

making a difference



**MAKE
NEEDLESTICK-
INJURIES
HISTORY**

Recommendations
on avoiding blood
transmitted
infections.



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This product information is addressed exclusively to healthcare professionals. Devices of Greiner Bio-One are to be used by properly trained healthcare professionals only in accordance with the relevant Instructions for Use (IFU). For a listing of indications, contraindications, precautions and warnings, please refer to the Instructions for Use which accompanies each product or is available for download from our website at www.gbo.com (Download Center). For more information contact your local Greiner Bio-One sales representative or visit our website.

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PAY MORE ATTENTION TO THE RISKS

IT IS A KEY CONCERN OF OURS TO INFORM YOU ABOUT THE RISK OF INJURY YOU ARE EXPOSED TO AS AN EMPLOYEE IN THE HEALTHCARE SECTOR WHEN HANDLING AND DISPOSING OF THESE PRODUCTS.

Unfortunately, potential hazards are often not noticed or taken seriously and those affected attribute too little or sometimes even no significance to injuries caused by a contaminated hypodermic needle.

AROUND ONE MILLION NEEDLESTICK INJURIES

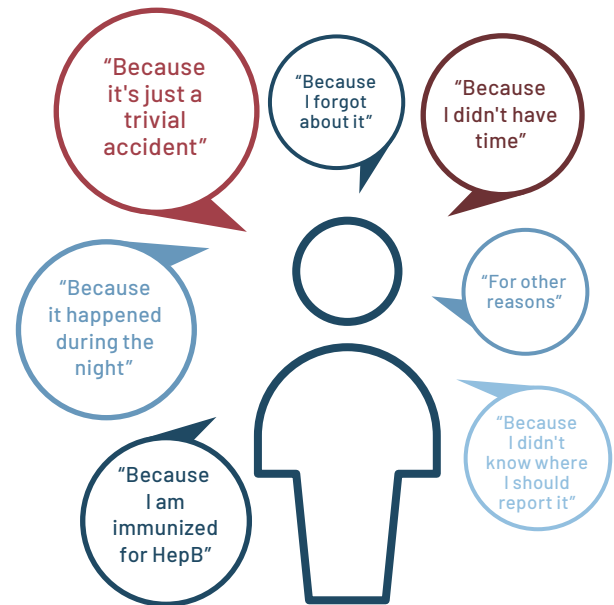
happen alone in Europe
each year



Employees in the healthcare sector handle a wide range of tasks and are exposed to many different risks.

Particularly when working with sharp and/or pointed objects such as cannulas, workers face an increased risk of injury and infection with transmissible pathogens. Needlestick injuries are a serious risk, but there is still a high number of unreported cases.

The reasons for not reporting incidents were given as follows:



**A NEEDLESTICK
INJURY NOT
ONLY HAS
HEALTH-RELATED
CONSEQUENCES,
BUT IN THE WORST-
CASE SCENARIO,
IT COULD ALSO
MEAN THE END
OF A CAREER IN
HEALTHCARE.**

NEEDLESTICK INJURIES ARE FAR FROM TRIVIAL

In Europe alone, there are around one million needlestick injuries each year.² In the USA, around 385,000 needlestick injuries affect medical staff in hospitals each year.

Needlestick injuries account for around a third of all accidents at work in the healthcare sector and are especially critical due to their potential to transfer pathogens that can be transmitted by blood.¹ At least one in two accidents at work involve objects contaminated with the patient's blood.

In addition to the consequences for the medical staff, patients being cared for can also be endangered.

In the event of needlestick injuries, prions and viruses can also be transmitted in addition to bacteria and protozoa.³

WHICH PATHOGENS ARE MOST DANGEROUS?

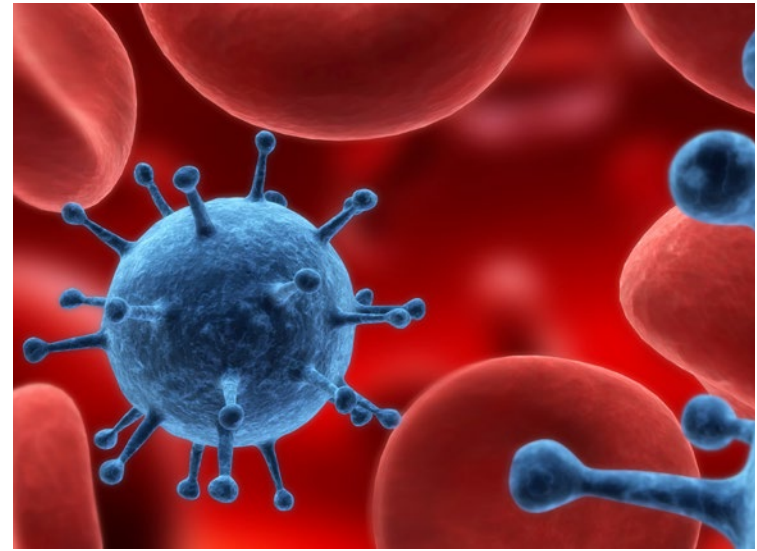
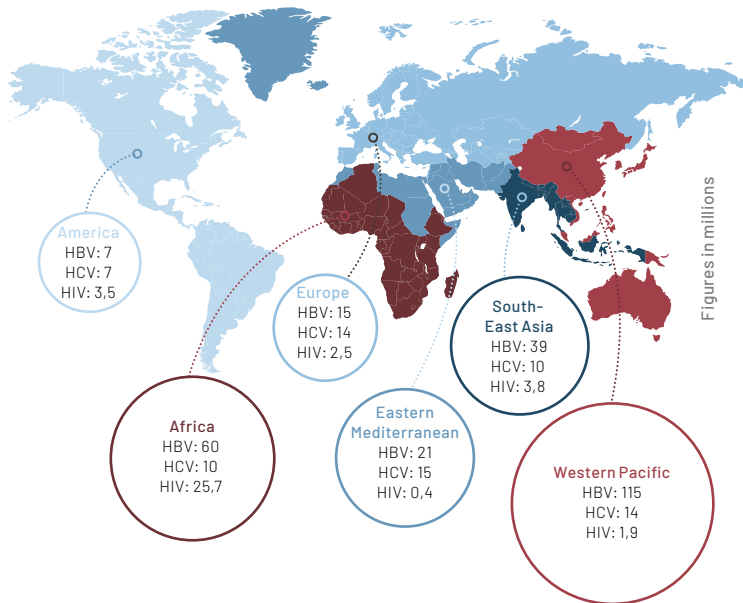
Viruses that are transmitted via blood, such as the hepatitis B virus (HBV), the hepatitis C virus (HCV) and the human immunodeficiency virus (HIV) pose the greatest potential risks.¹

The risk of infection resulting from these pathogens depends on two factors:

- / the prevalence
- / and the infection probability

THE PREVALENCE

The proportion of infected people in the general population differs according to region as shown by the examples in the table below:^{12, 13, 14}



However, for employees in the healthcare sector, the number of infectious patients treated in the establishment concerned is a lot more significant. However, the proportion of virus carriers in a hospital is much higher than in the general population.

INFECTION-PROBABILITY

The frequency of transmission of the pathogen following an injury with contaminated material differs between the three pathogens. While HIV has a low probability of transmission, this is very high with HBV.

HBV	300 transmissions per 1000 needlestick injuries
HCV	30 transmissions per 1000 needlestick injuries
HIV	3 transmissions per 1000 needlestick injuries

DANGER FOR EMPLOYEES IN THE HEALTHCARE SECTOR

DIRECT BLOOD-TO-BLOOD CONTACT, AS IS THE CASE WITH A NEEDLESTICK INJURY, IS ONE OF THE RECURRING REASONS FOR TRANSMISSION OF THE HI-VIRUS.

In normal contact with HI-virus carriers, there is not a risk of infection for employees in the healthcare sector.

In the event that an employee in the healthcare sector becomes infected with HCV or HIV, the cause is often previous injury resulting from a sharp, contaminated object.

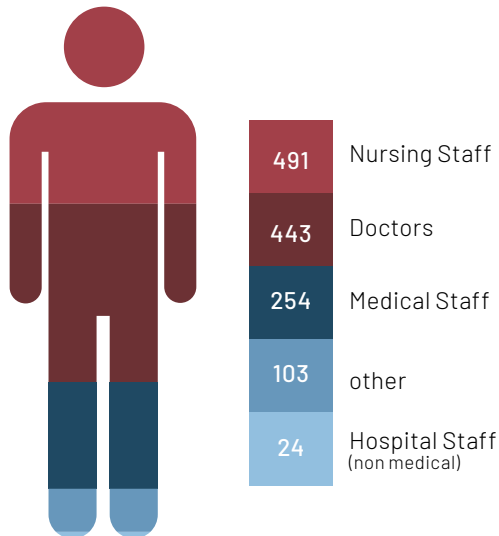
IT IS NOT POSSIBLE TO VACCINATE AGAINST HIV

The consequences of an infection could still be serious.

However, there are huge differences when looking at the global picture. In regions where employees are trained to recognize the risks, in which safety products are used more frequently, the proportion is low. In regions with no awareness of the risks and sparse use of safety products, the proportion is extraordinarily high.

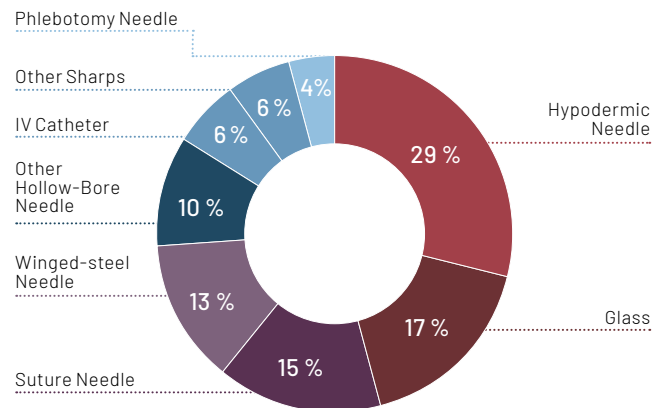


Most frequently affected occupational groups: ⁵

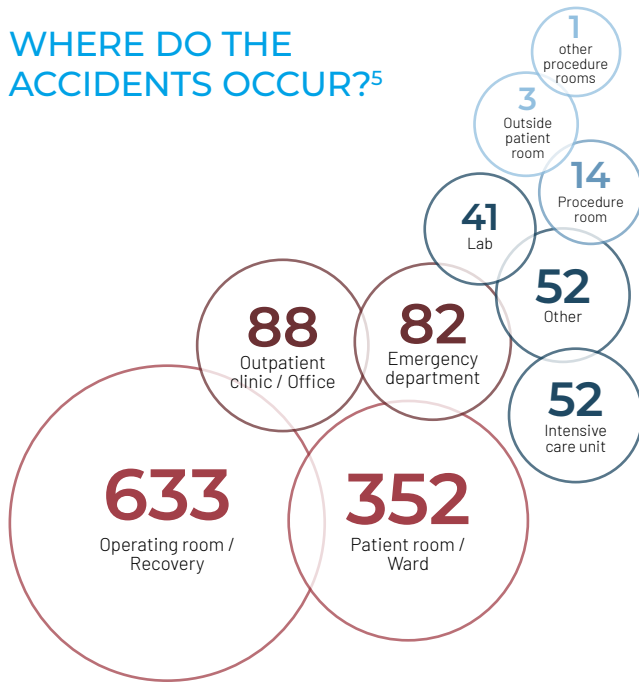


WHICH OBJECTS CAUSE INJURIES?⁶

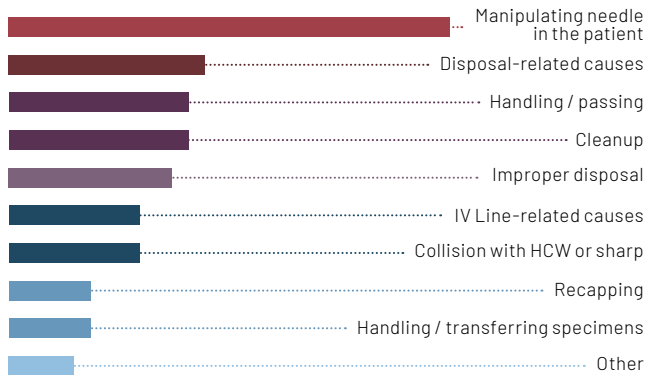
According to the "Deutsches Ärzteblatt", needlestick injuries with hollow needles (injections, blood samples) seem to lead to infections more frequently than those with surgical needles.³



WHERE DO THE ACCIDENTS OCCUR?⁵



DURING WHICH ACTIVITIES DO INJURIES OCCUR?⁶



The aftermath of an infection can have far-reaching effects on both the career and the personal circumstances of the affected person and his/her family, with social as well as financial consequences.



HOW TO PROTECT YOURSELF

THE USE OF SAFETY PRODUCTS REDUCES THE RISK OF NEEDLESTICK INJURIES

There are varying degrees of technical improvements to the products. These can be assigned to the following categories⁷:

Active devices which require one or two-handed activation of the safety mechanism

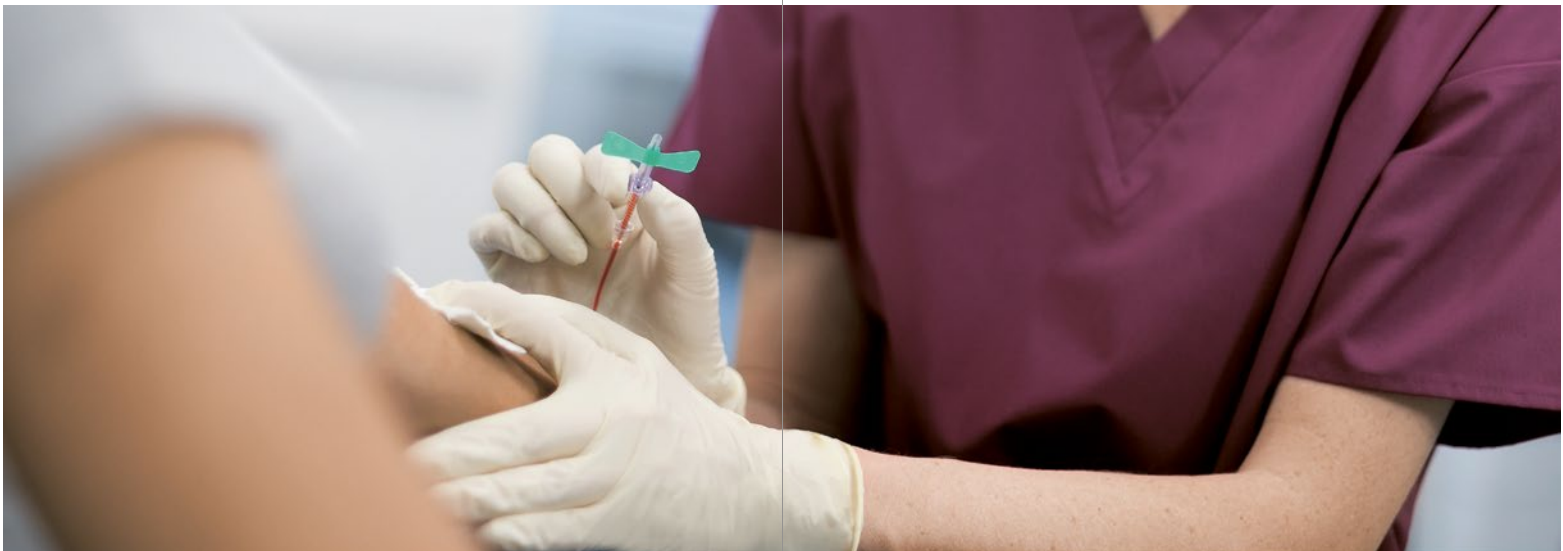
- / Safety products whereby the safety mechanism is activated manually (slide/tilt protection)
- / Safety products that have a semi-automatic safety mechanism

Passive devices which work automatically throughout usage

- / Safety products whereby the safety mechanism is activated after the needle is removed from the vein
- / Safety products whereby the safety mechanism is activated while the cannula is still inside the vein

The use of
safety products
reduces the risk
of needlestick
injuries.





Semi-automatic safety devices can reduce injuries

A LOT OF NEEDLESTICK INJURIES COULD BE AVOIDED

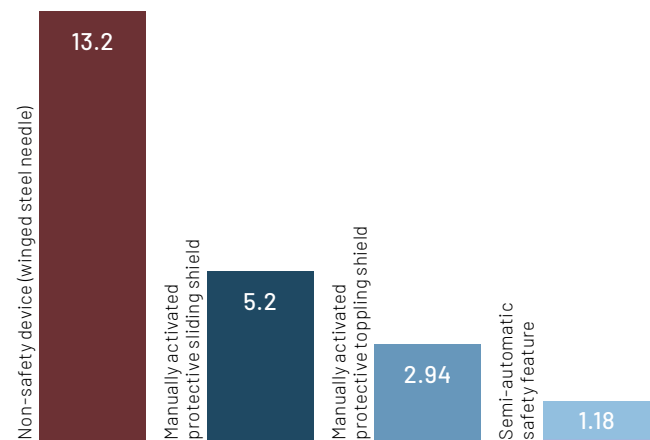
According to Tosini⁷ and Lamontagne¹¹, the frequency of needlestick injuries when using safety products with differing degrees of technical development can be significantly reduced with the aid of the results of the 'French Multicentre Study'.

A higher level of safety can be achieved by applying a device with a manually activated safety mechanism, whereby the safety mechanism is activated whilst the needle is still in the vein.

For example:

- / The Greiner Bio-One SAFETY Blood Collection Set
- / or the VACUETTE® EVOPROTECT

Number of needle stick injuries per 100,000 devices:^{7,11}



HOW CAN I PROTECT MYSELF?

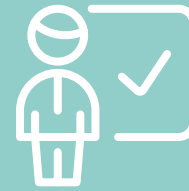
The biggest safety risk is the lack of education. Take risks and warnings seriously. Do not think that it cannot happen to you, but do not let this make you feel insecure. If you are able to correctly take stock of the situation, and if you work using safe product systems, then you already have the best strategy for preventing an accident.



Take time to inform yourself sufficiently of risks and potential ways of protection against accidents. Take advantage of training materials and information provided by your employer.



Frequent checks of protection level are imperative.



Observe suggestions regarding organization given by your employer and behave appropriately. Avoid dangerous working methods and do not take any unnecessary risks.



Use safety products.



Always dispose of dangerous objects in suitable containers.

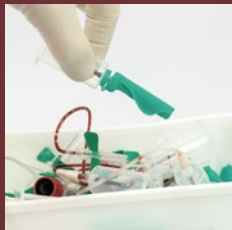
FOR YOUR PERSONAL PROTECTION YOU SHOULD AVOID THE FOLLOWING DANGEROUS WORKING PROCEDURES!



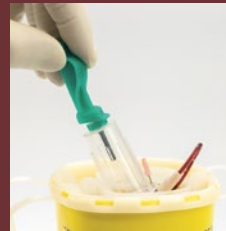
- ✗ Replacing the cap on a used needle
- ✓ Use safety products with needle protection. (e.g. VACUETTE® QUICKSHIELD Safety Tube Holder)



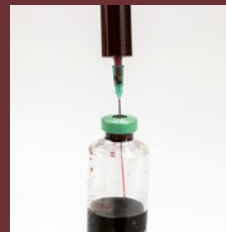
- ✗ Bending the needle, either intentionally or unintentionally
- ✓ Remove the cap with a straight movement. To achieve a flatter puncture angle, use the HOLDEX® with excentric Luer connector.



- ✗ Use of unsuitable disposal containers
- ✓ Only use disposal containers, which have been classified for disposal.



- ✗ Overfilling of sharps disposal containers
- ✓ Always observe the maximum fill mark on a sharps disposal container.



- ✗ Injecting blood from a syringe into the blood culture bottle
- ✓ Use purpose-designed products such as the VACUETTE® Blood Culture Holder.

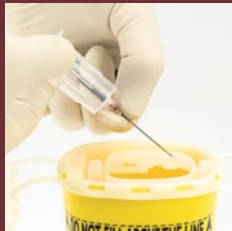


- ✗ Transferring blood from a syringe into an evacuated tube container
- ✓ If you need to transfer a sample from a syringe to an evacuated tube, use the Blood Transfer Unit.

FOR YOUR PERSONAL PROTECTION YOU SHOULD AVOID THE FOLLOWING DANGEROUS WORKING PROCEDURES!



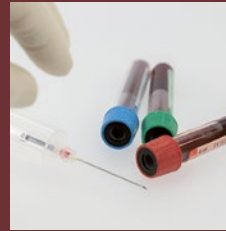
- ✗ Manual removal of a needle from a syringe
- ✓ Never remove a needle from a syringe. Use only safety products with a needle protection cap.



- ✗ Manual removal of a needle from blood collection holder
- ✓ Since it is a double-ended needle, never remove the needle from the holder. Use safety tube holders such as the VACUETTE® QUICKSHIELD and dispose of in one piece.



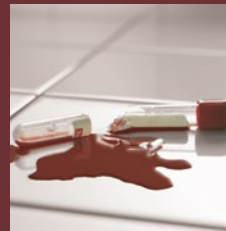
- ✗ Carelessly handing over used devices
- ✓ Never pass on used devices to somebody. Dispose of them correctly.



- ✗ Letting used contaminated objects lie around in patients' rooms
- ✓ Never leave a contaminated object lying around in a patient's room.



- ✗ Disposal of dangerous objects in unsuitable containers or disposal of open containers in rubbish bags
- ✓ Always dispose of dangerous objects in a sharps container. Even safety products. Always be sure to activate the permanent closure before disposing of the container.



- ✗ Using products made out of glass
- ✓ Use shatter-proof plastic products (e.g. VACUETTE® Blood Collection Tubes).

INJURED! WHAT TO DO?

WHAT SHOULD YOU DO IF YOU INJURE YOURSELF DESPITE TAKING ALL THE PRECAUTIONS?

**All measures to be taken after an injury
must be subject to training.**

Greiner Bio-One's recommendations
are based on WHO recommendations⁹.
Please adhere to the standard in
your facility.



IF YOU INCUR A PRICK OR CUT INJURY

Let the wound bleed out sufficiently, by pulling out the cut and washing thoroughly, in order to remove all foreign particles.⁹

Following this, disinfect the wound with a skin disinfection solution containing alcohol for at least 15 seconds regardless of pain to ensure long-lasting effectiveness. The disinfection lasts for 4 to 5 minutes.

When finished, the wound is protected with a sterile bandage soaked in ethanol.



IF YOUR SKIN BECOMES CONTAMINATED

Rinse the affected area of skin immediately under running water. Wash well with liquid soap and dry off with a disposable towel. Then disinfect thoroughly with a skin disinfection solution containing alcohol.



IF THE MUCOUS MEMBRANE GETS CONTAMINATED

In case of contamination in the mouth or eye, wash out immediately and thoroughly with a physiologic saline solution.

Then disinfect carefully with a suitable disinfection solution for mucosa.



AN ACCIDENT REPORT IS IMPORTANT FOR VARIOUS REASONS

- / **Laboratory tests are carried out on you as well as the source of infection – if known – and can provide certainty and emotional relief**
- / **Your employer reports the incident to the insurance company.**

FOR FURTHER INFORMATION OR PROCEDURES

contact the responsible person or office in your company.

THE MATERIAL COSTS ASSOCIATED WITH NEEDLESTICK INJURIES ARE CONSIDERABLE AND AVOIDABLE COSTS

Safety products are able to effectively reduce the economic burden of needlestick injuries. This reduction of costs due to injury can partially or fully offset the higher acquisition costs of the products.

When calculating all associated costs over several years, the additional acquisition costs can be offset by the savings resulting from fewer needlestick injuries.⁴

Aside from that, immaterial costs such as worries and concerns of injured employees in the healthcare sector and their families cannot be offset by any sum of money.⁴



Needlestick
injuries can be
avoided with
safety products.
Protect yourself!



FURTHER INFORMATION ON OUR SAFETY PRODUCTS

can be found in our
VACUETTE® Safety
Products brochure

as well as on our
specially dedicated website
www.power4safety.com

or on our
corporate website
www.gbo.com.

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NOTES

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