

Health and Medical Services  
Medicinal Services  
Infection Prevention

19 June 2023

## Instructions for blood-related accidents

Blood-related accidents refer to cases of exposure to blood in which the blood may cause the worker to be infected. Examples of such situations include being pricked/cut by a skin-piercing, bloody object, blood coming into contact with the worker's oral mucosa or conjunctiva, or blood coming into contact with skin with a rash or lesions. Blood on healthy skin does not cause a risk of infection. Blood-borne infections include hepatitis B, hepatitis C and HIV. With correct measures, the risk of a hepatitis B or HIV infection can be reduced significantly.

Insulin needlestick: apply topical treatment and submit a notice of accident. Needlestick from an insulin needle does not lead to follow-up measures for blood-related accidents.

### Immediate topical treatment

**Topical treatment must always be applied.** Rinse off any splashes on mucous membranes with plenty of running water or eyewash. Clean pricked or cut areas with plenty of running water and then with an 80% alcohol solution (A12t Dilutus 80%). Let the prick site bleed. Do not squeeze the injury area. Leave the alcohol poultice on the skin for two minutes.

#### A. Actions to be taken in the unit in which the blood-related accident occurred

##### Source of the blood-related accident

The source of the blood is tested by the treatment-providing unit with the patient's consent. The unit treating the patient orders the 8813 S-VerLäh test package (S-HBsAg, S-HCVAb, S-HIVAgAb). The Clinical Chemistry Laboratory is called (tel. 06 415 4717) regarding the samples ordered. If the source of blood is unable to give their consent (e.g. due to unconsciousness), samples may be taken without it. If the source of blood refuses to be tested, their medical history can be checked to find out whether they may be carrying a blood-borne disease.

**Positive results must always be reported** to the conservative primary physician (tel. 06 415 5232).

#### B. Worker or student subjected to the blood-related accident (=blood-related accident subject). Recording instructions.

The worker or student must primarily use the triage joint emergency services or, if unable to make the visit, call the emergency services' triage nurse (tel. 06 415 8880) and provide the following information:

- The subject's own personal information
- The time and place of the accident and a short description of the accident
- Any known blood-borne communicable diseases that the subject has
- Whether the subject has been vaccinated against hepatitis B and whether the vaccination response has been measured
- Whether blood-related accident tests have been performed on or ordered for the blood source
- Whether the blood source has any known blood-borne communicable diseases
- Whether the subject consents to their information being disclosed to occupational or student health care services
- The subject's contact information

The triage nurse  
will record this  
information  
(phrase)  
in the patient  
records'  
YLE section

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**Wellbeing services county workers in the region** must follow these instructions in cases or suspected cases of an HCV, HBV or HIV exposure like at the hospital. During health and social services centres' emergency service times, the recording model for triage nurses can also be applied in the emergency services of the region. If necessary, the joint emergency services must also be contacted in the aforementioned exposure situations by other care units and police authorities, for example.

### C. Actions to be taken at the joint emergency services

1. The unit secretary will enter the worker as a patient into the LifeCare patient information system.
2. The triage nurse will record the information of the accident into the YLE section with the phrase 'blood-related accident'.
3. As a rule, samples are taken the following weekday\*. The triage nurse will instruct the person to contact their own occupational or student health care services.  
The occupational or student health care services will order the test package 8812 S-VerKoh (S-HBsAg, S-HBsAb, S-HCVAb, S-HIVAgAb). If so required due to special reasons, the samples are taken as an emergency service, e.g. before the administration of hepatitis B immunoglobulin.
4. The worker/student subjected to the blood-related accident is added to the list of the conservative primary physician, who will use the information recorded into the YLE section to assess what procedures are required and enter this information into the 'internal medicine' section.  
\* for a student whose student health care services are not within the wellbeing services county of South Ostrobothnia, 0-hour samples are scheduled by the triage nurse
5. If the sample results of the blood source are not available at the time of dictation, the 'internal medicine' section is forwarded to the infection prevention unit, which will combine the information of the blood source and the accident subject.
6. If the blood source is known or discovered in the tests to carry a blood-borne communicable disease, the exposed person must immediately come to the Emergency Care Clinic for further instructions.
  - **HIV exposure requires emergency services** and an infectious disease physician's emergency consultation.
  - See section E: 'HIV exposure', 'Hepatitis B exposure' and 'Hepatitis C exposure'.
  - See section F: 'The source of blood is not known'.
7. If the blood-related accident subject has not received an HBV vaccination in accordance with Government Decree 317/2013, one must be offered even if the blood source is HBsAg negative.  
If the first vaccine dose is administrated at the emergency services, the vaccine and the batch number are entered into the 'ROS' section. The vaccination course will be completed by the subject's occupational health care services. The vaccine can usually be administered non-urgently by occupational or student health care services.

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#### **D. 0-hour samples of the blood-related accident and follow-up by occupational or student health care services**

The worker must contact their occupational or student health care services the next weekday after the blood-related accident to schedule the taking of 0-hour samples.

**If the samples of the blood source are negative, no follow-up procedures are needed.**

If the source of blood is unknown, see section F.

**The subject must primarily contact their own occupational health nurse** by phone during services hours, submitting a call request via the reservation service or making a call reservation with an occupational health care nurse online.

Follow-up sample tests by virus exposure are scheduled to be taken after 3 and 6 months:

- Hepatitis B exposure: 1605 S-HBsAg
- Hepatitis C exposure: 3815 S-HCVAb and 1721 S-HCVNh after 2 and 4 weeks
- HIV exposures are followed up at the Infection Outpatient Clinic.

In unclear cases, an infectious disease physician is consulted.

#### **E. Treating the person exposed to a blood-borne disease**

If the blood source is known or discovered in the tests to carry a blood-borne communicable disease (HIV, HBV or HCV), the exposed person must immediately be called to the Emergency Care Clinic for further instructions.

##### **HIV exposure**

Potential HIV exposure always requires emergency services. If the blood source is HIV positive, an infectious disease physician is consulted and the worker is prescribed medication in accordance with the physician's assessment. The risk of infection can be decreased with medication started immediately after the exposure.

**Separate treatment instructions have been drawn up for the physician ([HIV exposure](#)).**

The medicines are stored in the emergency dispensary of the Hospital Pharmacy of Seinäjoki Central Hospital. There is no vaccine against HIV. A person exposed to HIV will be directed to the Infection Outpatient Clinic for follow-up.

##### **Hepatitis B exposure – The blood-related accident subject is vaccinated against hepatitis B**

5% of those vaccinated do not develop a protective level of antibodies, and therefore an exposed worker is always tested for Hepatitis B antibody concentration (1608 S-HBsAb).

If the exposed person is vaccinated and the vaccination response is known (HBsAb over 10 mIU/ml), no procedures are required even if the blood source is known to have a hepatitis B infection.

If the exposed person is vaccinated but the vaccination response is not known or is known to be inadequate (HBsAb under 10 mIU/ml) and the blood source is known to be hepatitis B positive (HBsAg+), hepatitis B hyperimmunoglobuline (HepBQuin® 100 IU/ml = 5 ml ampoule) is administered to the exposed person's gluteus muscle as soon as possible and no later than within a week.

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A hepatitis B vaccination course must also be started (e.g. Engerix-B® 1 ml i.m. in a different limb than the immunoglobulin) as soon as possible and no later than within 7 days from the exposure and after 1 month and 6 months, as well as 1608 HBsAb 6–8 weeks after the last vaccination.

The emergency dispensary of the Hospital Pharmacy of Seinäjoki Central Hospital keeps two ampoules of HepBQuin® and five units of Engerix-B®.

### **Hepatitis B exposure – The blood-related accident subject has not been vaccinated against hepatitis B**

The worker/student must be vaccinated regardless of the blood source's hepatitis B status (e.g. Engerix B®) with 1 ml given i.m. in the upper arm within 7 days of the time of the exposure and after 1 month and 6 months.

If the blood source is known to be hepatitis B positive (HBsAg+), hepatitis B hyperimmunoglobuline (HepBQuin® 100 IU/ml = 5 ml ampoule) must be administered in addition to the vaccine to the exposed person's gluteus muscle as soon as possible and no later than within a week.

### **Hepatitis C exposure**

There is currently no vaccination or effective prevention method against hepatitis C. However, acute infection treatment results are good. In cases of positive nucleic acid detection, the exposed person is referred to the gastric examination outpatient clinic for the prescription of medication. If the blood source is found to be hepatitis C positive, follow-up sampling will be scheduled for the exposed person (see section D).

### **F. The source of blood is not known**

HBV, HCV and HIV inactivate quickly outside the body, and blood coagulates quickly onto needles and other sharp objects. The risk of infection is very low and possible mainly with regard to hepatitis B. If the source of infection is unknown (e.g. needlestick from a needle waste container) and the blood-related accident subject has not been vaccinated against hepatitis B, a hepatitis B vaccination course can be administered just in case. If the blood-related accident subject has been vaccinated, no procedures are needed. Other prophylactics or follow-up samples are not recommended in most such cases. An infectious disease physician can be consulted in unclear cases if necessary.

### **G. Prevention of blood-related accidents**

Government Decree 317/2013 states that the employer must provide proactive HBV vaccination to all employees who can be exposed to an infection in their work. If the person exposed in a blood-related accident is not protected with HBV vaccination, they must be offered an HBV vaccination course even if the source of blood is HBsAg negative.

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Students exposed to a risk of infection (defined on the THL website) are provided with hepatitis B vaccination free of charge as part of the national vaccination programme. Student health care services will carry out the vaccination.

Blood-related accidents can be prevented by working calmly and agreeing on common working methods. Blood and bloody equipment must always be handled with care. Protective gloves must be worn if there is a risk of blood contact. Mouth, nose and eye protection must be worn in splash hazard situations.

Workers must use safety products with built-in safety-engineered protection mechanisms. Sharp objects should be handed from one person to another in such a way that the sharp end is towards the person who is handing the object. Used pricking, cutting and pointed waste items must be deposited directly into the proper container. Needles must not be reinserted into their cover, i.e. recased. Designated waste containers for sharp objects must be placed appropriately on steady ground in the immediate vicinity of procedure sites. Containers must not be overfilled. Used needles must not be put in the pocket of work clothes or in the trash.

#### H. Reporting blood-related accidents

If a blood-related accident occurs, a **HaiPro safety notice** must be filled out. Select *pisto, viilto, hankauma tai leikkautuminen* ('prick, cut, abrasion or shearing') as the hazard type (*Vaaratyyppi*) and tick the box → *täytetään myös veritapaturmailmoitus* ('blood-related accident notice also to be filled out').

Students must print the filled out blood-related accident notice and submit it to their student health care services.

The worker must also submit an occupational accident notice to the insurance company with their supervisor.