

Fieber und gastrointestinale Probleme beim Reiserückkehrer



by Duppi's AdventureTours©

Welche Diagnostik bei Fieber nach Reisen?

- Abhängig von Risikofaktoren des Reisenden (Alter, Grunderkrankung)
- Abhängig von Reiseland
- Abhängig von Reiseroute und Reiseart
- Abhängig von Reisedauer
- Abhängig von prophylaktischen Massnahmen

Tatsache ist ...

TABLE 2

Demographic and trip characteristics of 81 pediatric travelers matched by geographic region of travel, malaria risk at destination, and duration of travel adult military dependents

Demographic and trip characteristic	Pediatric travelers (n = 81)	Dependent adult travelers (n = 81)	P-value
Male, N (%)	40 (48)	6 (7)	< 0.01
Nonwhite race, N (%)	46 (57)	26 (32)	0.02
Born outside the United States, N (%)	9 (11)	26 (32)	< 0.01
Interval between pretravel visit and departure date ≤ 14 days, N (%)	24 (29)	19 (23)	0.45
Median trip duration—days (IQR)	16 (11–25)	15 (9–23)	0.65
Reason for travel: visiting friends and relatives, N (%)	29 (36)	13 (16)	0.01
Exposures, compliance with preventive measures, and illnesses*	Pediatric travelers (n = 48)	Dependent adult travelers (n = 69)	
Skin exposure†	27 (56)	28 (41)	0.1
Animal contact†	19 (40)	14 (20)	0.02
Feeding	4 (8)	3 (4)	0.44
Hunting/fishing	1 (2)	0 (0)	0.41
Riding/touching/petting	16 (33)	11 (16)	0.03
Other	1 (2)	4 (6)	0.65
Dietary risk behaviors			
Food prepared by street vendors	37 (82)	49 (75)	0.51
Consuming raw foods	30 (67)	36 (55)	0.29
Drinking untreated water	7 (16)	18 (28)	0.1
Ice in beverages	23 (51)	37 (57)	0.43
Mosquito bites reported	33 (69)	30 (44)	< 0.01
> 10 mosquito bites	15 (31)	6 (9)	< 0.01
Used a skin insect repellent greater than or equal to once/day	33 (69)	30 (45)	0.01
Used an insecticide on outer clothing	7 (17)	18 (32)	0.10
Used a bed net‡	11/24 (46)	16/32 (50)	0.97
Partial or noncompliance with malaria chemoprophylaxis§	3/32 (9)	8/46 (17)	0.64
TD	7 (15)	15 (22)	0.33
Influenza-like illness	4 (8)	12 (17)	0.16
Febrile illness	5 (10)	2 (3)	0.12

TD = traveler's diarrhea.

* Exposures, compliance with preventive measures, and illnesses only evaluated in subjects who completed a post-travel survey.

† Definitions for exposures reported by subjects (or their guardians): Skin exposure: walking barefoot on a rural terrain or beach, or wading in fresh water. Animal contact: close contact with wild or domesticated animals. Insect vectors: mosquito, tick, or other insect bites.

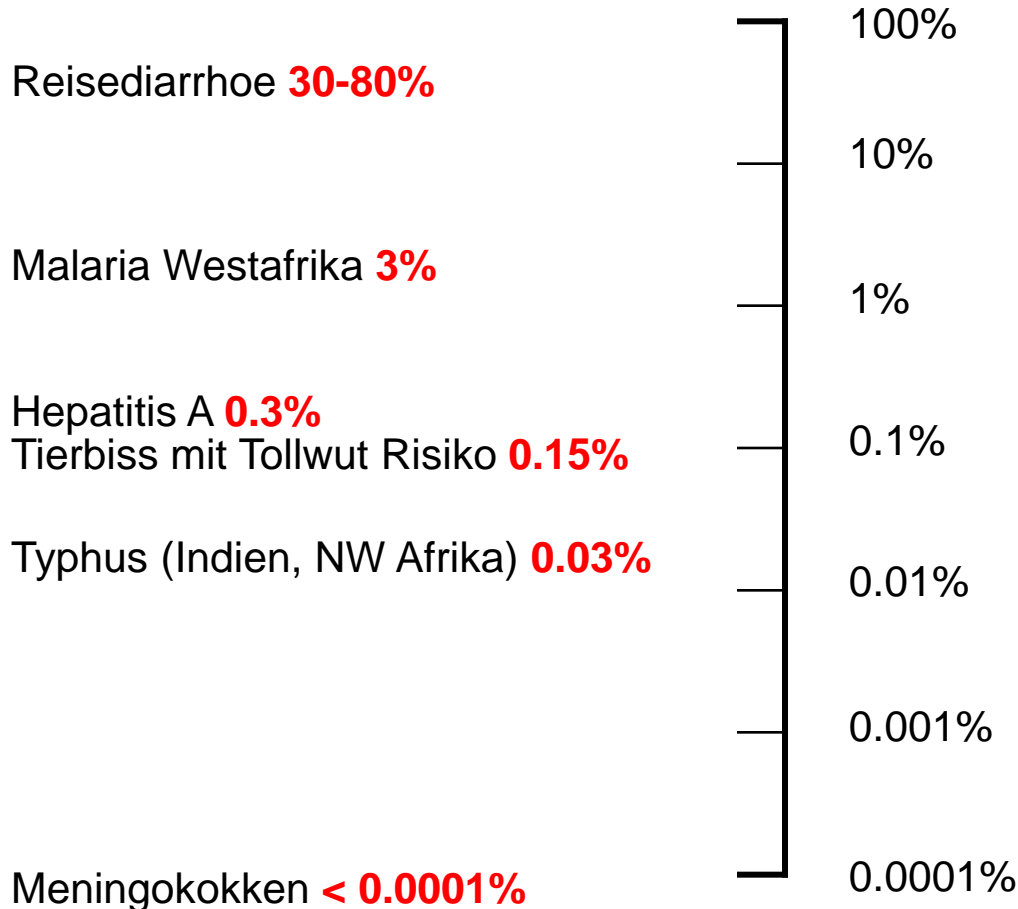
‡ Bed net use reported among those who were recommended a bed net at the pretravel consultation.

§ Partial or noncompliance with malaria chemoprophylaxis reported in those who were prescribed an antimalarial and was defined as missing ≤ 2 doses of weekly antimalarials (mefloquine or chloroquine) in a row or ≥ 3 doses of daily antimalarials (doxycycline, atovaquone/proguanil, or primaquine primary prophylaxis) in a row.

|| Definitions for travel-related illness: TD: as ≥ 3 unformed stools or two unformed stools with ≥ 1 accompanying symptom (nausea, vomiting, abdominal pain, fever, and blood in stool) within 24 hours. Influenza-like illness: subjective fever associated with either a sore throat or cough. Febrile illness: subjective fever not associated with diarrhea or influenza-like illness.

Häufige Infektionen bei Reisenden

Inzidenz pro Monat Aufenthalt in tropischem Land



Steffen R et al. *Manual of Travel Medicine and Health*, 1999

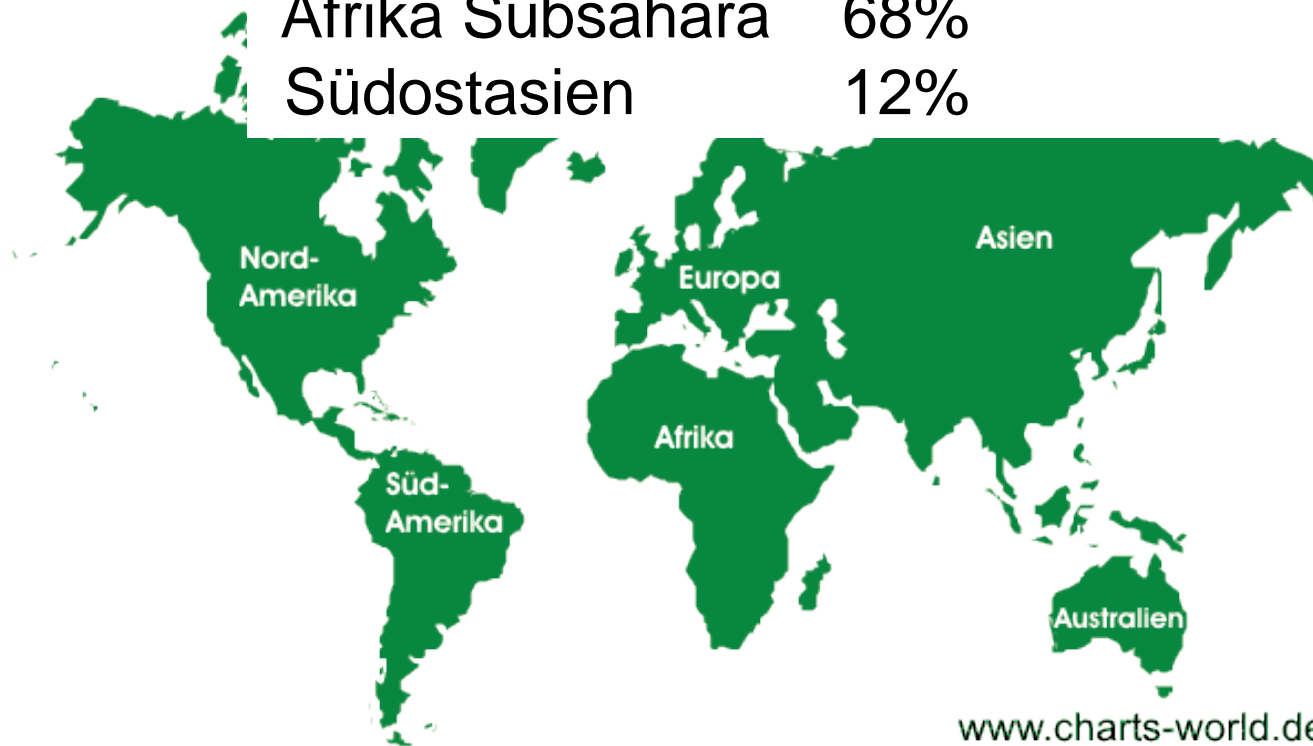
Risiko entsprechend Reisedestination

n = 1743

(Europäer 60%, Immigranten 14%, VFR 14%, Ausländer 12%)

Afrika Subsahara 68%

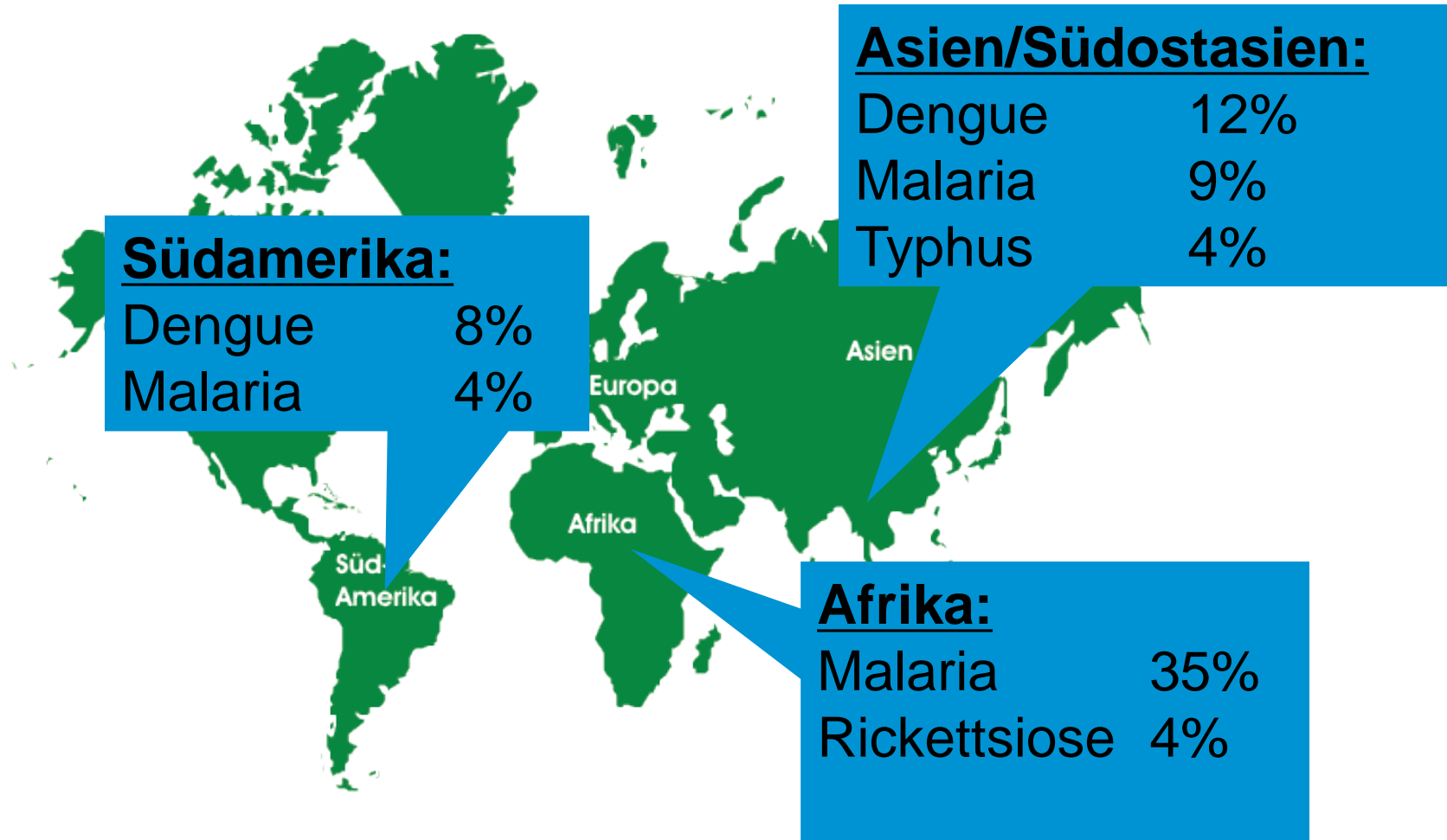
Südostasien 12%



www.charts-world.de

Bottieau E et al, Arch Intern Med 2006

Risiko entsprechend Reisedestination



Bottieau E et al, Arch Intern Med 2006

TABLE 2 Diagnostic Syndrome Groups, Selected Specific Diagnoses, and Rates of Hospitalization for 1591 Ill Returning Pediatric Travelers

Diagnosis	Pediatric Travelers, <i>n</i> (%)	Proportion of Children Hospitalized, %
Diarrheal disorders, all	449 (28)	7
Acute diarrhea	357 (22)	8
Bacterial cause ^a	104 (7)	12
Gastroenteritis, unspecified	98 (6)	10
Parasitic cause ^b	88 (6)	2
Chronic diarrhea ^c	92 (6)	4
Dermatologic disorders, all ^d	390 (25)	4
Animal bites	95 (6)	2
CLM	66 (4)	2
Insect bites	46 (3)	2
Systemic febrile illnesses, all ^e	358 (23)	36
Malaria ^f	124 (8)	69
Viral syndromes	99 (6)	1
Febrile illnesses, unspecified	40 (3)	8
Dengue fever ^g	23 (2)	39
Enteric fever ^h	21 (1)	60
Respiratory disorders	167 (11)	15
Upper respiratory tract infections	64 (4)	0
Hyperactive airway disease ⁱ	33 (2)	16
Acute otitis media ^j	28 (2)	4
Nondiarrheal gastrointestinal disorders ^k	114 (7)	22
Nonspecific symptoms	70 (4)	20
Dental problems	34 (2)	0
Tissue parasites ^l	30 (2)	14
Genitourinary disorders ^m	24 (2)	13
Injuries	21 (1)	5
All children	1591 (100)	14

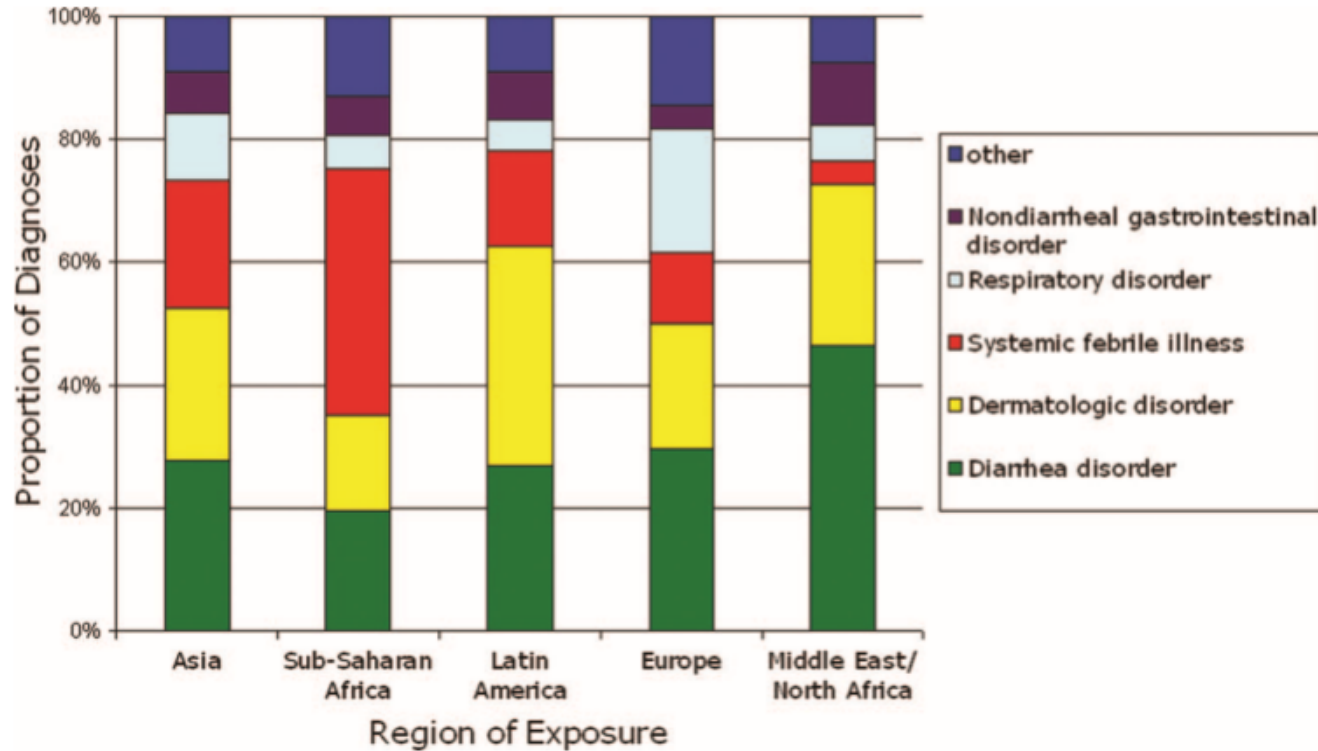


FIGURE 3

Proportions of broad diagnostic categories according to region of exposure. The data for ill children returning from North America ($n = 13$) and Oceania ($n = 30$) are not presented because of small numbers. The proportionate morbidity rates of diarrheal disorders, dermatologic disorders, systemic febrile illnesses, and respiratory disorders differed significantly ($P < .001$) among the travel regions.

Welche Diagnostik bei Fieber nach Reisen?

1. Invasive Infektionen, unabhängig Reise
 - Risiko gemäss Alter, Impfstatus
2. Behandlungsbedürftige Infektionen
 - Malaria
 - enterisches Fieber
 - (Rickettsiosen)
 - ...
 - intestinale Parasitose
3. Potentiell übertragbare Infektionen
4. Nice to know

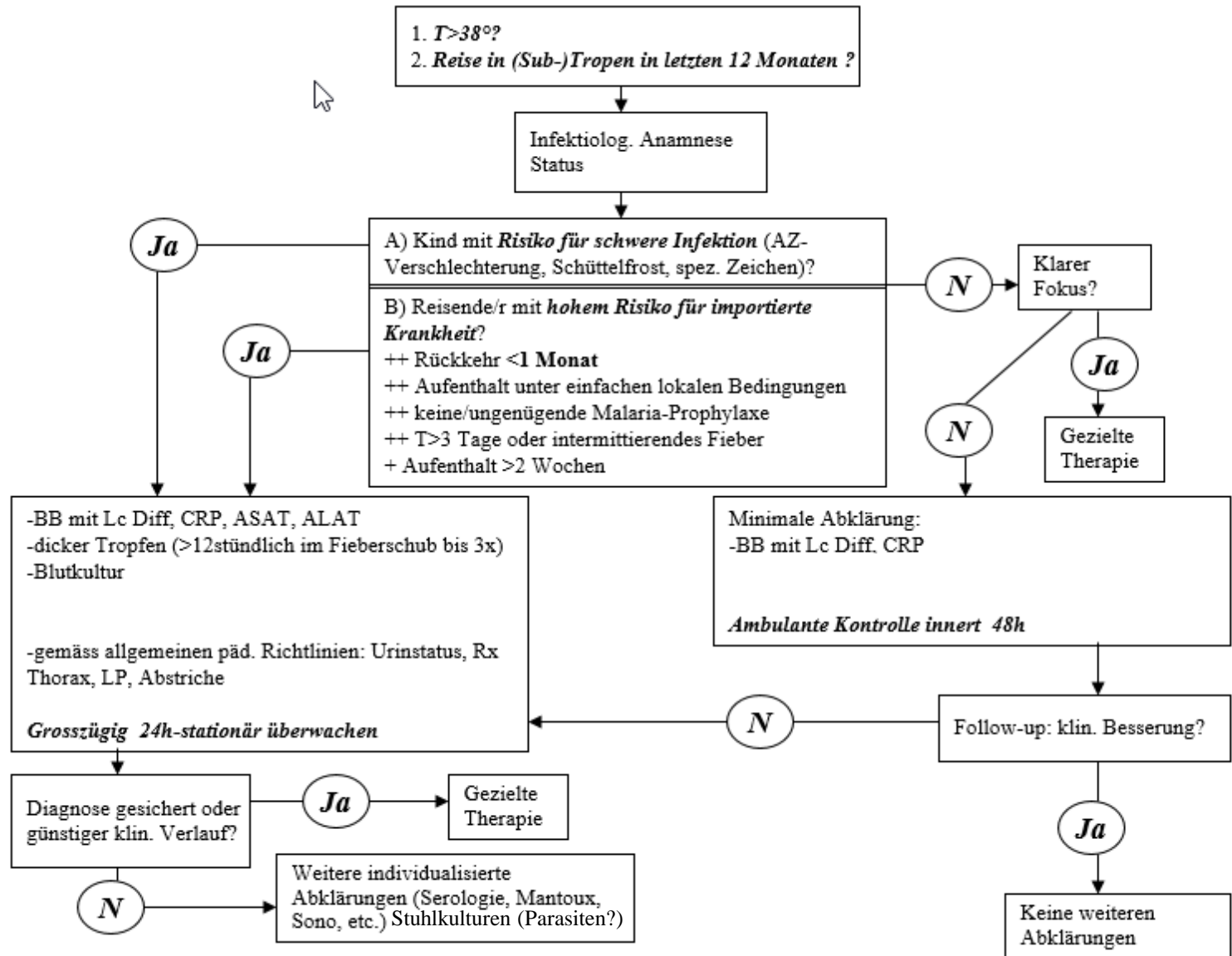
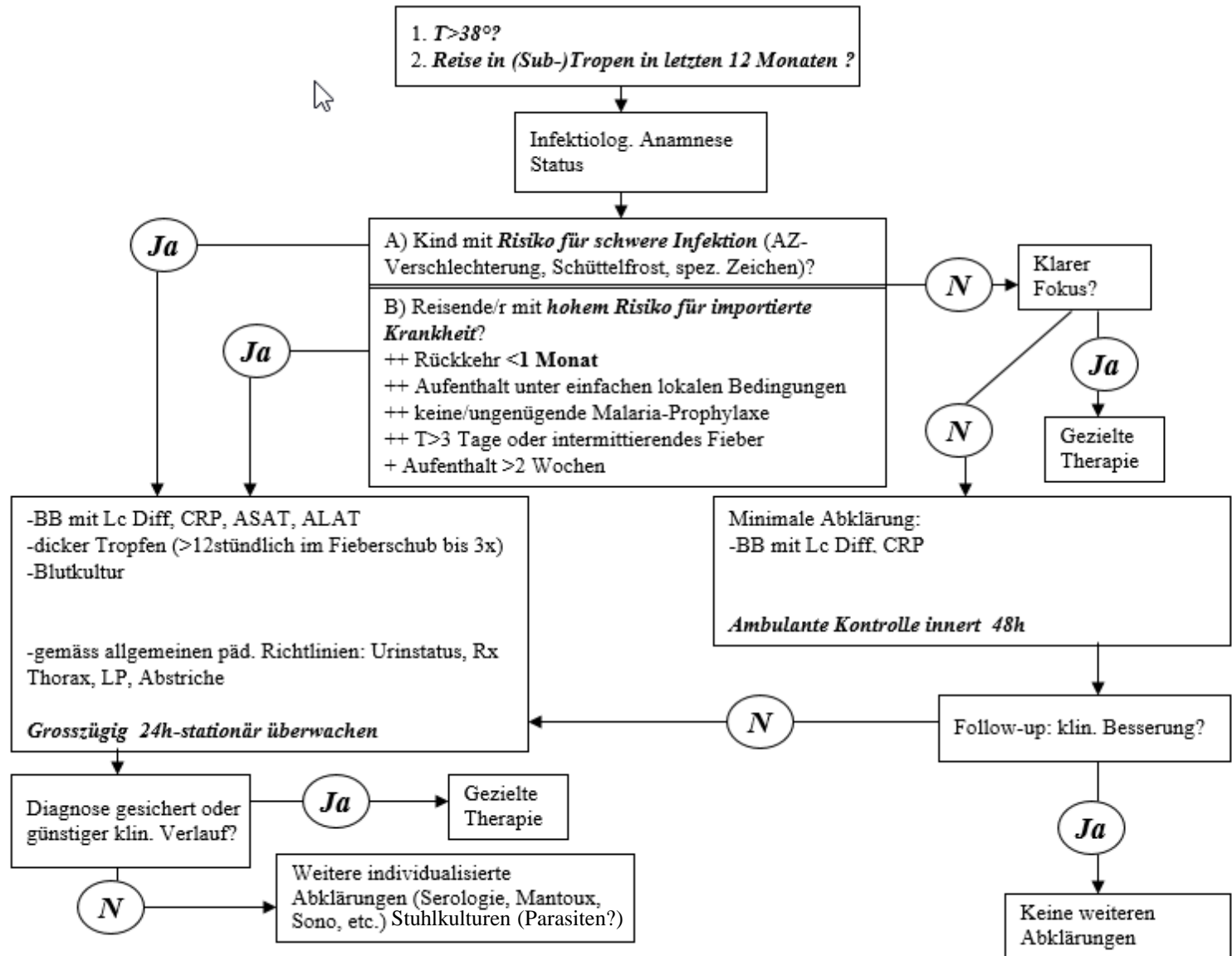


Table 5. Typical Incubation Periods For Travel-Related Infectious Diseases.*

Brief (<14 Days)	Medium (14 Days to 6 Weeks)	Long (>6 Weeks)
Malaria (especially <i>Plasmodium falciparum</i>)	Malaria (especially <i>Plasmodium falciparum</i>)	Malaria
Arboviral infections and other viral hemorrhagic fevers: (Dengue fever, yellow fever, Japanese encephalitis, West Nile virus, tick-borne encephalitis, Rift Valley fever, Chikungunya fever, Lassa fever, Hantavirus, Crimean-Congo hemorrhagic fever, Marburg virus, Ebola virus)	Leptospirosis	Tuberculosis
Paratyphoid fever	Typhoid Fever	Viral hepatitis
Enteric viral infections	Rickettsioses: scrub typhus, spotted fever group, Q fever	Enteric protozoal infections and helminthic infections
Meningococemia	African trypanosomiasis	Schistosomiasis
Rickettsioses: louse, flea-born, typhus	Brucellosis	Filariasis
African trypanosomiasis	Enteric protozoal infections	Amebic liver abscess
Plague	Viral hepatitis	Leishmaniasis
Pneumonia	Strongyloides	African trypanosomiasis
Influenza	Lyme disease	Rabies
Anthrax	Cutaneous myiasis/tungiasis/scabies	
Rabies	Rabies	



Welche Diagnostik bei Fieber nach Reisen?

1. Blutkultur (invasive Infektion, Typhus)
Urin (– und Liquor)kultur
2. BB mit Ausstrich, ev. Schnelltest Malaria
3. Serum iR (Dengue-Schnelltest, andere Serologien)
4. Stuhlkultur (Säuglinge, Immunsuppression) Bakteriologie
5. Stuhlkultur Parasiten (sinnvoll erst nach Wochen)

GESUND & SICHER REISEN

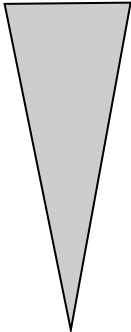


COOK IT, PEEL IT OR LEAVE IT!

Vorsicht: DURCHFALL!

Fever in returned traveller

n= 153 Kinder mit Fieber bis 12 Monate nach Reise in (Sub)Tropen

Diagnosen	%
viral	34
Diarrhoe	27
Reise assoziiert	
Campylobacter	
Shigellen	
Giardia	
Salmonellen	
Cryptosporidien	
Malaria	14
HAV	5
HWI	4
Typhus	3
andere	13

West NS et al, Arch Dis Child 03

Erreger Reisedurchfall

Table 2. Estimated Regional Differences in the Etiology of Traveler's Diarrhea^a

Organism	Reported Pathogens, %			
	Latin America and Caribbean	Africa	South Asia	Southeast Asia
Enterotoxigenic <i>Escherichia coli</i>	≥35	25-35	15-25	5-15
Enteroaggregative <i>E coli</i>	25-35	<5	15-25	No data
<i>Campylobacter</i>	<5	<5	15-25	25-35
<i>Salmonella</i>	<5	5-15	<5	5-15
<i>Shigella</i>	5-15	5-15	5-15	<5
Norovirus	15-25	15-25	5-15	<5
Rotavirus	15-25	5-15	5-15	<5
<i>Giardia</i>	<5	<5	5-15	5-15

^a Compilation of data from several studies conducted in 2002-2011.^{8,60-64} Studies do not uniformly report on all pathogens; no pathogen is identified in up to 50% of cases.

Behandlungsindikation:

Shigellen

Campylobacter (bei Erkrankungsbeginn wirksam)

Giardiasis

Gegen Reisedurchfall: Empfehlungen

- Stillen
- Hände waschen vor dem Essen/vor dem Kochen
- abgekochtes/abgefülltes Wasser:
 - Trinken/Zähneputzen
 - Schoppen Zubereitung
- nur gut gekochte Nahrungsmittel essen, nicht abgekühlt, Früchte zum Schälen
- meiden von rohem Fisch
- meiden Essen vom Stand
- Zwischenmahlzeiten/Snacks für Kinder dabei haben

Fieber nach Reisen: Take home

- Abklärungen gemäss Reiseanamnese
- ‘Visiting Friends and Relatives’ besonders berücksichtigen
- Prophylaxemassnahmen ?
- strukturierte Abklärung:
 - primär schwere bzw. behandlungsbedürftige Infektionen
- Bei Risikopersonen: Stuhlbakteriologie
- Stuhluntersuchungen für Parasiten mit adäquater Latenz
- blinde Therapien vermeiden