Rejsemedicin for dermatologer

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Rejserelaterede helbredsproblemer

- Ved rejse til udviklingsland i én måned vil 30-50 % af rejsende opleve et eller andet helbredsproblem.
- De tre hyppigste er
  - 1.Diarre
  - 2.Feber
  - 3.Dermatose

Health Problems in a Large Cohort of Americans Traveling to Developing Countries

Symptom	Number (%)
Any	501 (64)
Diarrhea	358 (46)
-Traveler´s diarrhea	270 (34)
- Loose motions	88 (11)
Respiratory tract symptoms	204 (26)
Skin problem	63 (8)
High altitude illness	45 (6)
Motion Sickness	37 (5)
Accidents or injuries	35 (4)
Febrile episodes	21 (3)
Other	17 (2)
Sougth medical care	59 (8)

784 travelers with median age 44 years, a median travel duration of 19 days, and visited 123 countries.

RTI: 76% used over-the-counter symptomatic measures, and 20 % used antibiotics, 8 % recieved medical care, 3 % used steroids or asthma medications

Journal of Travel Medicine 2000, 259 - 266

Cause of skin lesions in travelers

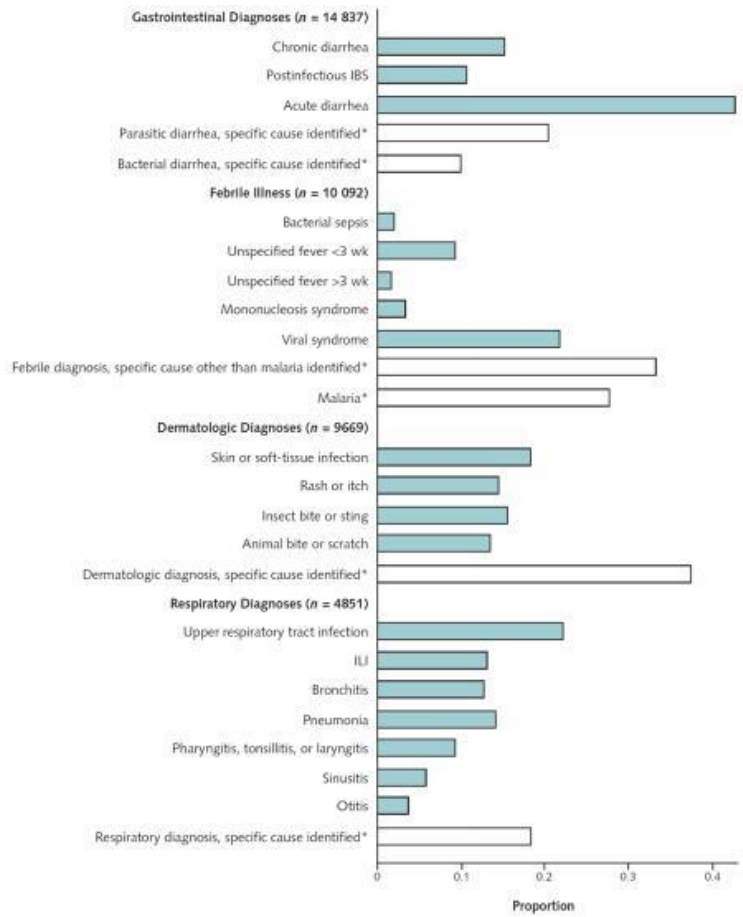
Cutaneous larva migrans	25 %
Pyodermas	18 %
Arthropod-reactive dermatitis	9 %
Myiasis	9 %
Tungiasis	6 %
Urticaria	5 %
Fever and rash	4 %
Cutaneous leishmaniasis	3 %

N = 269

Clinical Infectious Diseases 1995; 20; 542

GeoSentinel Surveillance of Illness in Returned Travelers, 2007–2011

Variable	Total	Gastrointestinal Diagnoses	Febrile Illness	Dermatologic Diagnoses	Respiratory or Pharyngeal Diagnoses	Neurologic Diagnoses	GU, STI, and Gynecologic Diagnoses
Travelers, *n* (%)	42 173	14 346 (34.0)	9817 (23.3)	8227(19.5)	4613 (10.9)	724 (1.7)	1209 (2.9)
Diagnoses, *n* *	49 379	14 837	10 092	9669	4851	738	1260
Men, % †	49.9	44.5	58.9	47.8	51.7	50.6	37.2
Median age (range), *y* ‡	34 (0–95)	32 (0–92)	35 (0–91)	35 (0–95)	36 (0–93)	38 (0–88)	37 (0–88)
Travel reason, % §							
Tourism	55.7	59.3	45.1	68.2	53.6	55.4	51.9
Business	13.6	14.2	14.2	9.5	17.0	12.8	13.9
Visiting friends/relatives	15.5	8.8	28.1	10.2	16.5	13.5	18.5
Missionary	11.6	13.9	8.7	8.4	9.2	13.5	13.1
Student	2.6	3.4	2.0	2.5	2.9	4.0	1.9
Region, % ‖							
Australia and New Zealand	0.5	0.2	0.2	0.7	1.8	0.7	0.6
Southeast Asia	16.3	13.8	18.1	22.0	17.4	10.1	17.3
South-Central Asia	13.6	19.1	13.2	9.1	10.6	7.6	11.1
Northeast Asia	2.7	2.2	1.2	2.9	5.8	3.2	2.4
Europe	4.7	3.5	2.1	4.7	10.1	9.3	7.4
Latin America and Caribbean	19.2	20.4	14.3	27.3	14.2	23.6	15.6
Middle East and North Africa	6.1	8.7	2.5	5.6	5.2	6.5	6.1
North America	1.5	0.5	0.4	1.6	5.3	2.9	2.1
Oceania	0.8	0.7	1.0	1.2	0.9	1.4	0.5
Sub-Saharan Africa	26.7	22.5	42.6	19.5	20.6	22.3	26.9



S = irritable bowel syndrome; ILI = influenza-like illness.
Each bar represents a mutually exclusive classification. Green bars depict the proportion of each diagnostic category with the given syndromic grouping. hite bars depict the proportion with the given specific cause, and the top diagnoses within each of these categories are shown by region in Figure 2.

Ann Intern Med. 2013 March 19; 158(6): 456–468.

Rejsedermatoser

- Under eller efter rejse
- Non-infektiøs eller infektiøs
- Kosmopolitisk eller tropesygdom
- Anamnese!
    - Ekspositioner

Table 2 Causes for travel-associated skin disorders among 4158 returned travellers presenting at the University of Munich

Category of causative agent Skin disease	Travel destinations IC (%) (n = 516)	 AS (%) (n = 1656)	 AF (%) (n = 1108)	 LA (%) (n = 878)	 Total (%) (n = 4158)	 P-value*
Arthropodal	152 (29.5)	347 (21.0)	204 (18.4)	235 (26.8)	938 (22.6)	<0.01*
Insects bites	110 (21.3)	282 (17.0)	151 (13.6)	154 (17.5)	697 (16.8)	<0.01*
Ectoparasitic	41 (7.9)	61 (3.7)	50 (4.5)	79 (9.0)	231 (5.6)	<0.01*
Scabies	13 (2.5)	36 (2.2)	26 (2.3)	20 (2.3)	95 (2.3)	0.97
Myiasis	0 (0)	0 (0)	8 (0.7)	24 (2.7)	32 (0.8)	<0.01*
Tick bites	13 (2.5)	4 (0.2)	6 (0.5)	3 (0.3)	26 (0.6)	<0.01*
Tungiasis	0 (0)	1 (0.1)	13 (1.2)	9 (1.0)	23 (0.6)	<0.01*
Bacterial	104 (20.2)	399 (24.1)	276 (24.9)	118 (13.4)	897 (21.6)	<0.01*
Rickettsioses	1 (0.2)	1 (0.1)	53 (4.8)	1 (0.1)	56 (1.3)	<0.01*
Helminthic	23 (4.5)	192 (11.6)	113 (10.2)	110 (12.5)	438 (10.5)	<0.01*
Cutaneous larva migrans	10 (1.9)	165 (10.0)	65 (5.9)	88 (10.0)	328 (7.9)	<0.01*
Filarioses	2 (0.4)	5 (0.3)	19 (1.7)	2 (0.2)	28 (0.7)	<0.01*
Schistosomiasis	2 (0.4)	4 (0.2)	14 (1.3)	4 (0.5)	24 (0.6)	<0.01*
Protozoan†	40 (7.8)	72 (4.3)	81 (7.3)	58 (6.6)	251 (6.0)	<0.01*
Cutaneous leishmaniasis	31 (6.0)	20 (1.2)	21 (1.9)	26 (3.0)	98 (2.4)	<0.01*
Viral	18 (3.5)	107 (6.5)	65 (5.9)	46 (5.2)	236 (5.7)	0.07
Dengue fever	2 (0.4)	41 (2.5)	4 (0.4)	14 (1.6)	61 (1.5)	<0.01*
Herpes	5 (1.0)	18 (1.1)	22 (2.0)	8 (0.9)	53 (1.3)	0.10
Allergic	39 (7.6)	90 (5.4)	50 (4.5)	47 (5.4)	226 (5.4)	0.09
Fungal	17 (3.3)	56 (3.4)	53 (4.8)	42 (4.8)	168 (4.0)	0.14
Autoimmune, rheumatic	8 (1.6)	13 (0.8)	14 (1.3)	12 (1.4)	47 (1.1)	0.36
Physical (injury, lesion)	6 (1.2)	15 (0.9)	13 (1.2)	7 (0.8)	41 (1.0)	0.80
Phototoxic	6 (1.2)	12 (0.7)	2 (0.2)	13 (1.5)	33 (0.8)	<0.01*
Maritime animals	7 (1.4)	9 (0.5)	6 (0.5)	8 (0.9)	30 (0.7)	0.21
Chemical, toxic	0 (0)	10 (0.6)	6 (0.5)	3 (0.3)	19 (0.5)	0.31
Terrestrial animals (bites)	3 (0.6)	8 (0.5)	1 (0.1)	3 (0.3)	15 (0.4)	0.30
Miscellaneous	19 (3.7)	52 (3.1)	45 (4.1)	25 (2.8)	141 (3.4)	0.36
Unknown	74 (14.3)	274 (16.5)	179 (16.1)	151 (17.2)	678 (16.3)	0.56

IC, Industrialized countries: Europe, North America and Oceania; AS, Asia; AF, Africa; LA, Latin America.
*P-value describes the association between category of causative agent or skin disease and travel destination. Significant P-values: defined as $P < 0.05$.
†Among 4158 travellers with skin disorders, 60 cases of malaria and 36 cases of giardiasis were diagnosed in this study without any causative relation to skin disorders.

Table 1 Spectrum and frequency of travel-related dermatological disorders.

	Setting	Herbinger 2011	Lederman 2008	Ansart 2007	Freedman 2006
		Travel clinic in Munich, Germany	GeoSentinel surveillance network (1997–2006)	Travel clinic in Paris, France	GeoSentinel surveillance network (1996–2004)
	Number of cases	(n = 4158) %	(n = 4594)%	(n = 165)%	(n = 2947) %
Ectoparasites	Arthropod/insect bite	16.8	8.2	9.7	18.7
	Scabies	2.3	–	10	2.2
	Myiasis	0.8	–	7.2	3.5
	Tungiasis	0.6	–	4	–
	Tick bites	0.6	–	–	–
Bacteria	Bacterial skin infections[a]	21.6	14.5	21.2	12.4
	Rickettsial disease	1.3	–	0.6	–
	Leprosy	–	–	2.4	–
Helminths	Larva cutanea migrans	7.9	9.8	4.8	12.9
	Schistosomiasis	0.6	–	0.6	–
	Filariasis (Loiasis)	0.7	–	5.5	–
	Gnathostomiasis	–	–	1.8	–
Protozoa	Cutaneous leishmaniasis	2.4	3.3	–	3.8
	Virus infection	5.7	3.4	7.2	–
	Fungal infection	4.0	4.0	6.1	5.6
	Allergic reaction/urticaria	5.4	5.5	4.8	11.3
	Phototoxic	0.8	–	–	–
	Chemical, toxic	0.5	–	3.6	–
	Injuries	1	–	–	–
	Terrestrial animal bites	0.4	4.3	–	>4.7
	Maritime animals	0.7	–	–	–
	Pruritus of unknown origin	–	–	9.1	–
	Unknown skin disorder	16.3	5.5	–	6.6

[a] including skin abscesses, impetigo, erysipelas, superinfected insect bites, etc.

Feber og eksantem

Feber og eksantem

- Arbovirus infektioner
  - Dengue feber
  - Zika
  - Chikungunya
- Rickettsioser
- Seksuelt overførte sygdomme
  - Akut HIV
  - Syfilis

Table 1.

Epidemiologic features of rickettsial diseases

Disease	Organism	Group	Distribution	Vector	Severity
Rocky Mountain spotted fever	*R. rickettsii*	Spotted fever	Americas	Tick	+++++
Mediterranean spotted fever	*R. conorii*	Spotted fever	Europe, Africa, Asia	Tick	+++
Siberian tick typhus	*R. sibirica*	Spotted fever	Eurasia, Africa	Tick	++
Japanese spotted fever	*R. japonica*	Spotted fever	Japan, eastern Asia	Tick	++
Flinders Island spotted fever	*R. honei*	Spotted fever	Australia, Asia	Tick	++
Far Eastern spotted fever	*R. heilongjiangensis*	Spotted fever	Eastern Asia	Tick	++
African tick bite fever	*R. africae*	Spotted fever	Sub-Saharan Africa, Caribbean islands	Tick	++
Maculatum disease	*R. parkeri*	Spotted fever	Americas	Tick	++
Tick-borne lymphadenopathy	*R. slovaca*	Spotted fever	Europe, Asia	Tick	+
Tick-borne lymphadenopathy	*R. raoultii*	Spotted fever	Europe, Asia	Tick	+
Unnamed	*R. massiliae*	Spotted fever	South America, Europe	Tick	+*
Pacific Coast tick fever	*Candidatus* R. philippii	Spotted fever	United States	Tick	+*
Unnamed	*R. aeschlimannii*	Spotted fever	Europe, Africa	Tick	+*
Unnamed	*R. monacensis*	Spotted fever	Europe	Tick	+*
Unnamed	*R. helvetica*	Spotted fever	Europe	Tick	+*†
Asymptomatic or mild illness with seroconversion	*R. amblyommatis*	Spotted fever	Americas	Tick	+/–†
Typhus	*R. prowazekii*	Typhus	South America, Africa, Eurasia	Body louse, Ectoparasites of flying squirrels	++++
Murine typhus	*R. typhi*	Typhus	Worldwide	Flea	+++
Rickettsialpox	*R. akari*	Transitional	North America, Eurasia	Mouse mite	++
Queensland tick typhus	*R. australis*	Transitional	Eastern Australia	Tick	++
Flea borne spotted fever	*R. felis*	Transitional	Worldwide	Flea	+

*Clinical data based on a limited number of patients reported in the literature.

†Implicated as a cause of subclinical infection with subsequent seroconversion.

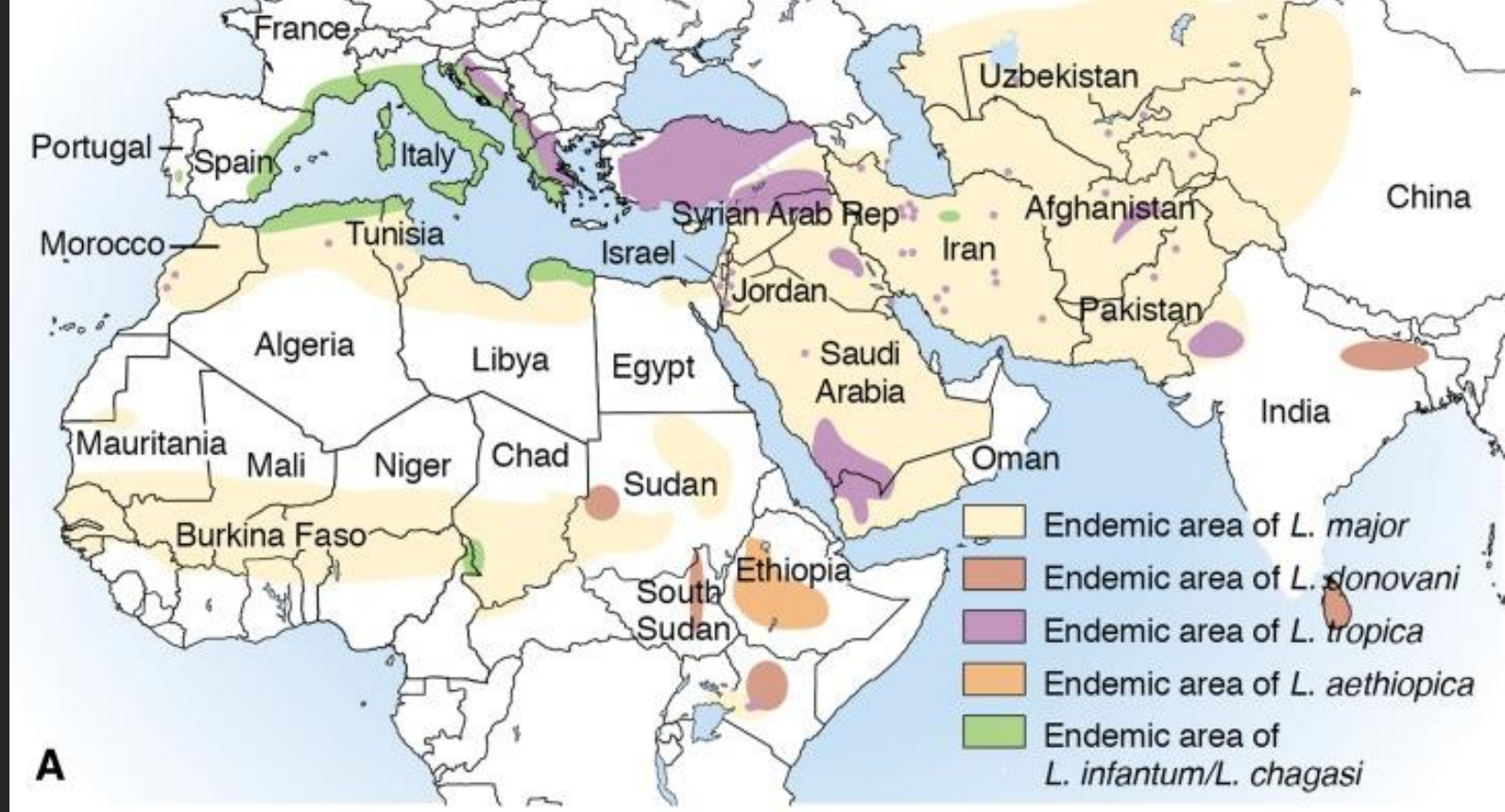
Sygehistorie

- 26 årig rask kvinde har været på to ugers backpackertur i den sydlige del af Mexico i januar 2019.
- Hun har fået flere mygge-/insektstik.
- Har badet i havet, søer og grotte.
- Har udviklet et kronisk sår på venstre overarm.
- Der er dyrket få MSSA, men ingen effekt af dicillin.
- Hvad fejler hun?
- Hudbiopsi positiv for *Leishmania mexicana* ved PCR



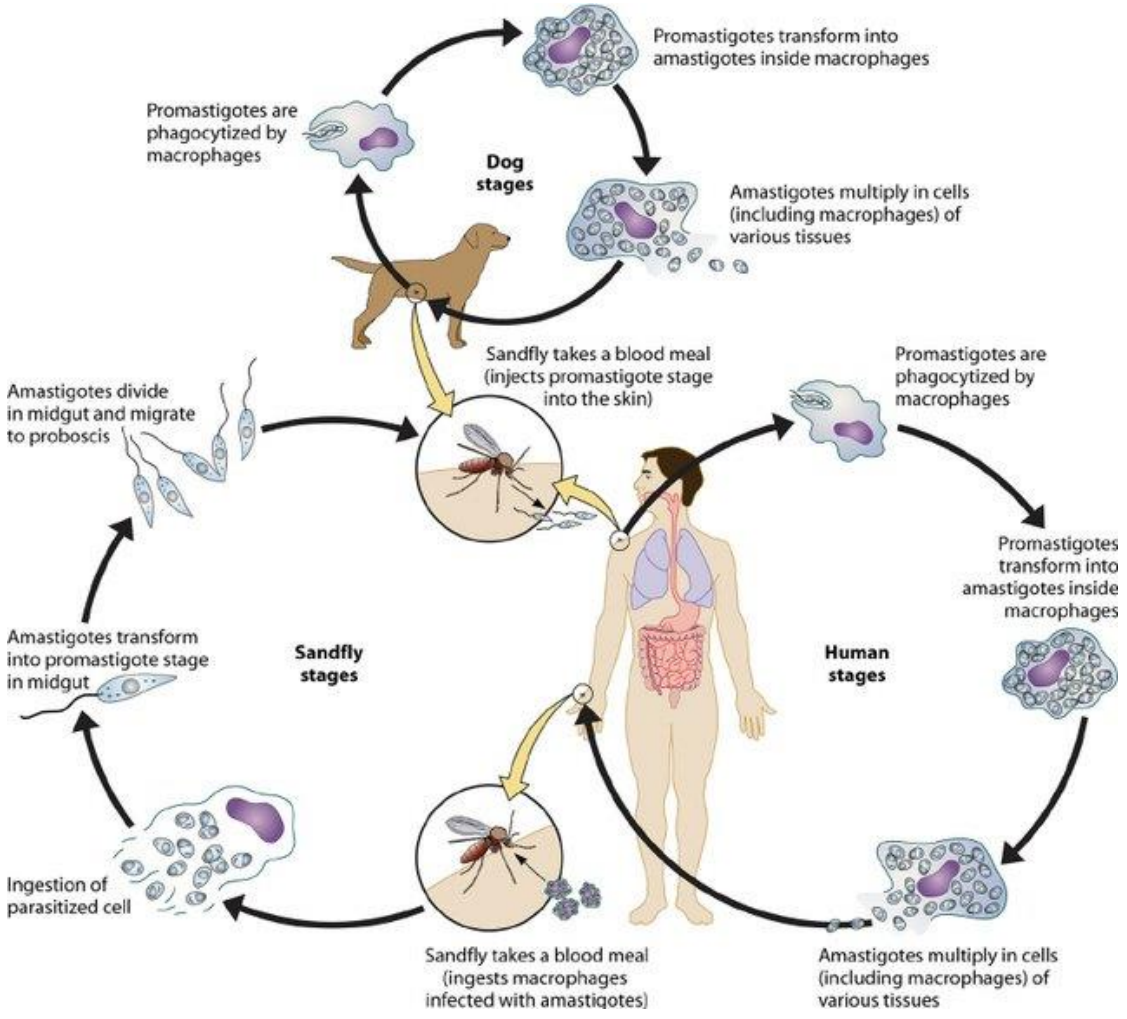

Diffus kutan leishmaniasis

Kutan leishmaniasis geografisk udbredning



Leishmanisis

- Ætiologi: Leishmania spp.
- Vektor: Sandfluer
- Klinik
  - Kutan leishmaniasis (CL)
  - Mucokutan leishmaniasis (ML)
  - Visceral leishmaniasis (Kala Azar) (VL)
- Diagnostik
  - Hudbiopsi (CL)
    - Direkte mikroskopi
    - PCR
    - (Dyrkning)
  - Serologi (Anbefales ikke ved CL)
- Behandling afhængig af
  - Leishmania species
  - Antal, størrelse og lokalisering af læsioner



Cases of leishmaniasis in Sweden, 1996-2016

All positive cases (n=165)

Excluded due to
- Medical records not traceable (n=9, 5%)

Cases included (n=156, 95%)

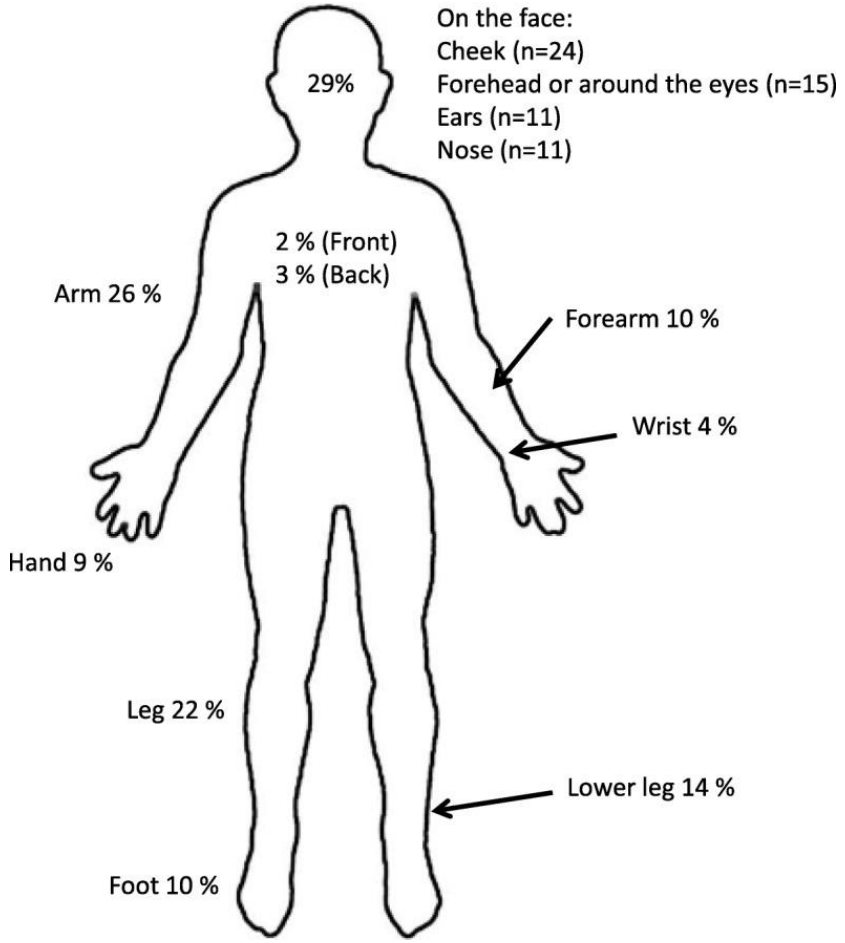
Cutaneous leishmaniasis (n=149, 96%)
- Unspecified *Leishmania* species *(n=7)*
- *L. aethiopica (n=2)*
- *L. braziliensis (n=13)*
- *L. braziliensis complex (n=5)*
- *L. braziliensis/gyanensis (n=2)*
- *L. donovani (n=3)*
- *L. donovani complex (n=1)*
- *L. infantum (n=6)*
- *L. major (n=31)*
- *L. mexicana (n=1)*
- *L. paramensis (n=11)*
- *L. peruviana (n=1)*
- *L. tropica (n=66)*

Mucocutaneous leishmaniasis (n=4, 3%)
- *L. braziliensis (n=2)*
- *L. donovani (n=2)*

Visceral leishmaniasis (n=2, 1%)
- *L. donovani (n=1)*
- *L. infantum (n=1)*

Post-kala-azar dermal leishmaniasis (n=1, 1%)
- *L. infantum (n=1)*

Glans et al. BMC Infectious Disease 2018; 18: 632



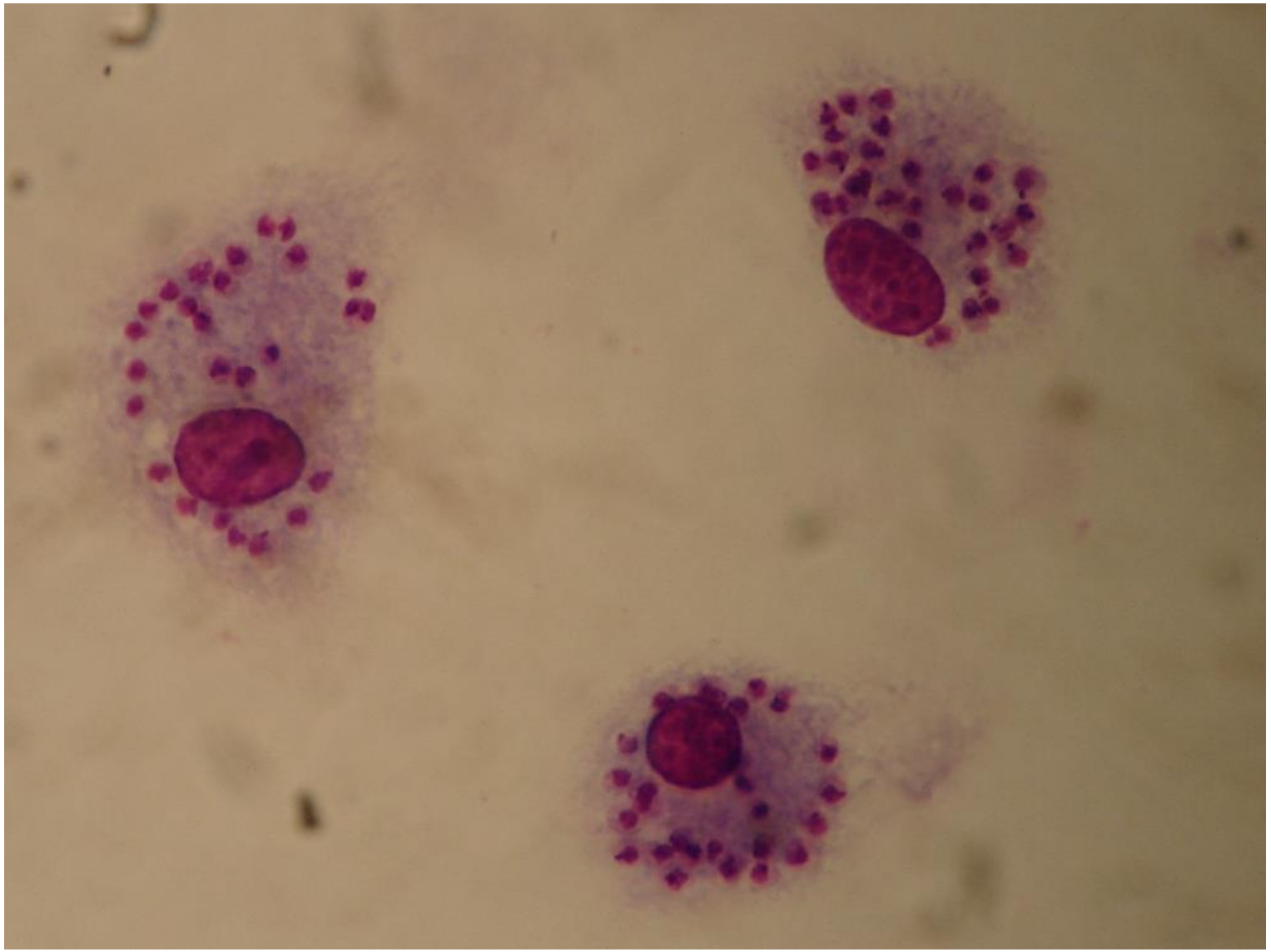
Distribution of lesions (one or more) in patients with cutaneous leishmaniasis (CL). Most patients with CL had a single lesion (*n* = 83, 56%), followed by two lesions (*n* = 34, 23%) and three to five lesions (*n* = 24, 16%). Only 5% of patients had more than five lesions

Table 1
How to sample skin lesion for a *Leishmania* diagnosis[a]

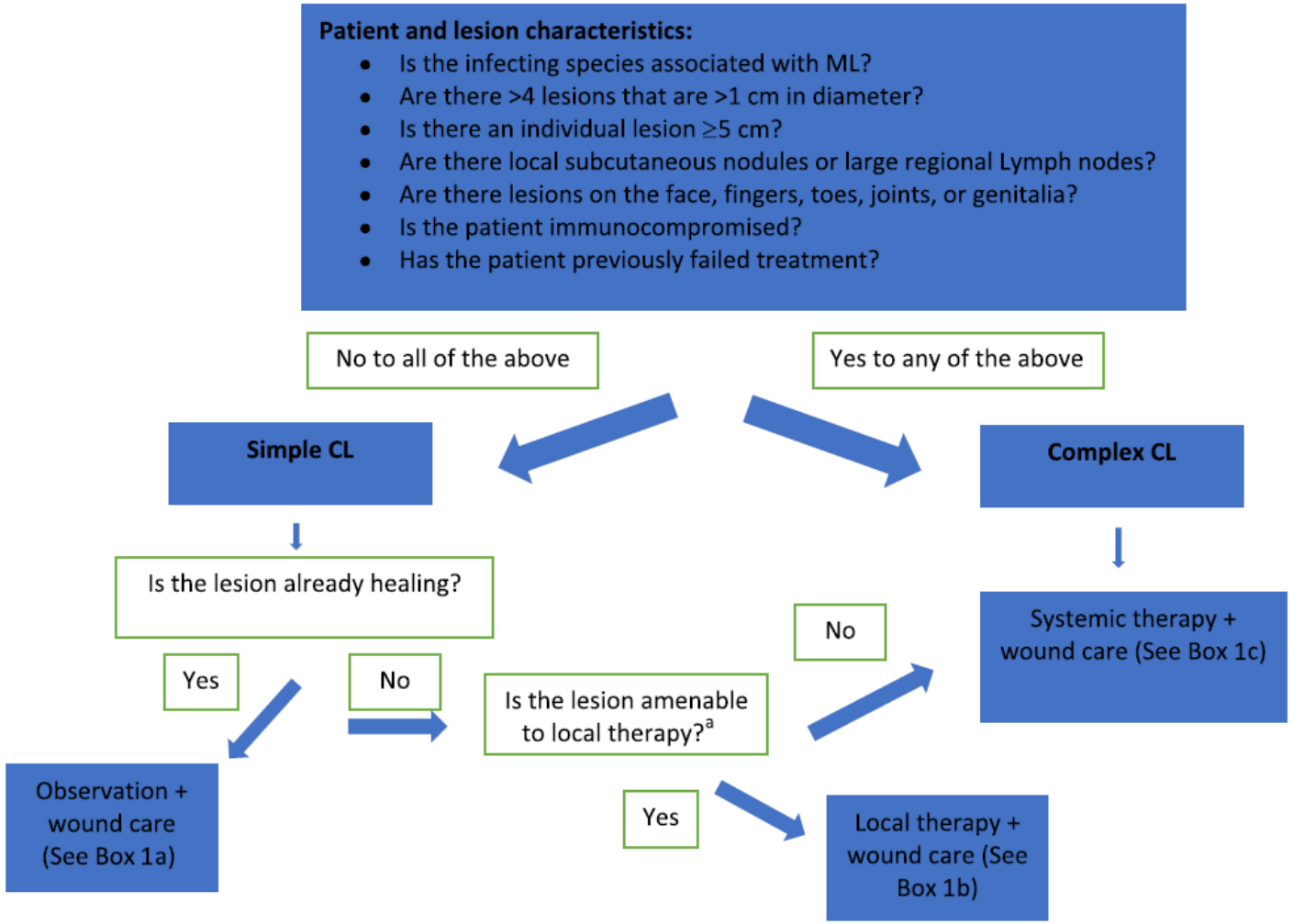
Appearance	Methods[b]	Considerations
Ulcer	Swab using DNA collection swab, 10 times over ulcer[46]	Use for more sensitive molecular assays (eg, PCR)
	Tape strip disk, tape stripping[47]	Use for more sensitive molecular assays (eg, PCR)
	Cytology brush or dental broach[48]	For *Leishmania* culture or PCR, use for CL Detect assay
	Skin scraping with scalpel blade edge, sample about size of large rice grain[4]	Limit bleeding for best results, use local anesthesia, use 1 sampling each for smear, culture, and PCR
	Fine-needle aspirate generally from indurated border[4,48]	1-mL syringe with needle (20G–25G) with or without nonbacteriostatic saline; can be used for smear, culture, and PCR
	Shave biopsy	Use if other diagnoses under consideration as well
	4-mm punch biopsy of the indurated rim	Use if other diagnoses under consideration as well
	• Touch impression smears • Press imprint smears[49]	Use if less-invasive testing does not yield diagnosis
Nodule/plaque	Skin snip (like leprosy technique)	Smear, culture, PCR
	Fine-needle aspirate	Smear, culture, PCR
	4-mm full skin thickness punch biopsy	Smear, culture, PCR

[a] Not all-inclusive of methods.
[b] Choose an active looking lesion, débride if needed to ulcer base, cleanse with detergent and water, remove any residual betadine or soap, and blot dry.

Leishmaniasis: Direkte mikroskopi



Kutan leishmaniasis: Behandling



Infect Dis Clin N Am 33 (2019) 101–117

Obs! Azoler

Table 1 Chemotherapeutic agents for leishmaniasis.

Drug	Route of administration	Dose	AEs	Advantages	Disadvantages
Pentavalent antimonial	IM, IV or IL	20 mg/kg/day for 28–30 days	Cardiotoxicity, pancreatitis; nephrotoxicity; hepatotoxicity	Easy availability (in endemic areas); low cost	Prolonged treatment duration; pain during injection, toxic AEs; drug resistance
Amphotericin B	IV	0.75–1 mg/kg/day for 15–20 days, daily or alternate daily	Renal toxicity; injection-related reactions; hypokalaemia	Primary resistance is not common;	Requires hospitalization for administration; nephrotoxicity; heat; instability
Liposomal amphotericin B	IV	10–30 mg/kg total dose (single dose; 3–5 mg/kg/dose)	Chills and rigors during injection; mild nephrotoxicity	High efficacy; low toxicity	High cost; need for slow IV infusion
Miltefosine	Oral	100–150 mg/day for 28 days	GI AEs; renal and liver toxicity; teratogenicity	Effective	High cost; possibly teratogenic; drug resistance; poor compliance
Paromomycin	IM (VL) or topical (CL)	15 mg/day for 21 days or 20 mg/kg for 17 days	Renal, ear and liver toxicity	Effective; relatively cheap	Varied efficacy according to geographical area; potential for resistance
Pentamidine	IM	3 mg/kg/day IM alternate daily for 4 injections	Hyperglycaemia; hypotension; tachycardia; electrocardiographic changes	Short course needed	Varied efficacy depending on *Leishmania* species

AD, adverse effect; CL, cutaneous leishmaniasis; GI, gastrointestinal; IL, intralesional; IM, intramuscular; IV, intravenous; VL, visceral leishmaniasis.

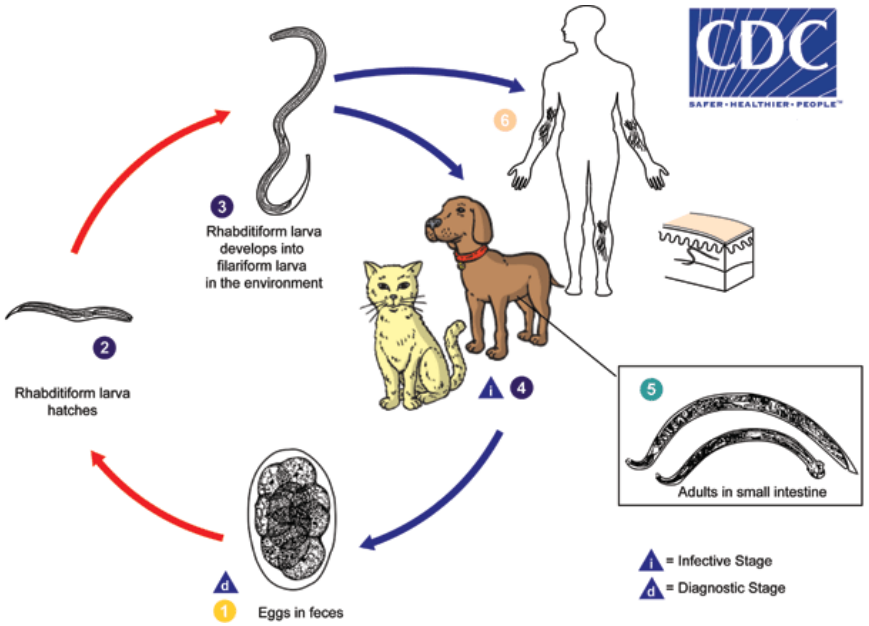
Table 2 Local therapies for cutaneous leishmaniasis.

Type	Mechanism	Advantages
PDT	Topical ALA/MAL, followed by laser or IPL; kills host cells and thus kills parasites	Rapid localized destruction of lesion
Cryotherapy	Reduces local tissue temperature, producing cryonecrosis	Usually not associated with secondary effects; short duration of therapy; potential for better compliance/adherence
Thermotherapy	Increases local tissue temperature by means of baths, infrared light, laser. Kills heat-sensitive parasites	Good efficacy, good safety profile

ALA, aminolaevulinic acid; IPL, intense pulsed light; MAL, methyl aminolaevulinate; PDT, photodynamic therapy.

Kutan larva migrans

- Ætiologi: *Ancylostoma* spp.
- Smittevej: direkte hudkontakt med sand/jord
- Inkubationstid: 1-5 dage (over en måned)
- Klinisk diagnose
- Behandling
  - Førstevalg er tbl. ivermectin 200 µg/kg som engangsdosis,
  - Alternativt tbl. albendazol 400 mg × 1 i 3 dage.
- Forebyggelse
  - Fodtøj
  - Liggeunderlag



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Correspondence

Outbreak of cutaneous larva migrans among Danish students at a high school on Zanzibar

Dear Editor

Cutaneous larva migrans (CLM) is caused by larvae of non-human hookworms, primarily Ancylostoma caninum and Ancylostoma braziliense, which enters the skin through direct contact and causes a migrating infection [1,2]. The rash is pruritic and appears few days after transmission, most often affecting the feet. Risk of infestation increases in warm, moist and sandy conditions contaminated by dog or cat feces.

We here describe an outbreak of CLM among 70 students and seven teachers from a Danish high school who went to Zanzibar for four months. The folk high school ground is made of sand and the school owns a dog. Furthermore, the school is located close to a beach with stray dogs.

All patients returned to Denmark primo June, after four months stay on Zanzibar. During the following month, nine students were treated for CLM. They were all referred due to an itchy rash. All the patients were diagnosed with CLM on their feet (Fig. 1), with the toes being the most common location. One patient had a rash on the feet with relapses on the calf and the abdomen. According to the patients, approximately half of the students at the high school did acquire CLM and many were treated by local doctors.

Ivermectin as a single dose of 12 mg was used as treatment in eight out of nine patients. One patient received Albendazole but had a treatment failure and was successfully treated with Ivermectin. Two of the patients who received Ivermectin at their first encounter had a relapse as well. Both received Albendazole 400 mg once daily (QD) for three days. One of these patients experienced a second relapse six months after the first encounter and was successfully treated with albendazole 400 mg QD for seven days.

Few outbreaks of CLM in travelers have been described. In a study from Sri Lanka, 200 devotees from a festival at a Hindu Temple received a questionnaire about CLM. Out of 194 respondents, 113 (58%) had CLM lesions after the festival and 77 (38%) answered that they had suffered from CLM previous years as well [3]. A study from Barbados [4] showed that one-fourth of 140 travelers on a group vacation got infected with CLM with risk factors being younger age and not wearing protective foot wear while walking at the beach. Comparable with our study, all their patients reported the rash to be located on the feet [1].

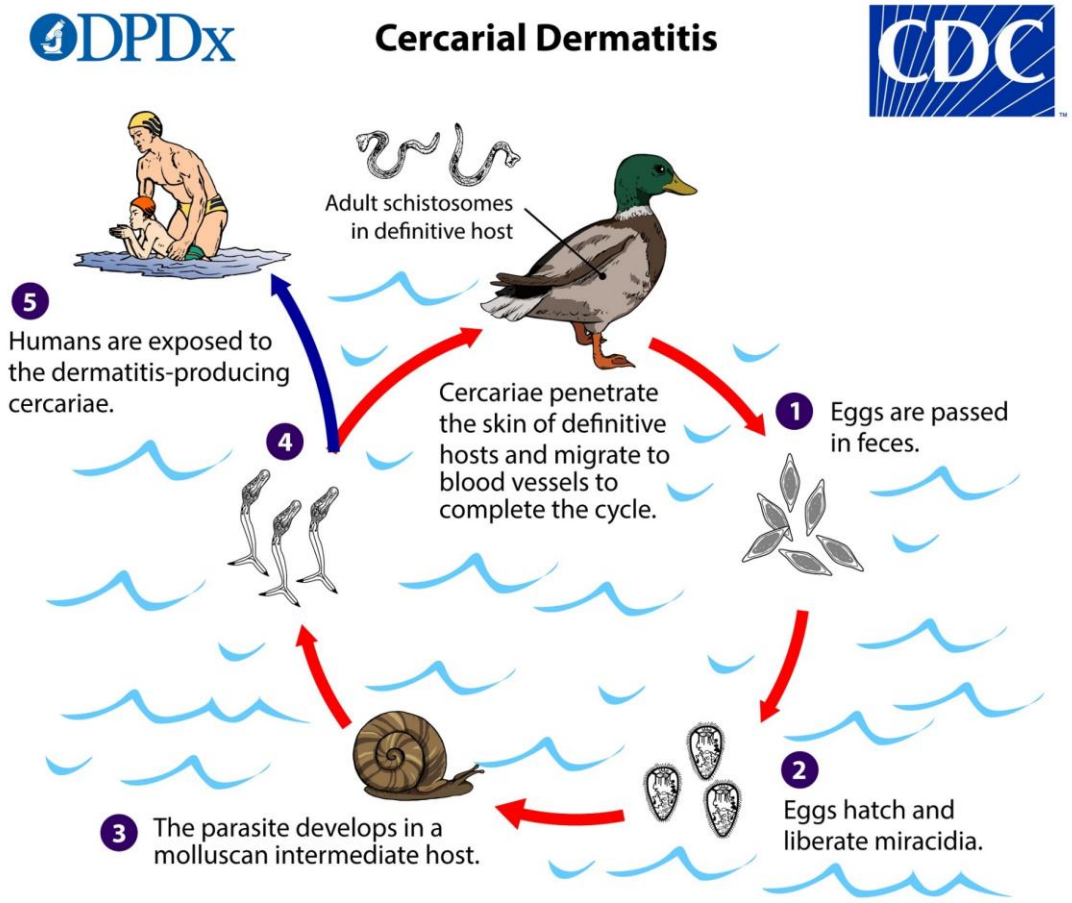
Ivermectin is the preferred treatment for CLM, with a cure rate of 94–100%, followed by albendazole [2]. In the study from Barbados,

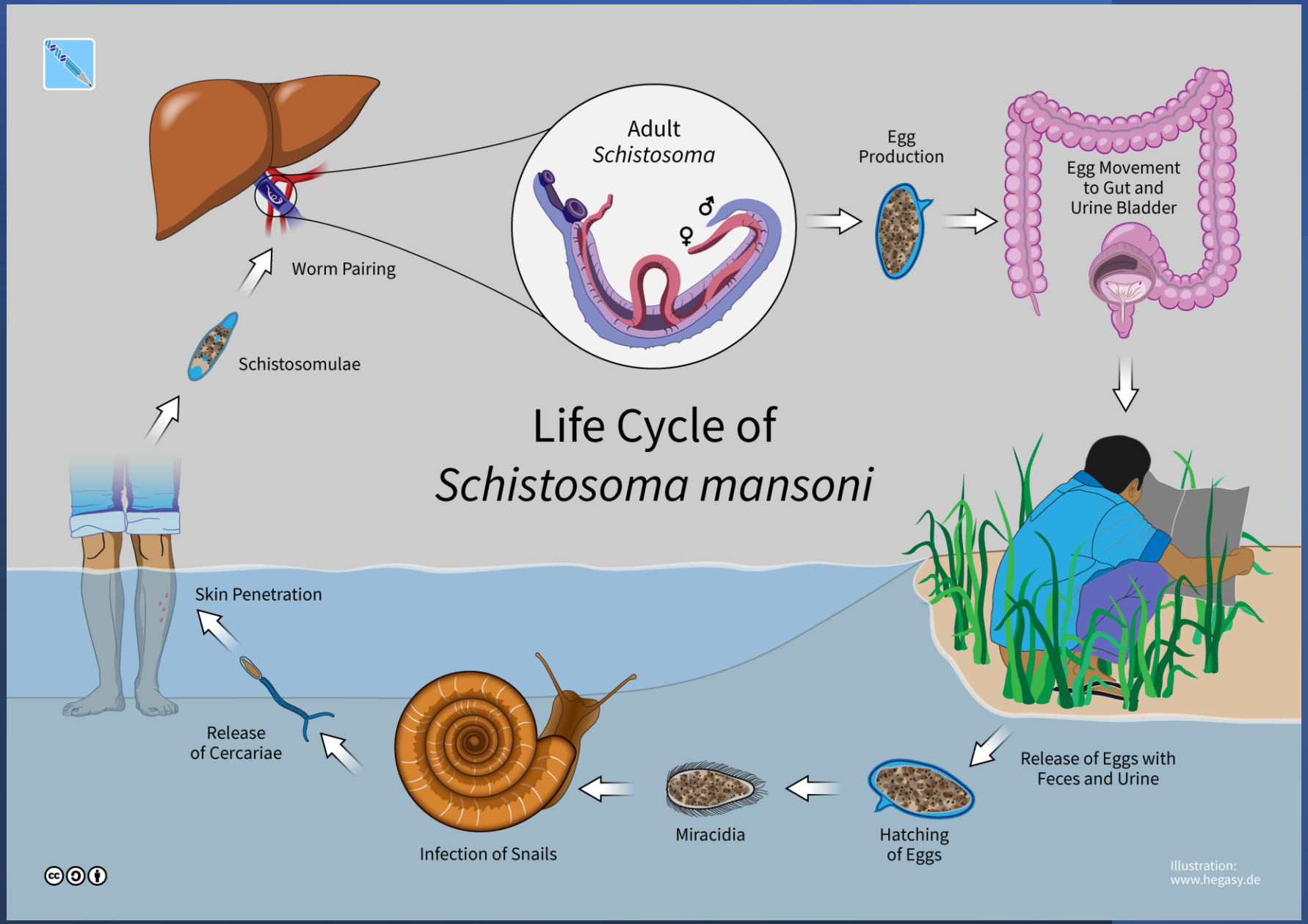
Fig. 1. Characteristic serpentinous rash due to cutaneous larva migrans.

”Creeping eruptions”

Infection	Geographic distribution	Comments
Cutaneous larva migrans	Worldwide	Creeping eruption
Dracunculiasis	Focal in sub-saharan Africa	Movement of worm just before eruption
Fascioliasis	Worldwide in areas where sheep and cattle are raised	Migratory areas of inflammation
Gnathostomiasis	Most common in Asia but also found in other areas	Migratory inflammatory subcutaneous swellings; urticaria
Hookworm	Worldwide; most common in tropical subtropical areas of poor sanitation	Itchy tracts at points of penetration of larvae through skin
Loiasis	Central and western Africa	Migratory inflammatory swellings
Paragonimiasis	Most common in east and SE Asia, Africa	Migratory swelling or subcutaneous nodules
Sparganosis	Parasite found on all continents; most human cases from SE Asia	Edematous, painful migratory swellings
Strongyloidiasis	Most common in tropical, subtropical areas	Itchy, papular and migratory serpiginous lesions (larva currens)
Myiasis	Dominat Diptera species vary with region	Visible movement of maggot(s) within lesions

Cerkaria dermatitis = ”swimmers itch”




Adult
Schistosoma
♂
♀
Egg
Production
Egg Movement
to Gut and
Urine Bladder
Worm Pairing
Schistosomulae
Life Cycle of
Schistosoma mansoni
Skin Penetration
Release
of Cercariae
Infection of Snails
Miracidia
Hatching
of Eggs
Release of Eggs with
Feces and Urine
Illustration:
www.hegasy.de

Hvad fejler han?

Ektoparasitter hos rejsende

Infektion	Parasit	Geografisk udbredelse	Transmission
Scabies	*Sarcoptes scabiei*	Hele verden	Tæt kontakt med inficeret person
Myiasis	*Dermatobia hominis* (Human bot fly)	Latin Amerika	Æg transporteres med myg
	Cordylobia anthropofaga (Tumbu fly)	Afrika	Æg lægges i jorden eller i tøj
Tungiasis	*Tunga penetrans* (sand flea, chigoe fleas)	Tropisk Afrika, Latin Amerika	Hun-loppen pene-trerer huden på foden
Pulicosis	*Pulex irritans*	Hele verden	Infestation af bolig (el. husdyr)
Pediculosis	*Pediculus humanus corporis* (kropslus)	Hele verden	Tæt kontakt med inficeret person eller klæder
	Pediculus humanus capitis (hovedlus)		
Phtiriasis	*Phtirus pubis* (fladlus)	Hele verden	Tæt kontakt (seksuel) med inficeret person

23 måneder gammelt barn netop adopteret fra Peru.

10 dage med diarré og generaliserede ødemer.

Diffust udslæt findes ved den objektive undersøgelse.

Tilsyneladende intens kløe.

Ingen feber

Paraklinisk:

Haematokrit 30 (lidt lavt)

Leukocytter 9,8 (normalt)

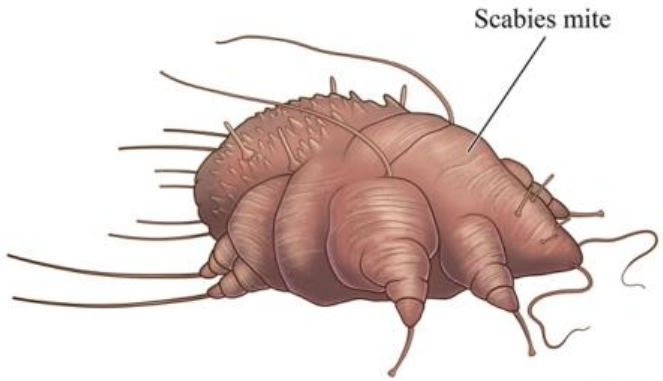
Kreatinin 63 (normalt)

Urin. Ingen protein, celler eller blod.

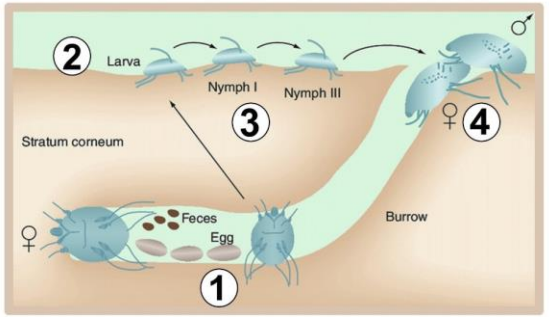
Diagnose ?

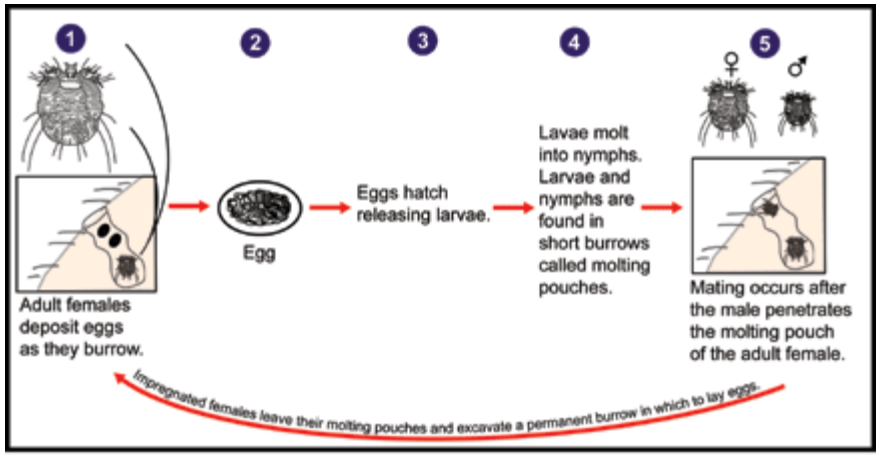
Scabies

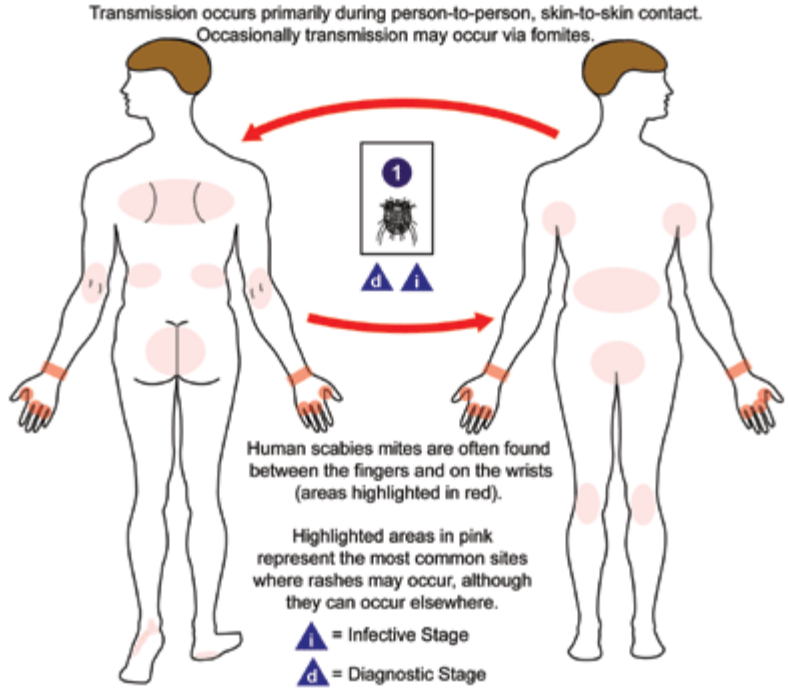
Scabies


Scabies mite
© 2017 Healthwise


EGG
LARVA
NYMPH
ADULT
2-3 Days to hatch
6 Legged
Protonymph & Tritonymph
8 Legged
Male will mate with female and the male will then die. Female will burrow to stratum corneum to lay eggs.


2
Larva
Nymph I
Nymph III
3
4
Stratum corneum
Feces
Egg
Burrow
1


1
2
3
4
5
Adult females deposit eggs as they burrow.
Egg
Eggs hatch releasing larvae.
Lavae molt into nymphs. Larvae and nymphs are found in short burrows called molting pouches.
Mating occurs after the male penetrates the molting pouch of the adult female.
Impregnated females leave their molting pouches and excavate a permanent burrow in which to lay eggs.

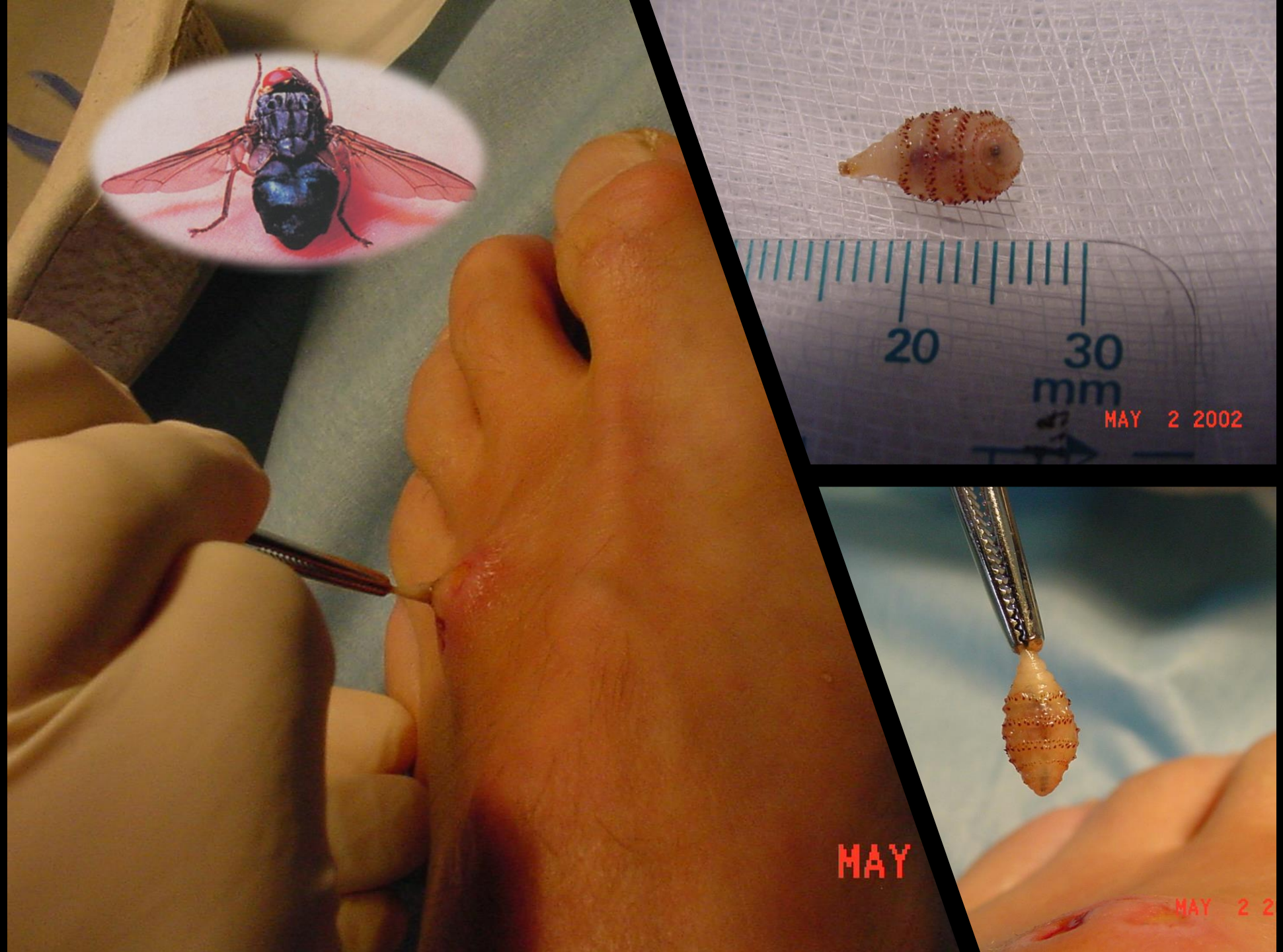

Transmission occurs primarily during person-to-person, skin-to-skin contact.
Occasionally transmission may occur via fomites.
1
d
i
Human scabies mites are often found between the fingers and on the wrists (areas highlighted in red).
Highlighted areas in pink represent the most common sites where rashes may occur, although they can occur elsewhere.
i = Infective Stage
d = Diagnostic Stage

Scabies

- Behandling
  - Permethrin (Nix)
  - Ivermectin 200 μg/kg

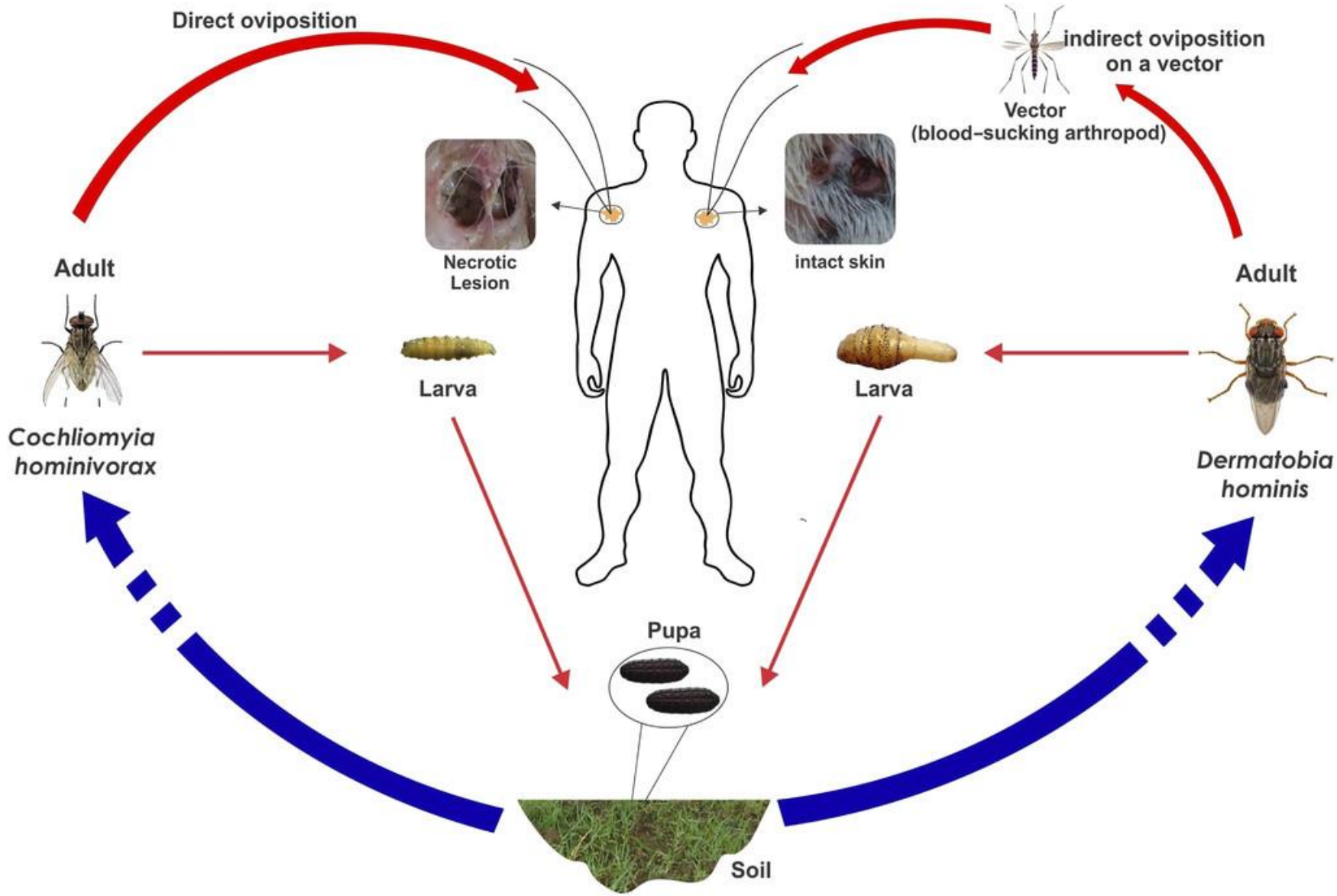
Væggelus

Myiasis


20
30
mm
MAY 2 2002
MAY
MAY 2 2

Myiasis

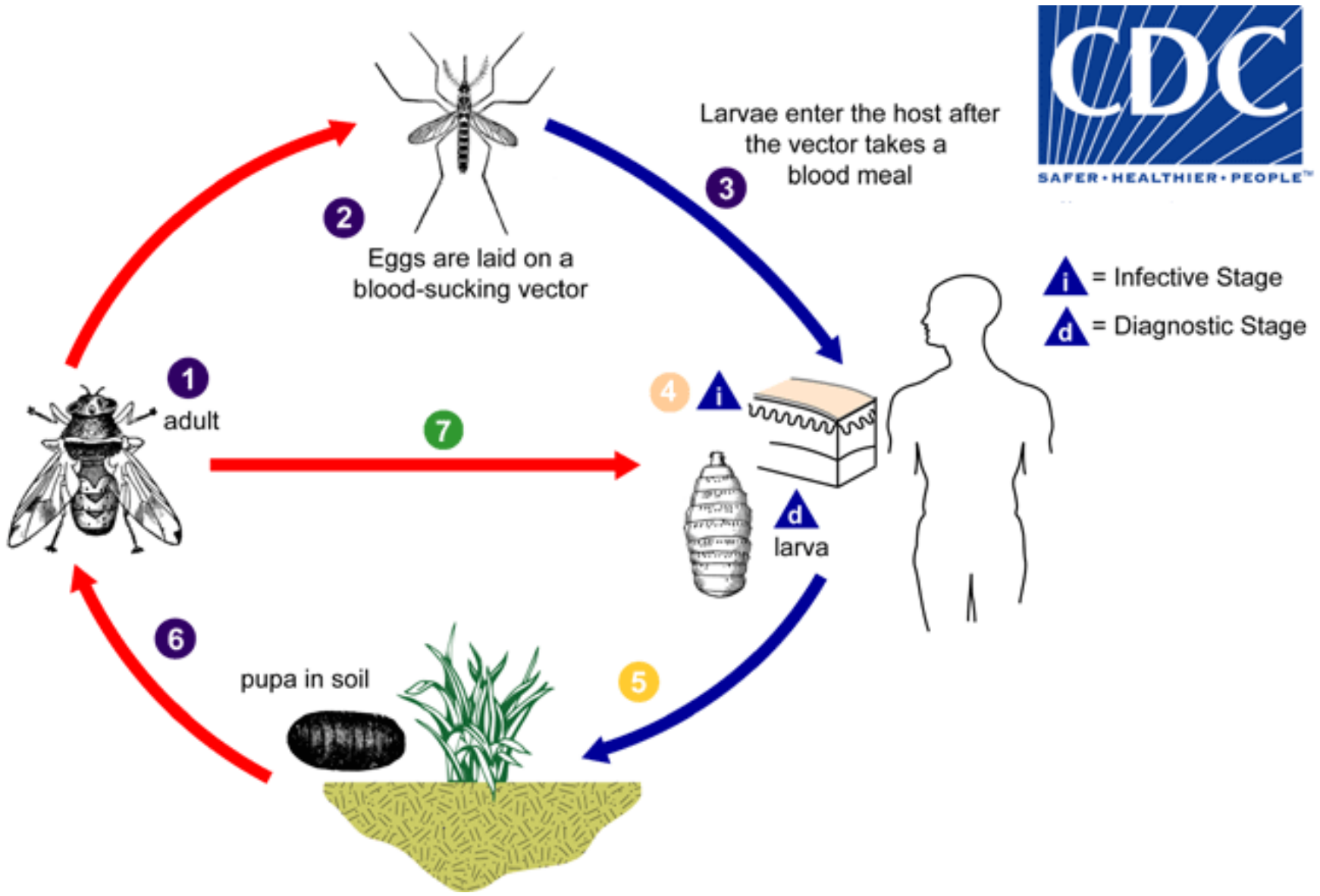
- Infestation af fluelarver (Diptera spp)
- Forskellige smittemåder
  - Direkte – flue lægger æg i sår eller kropsåbninger
  - Indirekte:
    - Lægger æg i vådt tøj
    - Placerer æg under myg
- Lever af dødt eller levende væv
- Dyr er primær reservoir


Direct oviposition
indirect oviposition
on a vector
Vector
(blood-sucking arthropod)
Necrotic
Lesion
intact skin
Adult
Adult
Larva
Larva
Cochliomyia
hominivorax
Dermatobia
hominis
Pupa
Soil

Tumbu fluer

- Epidemiologi
  - Central og Østafrika
- Lægger æg i fugtig jord (urin/fæces) eller fugtig tøj
- Æg klækkes efter 2-3 dage – larve penetrere hud
- Forebyggelse: Stryg alt tøj
- Behandling:
  - Selv limiterende
  - Vaseline og efterfølgende mekanisk ekstrahering

Cordylobia anthropophaga, mangofluen, tumbu-fluen, tumba-fluen, putzi-fluen eller hud-maggot-fluen, er en art af slagflue, der er almindelig i Øst- og Centralafrika. Det er en parasit af store pattedyr i dets larvestadium.


CDC
SAFER • HEALTHIER • PEOPLE™
1
adult
2
Eggs are laid on a blood-sucking vector
3
Larvae enter the host after the vector takes a blood meal
4
i
= Infective Stage
d
= Diagnostic Stage
larva
5
pupa in soil
6
7

Tunga penetrans

- Epidemiologi
  - Latinamerika, Caribien, Subsahara Afrika
  - Brasilien høj endemisk
  - Ressourcesvage områder

- Smittevej
  - Sandlopper (hun) penetrerer hud og gennemgår hypertrofi

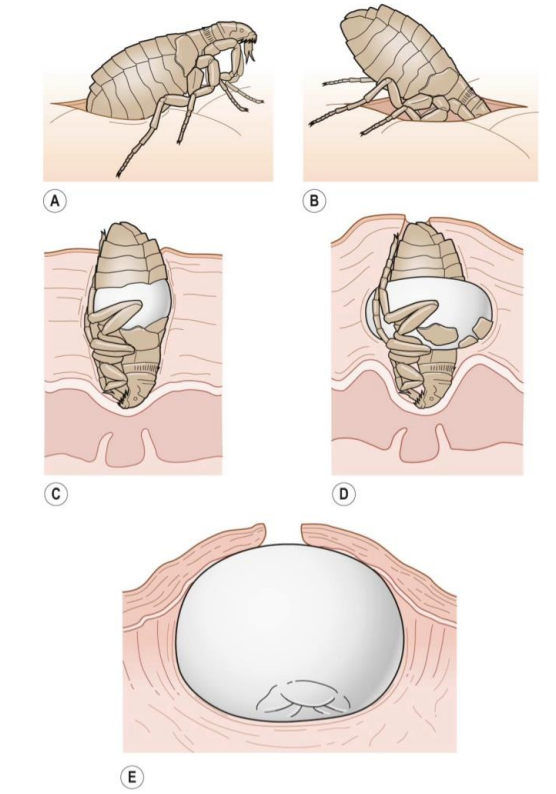
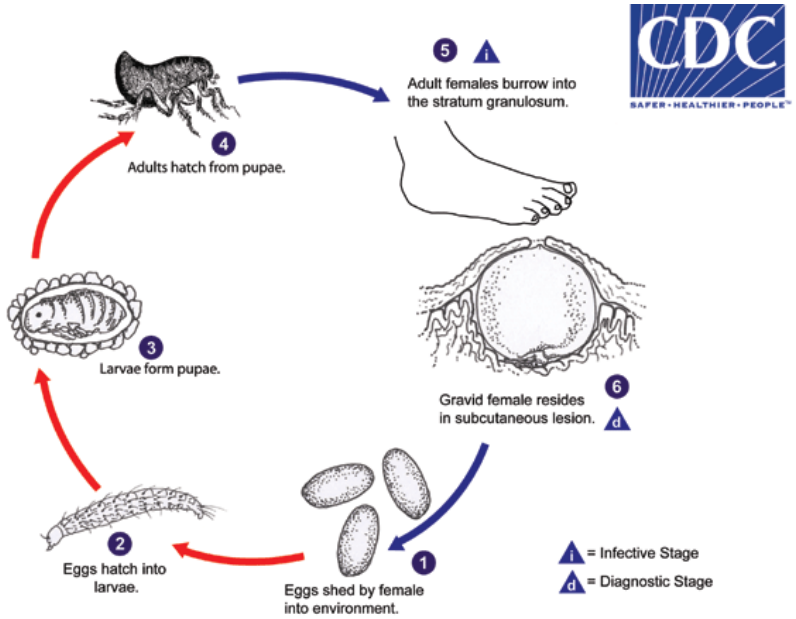


Figure 60.8 Life-cycle of *Tunga penetrans*.

Tunga penetrans

- Behandling
  - Kirurgisk ekstrahering
  - Dimethicon (silikone olie)
- Forebyggelse
  - Sko
  - DEET
  - Undgå dyr/rotter inde og omkring i huse
- Komplikationer
  - Sekundær infektion
  - Stivkrampe



Tropesår

- Trope ulcus
  - Polymikrobiel
  - ”Once seen, once smelt, never forgotten”
- Buruli ulcus
  - *Mycobacterium ulcerans*
- Lupus vulgaris
  - *Mycobacterium tuberculosis*
- Swimmingpool granulom
  - *Mycobacterium marinum*
- Lepra
  - *Mycobacterium lepra*

Paederus dermatitis

- Beetles in the *Coleoptera* family *Meloidae* are commonly known as blister beetles. There are approximately 2,500 known species worldwide.

They are known as "blister beetles" because they secrete cantharidin, a poisonous chemical causing blistering of the skin and painful swelling.

Journal of
TRAVEL MEDICINE

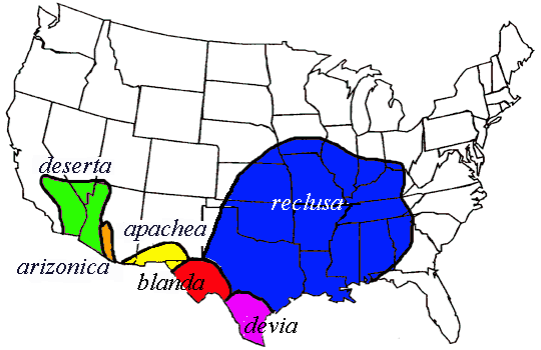
Fatal and Severe Box Jellyfish Stings, Including Irukandji Stings, in Malaysia, 2000–2010

J Travel Med 2011; 18: 275–281

Loxosceles spp

Loxosceles reclusa

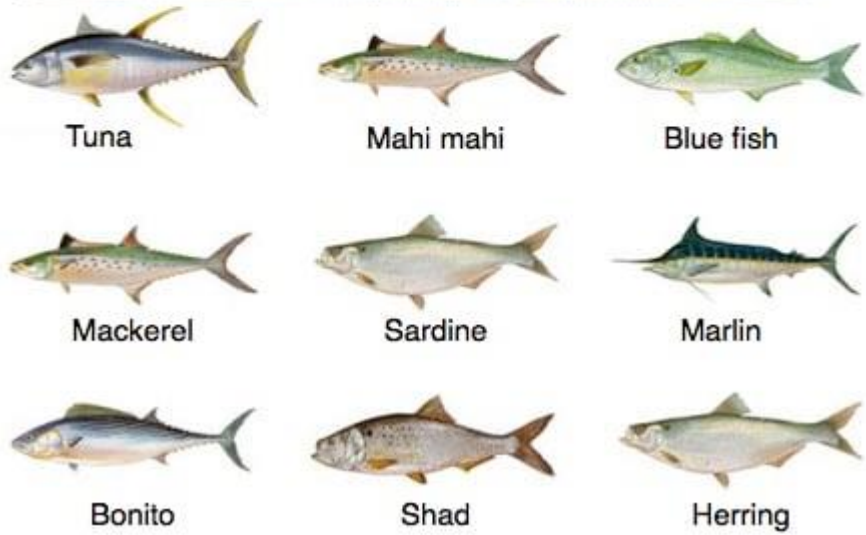
Brown recluse spider



Range of recluse spiders (genus *Loxosceles*) in the United States

Scombroid

- Caused by eating spoiled fish
- Heat stable toxin (histidine)
- Histidine toxin broken down to histamine
- Skin flushing, throbbing headache, abdominal cramps, oral burning, nausea, diarrhea, palpitations
- Symptoms occur with 10-30 min of eating fish



Myggestiksprofylakse

- Beklædning
  - Lange ærmer og benklæder
  - Evt. imprægneret
- Myggebalsam
  - Icaridin (Autan®) mindst 20 % giver beskyttelse i mindst 4 timer
  - DEET mindst 20 % giver beskyttelse i mindst 4 timer
  - DEET 20-50 % og icaridin kan anvendes til gravide og børn.
  - Lemon eucalyptus (PMD) svarer til DEET 15 % og anbefales ikke.
  - Midler baseret på citronellaolier giver kun kortvarig beskyttelse og anbefales ikke.
- Imprægneret myggenet
- Insektspray

Rejseapotektet - basis

- Faste medicin
  - ”Pillepas”, ”Doctors letter”
- Malariaprofylakse/-nødbehandling (hvis anbefalet)
- Myggebalsam (Autan , DEET 20-30%)
- Håndsprit
- Selvbehandling af rejsediarré
  - Azithromycin/Ciprofloxacin/(rifaximin) + loperamid
- Hud
  - Solfaktorpræparat
  - Insektstik – antihistamin; hydrokortison; lokalanæstetika
- Diverse
  - Analgetika (paracetamol, NSAID)
  - Plaster

Rejserådgivning

- Dont get bit.
- Dont get lit.
- Dont get hit.
- Dont do it.
- Dont eat shit.