</sup> Cumulative number 2007 and in corresponding period 2006

## Selected laboratory diagnosed infections

Number of specimens, isolates, and/or notifications received in SSI laboratories

Table 2	Week 23 2007	Cum. 2007 <sup>2)</sup>	Cum. 2006 <sup>2)</sup>
Bordetella pertussis (all ages)	6	69	110
Gonococci	4	153	199
of these, females	0	19	40
of these, males	4	134	159
Listeria monocytogenes	0	21	13
Mycoplasma pneumoniae			
Resp. specimens <sup>3)</sup>	1	233	224
Serum specimens <sup>4)</sup>	3	271	202
Streptococci <sup>5)</sup>			
Group A streptococci	1	62	87
Group B streptococci	2	43	44
Group C streptococci	0	10	11
Group G streptococci	3	55	62
S. pneumoniae	19	594	589
Table 3	Week 21 2007	Cum. 2007 <sup>2)</sup>	Cum. 2006 <sup>2)</sup>
Pathogenic int. bacteria <sup>6)</sup>			
Campylobacter	92	1003	677
S. Enteritidis	10	145	122
S. Typhimurium	9	114	101
Other zoon. salmonella	23	258	180
Yersinia enterocolitica	1	121	65
Verocytotoxin- producing E. coli	1	65	45
Enteropathogenic E. coli	5	59	76
Enterotoxigenic E. coli	8	72	77

<sup>2)</sup> Cumulative number 2007 and in corresponding period 2006

<sup>3)</sup> Resp. specimens with positive PCR

<sup>4)</sup> Serum specimens with pos. complement fixation test

<sup>5)</sup> Isolated in blood or spinal fluid

<sup>6)</sup> See also [www.germ.dk](http://www.germ.dk)

13 June 2007