



Infections transmitted through the bloodstream (vector-borne) 1.

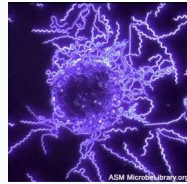
Pathogens

Bacterial infections: Lyme-disease, plague (= black death)

Viruses: focal tick-borne encephalitis, yellow fever, Hepatitis B, C, Dengue-fever etc.

Protozoon infections: malaria (= intermittent fever)

Of those listed above, practically eradicated in Hungary:
black death, malaria, yellow-fever, Dengue-fever



Borellia burgdorferi (Lyme)



Plasmodium vivax (malaria)



Infections transmitted through the bloodstream (vector-borne) 2.

Transmission



Tick (*Ixodes ricinus*)



Anopheles-mosquito (*A.gambiae*)

1. **Vector-borne diseases:** pathogens are transmitted through the skin to bloodstream by blood-sucker vectors (eg. insects). There they reside and may be transmitted to another person by the vectors.

Blood-sucker vectors (for example):

- Lyme-disease, tick-borne encephalitis: by tick
- malaria: Anopheles-mosquito: **Do not exist in Hungary!**
- black death (plague): phlea of rats, or the bite of infected rats

2. Transmission of Hepatitis B,C:

- by blood (transfusion) and blood products
- common use of needles (IV drug users)
- sexually, through injuries of the skin
- from mother to child during **delivery or breastfeeding**



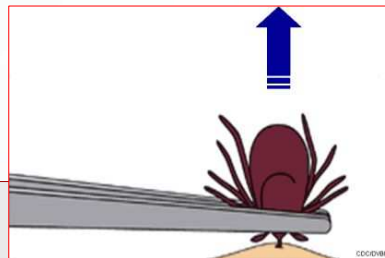
Infections transmitted through the bloodstream (vector-borne) 3.

Prevention

- vaccination
eg.: tick-borne -encephalitis, Hepatitis
- separation of the infected patient
- to eradicate disease-spreading vectors

Hepatitis B:

- keeping hygienic rules in hospitals, vaccinating and informing health care workers
- screening pregnant females
- vulnerable groups (IV drug-abusers, sexworkers):
needle exchange programs, vaccination



How to remove tick properly?

