

# Do not let a needlestick get you by surprise

---

Accident Hazard – Tehy Study on Needlesticks and injuries that occurred due to sharp objects



■ Irmeli Vuoriluoto



# **Do not let a needlestick get you by surprise**

Accident hazard – Tehy study on needlesticks  
and injuries that occurred due to sharp objects

---

Irmeli Vuoriluoto

**Tehy ry**

Irmeli Vuoriluoto

**Do not let a needlestick get you by surprise  
Accident hazard – Tehy study on needlesticks and  
injuries that occurred due to sharp objects**



Tehy publication series B: 3/2008

**Tehy ry**

ISBN 951-9172-68-2

Print location: Multiprint Oy, Helsinki 2009

## For the reader

---

Tehy's study regarding needlestick injuries was based on the association's need to research how serious of an occupational hazard is truly in question at health care workplaces. Tehy wishes to stimulate discussion, both nationally and on the workplace level, in order to prevent needlestick injuries.

For the past few years, needlestick injuries have had an active role in European labour union discussions during different types of meetings and seminars.

During the hospital sector social dialogue conducted in Brussels in February 2008, it was presented that according to the World Health Organisation WHO, approximately 3 million health care employees are subjected to blood-borne pathogens annually. WHO has estimated that 40 - 75 % of needlestick accidents are not reported at all at the workplace. It is estimated that approximately one million needlestick accidents occur within the EU area (in 15 member countries between 2001 and 2003) every year.

According to the Finnish Institute of Occupational Health (Blood contamination risk at work, page 16) the frequency of accidental blood contaminations at Finnish hospitals during patient care is an average of 100 pricks / annum per thousand employees (Anttila, Hovi & Taskinen 2008). According to the researchers, the actual figure is estimated to be greater, as all of the accidents are not reported at the workplace. Approximately 500 annual blood contamination incidents were reported in the Hospital District of Helsinki and regional capital area. In approximately 50 cases, the contamination source was known to be a carrier of Hepatitis C, Hepatitis B, or the HI virus.

Regulating needlestick injuries with a potential directive (e.g. preventing injuries, reporting, developing work procedures) was an item on the agenda at the EU's hospital sector's permanent committee meeting on 23 June 2008 in Brussels. The employee counterpart (European Federation of Public Service Unions, EPSU) did not feel that the likelihood for voluntary cooperation was good, as the document would not be binding to the counterparts. The employer counterpart representing the hospital sector (HOSPEEM), of which the Commission for Local Authority Employers was not a member at the time of the report, had prepared a negative response in writing to the legislative groundwork. Now the Commission for Local Authority Employers has joined HOSPEEM. The Commission has notified it will issue a proposition regarding ensuring the safety of employees at work where needles are used (for example, injection needles). On 5 November 2008, the first directive draft regarding protecting employees from biological factors was sent from Brussels (European Trade Union Institute for Research, Education and Health and Safety ETUI-REHS). The document mentions that every year 1,200,000 health care employees in the EU suffers from injuries caused by needlesticks and other sharp medical instruments.

At Tehy's national occupational safety event held in November 2006, participants (n=79) were asked for their opinion on the target group the needlestick injury survey should be directed to. Forty percent of the respondents suggested that the survey form be sent to occupational health care providers. The labour association does not have the ability to require occupational health care providers to respond to the survey. Therefore, using Tehy's own occupational safety member registry, the decision was made to implement a separate electronic survey for Tehy members that have been elected as occupational safety representatives.

There is no available information in Finland regarding if the number of needlestick and other blood contamination injuries has increased. Several international studies have discussed the deficiencies with reporting needlestick injuries (e.g. Sulsky, Birk, Cohen, Luippold, Heidenreich & Nunes, 2006). The actual number of injuries remains based on estimates. Significant under-reporting continues to occur with needlestick injuries.

There have been no extensive studies regarding the number of needlestick incidents in Finland. On a national level, the word "neulanpistotapaturma" search returned 412 hits at the end of last year. In contrast, the word "needlestickinjuries" search returned 222 hits. This assessment was limited to using the sources listed in the list of references. Some large health care organisations have conducted their own research and created statistics. However, information regarding the entire health care sector is not available.

I thank all respondents who used some of their time to answer the presented questions. I would like to thank Tehy's research group for providing assistance for the report. I would like to extend a special thank you to the Director of Tehy's development unit Tarja Honkalampi, Research Manager Marja-Kaarina Koskinen, acting Development Manager Kirsi Markkanen, and Regional Official Päivi Ovaskainen for their advice and knowledgeable comments.

*In Helsinki on 20 January 2009*

*Irmeli Vuoriluoto  
Personnel Policy Officer  
Tehy ry*

# Summary

---

Health care work has been found through several studies to be one of the most risky occupations for an employee's health. Protecting health care employees from the biological factors caused by the work has been addressed on the EU level and preliminary discussions and counterpart hearings have been held in order to prepare for potential regulatory action. The needlestick directive becomes a reality, the regulation of the matter will be addressed from three different perspectives on a national level.

The goal of the Tehy study is to obtain information on the frequency of needlestick injuries, recording injuries, risk assessments, event handling and analysis at the workplace, personnel training and orientation, first aid instructions, vaccinations, work procedures, precautions for pregnant employees, occupational health provider activities, creating accident reports, co-operation of different counterparts of the workplace and the activities of the occupational health and safety districts.

The survey was sent during January of 2008 to all of the occupational health representatives in Tehy's member registry (n=216).

As a result of the study, it was confirmed that needlestick injuries can be partially prevented using correct work methods and procedures, high-quality and safe instruments, sufficient personnel orientation and continuous training. Rush at the workplace was perceived as the greatest cause for injuries. In addition, in the latest Occupational Study by Statistics Finland, the descriptive factors to rush were found to be working under high pressure, decreased work enjoyment, fear of work fatigue, higher work-pace, inability to

have sufficient breaks, continuously extended workdays and work interruptions (p. 71).

Employees are to be better aware of the dangers and legal protection consequences caused by placing used needles pack in their casings (needles are not placed back into the casing after use). This way, corrective action can be taken in event of an injury. Employers are required by law and provisions to ensure employee occupational safety and health.

In a best-case scenario, ensuring occupational safety and meeting patient safety requirements are directly related to one another.

The study demonstrated that all of the issues related to occupational safety have not been carried out in accordance with the requirements. For example, the injuries in question or work performed at another's home have not been fully included as a part of the rush assessment. In a fifth of the responses, occupational health providers had not issued protective instructions or contamination occurrences had not been sufficiently recorded.

Based on the study, there are clear deficiencies in the periodical occupational health care provider inspections, even though the issue has been addressed with specific statutes. The issue would require a separate study, where the effects of privatising occupational health care on its activities should also be studied. According to the study, there is room for improvement in the co-operation between those working in occupational safety and occupational health.

The fact was presented in the study, that some of the respondents did not know the workplace practices or legislative require-

ments associated with needlestick injuries. Sufficient response time was provided. Therefore, the reasoning for the phenomenon must be assessed. Can it be assumed that there is not enough time for pre-emptive work, analysis of injuries and identified occupational diseases, national legislation is not known well enough, an insufficient effort is made in personnel representative expertise and training, or needlestick injuries are not included in the

issues to be handled. The Act on Occupational Safety and Health Enforcement and Cooperation on Occupational Safety and Health at Workplaces contains clear regulations on handling injuries in the workplace. Needlestick injuries and their prevention should be taken better into consideration during risk assessments and workplace studies performed by occupational health care providers



# Sammandrag

---

Arbetet inom hälsovården har i många olika undersökningar konstaterats vara ett av de mest riskfyllda med tanke på arbetstagarnas hälsa. På EU-nivå har man tagit fram till diskussion hur arbetstagare inom hälsovården skall skyddas för biologiska faktorer som förorsakas av arbetet och preliminära diskussioner har förts och man har hört kontrahenter inför beredningen av eventuell reglering. Om direktivet som gäller nålstick förverkligas kommer reglering av frågan upp på treparts-basis på nationell nivå.

Målet med Tehys utredning är att få information om hur vanligt det är med olyckor på grund av nålstick, hur olycksfallen dokumenteras, riskbedömningen, hur incidenten behandlas och analyseras på arbetsplatserna, personalens utbildning och introduktion, förstahjälpsanvisningarna, vaccinationer, arbetsmetoderna, skyddet av gravida, företagshälsovårdens verksamhet, hur olycksfall rapporteras, samarbetet mellan olika parter på arbetsplatsen och arbetarskyddsdistriktens verksamhet.

Enkäten skickades i januari 2008 till alla arbetarskyddsfullmäktige som fanns i Tehys medlemsregister (N=216).

Utredningens resultat bekräftade att olyckor med nålstick delvis kan förebyggas med riktiga arbetsätt och -metoder, med högklassiga och säkra arbetsredskap, med tillräcklig introduktion för personalen och kontinuerlig utbildning. Den brådska som man upplever på arbetsplatserna ser man som den största orsaken till olyckorna. Därtill konstaterade man i Statistikcentralens nyaste undersökning om arbetsförhållandena som faktorer

som beskriver förekomsten av brådska, arbete under stor press, mindre trivsel i arbetet, rädsla för arbetsutmattning, allt hårdare arbetstakt, man kan inte hålla tillräckliga pauser, ständig tänjning av arbetsdagen och avbrott i arbetet (s.71).

Arbetstagarna måste bättre bli medvetna om vilken fara det innebär att lägga tillbaka använda nålar i hylsorna, det vill säga att man inte efter användningen lägger nålarna tillbaka in i skyddet, samt det egna rättsskyddet, då man vid en olyckshändelse kan handla rätt. För arbetsgivarna har i lag stadgats och i författningar av lägre grad skyldigheten att trygga arbetstagarnas arbets säkerhet och -hälsa.

Att sörja för arbetssäkerheten och kraven på patientsäkerhet kan som bäst vara intimt kopplade till varandra.

Utredningen visade att allt som är förenat med arbets säkerheten inte på arbetsplatserna sköts i enlighet med de krav som lagstiftningen ställer, t.ex. ifrågavarande olyckor eller arbete som utförs i en annans hem har inte på alla arbetsplatser kopplats till en del av riskbedömningen. I en femtedel av svaren har inte företagshälsovården gett skyddsanvisningar eller så har man inte i tillräcklig omfattning fört förteckningar över exponeringssituationer.

På basen av utredningen finns det tydliga brister i hur företagshälsovården förverkligar tidsbundna kontroller, trots att det i förordning separat stadgats om detta. Frågan skulle kräva att en separat utredning görs, då man också borde utreda vilken verkan privatiseringen av företagshälsovården har på företagshälsovårdens verksamhet. Samarbetet mellan dem som fungerar inom arbetarskyddet och

företagshälsovården kunde enligt utredningen vara bättre.

Utredningen visade det faktum att en del av svararna inte känner till arbetsplatsens praxis eller lagstiftningens krav i samband med olyckor på grund av nålstick. Det fanns tillräckligt med tid att svara, varför orsakerna till fenomenet närmast måste uppskattas. Kan man förmoda att det inte inom arbetarskyddets samarbete finns tillräckligt med tid för förebyggande arbete, för analysering av olycksfall och konstaterade yrkessjukdomar, att man inte känner tillräckligt till den nationella lag-

stiftningen, att man inte satsar tillräckligt på personalrepresentanternas kunnande och på att utbilda dem eller så inkluderas inte olyckor på grund av nålstick i de ärenden som behandlas. I lagen om arbetarskyddets tillsyn och samarbete finns det ändå klara bestämmelser om hur man skall hantera arbetsolycksfall på arbetsplatserna. I riskbedömningen och i företagshälsovårdens arbetsplatsutredningar borde olyckor på grund av nålstick och förebyggande av dem beaktas bättre än man nu gör.

# Table of contents

---

<b>1 INTRODUCTION</b>	<b>11</b>
<b>2 STUDY FRAMEWORK</b>	<b>13</b>
2.1 Recognising hazards and risk assessments	13
2.1.1 Risk factors for biomedical laboratory scientists	14
2.1.2 Oral health care risk factors	14
2.1.3 First aid risk factors	14
2.1.4 Risk factors associated with work performed at patient's home	15
2.2 OSH co-operation at the workplace	16
2.2.1 Recording injuries	18
2.3 Occupational safety and health	19
2.3.1 Working conditions	19
2.3.2 Safe work instruments	19
2.3.3 Instructions for transporting potential contaminated waste	20
2.3.4 Use of protective gloves	20
2.4 Ethical committee of the workplace	21
2.5 Personnel training, orientation and preparation of standard operation procedures	21
2.6 Occupational health care activities	22
2.6.1 Availability of drug treatment	23
2.6.2 Periodical inspections	24
2.6.3 Vaccinations	25
2.6.4 Recordkeeping of exposed individuals	26
2.6.5 Reporting occupational diseases or suspicions	26
2.7 Activities of authorities	27
<b>3 PROCEDURE AND MATERIALS</b>	<b>29</b>
<b>4 OCCUPATIONAL SAFETY REPRESENTATIVE TIME USE</b>	<b>30</b>
<b>5 LEGISLATIVE FOUNDATION</b>	<b>31</b>
<b>6 RESULTS</b>	<b>35</b>
6.1 Occupational safety and OSH co-operation	35
6.1.1 Documentation of needlestick injuries	35
6.1.2 Risk assessments of needlestick injuries	35

6.1.3	First aid personnel	35
6.1.4	Including work completed at another individual's home in risk assessments	36
6.1.5	Handling needlestick injuries in OSH co-operation	36
6.1.6	Confirmed or suspected occupational disease, is defensive action taken	36
6.1.7	Handling needlestick injuries on the unit level	36
6.1.8	Needlestick injury analysis	37
6.1.9	Re-casing used needles	37
6.1.10	Collection basins for used needles	37
6.1.11	Use of random testing at the workplace	38
6.1.12	Instructions for transporting wastes and samples with infected blood risk	38
6.1.13	Use of protective gloves	38
6.1.14	Ethical committee of the workplace	38
6.1.15	Occupational safety and health of pregnant employees	39
6.2	Personnel expertise	39
6.2.1	Training provided by employer in order to prevent needlestick injuries	39
6.2.2	Number of trainings at the workplace	39
6.2.3	Content of orientation programme	40
6.2.4	Standard operation procedures	40
6.3	Occupational health care	40
6.3.1	Occupational health care familiarity with the subject and providing instructions	40
6.3.2	Up to date first aid instructions	41
6.3.3	Availability of drug treatment	41
6.3.4	Periodical inspections completed by occupational health care provider	41
6.3.5	Workplace vaccinations	41
6.3.6	List of exposed individuals	42
6.3.7	Reporting confirmed or suspected occupational diseases	42
6.3.8	Co-operation between the Occupational Safe and Health Committee and occupational health care providers	42
6.4	Enforcing occupational safety and health	43
6.4.1	Occupational safety and health inspection due to occupational disease	43
<b>7</b>	<b>DISCUSSION AND CONCLUSIONS</b>	<b>44</b>
	<b>REFERENCES</b>	<b>49</b>
	<b>ATTACHMENT</b>	<b>52</b>

# 1. Introduction

---

## "Exposure is real!"

The World Health Organization (WHO) stated in its report dated November 2002 that nearly three million health care professionals are exposed to bloodborne pathogens through needlestick injuries annually. Approximately two million of these are exposed to Hepatitis B, 0.9 million to Hepatitis C, and 170,000 to the HI virus. The HI virus has spread globally, despite efforts in creating HIV awareness. General knowledge on how the disease spreads has been found to be low in international research (Sutinen 2008) and some youth believe that a drug prescription will cure an HIV infection, even though a vaccination has not yet been developed.

Over twenty bloodborne diseases threaten occupational safety and health of health care employees. Researchers have concluded that the infection risk for Hepatitis B is approximately 30 %, Hepatitis C infection risk is approximately 10 %, and HIV infection risk is approximately 0.3 %.

The European Union has issued several specific directives regarding improving occupational health and safety based on the issued framework directive (391/89 EEC). These have been made effective in Finland as laws, regulations, or decisions issued by the Council of State. Some of the regulations regarding work are directed to employers and some to equipment or machinery manufacturers or importers. A specific directive regarding needlestick injuries and their prevention has not been issued. However, the commission has initiated consultation with the different counterparts

regarding the potential need of a directive. At this point, the views of the European labour unions and employers differ from one another.

Several deficiencies have been identified in recording needlestick injuries in international and Finnish research and studies (Carlson & Lundberg 2005, Sulsky, Birk, Cohen, Luipold, Heidenraich & Nunes 2008, Anttila, Hannu, Hovi & Taskinen 2008, Alenius 2004). During EU's hospital sector's social dialogue's "Prevention on Needlestick Injuries" technical seminar held in Brussels on 7 February 2008, speakers stated that health care employees are exposed to over 20 pathogens causing disease (e.g. viruses, bacteria). Hepatitis C (HCV) and HIV are the two most severe pathogens, although the risk of contracting an infection as a result of an injury is very small (the HCV risk of infection caused by needlestick injuries is 0 – 7 % and 0.3 – 0.4 % with HIV). The risk of contracting Hepatitis B through needlestick injuries is found to be between 22 and 31 %.

According to a Unison (GB) representative, only 30 % of needlestick injuries are reported. According to a representative of the EU safety agency located in Bilbao, 40 – 75 % of needlestick injuries remain unreported.

### *Reality of the workplace:*

*Karen Daley, a registered nurse with 23 years of work experience, had stuck her finger with a needle when placing a used needle into the collection basin. Nine months later she found out that she had contracted both Hepatitis C and HIV. In Karen's case, the patient source was never known.*

A few years ago, Tehy started discussing on a national level the possibility of conducting a study or research by an external researcher and additional funding. As a negative response was received to Tehy's initiative, the decision was made for Tehy to complete the study itself as a part of increasing employee occupational safety awareness and occupational safety and health activities at the workplace.

There is no extensive information available in Finland regarding the frequency of needlestick or other medical sharp instrument injuries. Similarly, information is not available regarding how they are recorded at the workplace or the preventive measures taken or han-

dling afterward. A study was conducted at the Helsinki University Central Hospital between 2002 and 2003 regarding needlestick injuries and replacing the needle cover (Anttila, Setälä, Tiittanen & Kekkonen 2003, 27–29) Suomen Sairaalahygienialehti 2003; 21:27–29), where a total of 477 blood exposure incidents were reported for 2001.

The report uses the term "needlestick injuries", which refers to both needlestick injuries as well as injuries caused by other sharp medical items used on the survey form. The most severe consequence can be that the employee contracts a disease that does not have a vaccination or drug treatment available.

## 2. Report framework

---

### 2.1 Recognising hazards and risk assessments

According to the 10th section of the Occupational Safety and Health Act, the employer must consider the nature of the work and activities and take sufficient action to study and identify the hazards and adverse factors caused by the work environment and conditions. Needlestick injuries may also be caused by violence at the workplace, which has been found in numerous national (Markkanen 2000, Rasimus 2002, Lehto et al. 2008 Centre for Occupational Health 2008) and international studies (Needham, Kingma, O'Brien-Pallas, McKenna, Tucker & Oud 2008) as being an increasing health care hazard. If these factors cannot be removed by the employer, their effect on employee safety and health must be assessed. If the employer does not have sufficient expertise on the issue themselves, they are to use the know-how of occupational health care specialists. The Occupational Safety and Health Act does not regulate more specifically the used procedures. However, necessary information is available on the Centre for Occupational Safety website ([www.tyoturva.fi](http://www.tyoturva.fi)) and the Finnish Institute of Occupational Health website ([www.ttl.fi](http://www.ttl.fi)) for the use of workplaces.

#### Hazard severity

*Approximately ten annual blood exposure incidents to a HIV-positive source have been identified in the Hospital District of Helsinki and Uusimaa. However, no work-related HIV infections have yet been reported.*

In a worst case scenario, a needlestick injury can cause the employee to contract a disease that does not have a cure:

- Hepatitis C: the most common bloodborne disease in Finland, to which there is not yet a vaccination available
- HIV infection: no available vaccination
- Hepatitis B: is contracted through blood, has been found to cause chronic liver disease, is the most common cause for liver cirrhosis and liver cancer. A preventive vaccination is available.

Regardless of the accident hazard, according to section 14 of the Occupational Safety and Health Act, the employer must provide employees with sufficient information regarding hazards and dangers of the workplace. According to the law, the employer's obligation includes work, work environment and work procedure orientation, providing training and guidance, which should be supplemented when necessary. The law does not include the forms of training and guidance, but a decision by the Council of State (1155/1993) requires the following:

*If workers are exposed to the Hepatitis of HI virus at their job, employees must have written instructions on operational procedures in accidental situations.*

### 2.1.1 Risk factors for biomedical laboratory scientists

In the research report by HUSLAB's on developing ergonomics of laboratory personnel during sampling and the staff's well-being at work (2006, Helsinki), a few risk factors were identified that should be considered. Tiira Johansson, a Helsinki University of Applied Sciences student, described the risk factors in her learning assignment (2007) as follows:

- is the sample taken at the health care unit (a Turkish study found that there is a greater risk for needlestick injuries) or in a laboratory
- collecting samples at the unit has been found more difficult due to the environment
- significance of customer chair in sampling
- ensuring sufficient lighting
- significance of fixed or portable work surfaces
- the sample extracting situation may often also involve disruptive factors, such as unpredictable or violent behaviour by the patient or accompanying person
- the availability of safer needles and the need for training associated with them
- care with the use also with safety needles, as the instruments may have manufacture defects

### 2.1.2 Oral health care risk factors

The National Agency for Medicines ([www.nam.fi](http://www.nam.fi)) publication series includes Quality Control of health care, Oral health care Hygiene, which was published in 2003. The publication also addresses infection diseases and exposure incidents and procedures following exposure with dental care. Patients with diseases transmitted through blood are often perceived as providing the highest risk for infection in dental care. By following

appropriate hygiene and protective procedures, the risk of contracting serious infections can be controlled.

### 2.1.3 First aid risk factors

VTT Technical Research Centre of Finland conducted a study using funding from The Finnish Work Environment Fund in 2006. In the introduction, the researchers have described the special characteristics of patient transport meaning the unique risk entity of the industry, which differs from other health care work. For example:

- work requires particular precision
- work that requires the use of different types of equipment in exceptional *conditions* (traffic)
- infectious disease risk
- awkward work positions
- limited workspace
- time constraints, in which the task must be completed

In the study, the greatest risk was associated with patient transport and lifting. The second largest group was slipping, falling, and stumbling. The *third greatest group* was being stuck by needles or nails, wounds and patient blood and excretion splatter:

- ▶ *Needle placed temporarily on a shelf. Was discovered on the floor during maintenance.*
- ▶ *Broken ampules in the medicine pack, even though right next to it was a container for sharp waste.*





With patient transport, the most common event that exposes one to infections through blood is the handling of contaminated waste from cuts. The number of needlestick injuries has been determined to be high. With commercially available collection bins, researchers found that the suitability (produced mainly for institutional environments), usability, safety, or location out on the field or during treatment did not fulfil all use requirements. Therefore, used loose needles, for example, will remain on shelves of treatment premises. Researchers also found that usually the attitude toward the danger caused by used needles is downplayed.

#### **2.1.4 Risk factors associated with work performed at patient's home**

With health care, employees' work location may also be the patient's home, in addition to institutions. When amending the Occupational Safety and Health Act, the law was adjusted to apply to work performed at another person's home specified by the employer and as agreed (section 5). The employer's ability to act is partially limited, as the Constitution ensures the domestic peace of homes of individual citizens. However, the Occupational Safety and Health Act mandates that the employer must ensure the safe use of machinery, work equipment, personal protective gear and other equipment, and toxic or hazardous substances that jeopardise employee health also at work performed at someone's home. The act's employer requirement is also associated with section 10 of the same law, which requires dangers to be studied and risks assessed.

In addition, the Occupational Safety and Health delegate is not allowed to assess the level of safety of work performed at homes without the consent of the patient being treated at home. Occupational Safety and Health Inspec-

torates must have reasonable grounds to believe that work performed in the premises or the work conditions endanger the life of the employee or may cause significant harm or endanger their health and monitoring cannot be otherwise sufficiently implemented (Act on Occupational Safety and Health Enforcement, section 9).

Home health care and home hospital functions treat patients that require increasingly demanding treatment. In addition, patients requiring specialty health care, such as respiratory paralysis patients, are also treated at home. In these cases, homes may have a significant amount of health care equipment or instruments needed for treatment.

Research at Lowell University in Massachusetts: There's No Place Like Home: A Qualitative Study of the Working Conditions of Home Health Care Providers (2007) found that home health care was one of the most rapidly growing industries. In these conditions, work conditions involve hazardous factors including injuries caused by sharp health care instruments. The university conducted a national four-year (2004 – 2008) SHARRP study with the National Institute for Occupational Safety and Health (NIOSH) in order to assess infections contracted by home health care employees from blood and body excrements.

Some of the observations identified in the study:

- used needles at different locations in the home
- insufficient number of safe collection bins
- overfilling of collection bins
- insufficient personnel training
- activity in work environment if e.g. children at the home
- violent patients
- patient's inability to co-operate
- no available protective gloves

## 2.2 OSH co-operation at the workplace

OSH co-operation at the workplace should include the following issues, in accordance with section 26 of the Act on Occupational Safety and Health Enforcement and Cooperation on Occupational Safety and Health at Workplaces:

- Factors with an immediate effect on employee safety and health and changes they are subject to (vast subject group): e.g. accident hazards and preventing them.
- Workplace hazard and injury assessment principles and implementation method, reference to section 10 in the Occupational Safety and Health Act regulating employer's obligation to conduct assessments. The assessment should cover all potential hazards that occur at the workplace (dangers associated with both physical and mental health).
- Factors that affect safety and health, which were identified during workplace assessments completed by occupational health care providers, are also to be addressed.
- It must be remembered that the employer decides on further action after the OSH co-operation procedure.
- The general obligation for instruction, guidance, and orientation procedures and monitoring must be handled by employers in accordance with the legislation associated with occupational safety and health as mandated.
- The OSH co-operation procedures also include statistics and other monitoring information related to work, the work environment and work community conditions. These include recorded danger incidents, occupational diseases, work-related conditions, and procedures for preventing similar situations.

Europe's Occupational Health and Safety Strategy for 2007–2012 (Ministry of Social Affairs and Health publications 2007:24) identifies the goal as healthier and safer workplaces. The report states that when organisations invest in the occupational health and safety of employees through pre-emptive action, they gain visible results, such as a reduced cost caused by less sick days, improved employee turnover, better customer satisfaction, increased motivation, better quality and a clearer organisational image.

The intention of the Occupational Safety and Health Act is to improve the work environment and working conditions in order to ensure and maintain employee safety and to prevent and *reduce occupational injuries and illnesses* (section 1). The Occupational Safety and Health Act mainly involves legislation directed toward employers, even though the law does also include employee obligations.

The second clause of section 27 of the Act on Occupational Safety and Health Enforcement and Cooperation on Occupational Safety and Health at Workplaces refers to co-operation by occupational health care providers. Thus, provisions have been made for them separately. The Council of State decree, which is based on the Occupational Health Care Act, states the principles of good occupational health care practices, occupational health care content and training of professional employees and experts in paragraph 7 in section 2 on the co-operation obligation with different counterparts of the workplace. The decree applies when the case is of actions to be taken based on workplace assessments, which have specific provisions in paragraph 4 in section 1 in the aforementioned regulation.

Concrete action is needed at the workplace in order to prevent occupational injuries and illnesses.

In order for different players of the workplace to speak the same language, some issues

must be defined. In the development project for reporting hazardous incidents (HaiPro), definitions were recorded. By slightly amending these, the following can be used for addressing needlestick injuries:

1. Hazardous incident  
An event that endangers employee safety and causes or may cause harm to the employee.
2. A close-call incident  
A hazardous incident, which could have caused harm to the employee. Harm was avoided either by chance, or due to the incident or hazardous situation being identified allowing harmful consequences to be avoided in time.
3. Harmful incident  
A hazardous incident, which causes harm to the employee.
4. Harm  
A permanent or temporary undesirable affect on an employee. It may be physical, psychological, emotional, social or financial by nature. Occupational health care professionals may, for example, find someone to have suffered from harm.

Handling needlestick injuries as well as close-call incidents on a work-unit level should be a part of immediate OSH co-operation. The unit supervisor acts as the employer representative and is responsible for employee safety and health, in accordance with the Occupational Safety and Health Act. If the work organisation uses a reporting system, it should include handling of reported incidents without seeking blame. Work technique and mastering it is one of the issues that should be paid attention to. For example, when handing over sharp instruments during surgical procedures, they should not be handed directly to the recipient. Instead, they should be placed on a work surface to be taken from there or eye contact should be maintained when handing over

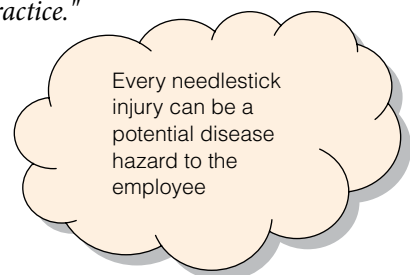
instruments. When there is a trusting atmosphere at the workplace, incidents can be used as learning experiences allowing similar incidents to be avoided in the future.

The Finnish saying 'Things happen to the active' applies also with needlestick injuries. There is a lot to do, which means injuries may also occur. Pure injuries or difficult procedures are understandable and natural reasons for needlestick injuries. Unlearning adopted incorrect procedures requires an individual employee to look primarily at their own attitudes. Further action must be taken when reluctance to comply with provided instructions is observed. In these instances, the case is of employees knowingly violating requirements set for them in the Occupational Safety and Health Act.

The most significant challenge with preventing needlestick injuries is to get every employee to **stop** placing contaminated needles back into the needle casing. According to experts (Anttila et al. 2008), the amount of blood injuries caused by placing needles back into casings varies between 15 % and 40 % of all blood-related injuries.

Although many workplaces have written instructions stating that needles are not to be replaced in the casings and the issue has been addressed at internal trainings, for some reason, the forbidden practice cannot seem to be discontinued. Every employee should ask themselves, why not comply with the provided instructions?

*"Placing the needle pack in the needle casing is a general practice - too general of a practice."*



Case in Finland: experienced nurse contracts Hepatitis C from a needlestick injury.

Immediate action: if there is reason to believe that HCV infection has been contracted, the HCV antibody test (HCV-Ab) must be administered immediately following the injury. The test is to be renewed after 1, 3, and 6 months. The injury is to be reported to the employer, who will notify the insurance company. There is no vaccination or pre-emptive medication for the disease. If the condition is diagnosed, the employee is to receive clearing treatment for the virus.

Assessing ability to work and perform tasks: the ability of the infected person to work is to be assessed by the treating physician or occupational health care doctor. Work is generally limited to exclude procedures and tasks where the employee's skin would be in contact with sharp medical instruments. Up to 70–80 % of those infected may remain as chronic carriers of the disease. In the worst-case, 10–20 % may develop liver cirrhosis in 20–30 years.

Can a nurse receive compensation from the insurance system for a suffered injury: once the occupational disease decision has been obtained, the insurance company will compensate for potential lost wages as daily allowances, as well as other drug and treatment costs listed in the law. Although the occupational disease will surely cause emotional harm, the current legislation does not include provisions for providing compensation for mental suffering. According to current regulations, there are no grounds for inconvenience compensation.

## 2.2.1 Recording occupational injuries

Recording occupational injuries has been deemed to be insufficient in both international (Carlson et al. 2005) and national (Anttila et al. 2008) studies. Within both the work units and the occupational safety and health co-operation body at the workplace should during OSH co-operation address the trend of occurred injuries, the timeliness of injuries and the potential connection with the workload or number of employees. Blame is not placed during injury analysis. Instead, the so-called weak points that cause the injuries are to be identified. If know-how is lacking, the development of personnel training content within the organisation is to be assessed. Alternatively, if the problem is caused by insufficient work equipment or instructions, detailed proposals should be drafted for the employer, in order to amend the situation. In accordance with the Occupational Safety and Health Act, the employer is responsible for the occupational safety and health of employees.

The HaiPro project, implemented by the VTT Technical Research Centre of Finland, the National Agency for Medicines, and later the Ministry of Social Affairs and Health and several labour unions and other co-operation players, paid particular attention to recording hazardous incidents, primarily in order to improve patient safety. Employee occupational safety and patient safety should go together with one another. Simply recording hazardous and close-call incidents does not, as such, generate additional value if the operational model does not require addressing the incidents collectively together. In the HaiPro reporting model, issues to be reported include incidents associated with blood or its components and infectious diseases. Therefore, this is a clear connection with occupational safety and identifying hazards and assessing risks as required by law.

Considering the nature of health care work, situations will arise for employees during the work shift where ethically the most important thing is ensuring patient safety. Regardless, situations can also be evaluated from the perspective of safety of the employee - what would I do differently?

## 2.3 Occupational safety and health

### 2.3.1 Working conditions

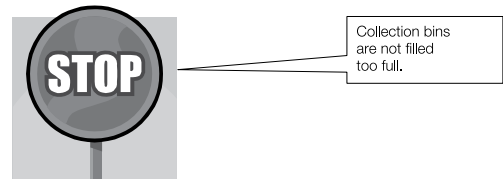
Experiencing rush is a diverse phenomenon, which has been studied since 1997 in the Working Conditions Study by Statistics Finland. Experiencing rush is found to be associated with negative consequences, such as reduced well-being, increased stress and work fatigue and an increase in mistakes and injuries. The newest working conditions study by Statistics Finland (Three Decades of Working Conditions), published in December 2008, concludes that particularly with traditionally female-dominant industries, experiencing rush is associated with too few employees in relation to the amount of work to be performed. Approximately 70 % of respondents shared this view. In fact, over half of the people working in health care experience a lot of rush in their work.

### 2.3.2 Safe work equipment

In order to ensure occupational safety and prevent injuries (Occupational Safety and Health Act), employers are to make sure there is a sufficient number of available needle collection bins that are made of appropriate unbreakable and impenetrable material. The collection bins are to be in the immediate vicinity of the

performed procedures and located on a stable surface. This is to be confirmed already prior to beginning the work task. Employees are to be instructed on how to use bins that are 2/3 full. If the collection bins are filled too full, the possibility of injury is increased.

Several different types of waste collection bins are available in Finland. The employer is to acquire these for the workplace, in order to ensure the occupational safety of employees. The time is now behind us when used needles were collected in glass bottles.



The Finnish Institute of Occupational Health publication Risk of Contracting Blood-Borne Diseases at Work (p .21) stated that needle recasing counts in needle collection bins have been conducted at Meilahti Hospital at two-year intervals. They found that approximately 20 % of needles were replaced in their casings, even though the procedure is forbidden in local instructions. The exercise also discovered that even ready disposable syringe needles had been replaced in the cover. There are ready disposable retractable needle syringes available on the market where the needle retracts into the cover after use. Higher unit prices of these syringes may prevent their purchase. This study did not conclude that employees would not have appropriate work instruments available.

### 2.3.3 Instructions for transporting potentially infected blood-related waste

The safe packaging and transport of used needles and other sharp objects from the premises should be a part of the safety quality system.

The Safety Planning Guide by the Ministry of Social Affairs and Health intended for social and health care units (2005:13) describes the issues to be included in the waste management plan:

- separating wastes into solid waste, specialty wastes (e.g. medical needles) and hazardous wastes
- waste collection; packaging materials, wastes allowed in the drain, transport
- individuals responsible for waste management.

The Risk of Contracting Blood-Borne Diseases at Work guide refers to internal instructions of the HUS district on handling sharp waste:

- loose packaging method
- the wastes in question cannot be dropped into the waste chute
- transport personnel will remove these wastes using a cart
- waste packages cannot be placed in a compressing waste container

### 2.3.4 Use of protective gloves

Attention must be paid to the correct selection of protective gloves from the perspective of infection from blood. When protective gloves are used to protect employees from needlestick injuries, another important issue must also be taken into consideration; potential resulting allergies for employees.

The Finnish Institute of Occupational Health study concluded that the frequency of allergies to natural rubber latex varies signif-

icantly in the population, as natural rubber products are used in many different types of situations. In addition, exposure times vary in length and there are individual differences in developing allergies among people exposed to natural rubber products. Increased use of natural rubber gloves has a clear correlation with the increased number of latex allergy cases among the adult population. The occurrences of allergy cases grew clearly in the 1980s when the health care industry began using protective gloves frequently, due to AIDS and liver infection risk. The National Agency for Medicines contributed to a study in 2005 that researched allergy occurrences to surgery and research gloves (TLT info 1/2006).

Finnish Institute of Occupational Health researchers have identified risk occupations associated with this. Exposure to natural rubber has been found to vary; on average, approximately 0.1 % of the population have natural rubber latex allergy. The corresponding figure for health care professionals is 1–10 %. The highest sensitivity to natural rubber has been identified to be with nurses and doctors working in operating rooms.

Within the health care industry, risk occupations also include dentists, dental hygienists and laboratory technicians. Latex risk assessments cannot, however, be conducted solely based on occupation. Instead, it is affected by the work environment, work procedures and sensitivity characteristics of the used natural rubber gloves. Therefore, the frequency of natural rubber allergy occurrences can vary significantly within work locations and occupations.

For surgery and small procedures, it is recommended to use (Meurman et al. 2005) two layers of gloves, in order to reduce blood-related infection risk. This action is estimated to reduce contamination risk to the skin by 6 – 50 %. According to the survey, over half of surgeons had used two layers of gloves. Sim-

ilar information is not available for surgical technicians. As a result of the distribution of labour being developed between doctors and nurses, some of the nurses perform so-called minor procedures, where the use of two layers of gloves is just as advisable as with surgeons.

## 2.4 Ethical committee of the workplace

In accordance with the Medical Research Act (488/1999, amended 23 April 2004, 295/2004), hospital districts must have at least one ethical committee. According to the law, the ethical committee is to assess *medical research projects* in advance and provide a statement regarding them. Ethical committees differ from one another by hospital district on how they are organised. For example, the Hospital District of Helsinki and Uusimaa has five ethical committees, when in contrast, the Hospital District of Southwest Finland has one ethical committee with subdivisions.

The work of health care professionals is based on ethical principles, which include assisting another person using studied procedures that have been found good. Working in accordance with ethical principles requires that they also guide the forming of the operational environment and structures. Decisions affect both the operations of working communities and patient/client treatment. In fact, Tehy's Board established an ethical committee for the period 2006 – 2008 in its April meeting in 2005 in order to assist its members.

The Act on the Status and Rights of Patients ensures that a patient must receive necessary urgent treatment in, for example, resuscitation situations. The patient also has the right to keep carrying a potential infectious disease confidential in situations where this does not affect the outcome of the treatment.

## 2.5 Personnel training, orientation and preparation of written instructions

Provisions regarding the employer's obligation to provide training and instructions are mandated in section 14 of the Occupational Safety and Health Act. The employee has the *right* to receive sufficient information on the harmful and hazardous factors of the workplace. The professional expertise and experience of the employee must be taken into consideration when assessing the need for training. The employee is to be sufficiently familiarised and guided regarding work conditions at the workplace, work practices and the equipment used at work and their proper use. If new tools are to be used, expertise regarding their proper use must be verified. The intention of training, familiarisation, and guidance is to minimise the risks and hazards at the workplace and avoid harm or danger that threaten safety or health. In accordance with the Occupational Safety and Health Act, training and guidance is to be supplemented as necessary. The need assessment is to take place workplace-specifically.

Using the information received in the Hospital District of Helsinki and Uusimaa, an Internet-based training package regarding blood-related injuries has been developed that can be used by employees to test their expertise. The instructions state, for example, that getting hurt with objects causes the most injuries. The second greatest reason is placing a used injection needle in its casing. Obtaining blood samples causes the third most injuries. If employees paid sufficient attention to correct work procedures and to placing sharp objects into a safe collection bin during procedures, according to the experts of Hospital District of Helsinki and Uusimaa, approximately 40 % of injuries could be avoided (Risk of Contracting Blood-Borne Diseases at Work,

Finnish Institute of Occupational Health 2008). Information is not available on how other hospital districts have developed their offered training or procedures in preventing blood-related injuries.

From the perspective of occupational safety and health, orientation is a part of personnel development. The employer should reserve both time and financial resources for its implementation.

The labour market parties in different segments have negotiated their own recommendations for orientation. However, these are not binding by nature. The Centre For Occupational Safety website ([www.ttk.fi](http://www.ttk.fi)) also features information regarding orientation.

There are no more specific regulations regarding the content of orientation programmes of workplaces. However, the employer has the responsibility to plan, implement, and monitor the orientation based on the occupational safety and health care regulations. In practice, the immediate supervisor has the aforementioned responsibility at the workplace. The supervisor may delegate the practical implementation of the orientation to a subordinate, but the responsibility always remains with the employer.

Preventing and managing occupational injuries is a globally accepted policy, which has been implemented in Finland with, for example, the No Injuries programme. Unfortunately, needlestick injuries have not been addressed as a specific hazard, even though in practice, it is a significant risk even outside the health care sector.

## 2.6 Occupational health care activities

In accordance with section 12 of the Occupational Health Care Act (1383/-2001), the identified professionals are to assess and evaluate,

among others, work-related hazards and causes of harm. In addition, occupational health care responsibilities include providing information, advice, and guidance regarding the health and safety of work and issues pertaining to employee health. Chapter 2 of the decree by the Council of State (1484/2001), which is based on the law, has provisions regarding the content of occupational health care. A part of it is to be guidance and advise:

Information, advise, and guidance is to be provided, for example:

- regarding health hazards and harmful effects at work and at the workplace, their significance, protection from them and first aid arrangements
- healthy and safe work procedures when beginning work and, when necessary, during work;
- occupational diseases and work-related injuries and their prevention;
- other work-related morbidity;
- improving work, the work environment and working community and maintaining and improving employee health and the ability to work at different phases of the working career;
- work procedures, work arrangements, work times and working conditions and changes to them that cause health hazards and harmful effects and their management;
- when arranging guidance and advice, occupational health care must also take into consideration occupational safety and health information, which is associated with work orientation and guidance.

According to the Occupational Health Care Act, occupational health care is to be based on a workplace assessment where, for example, exposure to biological agents, physical and mental stress of the work, danger of occupational injury and illness, and the unique



characteristics of the work environment and employee that cause a particular risk of becoming ill is assessed.

*"The shoemaker's child has no shoes."*

- ▶ *Infection carriers can be completely unaware that they are causing an infection hazard.*
- ▶ *In modern days, blood should always be treated as if it is associated with a risk of infection.*

Hepatitis B (HBV) and Hepatitis C (HCV) and HIV create a blood infection risk for the staff. A needlestick injury or infected blood coming in contact with broken skin, the eyes or membranes can cause an infection. Experts have deemed the HBV infection risk to be 25 %, if the contaminated blood is HBsAg+ and HBeAg+. However, it is only 5 % if the contaminated blood is HBsAg+ ja HBeAg-. HCV infection risk with needlestick injuries is 1 – 3 % and with HIV the risk of contracting the disease is approximately 0.3 – 0.4 %. The infection risk for HIV from membrane spatter or exposure to broken skin is found to be smaller at approximately 0.1 % (Risk of Contracting Blood-Borne Diseases at Work, Finnish Institute of Occupational Health 2008).

Immediate medical procedures are needed with blood-related injuries including consultation with the occupational health care physician or on-call doctor; postexposure prophylaxis, need for examination at all times of the day and night, further treatment, and treatment procedures, such as cleaning the injured area, rinsing eyes or skin with water or a saline solution, removing foreign objects and alcohol wraps.

### 2.6.1 Availability of drug treatment

The need for preparing an HIV/AIDS at work recommendation was discussed at the 298th ILO session in March of 2007. The document

will be on the agenda during 2009. Globally, despite the effective treatment of patients infected with HIV and the preventive programmes, the number of people infected by the HIV virus has continued to increase. This also applies to the number of people dying of AIDS. The total number of adults and children that contracted HIV in 2001 in Southern Africa south of Sahara was 20.9 million and in 2007 it was 22.5 million. The number of HIV cases has been found to increase on all continents between 2001 and 2007.

Although the number of HIV cases in Finland has remained low, according to the statistics of the National Institute for Health and Welfare (KTL), with a total of 2,389 reported cases (since 1980 to 9 November 2008), the numbers between 2006 and 2007 were the worst for the entire assessment period from 1980 to 2007. The number of cases in the AIDS phase were a total of 517 on 9 November 2008, according to the National Institute for Health and Welfare.

In the United States, a total of over 50 confirmed occupational health care employee HIV cases have been reported. The Risk of Contracting Blood-Borne Diseases at Work book (p. 13) describes the situation in Finland stating that in the end of the 1990s, HIV positive work-related needlestick and spatter injuries increased significantly. Approximately 10 HIV-positive blood contamination situations have been identified in the Hospital District of Helsinki and regional capital area annually. Finland has a clear need for recording exposure incidents on a national level. The risk for contracting the HI virus is thankfully much smaller than with, for example, the risk associated with contracting Hepatitis B with needlestick injuries. To date, no work-related HIV infections are on record in Finland.

Although the contraction risk is relatively low, every needlestick injury must be taken seriously. If a needlestick injury has occurred

and the employee suspects exposure to HIV, he/she is to immediately contact occupational health care or, if outside business hours, the responsible doctor, who will decide on necessary sampling and initiating drug treatment. If the health history of the patient is unknown or the patient refuses to submit to a HIV sample (consent is not needed from an unconscious patient, but they are to be notified of the test when they regain consciousness), the situation is to be addressed with the aforementioned severity.

If exposure to a bloodborne infection has occurred as a result of the accident, it will take a maximum of six months to confirm a potential infection. During this time, the employee is to exercise caution in their personal life. Experts have also advised to use condoms during sexual intercourse. In addition, plans for children should be postponed and blood donations are not allowed during a suspected infection. The uncertainty of the event causes the individual employee to experience excess emotional distress.

Particular attention is to be paid to the handling of the medical records of the employee. The employer can only access the records in question if they have been received from the employee themselves or with their written consent (Act on Protection of Privacy). The employer can access the health records when compensation for sick leave is to be paid. According to the law, the employer must identify the persons that are to handle the medical records and the records are to be kept separate from other personnel files.



Health records are confidential

## 2.6.2 Periodical inspections

The primary task of occupational health care, according to the Occupational Health Care

Act, is to prevent health hazards caused by work. This is to be accomplished by reducing the amount of hazards and harmful factors caused by the work or working conditions. These include biological hazards. The intention of the law is to prevent work-related illnesses and injuries through co-operation between the employer, employee and occupational health care.

The regulation by the Council of State regarding health inspections of work with a higher risk of contracting an illness (1485/2001) defines what the law means with higher risk of contracting an illness: working conditions, where an illness, overexposure, or harm to reproductive health may result caused by, for example, biological factors.

In order to confirm the cause of an occurred accident, probability assessments are to be used. This is accomplished using the accidental insurance system grading: highly probable, probable, possible, not likely or very unlikely.

When assessing the necessity and intervals of health inspections, the following is to be considered based on the information in the workplace assessment:

1. Previous medical experience regarding the occurrence of health hazards in the workplace and field of work in question.
2. the danger level of the biological factors used at work or created during the work or in the work environment, the level of exposure, duration and frequency of exposure, and previous exposure
3. does medical science have a generally accepted procedure for carrying out inspections, in order to demonstrate the level of harm and exposure.

The need of the periodical inspections is to be based on sufficient work-related medical knowledge, which begins from identifying the haz-

ard and risk assessment and concludes with diagnostics.

The initial inspection is always to be conducted prior to the actual work with the increased risk of illness begins. However, the inspection must be conducted *within a month* of beginning work.

As work continues, periodical inspections are to be repeated at *1 - 3 year intervals*, unless there is a particular reason to conduct inspections more frequently.

### 2.6.3 Vaccinations

According to WHO statistics, over 500 million people world-wide have contracted the HBV infection. This is the most common cause of liver cirrhosis, chronic liver infection and liver cancer. According to figures from the National Institute for Health and Welfare, 248 chronic HBV carriers were identified in Finland in 2006. In 2007, the number was 200. A total of 37 acute cases of Hepatitis B were recorded in 2006 and a total of 24 cases in 2007.

A majority of the carriers of chronic Hepatitis B have been found to have an immigrant background.

Hepatitis B is contracted through blood. When a needle or another sharp object contaminated with Hepatitis B penetrates the skin or blood is spattered on an employee's skin with a wound or rash, the result may be contracting an occupational infection and becoming ill as a result. In accordance with the Employment Accidents Act, an employee may be eligible for compensation due to an accident that results in illness. Receiving compensation for the illness requires that bodily injury was sustained, to which the illness is associated with, such as with needlestick injuries.

If significant danger of being exposed to Hepatitis B is associated with the work, the employer has the obligation to provide vac-

cinations to the associated employees. In accordance with section 18 of the decision by the Council of State (1155/1993), which is based on the Occupational Safety and Health Act and includes provisions on protecting employees from work-related biological hazards, employees that are exposed to biological factors must be given vaccinations, if possible, and they are not already immune to the biological factor and they may be or are exposed to it. The HBV vaccination is not part of the general vaccination programme in Finland. Instead, those belonging to the so-called risk group are vaccinated for it in the programme. Therefore, provisions do not exist on all health care employees being vaccinated in advance. The HBV vaccination is paid by occupational health care or even the employees themselves. With occupational health care, the potential HBV infection risk is to be assessed. Persons working in risk occupations are to be vaccinated accordingly.

- ▶ *High-risk occupations to be assessed*
- ▶ *HBV vaccinations have an effect, as they can be used to prevent Hepatitis B infections*

High-risk functions and areas include:

- surgical operations (particularly orthopedics, obstetrics, plastic surgery, dialysis and organ transplant units)
- dental care, dental surgery
- birth wards
- infection units
- emergency rooms
- administering injections and infusions
- taking blood samples and laboratory work
- sexual disease clinics
- posthandling and servicing of instruments
- personnel of inmate health care
- waste handling
- first aid (VTT Technical Research Centre study)

A three-dosage vaccination provides approximately 95 % protection. The National Institute for Health and Welfare ([www.ktl.fi](http://www.ktl.fi)) has provided current instructions on its website on what actions are to be taken in event of an HBV infection incident.

Health care students studying abroad are required to have HBV-vaccinations.

#### 2.6.4 Recordkeeping of exposed individuals

Decision (1155/1993) by the Council of State mandates that the employer must maintain records of employees that as a result of their work are exposed to or may be exposed to biological factors that belong to group III identified in the decision. Among the group in question are Hepatitis B, Hepatitis C and the HI virus, which can result in a serious disease and thus cause a serious hazard. According to section 5 of the Council of State decision, all activities that are associated with a danger of being exposed to biological hazards are to be defined including the nature, amount and duration of the exposure of employees so that every risk on employee health or safety can be assessed and necessary actions can be decided upon (see section 10 regarding the employer obligation to identify hazards and assess risks in the Occupational Safety and Health Act). The Council of State decision also has provisions regarding the regular renewal of the assessments.

The list of exposed employees and the obligation for the employer to maintain it is regulated in section 15 of the aforementioned decision. The nature of the work should be identified in the list and, when possible, the biological factor that caused the exposure, as well as appropriate information regarding the exposure, accidents, and hazardous situations. The list is to be maintained for ten years fol-

lowing the conclusion of the exposure. However, some exposure information is to be kept up to 40 years. The doctor responsible for occupational health care, appropriate officials and the employer with responsibility for occupational safety and health have the right to request to see the list.

- ▶ An injury report is to be submitted for every accident caused by contracting a bloodborne disease, in accordance with the workplace's internal procedures using either a written form or electronically. This is to be completed, not only due to personal legal security, but also for patient safety.

Although the exposure list has been regulated on using a lower-level, but binding decision and the list has been mandated to be filed for an extended period of time, the issue clearly involves a lot of *uncertainty*.

#### 2.6.5 Reporting confirmed or suspected occupational diseases

Needlestick Injuries and other injuries caused by sharp medical instruments are *always* to be reported to the employer in order to ensure the employee's legal rights are secured. The Employment Accidents Act provides provisions for employers regarding insuring employees for injuries and occupational diseases. When an employee notifies of an injury, the employer is obliged to provide the injured with an *insurance certificate*, which states the employer's accidental insurance company, which is used to visit the doctor. When using an insurance certificate, the injured receives treatment from the doctor and necessary drugs without cost. With urgent cases, procedures are to be completed as soon as they are possible.

For the claim handling to begin at the insurance company due to, for example, a suspect-

ed occupational disease, the employer is to notify the insurance company of the occurred injury or confirmed or suspected occupational disease. The notification or contact to the insurance company can also be made by the injured party. Similarly, the claim handling can be started using a medical report submitted to the insurance company by another doctor than the occupational health care provider's expert physician.

As a result of the injury or occupational disease, the employee is often placed on sick leave. The employer is to pay salary during the time the employee is unable to work in accordance with the Employment Contracts Act and regulations of the collective agreement in force for the industry. If the sick leave extends for a longer period of time, the insurance company is to pay the daily allowance, once the employer's salary obligation expires.

Injuries or occupational diseases are reported using the form approved by the Ministry of Social Affairs and Health without delay and it is to address the following regarding the injured party:

- personal identification information
- salary information for calculating the short-term, so-called 4-week income loss allowance
- injury incident information
- doctor's statement
- report on conditions where the illness occurred (according to studies, these reports have often been insufficient)
- the insurance company may request additional information from the injured
- unclear injuries and occupational diseases are also to be reported, as the insurance company has the obligation to assess them, not the employer

For initiating a claim, the notification must be completed within one year of the injury. Once

the issue has been initiated with the insurance company, it will not expire. The injury can be processed again if changes have occurred in the issue and a new doctor's statement is available. The insurance company processes the claim application being revisited as a corrective application and will eventually issue a new decision regarding the issue.

If not pleased with the decision of the insurance company, the issue can be taken to the Employment Accidents Appeal Board within 30 days of the decision. If the aforementioned board's decision is negative, it can be appealed to insurance court, within the allowed timeframe. Usually, the injured individual is not personally present in the compensation processing. Instead, appeals are made in writing, although hearings are also possible, if payment were to be denied or halted.

## **2.7 Authority actions**

Section 6 of the Act on Occupational Safety and Health Enforcement and Cooperation on Occupational Safety and Health at Workplaces states that injuries caused by issues stated in section 46 that are discovered by the Occupational Health and Safety Authority must be researched urgently. The research is to include the sequence of events, the reasons that caused the occupational injury, and the possibility of preventing similar accidents from recurring. Section 46 of the law treats notifying accidents and occupational diseases equally. If the doctor has reason to believe that the case is an occupational disease referred to in the Occupational Diseases Act (1343/1988), the issue is to be reported without delay to the Occupational Safety and Health Agency of the district. Doctor-patient confidentiality does not apply for this action. The Occupational Safety and Health Agency will report the incident to the Finnish Institute of Occupational Health

for the registry of work-related illnesses. The report should include the following:

- name, social security number and other contact information of individual with illness
- name and contact information of employer, contact information of place of employment
- other necessary contact information
- nature and duration of exposure
- information regarding the type of disease, its diagnosis and the harm it causes

During its work, the Employment Accidents Act and Occupational Disease Act Amendment Committee (4 January 2007 – 6 October 2008) received the Clearing the Obstacles for

Occupational Disease Diagnostics report (21 June 2007). The report was prepared by the experts of the Finnish Institute of Occupational Health. The report states that there are great deficiencies in reporting occupational diseases. The occupational safety and health districts are found to conduct a very few number of inspections based on a confirmed occupational disease. During 2006, there were a total of 39 inspections nationally (entire workforce). If incident reports are not delivered to the occupational safety and health districts, enforcing officials cannot assess the need for inspections. In addition, the occupational disease records maintained by the Finnish Institute of Occupational Health will not represent the real situation.

### 3.

## Procedure and materials

The survey was implemented using a structured form, which was sent to all occupational safety and health representatives (N=216) that represent employees in both the private and municipal sector. Tehy's member registry was used to identify the representatives. The personnel representatives that had an E-mail address included in the member registry (N=150) were sent the survey electronically. The rest (N=66) were sent the survey via mail. Ten forms were returned via mail. The questions of the survey form were discussed in Tehy's research team prior to sending.

Due to the labour market situation on the municipal sector of the fall of 2007, the survey implementation was postponed to the beginning of the year (25 January – 7 March 2008). A total of 80 responses were received by the deadline. Two reminders were sent via E-mail (26 February 2008 and 11 April 2008). Following the first reminder, a total of 126 responses were received. The second reminder extended the response time to 19 April 2008.

Maintaining E-mail addresses up-to-date proved to be a problem. Submitting updates to Tehy's member registry is not always occurring. Local employers submit changes to the registry maintained by the Centre For Occupational Safety, but the updates to Tehy's member registry are completed by the Occupational Safety and Health Delegate or occupational department, if so locally agreed on.

A total of 143 responses were received to the survey, after sending two reminder letters. The resulting response percentage was 66.

Nearly a third of the respondents (30 %) worked in municipalities, a bit over a fourth (27 %) in the private sector, and approximately a fourth (24 %) in hospital districts (Figure 1).

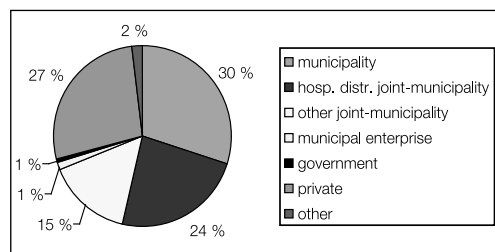


Figure 1. Respondent's employer (N=143)

In accordance with the Act on Occupational Safety and Health Enforcement and Cooperation on Occupational Safety and Health at Workplaces (44/2006), employees have the right to elect an OSH Representative for occupational safety and health co-operation. Similarly, employees have the right to elect their OSH Delegate based on the aforementioned law.

Locally, it is possible to elect either at two or four-year intervals an OSH representative, who is to represent both groups.

Of the respondents, 57 % represented employees. A total of 12 % represented white-collar workers and 30 % of respondents represented both groups.

## 4. Time-use right of Occupational Safety and Health Delegate

The Act on Occupational Safety and Health Enforcement and Cooperation on Occupational Safety and Health at Workplaces has provisions for the Representative's time-use right (section 34).

The employer must free the OSH Representative from his/her regular work responsibilities for the necessary appropriate time-period, in order for the representative to handle the tasks specified in section 31, unless there is due cause temporarily preventing freeing the representative from the responsibilities. When defining the necessary time for handling the OSH Representative responsibilities, the number of employees represented, regional scope of the workplace, number of workplaces and the nature of the work performed in them as well as factors caused by the division of the tasks that affect the representative's amount of responsibilities and other hazard, danger, and workload factors that affect employee safety and physical and mental health specified in the Occupational Safety and Health Act are to be considered.

Unless otherwise agreed on the representative's time-use, in accordance with paragraph 1 of section 23, the employer must release the representative from his/her regular work responsibilities at workplaces where there are a minimum of 10 employees, in accordance with the factors identified in paragraph 1, for a minimum of four hours in order for the representative to handle OSH Representative responsibilities. This is to take place during each four consecutive calendar week period, unless the release of the representative

would result in considerable harm to production or employer activities, which temporarily prevents the release. What is regulated in the aforementioned paragraph applies to the OSH Representative elected by a group of employees or employees that experience greater risk to their safety or health caused by work-related harm or hazards than the employees of another group.

On the municipal sector, the time-use right is agreed on using a national OSH Representative Time-Use Agreement.

Approximately a fifth of the respondents acted as a *full-time* OSH personnel representative. A majority of the respondents, nearly 60 %, had the same time-use privileges as described in the aforementioned law (Figure 2). As nearly all laws pertaining to occupational safety and health have been amended in the beginning of 21st century and responsibilities of OSH Delegates have been partially added to, the time-use right is significant in implementing occupational safety and health issues at the workplace.

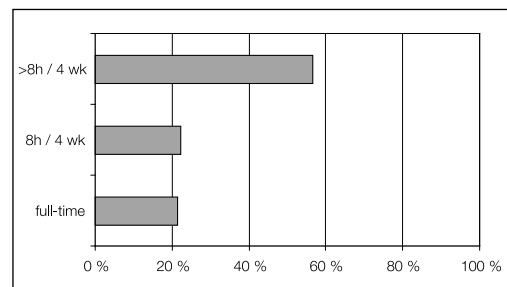


Figure 2. Time-use right of Occupational Safety and Health Representative (N=141)



## 5. Legislative foundation

---

The intention of the Occupational Safety and Health Act (738/2002) is to improve the working environment and conditions, in order to ensure and maintain employees' ability to work. In addition, the intent is to prevent and reduce injuries, occupational diseases, and other work-related hazards and harm to health. It is the employer's responsibility to uphold general health and safety, which is implemented through safety management and control. With risk factor assessments and evaluations (section 10), the employer is to use expertise outside of occupational health care, if it is not available within the organisation. The Occupational Safety and Health Act mandates that obligation for the employer to assess the hazards and risks associated with work. These include needlestick injuries. The law has provisions (section 40) regarding limiting employee exposure to biological factors. The nature, amount and duration of employee exposure must be known.

In accordance with the Occupational Safety and Health Act, the employee has the responsibility to follow instructions and rules issued by the employer. In addition, the employee is to use all available methods to care for the safety of other employees.

According to the Occupational Health Care Act (1383/2001), the employer must use occupational health care professionals to assess employee hazards and harmful factors to health. Conducting workplace assessments is mandated in the same law.

In the government act (1155/1993) regulates protecting employees from hazards caused by biological factors. The Ministry of

Social Affairs and Health decision (229/1998) identifies the classification of biological factors. The government act was issued based on the old Occupational Safety and Health Act. The directive pertaining to biological factors was amended (2000/54), but it did not cause changes in Finland to existing regulations. Instead, it only combined previous directives. According to the government decision, the employer responsibilities include maintaining a list of employees that are exposed to biological factors classified as hazard class III and IV (Hepatitis B, Hepatitis C and HIV are classified as class III). The list also acts as legal protection for individual employees if potential compensation is to be assessed as a result of an injury. An assessment on the nature of the work, the biological factor in question, exposure information, and accident and hazard incident information attached to the list are significant for the legal protection of the employee.

The government act (1485/2001) on health inspections with occupations with an increased disease risk regulates health examinations of employees exposed to biological factors.

According to the Occupational Disease Act (1343/1988), an occupational disease or a suspicion thereof, must be reported to the employer's accident insurance company using an electronic medical report. The Communicable Diseases Act (935/2003) requires that both the doctor and the laboratory must report the confirmed Hepatitis C, Hepatitis B, and HIV infections to the registry of infectious diseases.

Work-related accident insurance payment, in accordance with the Employment Accidents Act (608/1948) is primary, when compared to health insurance, national pension or pension insurance. An employee may be eligible for compensation due to an accident that results in illness. Receiving compensation for the illness requires that bodily injury was sustained, to which the illness is associated with, such as with needlestick injuries.

Section 5 of the Act on Protection of Privacy (759/2004) has provisions regarding the handling of medical records. The employer has the right to handle information regarding the medical condition of the employee, if the information has been obtained from the employee themselves or from elsewhere using their written consent and the information is necessary in order to determine the amount of sick leave compensation or other similar health care benefits. In addition, the records can be accessed if the goal is to identify a valid reason for employee absence or if the employee specifically wants their ability to work to be assessed using the information associated with their health. In addition, the employer has the right to access the information in situations and to the extent as specified elsewhere in law.

The medical records can be handled only by employees that use the information to prepare or make employment-related decisions or implement them. The employer must identify these individuals or define the tasks that include handling medical information associated with employee health. Individuals that handle the information are not allowed to disclose them to an outsider during or following employment.

However, a medical certificate or statement pertaining to the employee's ability to work, which is given to the employer by the employee, can be relinquished to an occupational health care service provider, in order to per-

form the tasks regulated in the Occupational Health Care Act, unless the employee has forbidden the employer of doing so.

The employer must file the information associated with employee health separate from other personal information collected by the employer.

The Medical Devices Act (1505/1994) regulations include the following regulations regarding professional use practices:

#### Section 11 Ensuring functionality

A professional user is obliged to take all necessary actions to ensure that the health care equipment or device:

- a) is in required condition as required by law;
- b) use location, structural components and structures affecting safe use and associated equipment, supplies, and accessories do not compromise the performance of the health care device or supply, and the health or safety of the patient, user, or other person is not endangered; and
- c) use instructions and procedures are appropriate.

General requirements and quality control regarding professional use regulated in section 12

Individuals that use health care devices or equipment must have sufficient training and experience for their use. The professional user must ensure that users of the health care device or supply have appropriate training and experience and that the device or supply includes the necessary signage and instructions for its safe use. (7.4.2000/345)

The health care device or supply is to be used only for the stated purpose it is intended for. The professional user is to ensure that the device and supply is placed, tuned, maintained, and serviced appropriately, in order to ensure operational functionality.

The professional user is to maintain a list of health care devices and supplies that are available, rented out, or otherwise in his/her possession or attached to the patient.

Section 13 Assessment and reporting procedure of hazardous incidents (7 April 2000/345)

Social and health care operational units are to have a systematic procedure for assessing and monitoring occurred hazardous incidents during the use of health care devices and supplies. Where applicable, systematic procedures for monitoring hazardous incidents that occurred during the use of health care devices and supplies also apply to health care professionals. (7 April 2000/345)

A professional user must notify the National Agency for Medicines of malfunctions or changes in the features or performance of a health care device or supply. This also applies to insufficient markings and instructions that could lead, or have lead, to death or a serious decline in the health of the patient, user, or other person.

#### The regulatory framework for the occupational safety of pregnant employees:

1. Paragraph 2 of section 11 in the Occupational Safety and Health Act (738/2002) states the following regarding high-risk work:

If the work or work conditions cause an increased risk to the pregnant employee or the fetus, and the risk factor cannot be eliminated, the employer should try to transfer the employee to handle suitable work responsibilities for the duration of the pregnancy.

2. Biological factors associated with reducing work-related hazard directed to genes, the fetus, and reproduction are stated in section 2 of the Council of State decision (1043/1991). According to section 6, the employee is to notify the employer of their pregnancy, as the employer is to advise of a biological hazard that may be harmful to the pregnancy or

the development of the fetus. Based on the aforementioned decision, a Ministry of Social Affairs and Health decision has been issued regarding the factors endangering genes, the fetus, or reproduction (1044/1991). Section 1 of the decision includes the Hepatitis and HI virus (2 April) among the biological factors with an effect after impregnation.

3. The Ministry of Social Affairs and Health decision (931/1991) regarding the factors that endanger the pregnancy and the development of the fetus and the risk assessment regarding infectious diseases is regulated in section 4. The diseases include Hepatitis and HIV infections. According to section 5 of the decision, the danger assessment is to already be completed when planning the work environment and conditions. Occupational health care experts are to conduct a workplace assessment, in accordance with the Council of State decision, which was issued based on section 12 of the Occupational Health Care Act, regarding occupational health care practice principles, occupational health care content, and training of professionals and specialists in accordance with section 7 (1484/2001). The assessment is to identify any factors that endanger pregnancy or the development of the fetus. In addition, the tasks where the danger occurs are to be identified. In addition, occupational health care specialists are to notify the employer of hazardous factors or work procedures that endanger the employee and make suggestions on how to eliminate the hazard or provide protection from it.

4. Section 2 of the Contracts of Employment Act (2001/55) has provisions on the responsibilities of the employer. Section 3 has provisions regarding the occupational safety of a pregnant employee:

If the work responsibilities of a pregnant employee or the working conditions endanger her or the fetus's health and the hazard cannot be eliminated, the employee should be trans-

ferred to perform other tasks, based on her work ability and know-how.

5. Chapter 4 of the Contracts of Employment Act, Family leave Section 1 includes a reference to special maternity allowance, which has provisions in section 1 of the Sickness Insurance Act (1335/2004).

6. Section 23 of the Sickness Insurance Act (364/1963) includes provisions on the prerequisites for receiving special maternity allowance. In order to apply for the benefit, it must

first be assessed if other work can be arranged. Paragraph 3 of the section refers to a regulation by the Council of State, which has more specific provisions on when occupational tasks or working conditions of the insured are associated with infectious diseases (Hepatitis and HIV infection), for example. This allows the assessment of the health of the insured or the fetus as well as what assessments must be presented upon application for special maternity allowance.

# 6. Results

## 6.1 Occupational safety and OSH co-operation

### 6.1.1 Recording needlestick injuries

Nearly 80 % of survey respondents reported that needlestick injuries are recorded at the workplace (Figure 3).

The respondents were also asked the number of recorded needlestick injuries during 2006. A total of 2,671 incidents were reported. In addition, the number of occurred needlestick injuries over the past six months was requested (during 2007). There were a total of 1,305 incidents.

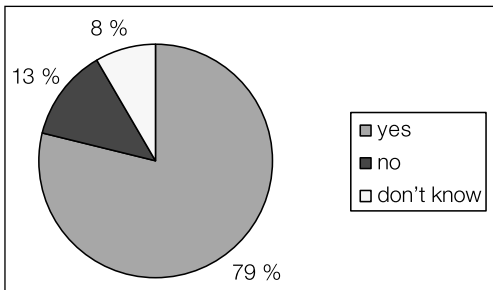


Figure 3. Documentation of needlestick and other sharp object injuries at your workplace (N=143)

### 6.1.2 Risk assessments of needlestick injuries

According to the respondents, nearly 65 % of workplaces have completed the risk assessment required by the Occupational Safety and Health Act (Figure 4). At slightly less than 20 %, the legal employer obligation had not been fulfilled.

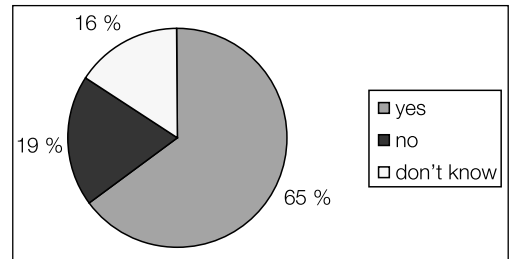


Figure 4. Assessment of needlestick and other sharp object injuries, in accordance with section 10 of the Occupational Safety and Health Act, risk assessment completed (N=139)

### 6.1.3 First aid personnel

A bit over 40 % reported that first aid blood contamination situations had been paid attention to (Figure 5). Forty percent of respondents did not have information on the issue. Less than a fifth of respondents felt that no attention had been paid to the issue.

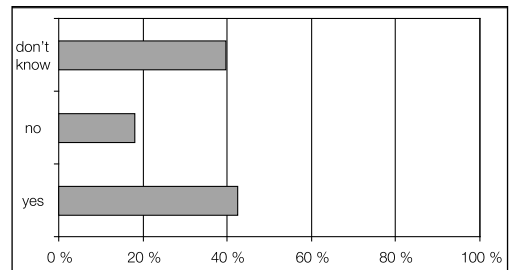


Figure 5. Attention paid to first aid personnel's blood contamination situations (N=139)

### 6.1.4 Including work carried out at another individual's home in risk assessments

Nearly 40 % of survey respondents felt that the risk assessment for work at another individual's home had been carried out, in accordance with section 10 of the Occupational Safety and Health Act. Approximately 35 % of respondents were not aware of the situation at the workplace (Figure 6).

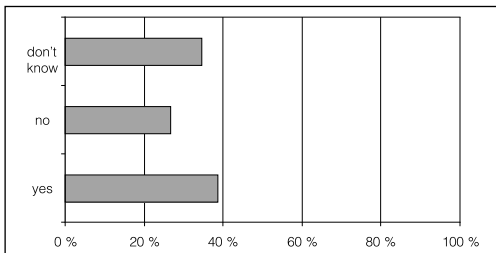


Figure 6. Risk assessment carried out regarding the safe working environment for nurses using needles or sharp objects during home health care, home treatment (N=139)

### 6.1.5 Handling needlestick injuries in OSH co-operation

Approximately half of OSH Delegates (Figure 7) stated that needlestick injuries are addressed in the Occupational Safety and Health Committee. However, a bit over 40% of needlestick injuries are not addressed in OSH co-operation procedures.

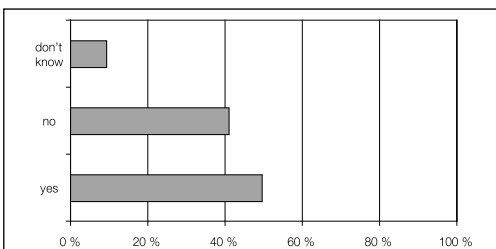


Figure 7. Addressing needlestick and other sharp object injuries at the OSH Committee (N=139)

### 6.1.6 Occupational disease or suspected occupational illness - are counter-actions taken?

Over half of the respondents (54 %) felt that the workplace initiated counter-procedures with confirmed or suspected occupational disease situations. With approximately 10 %, no counter-procedures were initiated. Over a third of the respondents were not aware of the issue (Figure 8).

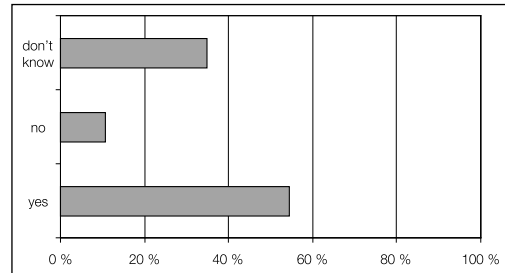


Figure 8. Initiating counter-procedures against suspected or confirmed occupational diseases at the workplace (N=140)

### 6.1.7 Handling needlestick injuries on the unit level

According to the responses, handling needlestick injuries at working units is relatively good. With over 60 % of cases, injuries are addressed at the workplace (Figure 9).

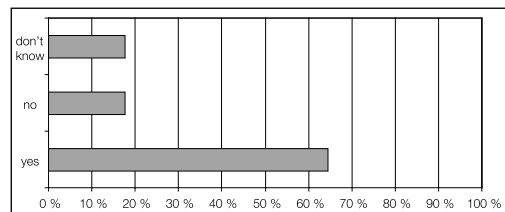


Figure 9. Addressing needlestick and other sharp object injuries at the work unit (N=141)

### 6.1.8 Needlestick injury analysis

Based on received responses, rush situations (nearly 60 %) are the greatest single explanation of needlestick injuries (Figure 10). A bit over 25 % of respondents also felt that needlestick injuries are caused by a lack of know-how. The share caused by patients was a bit over a fourth. Approximately 15 % of respondents felt that the lack of personnel caused needlestick injuries.

The survey form also offered the opportunity to list other causes, in open-end format, for needlestick injuries. A total of 49 open-end responses were provided. The listed causes have been summarised into six groups:

1. carelessness (N=23)
2. human error (N=10)
3. hesitation (N=1)
4. not being alert, imprecision (N=4)
5. incorrect operational procedures adopted (N=4)
6. reluctance to follow provided instructions (N=2)
7. difficult procedure (N=2)
8. failure of used supplies (N=3)

With responses to the open-ended questions, carelessness was perceived as the single most significant cause of needlestick injuries. In addition, some purely human errors occur as well.

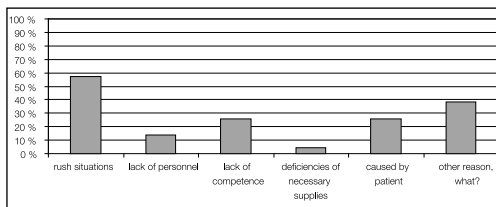


Figure 10. Causes for needlestick injuries analysed at the workplace (N=115)

### 6.1.9 Replacing used needles back into their cases

Nearly 40 % of respondents felt that pacing blood-contaminated needles back into their casings does not occur. Similarly, over 40 % reported that placing needles back into their casings continues to occur at the workplace (Figure 11).

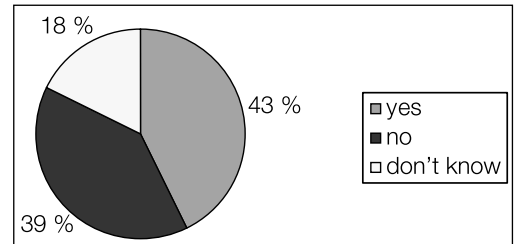


Figure 11. Re-casing blood contaminated needles at workplaces (N=140)

### 6.1.10 Collection bins for used needles

A total of 88 % of respondents reported that appropriate collection bins are in use at the workplace. Only less than 10 % stated that this is not the case. A total of 95 % of the survey respondents reported that glass collection bottles are no longer in use. A total of 55 % felt that the workplaces they represent use the 2/3-full procedure for needle collection bins. Nearly a fourth of respondents felt that the 2/3-full procedure is not used at workplaces (Figure 12).

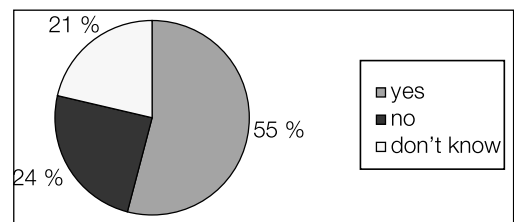


Figure 12. Using the 2/3-full procedure for used needle collection bins at the workplace (N=140)

### 6.1.11 Use of random testing at the workplace

Only 4 % of respondents reported that the workplaces they represent have used random testing for counting the number of needles replaced into their casings in needle collection bins. Approximately  $\frac{3}{4}$  of respondents feel that their workplaces do not engage in any random testing regarding the number of recasings (Figure 13).

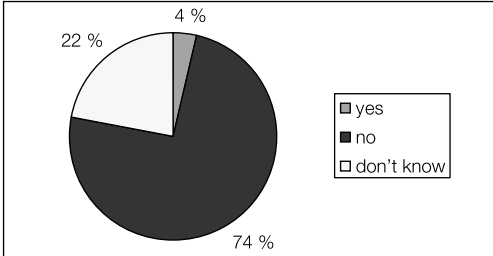


Figure 13. Conducting random testing on recasing counts of needles in needle collection bins (N=142)

### 6.1.12 Instructions for transporting wastes and transporting samples with blood-contamination risk

Over 80 % of respondents felt that the situation was good at the workplaces regarding instructions for transporting sharp waste from the premises (Figure 14). However, the situation was not quite as good with the safe packaging of waste to be transported. Nearly 60 % of respondents felt that the situation was well handled (Figure 15).

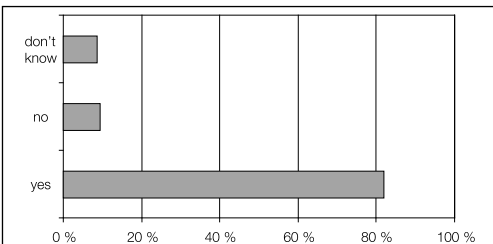


Figure 14. Appropriate instructions for transporting sharp waste (N=140)

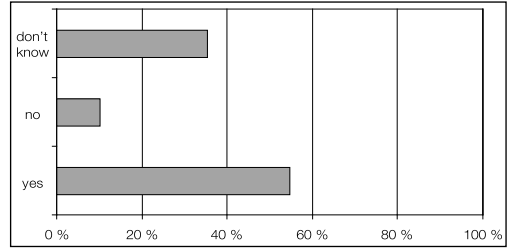


Figure 15. Packaging patient samples with blood-contamination risk (warning triangle labels displayed indicating blood-contamination) that are being sent for analysis using unbreakable covered transport containers (N=139)

### 6.1.13 Use of protective gloves

Only a little over a third of respondents felt that they use duplicate layers of gloves at their workplace when performing surgical procedures with high blood-contamination risk. Over half of the respondents did not know the situation at their workplace (Figure 16).

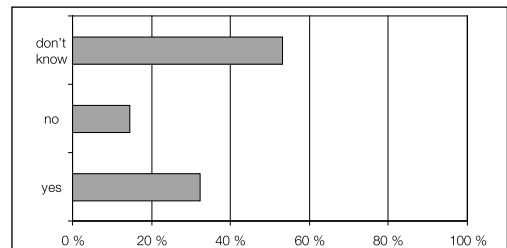
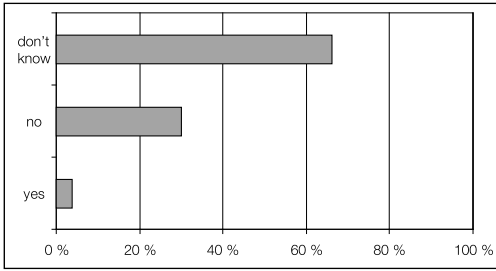


Figure 16. Use of duplicate layers of gloves with surgical procedures with high risk of blood-contamination (N=139)

### 6.1.14 Ethical committee of the workplace

Nearly 70 % of respondents were unable to answer the question regarding the ethical committee addressing the issue of blood-contamination risk during resuscitation (Figure 17). Only less than 5 % of respondents stated that the issues have been addressed at the ethical committee of their workplace.

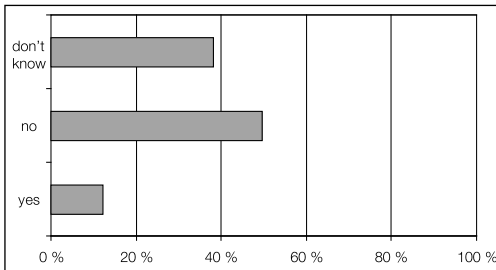




**Figure 17. Blood-contamination risk during resuscitation addressed by ethical committee (N=127)**

### 6.1.15 Occupational safety and health of pregnant employees

Based on the responses, only a bit over 10 % of pregnant employees had been transferred to other functions, in order to avoid being exposed to blood-contamination risk (Figure 18). Half of the respondents felt that pregnant employees are not transferred to perform other tasks as a precaution against potential infections.

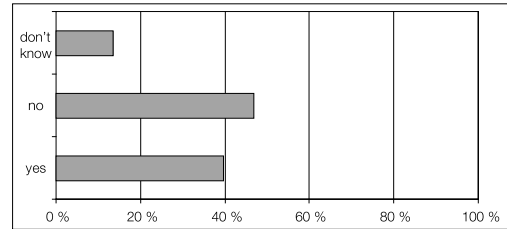


**Figure 18. Transferring pregnant employees to perform other tasks in order to prevent exposure to blood-contamination risk (N=139)**

## 6.2 Personnel expertise

### 6.2.1 Training provided by employer in order to prevent needlestick injuries

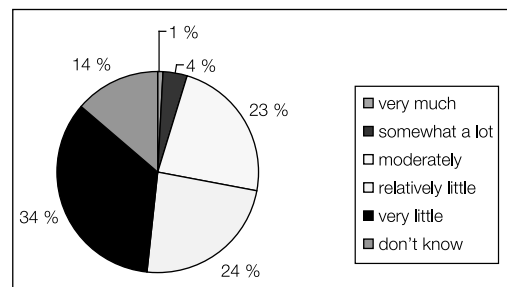
A bit over 40 % of respondents (Figure 19) felt that the employer had organised necessary training for the employees in order to prevent needlestick injuries. However, nearly 47 % of respondents felt that the employer had not organised the training.



**Figure 19. Training organised by employer regarding needlestick and sharp object injuries in order to prevent injuries (N=141).**

### 6.2.2 Amount of training at the workplace

Over half (58 %) of respondents felt that relatively little or very little training was provided. Only less than 5 % felt that a relatively high or a very high amount of training has been provided (Figure 20). A total of 23 % felt that a fair amount of training had been provided.



**Figure 20. Sufficiency of training at workplace (N=132)**

### 6.2.3 Content of orientation programme

Less than 40 % of respondents felt (Figure 21) that preventing needlestick and other sharp object injuries is included in the orientation programme of the workplace as a separate item. A little over 43 % of respondents felt that preventing needlestick injuries was not a separate item in the orientation programme.

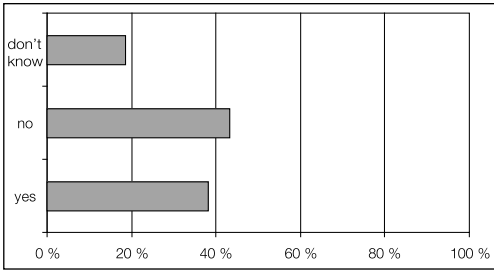


Figure 21. Preventing needlestick and sharp object injuries as a separate item in the orientation programme (N=139)

### 6.2.4 Written instructions for recording needlestick injuries

Over 80 % of respondents (Figure 22) reported that the government decision has been complied with. Approximately 14 % of respondents felt that written instructions had not been prepared at the workplace.

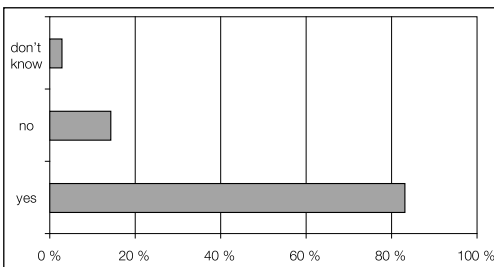


Figure 22. Written instructions prepared on how to record needlestick and sharp object injuries (N=141)

## 6.3 Occupational health care

### 6.3.1 Occupational health care familiarity in the subject and providing instructions

Approximately 70 % of respondents felt that occupational health care professionals have addressed the possibility of blood-contamination well when completing workplace assessments (Figure 23). Only with 10 % of cases this had not occurred. A fifth of respondents felt that work or protective instructions had not been provided (Figure 24) and a bit under 70 % stated that instructions had been provided.

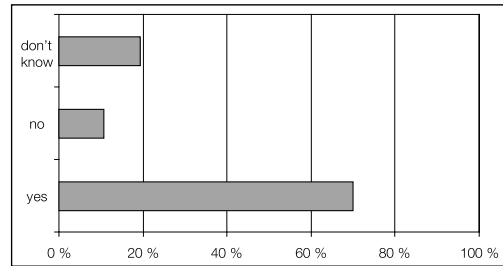


Figure 23. Occupational health care level of familiarity addressing blood-contamination risk with workplace assessments (N=140).

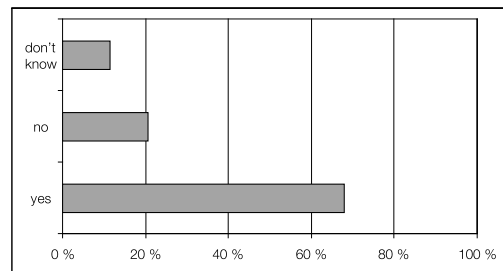


Figure 24. Occupational health care has provided work and protective instructions regarding blood-contamination risk (N=140)

### 6.3.2 Up to date first aid instructions

Over 60 % of respondents felt that up to date first aid instructions in event of an needlestick injury was available at the workplace. Similarly, a third (Figure 25) felt that the workplace does not have up to date first aid instructions available to employees.

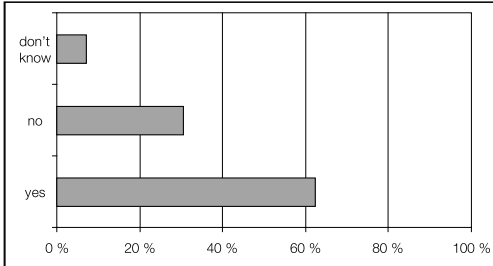


Figure 25. Up to date first aid instructions visible at the workplace in event of a needlestick or sharp object injury (N=141)

### 6.3.3 Availability of drug treatment

Figure 26 illustrates that the situation for beginning drug treatment after exposure is not the best possible, according to the view of respondents. Only a little over half feel that drug treatment is available during all times of the day and night. However, a bit over 10 % feel that there is not. Over a third of OSH representatives were unable to answer the question.

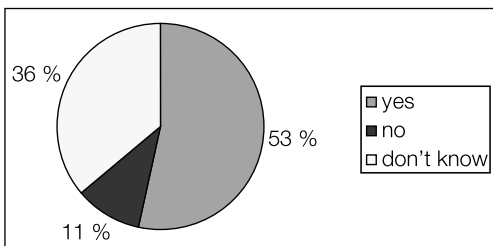


Figure 26. In the event of a needlestick injury when treating a HIV-positive patient, drug treatment (Zidovudine) can be received at any time within two hours of exposure (N=141)

### 6.3.4 Periodical inspections completed by occupational health care providers

Nearly 60 % of respondents felt that occupational health care completes periodical inspections for jobs with a higher risk of infection at 1-3 year intervals. However, nearly a fifth of respondents (Figure 27) felt that periodical inspections had not been completed for jobs with a higher risk of infection. Nearly the same number of respondents were unaware of the status of periodical inspections.

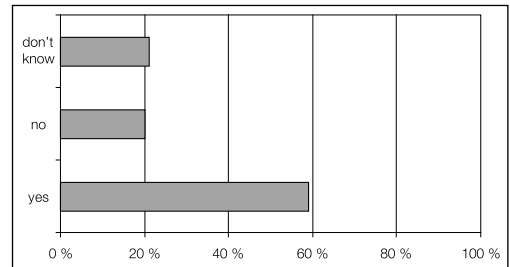
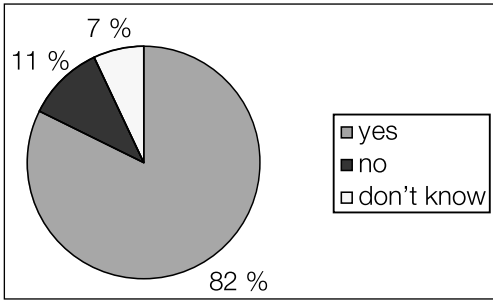


Figure 27. Periodical inspections carried out by occupational health care at jobs with a higher risk of infection, in accordance with the Council of State regulation every 1 – 3 years (N=138)

### 6.3.5 Workplace vaccinations

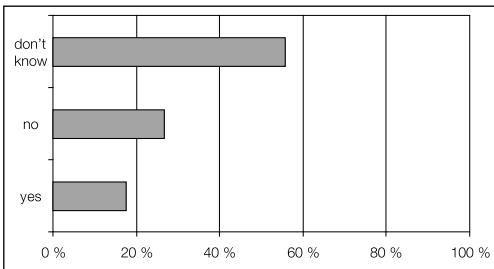
Over 80 % of respondents (Figure 28) reported that employers had offered employees HBV vaccinations free of charge. With 11 %, the vaccination had not been offered to employees.



**Figure 28.** Employers offering free of charge vaccinations against biological factors (groups defined, to which HBV vaccinations are offered to), in accordance with the National Institute for Health and Welfare vaccination programme against the Hepatitis B virus (N=140).

### 6.3.6 List of exposed individuals

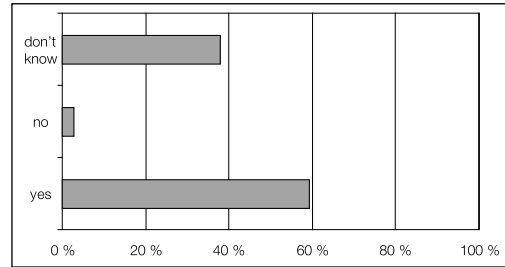
Nearly 20 % of respondents (Figure 29) were aware of a list being maintained with the employees exposed to certain biological factors. Only less than a fifth of respondents were aware of the list being maintained at their workplace. The amount of respondents not aware of the situation was over 55 %.



**Figure 29.** List of HIV and Hepatitis exposures, which is to be maintained for 10 years following exposure existing at the workplace (N=142)

### 6.3.7 Reporting suspected and confirmed occupational diseases

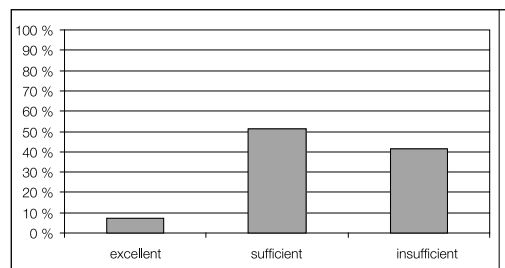
Nearly 60 % of respondents felt that suspected and confirmed occupational diseases are reported to the insurance company. According to the study, nearly 40 % of respondents (Figure 30) did not know if suspected and confirmed occupational diseases were reported to the insurance company.



**Figure 30.** Using the E-medical record to notify the insurance company of confirmed and suspected occupational diseases (N=140)

### 6.3.8 Co-operation between the OSH committee and occupational health care providers

Less than 10 % of respondents felt that co-operation between the OSH committee and occupational health care was excellent. It was seen as sufficient by a bit over half of the respondents.

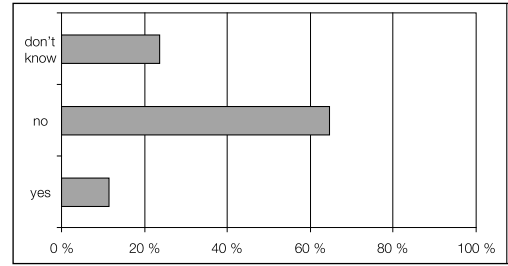


**Figure 31.** Sufficiency of OSH committee and occupational health care co-operation with needlestick and sharp object injuries (N=138)

## 6.4 Enforcing occupational safety and health

### 6.4.1 OSH inspection due to occupational disease

According to the respondents, the OSH District had conducted an inspection due to a confirmed occupational disease in 15 % of cases. Generally (63 %), this has not been the case (Figure 32).



**Figure 32. OSH District conducts an inspection at the workplace, due to a confirmed occupational disease (N=139)**

## 7. Discussion and conclusions

---

The goals set for the survey for OSH representatives were reached well. Based on the study results, a comprehensive general picture was created of different areas related to needlestick injuries. This has a significance primarily in promoting occupational safety and health of individual health care units. However, it is also significant in ensuring the best interests of European wage-earners when negotiating regulations pertaining to needlestick injuries on the European level. As the response percentage was sufficiently high at 66 (N=141), relatively dependable, national conclusions can be drawn based on the responses. The precise number of employees represented by the respondents was not asked. However, as among the respondents are OSH representatives from large workplaces, the number of represented employees is in the thousands.

Needlestick and other sharp medical instrument injuries and their potential consequences to the occupational safety and health of health care employees are a reality in modern-day working life.

Health care work is not associated with the same types of work injury risks as with, for example, the construction industry. However, the work does involve other threats and hazards that can have serious consequences on the personal safety of the employee. According to the Three Decades of Working Conditions study by Statistics Finland, the risk of contracting diseases is one of the hazards in health care and the risk has continued to increase since the 1990s. The growth has most taken place in the municipal sector. During 2003, the hazard was experienced by 25 % of employees and 28 % in 2008.

In order to ensure their legal protection, occupational health care employees are to report a blood-contamination accident according to the instructions provided at their workplace. Not reporting needlestick injuries is a worrying phenomenon from the perspective of employee legal protection. Every health care and social sector employee should be aware that as a result of a needlestick injury, an infectious disease indicated in the Communicable Diseases Act may be contracted. Confirming the disease after the fact without an accident report may be difficult when applying for potential compensation.

It was surprising to note that based on the study, significantly more needlestick injuries were recorded in Finland than when compared to several other international studies. Could it be that the personnel representative has a more positive perception of the issue than if employees would have been asked directly?

Preventing occupational injuries is to be based on good planning and identifying risks and risk assessments. According to the Occupational Safety and Health Act, workplaces should have completed risk assessments or at least somehow they should have been identified. Some of the respondents (16 %) have not had information available regarding needlestick injury risk assessments, even though the employer's responsibility to complete risk assessments has been mandated in the Occupational Safety and Health Act and the results of the risk assessments should be addressed by the OSH Committee.

The significance of recognising hazards and risk assessments is highlighted with work performed at the patient's home, as the govern-

ment regulation (1484/2001) regarding occupational health care workplace assessments does not have provisions regarding work performed at another individual's home.

Based on the study, approximately a third of respondents felt that the employer's responsibility to identify work hazards and complete a risk assessment at the patient's home is neglected. In Tehy's opinion, national programmes intended to prevent accidents have not sufficiently considered the special characteristics, such as preventing needlestick injuries, of different occupational groups.

Occupational health care workplaces should set the safety management goal as the 0-accident action model. In addition, the special characteristics of work performed at another individual's home is to be better taken into consideration in risk assessments. As the primary function of OSH activity is preventive work directed toward ensuring occupational safety and health, based on this study, there is still work to be done in initiating preventive actions against occupational accidents and diseases at workplaces.

Is it so, that confirmed and suspected occupational diseases and occurred accidents are not addressed in OSH co-operation procedures at all health care workplaces? OSH functions, like all other workplace activity, are to be based on systematic planning. How can OSH delegates function as employee representatives in OSH co-operation, if they are not even aware of beginning preventive measures against confirmed and suspected occupational diseases that cause health hazards or occurred work injuries and the reasons that lead to them?

Section 26 of the Act on Occupational Safety and Health Enforcement and Cooperation on Occupational Safety and Health at Workplaces regulates the issues to be addressed. Issues directly affecting employee safety and health include accident hazards and their pre-

vention. One can only ask how can hazards be prevented, if they are not addressed in OSH co-operation procedures? Suspected occupational disease incidents are also associated with risk assessments, which are to cover all potential hazards that occur at the workplace, in accordance with section 10 of the Occupational Safety and Health Act. Workplace assessments completed by occupational health care should also include a description of factors affecting safety and health.

As a majority of health care employees are women and some of them are within the fertile age group, employees that are pregnant should pay particular attention in blood exposure situations to the decision by the Council of State regarding preventing occupational biological hazards to genes, the fetus and reproductive ability (1043/1991). This survey did not study if workplace risk assessments included specific occupational safety and health issues of pregnant employees.

Based on the study, training promoting occupational safety and health should be increased at workplaces. Based on the study, the employee's right to receive information from the employer regarding procedures in event of an accident should be improved. OSH committees should address preventing needlestick injuries as a separate item when planning internal training and orientation programmes and when updating first aid instructions.

If the accidents in question would be addressed as a separate entity within the framework of the personnel orientation programme, one could assume this would promote proactive occupational safety and health and reduce injuries caused by biological factors. When in the worst-case scenario an employee may contract a reportable infectious disease that does not have a cure, orientation has great pre-emptive significance.

According to section 26 of the Act on Occupational Safety and Health Enforcement and

Cooperation on Occupational Safety and Health at Workplaces, OSH co-operation procedures must address the need and arrangements for employee instruction, guidance and orientation at workplaces. Addressing personnel training programmes is included in the obligations of both the private and public sector in the Act on Cooperation at Workplaces.

As the sufficiency or targeting of training funds was not researched in the study, this would require creating a separate report. For example, the Hospital District of Helsinki and Uusimaa has developed their own Internet-based training programme entity intended for preventing needlestick injuries (Simons 2008).

Assessing the necessity of active random testing of needles replaced in their casings and the degree to which used needle collection bins are filled should be discussed in the OSH co-operation procedure. Random testing can be used to verify the actual amounts of recased needles and the frequency of incorrect work procedures. The information can be used to provide specific instructions and targeted occupational training. Direct legal provisions do not exist for arranging increased random testing. According to the study, blood-contaminated needles are unfortunately still placed back into their casings. The action does not comply with careful work practices and ensuring personal occupational safety.

*Open-ended response: "After the injection, some needle recasings were found, even though this is a forbidden method!"*

In addition, OSH committee agendas should include ensuring that waste management plans and instructions for their workplace / multiple workstations are up to date, so that *all* workplaces have appropriate instructions available to employees. In addition, they should be presented during orientation.

Tehy's research did not separately identify if employees had safe work equipment available for them to use. Members or personnel representatives have not contacted the union regarding employers not acquiring appropriate safe needles for use. The respondents felt that used needle collection bins were appropriate and relatively good for occupational safety. However, needle collection bins are still overfilled with used medical instruments, which increases the possibility of an accident.

Occupational health care has been regulated using a separate law, already since 1979. The primary function of occupational health care is to implement pre-emptive occupational safety and prevent occupational diseases. Although occupational health care professionals, according to the respondents, have had an active role in providing work and safety instructions, it should be verified that first aid instructions are up to date at all health care workplaces.

Health inspections are a part of pre-emptive work and provisions for periodical inspections have been included in legal regulations with work that includes a higher risk of contracting a disease. Based on the study, occupational health care does not implement periodical inspections at all workplaces. Based on the regulations issued on periodical inspections, the issue should be addressed more actively during OSH co-operation procedures. Implementing periodical health inspections is not an accomplishment by itself. Instead, it should be associated with the safety of working and ensuring employee health.

Health care employees face different types of health risks almost daily. Pre-emptive health monitoring is the best way to affect the health risks. It is positive to note that pre-emptive work has been paid attention to in occupational health care, according to the respondents. Pre-emptive work had been identified in



different studies as having the best cost efficiency in achieving results.

Employee representatives elected for OSH co-operation and occupational health care staff should pay more attention to improving co-operation. The expertise of occupational health care personnel and OSH delegates should be used more. OSH delegates clearly have the need to engage in more co-operation with occupational health care. Occupational health care expertise is needed when discussing actions aimed at ensuring employee safety.

As needlestick and other sharp object injuries do occur, the employee right to receive first aid-type drug treatment, paid by the employer, within the time-constraint during all times of the day and night and at all health care workplaces should be ensured. Work communities should create an atmosphere that encourages the employee to report an accident, without fear of being blamed. Over a third of OSH delegates were unable to answer what the availability for drug treatment would be at the workplaces they represent, even though, as personnel representatives, they should have the right to obtain information on the issue.

At workplaces, where employers had not offered vaccinations free of charge (11 %), the situation should be assessed workplace-specifically. Is the reason that risk occupations have not been identified or assessed or is it caused by ignorance?

There is a majority-vote decision (4633:2006) by the Insurance Court not to pay compensation issued on 26 February 2008. A nurse had accidentally stuck her finger with a needle she had used to collect a blood sample from a patient. The Insurance Court did not feel the blood examinations performed as a result of the accident were necessary health care, even though costs for examinations with suspected occupational diseases are reimbursed. Based on the court ruling, the determining factor was if the suspicion of contracting an infection was justified. When

the issue is seen from the perspective of possible blood infections with needlestick injuries, the court ruling does not seem justified.

According to the law, accidental insurance should reimburse damages incurred due to accidents. In the case in question, the patient's background information was not available. It was not obtained even when requested. As the free mobility of EU's workforce is one of the basic rights of citizens, the need for treatment can be sought by an increasing number of people, which may cause the availability of medical records to be difficult. Therefore, an individual health care employee is, according to the Insurance Court decision, liable for their own treatment, as the justification of the decision was that the suspicion of the patient being a carrier of a bloodborne disease could not be proven. How does this decision fit the fact that an HI virus carrier does not have to notify employees treating him/her of the infection?

The question of handling resuscitation must have been difficult at ethical committees. A majority (70 %) of personnel representatives were unable to answer the question regarding if ethical committees have addressed the blood contamination risk during resuscitation at their meetings (Figure 17). Therefore, can it be concluded that the issues addressed at ethical committees at hospital districts focus on fulfilling legal obligations, meaning handling medical research applications?

Tehy believes a potential EU needlestick directive would improve occupational safety and health of health care employees. A registry requirement of needlestick injuries or binding regulations on initiating treatment based on medical examinations would improve occupational safety of health care employees. On the EU level, due to nature of counterpart agreements, the problem would be that the agreement would only apply to the hospital sector, thus excluding work performed at the patient's home, for example.

Guidance from OSH officials and assistance with preventing occupational injuries and diseases are needed at health care workplaces. According to the completed study, OSH district resources do not appear to be sufficient for conducting inspections regarding confirmed occupational diseases. If the government sector is to implement resource cuts with OSH districts in accordance with the productivity programme, the ability for workplaces to receive necessary assistance will be further weakened. According to the report, OSH district enforcement even now is not sufficient when, for example, occupational diseases occur.

Based on the completed study, Tehy proposes the following actions in order to promote occupational safety and health:

1. Reporting on accidents is to be paid more attention to through national campaigns and training.
2. Needlestick injuries and their prevention can be affected by including the issue as a part of the orientation programme.
3. The Ministry of Social Affairs and Health should, in co-operation with the National Institute for Health and Welfare, assess if a voluntary HBV vaccination in Finland for all health care employees should be implemented and make the necessary legal amendment proposals.
4. The employee's right to receive drug treatment based on medical grounds following a needlestick injury should be regulated in the Communicable Diseases Act or the Occupational Health Care Act.
5. National instructions should be created for hospital districts on forbidding the placement of used needles back into their casings and for conducting random testing.
6. Assessing risks and identifying hazards as required by the Occupational Safety and Health Act are to be paid more attention to in OSH co-operation functions by identifying the special characteristics of different occupational areas better than before.
7. Conducting periodical inspections at work with higher risks of infection, meaning that so-called risk-based periodical inspections should be more distinctively separated from other health inspections. This would mean amending the Council of State decision, which was issued based on the Occupational Health Care Act.
8. The Employment Accidents Act should be amended to cover examination costs, when a needlestick injury causes an injury and it can result in an infection disease without medical treatment. The burden of proving probable cause leads to unreasonable results, as the treated patient does not have to disclose carrying an infectious disease.
9. The workplace-specific obligation to record needlestick injuries should be included in the provisions of the Occupational Safety and Health Act.

# References

---

- Alenius, K. 2004. Use of sharp instruments and handling of blood in health care work, Vårdförbundet, Occupational Diseases Act (1343/1988) and decree (1347/1988)
- Anttila, V-J., Hannu, T., Hovi, T. & Taskinen, H. 2008. Risk of Contracting Blood-Borne Diseases at Work, Finnish Institute of Occupational Health, Helsinki
- Anttila, V-J., Setälä, A., Tiittanen, L. & Kekkonen, S. 2003. Suomen Sairaalahygienialehti 2003; 21:27 - 29),
- Baughan, R. 2008. Needlestick Injuries, The need for European wide legislation, Unison, Technical Seminar, Bryssel
- Borriello, P. 2006. Eye of the Needle, Health Protection Agency Centre for Infections, UK
- Carlson, M. & Lundberg, S., 2005. Stick- och skärskador samt blodexponering i vården. Vårdförbundet, Rapport NR 1 2005
- Hämeilä, M., Järviluoma, E., Santonen, T., Mäkelä, E. & Aalto, A. 2008. Safe handling of cytotoxic drugs, Finnish Institute of Occupational Health, Tampere
- EPINet dor Microsoft Access, Exposure prevention, Information network, U.S.Version 1-3 ([http://www.healthsystem.virginia.edu/internet/epinet.](http://www.healthsystem.virginia.edu/internet/epinet))
- European Agency for Safety and Health at Work: <http://osha.europa.eu>
- European Federation of Public Service Unions (EPSU). Documents regarding the first and second consultation by the Commission on needlestick injuries of health care employees, 2007 and 2008
- ILO, Report IV (1), HIV/AIDS and the world of work, 98th Session 2009, First edition 2008, Geneva
- ILO, Safework-Introductory Report-2008, Beyond deaths and injuries. The ILO's role in promoting safe and healthy jobs, Switzerland
- Johansson, T. 2007. Needlestick injuries and their future prevention, Laboratory work development assignment, Helsinki University of Applied Sciences kehittämistehtävä, Stadia
- National Institute for Health and Welfare ([www.ktl.fi](http://www.ktl.fi)). Instructions and recommendations for health care professionals
- Knuuttila, J., Ruuhilehto, K. & Wallenius, J. 2007. National Agency for Medicines publication series 1/2007, Health care quality control, Reporting health care hazardous incidents, Helsinki University Print, Helsinki
- Kujala, V., Reijula, K. Finnish Institute of Occupational Health, Työterveiset 3/1996, p. 22-25,
- Kukkonen, S., Karmavalo, T. 2008. Työtapaturomakirja, Työtapaturomien ja ammattitautien korvaus- ja vakuutusasiat, Finva, Vaajakoski
- Commission for Local Authority Employers. 2005. OSH activities and development working life in the municipal industry, Helsinki
- Medical Devices Act (1505/1994, amended in October 2005, 726/2005)
- Act on Occupational Safety and Health Enforcement and Cooperation on Occupational Safety and Health at Workplaces (44/2006)

- Act on Protection of Privacy (759/2004)
- Lavoie, M-C. 2007. Healthy Hospitals Project: International Collaboration to Protect health care Workers from Infectious Disease Transmission
- Lehto, A-M., Sutela H. 2008. Statistics Finland, Three decades of working conditions, Results of working condition studies 1977-2008, Helsinki
- Leino, T., Hannu, T., Taskinen, H., Hovi, T. 2007. Vaccinations at work, Finnish Institute of Occupational Health, Tampere
- Lioce-Mata, M.S. 2007. Innovative Partnerships Model for Preventing Occupational Bloodborne Pathogens Infections among Health Care Workers
- Lundberg, S. 2005. Stick- och skärskador samt blodexponering i vården, Vårdförbundet National Agency for Medicines publication series 1/2003. Health care quality control, Hygiene in oral health care. Renewed edition.
- Markkanen, K. 2000. Nimittely, uhkailu, potkiminen-hoitajan työarkea. Tehy ry
- Markkanen P., Quinn M., Galligan C., Chalupka S., Davis L., Laramie A. 2007. JOEM. Volume 49, Number 3, March 2007
- Murtonen, M. & Toivonen, S. National Agency for Medicines publication series 3/2006. Health care quality control, Medical transport safety is management
- Needham K., O'Brien-Pallas, McKenna, Tucker, Oud. 2008. Workplace Violence in the Health Sector, Publisher KAVANAH, The Netherlands
- Palosuo, T. & Turjanmaa, K. 2005. National Agency for Medicines, TLT – info 1/2006, Glove study
- Podniece, Z. 2008. Needlesticks Injuries in the hospital sector, Technical seminar, Bryssel
- Rasmus, M. 2002. Insecurity as a workmate, University of Kuopio
- Rummukainen, M. 2008. B-hepatiittiriskin ehkäisy työssä. Työterveyslääkäri, 3/2008: 111 -113
- Salminen, M. 2008. Ungass HIV/AIDS country progress report Finland, January 2006-December 2007, Kansanterveyslaitos, Helsinki
- Simons, L. Veritapaturmien ehkäisy nettikoulutuksena, Suomen Sairaalahygienialehti 3/2008: 150- 151
- Ministry of Social Affairs and Health. European Strategy on Health and Safety at Work 2007 - 2012. Improving work quality and productivity: community strategy on health and safety at work, 2007:24
- Ministry of Social Affairs and Health 2005:13. Safety planning guide for social and health care units
- Ministry of Social Affairs and Health decision on the classification of biological agents (229/1998)
- Ministry of Social Affairs and Health, Accidental insurance and occupational disease legislation amendment committee memorandum, 14 October 2008
- Ministry of Social Affairs and Health. Työsuojeluosasto, Press releases 26 February 2008 and 25 August 2008
- Steflitsch, W. 2008. health care Workers and Blood-borne Infections due to Needlestick Injuries, Austria, Technical Seminar
- Sulsky, S., Birk, T., Cohen, L., Luippold, R., Heidenreich, M. & Nunes, A. 2006. Effectiveness off measures to prevent needlestick injuries among employees in health professions. Sankt Augustin
- Sunley K. 2008. Needlesticks Experiences of UK Nurse, Royal Collage of Nursing, Technical Seminar Bryssel
- Sutinen, J. Duodecim 2008;124: 1695-1696
- Tapaturmavakuutus, Työtaturma-asioiden erikoislehti 2/2008, Oikeustapauksia vakuutusoikeudesta, page 36
- Employment Accident Insurance Act (608/1948)
- Communicable Diseases Act (935/2003)

- Tennessee, M. 2007. Promoting and protecting the health of health care workers: initiatives and next steps
- Topping J. 2008. European Commission Consultation on Needlesticks, Technical Seminar Bryssel
- Occupational Health Care Act (1383/2001)
- Finnish Institute of Occupational Health report to the Ministry of Social Affairs and Health, Clearing obstacles from occupational disease diagnostics (21 June 2007)
- The Centre For Occupational Safety 2208. Municipal sector working conditions barometer
- Occupational Safety and Health Act (738/2002)
- Government Decree on medical examinations in work that presents a special risk of illness (1485/2001)
- The Council of State decision on the protection of workers against hazards caused by biological factors (1155/1993).
- WHO, ILO. 2005. Joint ILO/WHO guidelines on health services and HIV/AIDS, Geneva
- Wilburn, S.Q., Eijkemans, G. 2004. Preventing Needlestick Injuries among Health Care Workers, VOL 10/NO 4.OCT/DEC 2004. [www.ijoh.com](http://www.ijoh.com)

# Attachment

---

## Survey form

1. Which of the following is your employer
  - 1.1 municipality
  - 1.2 hospital district joint-municipality
  - 1.3 other joint-municipality
  - 1.4 municipal enterprise
  - 1.5 government
  - 1.6 private
  - 1.7 other
2. As an OSH delegate, are you representing
  - 2.1 employees
  - 2.2 white-collar workers
  - 2.3 employees and white-collar workers
3. Your time-use right
  - 3.1 full-time
  - 3.2 more than 8 hours in 4 weeks
  - 3.3 8 hours in 4 weeks
4. Are needlestick and other sharp object injuries recorded at the workplaces you represent
  - 4.1 yes
  - 4.2 no
  - 4.3 I don't know
5. If needlestick and sharp object injuries are recorded, how many injuries have occurred during 2006
  - 5.1 number
6. If needlestick and sharp object injuries are recorded, how many injuries have occurred during the past 6 months
  - 6.1 number
7. Has the assessment of needlestick and other sharp object injuries, in accordance with section 10 of the Occupational Safety and Health Act, been completed
  - 7.1 yes
  - 7.2 no
  - 7.3 I don't know
8. Have written instructions been prepared for the workplaces on how needlestick and other sharp object injuries are to be recorded
  - 8.1 yes
  - 8.2 no
  - 8.3 I don't know
9. Are needlestick and sharp object injuries addressed at the OSH committee
  - 9.1 yes
  - 9.2 no
  - 9.3 I don't know
10. Are needlestick and sharp object injuries addressed at work units
  - 10.1 yes
  - 10.2 no
  - 10.3 I don't know
11. Does the employer arrange training on preventing needlestick and sharp object injuries
  - 11.1 yes
  - 11.2 no
  - 11.3 I don't know
12. In your opinion, how much workplace training indicated in question 11 has been arranged
  - 12.1 very much

- 12.2 somewhat a lot  
 12.3 moderately  
 12.4 relatively little  
 12.5 very little  
 12.6 I don't know
13. Does the orientation programme include preventing needlestick and sharp object injuries as a separate item  
 13.1 yes  
 13.2 no  
 13.3 I don't know
14. Do the workplaces display current first aid instructions in event of needlestick and other sharp object injuries  
 14.1 yes  
 14.2 no  
 14.3 I don't know
15. A needlestick injury has occurred when treating a HIV-positive patient. Is it possible to receive drug treatment at any time of day or night within two hours of exposure (Zidovudine)  
 15.1 yes  
 15.2 no  
 15.3 I don't know
16. If the workplace has analysed needlestick injury causes, are they associated with  
 16.1 rush situations  
 16.2 lack of personnel  
 16.3 lack of know-how  
 16.4 deficiencies of necessary supplies  
 16.5 caused by patient  
 16.6 other reason, what?
17. Has the employer offered employees exposed to biological factors free of charge (defined groups, to which HBV vaccinations are offered to) vaccinations, in accordance with the National Institute for Health and Welfare vaccination programme against the Hepatitis B virus  
 17.1 yes  
 17.2 no  
 17.3 I don't know
18. Are blood-contaminated needles placed back into their casings at workplaces  
 18.1 yes  
 18.2 no  
 18.3 I don't know
19. Are collection bins for used needles that are made of appropriate unbreakable material immediately available within reach of the individual performing the procedure  
 19.1 yes  
 19.2 no  
 19.3 I don't know
20. Are glass bottles used for needle collection at workplaces  
 20.1 yes  
 20.2 no  
 20.3 I don't know
21. Is the 2/3-full procedure used at workplaces for used needle collection bins  
 21.1 yes  
 21.2 no  
 21.3 I don't know
22. Have the workplaces you represent used random testing for counting the number of needles replaced into their casings in needle collection bins  
 22.1 yes  
 22.2 no  
 22.3 I don't know
23. Has attention been paid to first aid personnel's blood contamination situations  
 23.1 yes  
 23.2 no  
 23.3 I don't know

24. Care staff use needles and sharp instruments at home health care and home treatment the same way as with institutional care. Have risk assessments been completed on safe working environments of nurses

24.1 yes

24.2 no

24.3 I don't know

25. Has sufficient information been provided on transporting sharp wastes away

25.1 yes

25.2 no

25.3 I don't know

26. Are duplicate layers of gloves used with surgical procedures with a high risk of blood-contamination

26.1 yes

26.2 no

26.3 I don't know

27. Have patient samples with high blood-contamination risk (warning triangle labels displayed indicating blood-contamination) that are being sent for analysis been packaged using unbreakable covered transport containers

27.1 yes

27.2 no

27.3 I don't know

28. If your workplace has an ethical committee, has it ever addressed the blood-contamination risk of resuscitation

28.1 yes

28.2 no

28.3 I don't know

29. Have pregnant employees been transferred to perform other tasks as a precaution against blood-exposure situations

29.1 yes

29.2 no

29.3 I don't know

30. Has occupational health care addressed the possibility of employee blood-infection risk when completing workplace assessments

30.1 yes

30.2 no

30.3 I don't know

31. Has occupational health care provided work and protective instructions against blood-infection risk

31.1 yes

31.2 no

31.3 I don't know

32. Occupational health care is to complete periodical inspections for jobs with a higher risk of infection at 1-3 year intervals. Is this regulation complied with at your workplace?

32.1 yes

32.2 no

32.3 I don't know

33. Does a list exist on HIV and Hepatitis exposures, which is to be maintained for 10 years after exposure

33.1 yes

33.2 no

33.3 I don't know

34. Are E-medical records used to notify the insurance company of confirmed and suspected occupational diseases

34.1 yes

34.2 no

34.3 I don't know

F35. Sufficiency of OSH committee and occupational health care co-operation with needlestick and sharp object injuries

35.1 excellent

35.2 sufficient

35.3 not sufficient



36. Has the OSH district conducted an inspection due to a confirmed occupational disease

36.1 yes

36.2 no

36.3 I don't know

37. Do suspected or confirmed occupational diseases initiate counter-measures against them at the workplace

37.1 yes

37.2 no

37.3 I don't know





## **Do not let a needlestick get you by surprise**

Every year, approximately 1,200,000 employees in the EU suffer from injuries caused by needles or other sharp instruments. No extensive studies have previously been made on the subject.

Tehy studied how severe of a work-related hazardous issue this really is at health care workplaces. In January 2008, a survey was sent to all Tehy OSH representatives.

According to the study, the single greatest cause for accidents at workplaces is rush. Methods for preventing injuries do exist. These include sufficient and on-going training, correct work procedures, high-quality and safe work supplies and assessment of one's personal work methods.

For the past few years, needlestick injuries have had an active role in European labour union discussions during meetings and seminars. The labour market counterparts are discussing the necessity of a directive that would regulate needlestick injuries.

This study is also available in English at [www.tehy.fi](http://www.tehy.fi) (Tehy website in English).

---

**Tehy publication series:** A: Research reports • B: Studies • C: Memorandums • D: Statistics • E: Videos • F: Other publications  
Tehy's studies on the Internet: [www.tehy.fi/selvitykset](http://www.tehy.fi/selvitykset)

