



ARTICLE

Sharps Injuries - Stepping Up to the Challenge in Europe

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Sharps injuries, and particularly needlestick injuries, bring the risk of potentially life-threatening infections. Every year in Europe approximately 1.2 million needlestick injuries are suffered by healthcare staff. For many years healthcare workers in the USA have benefited from legislation to prevent these injuries. At last it looks like Europe is to step up to the challenge of protecting its healthcare staff.

Introduction

On a daily basis nurses and other healthcare workers are facing dangerous and potentially life-threatening infections as a result of sharps injuries. By far the most common and significant of these are injuries from used needles (needlestick injuries). There is a huge body of independent evidence that proves that most of these injuries are avoidable if workers are provided with the correct protection, which is readily available in Europe today.

The European Commission has stated that injuries caused by needles and other sharp instruments are one of the most common and serious risks to healthcare workers in Europe and represent a high cost for health systems and society in general. They acknowledge that studies estimate the number of needlestick injuries that occur in Europe at 1.2 million each year.¹

Needlestick injuries are suffered by nurses, doctors, hospital porters, cleaners, laundry staff, refuse collectors and other workers who are linked with healthcare or who may come into contact with medical waste. More than 30 dangerous blood-borne pathogens are transmitted by contaminated needles, including hepatitis B, hepatitis C and HIV.

Additionally, the emotional impact of a sharps injury can be severe and long lasting, even when a serious infection is not transmitted. Healthcare workers and their families can suffer many months of anguish as they wait to discover whether they have contracted a potentially fatal infection.

Time for Action

Workers in any other sector would not accept this serious occupational risk. Nurses and other healthcare workers are dedicated to the health and wellbeing of patients. They face many difficult challenges in their daily work and should not have to face potentially life-threatening occupational injuries that are preventable.

On World AIDS Day, in December 2004, I and colleagues from national nurses associations along with more than thirty nurses from nine member states, who had been victims of needlestick injury, visited the European Parliament for a series of meetings with Members of the Parliament and later with the Commission. We turned to the European Parliament for help because it was very clear that we would probably never receive the protection that we deserved via the existing national health and safety legislation, which had in practice proved to be ineffective in this area.

The Parliament heard some very moving stories about life-changing injuries, all of which could have been avoided. Not surprisingly there was a strong response. In July 2006, the European Parliament adopted, by a huge majority, a report and resolution, that requested that the Commission submit a legislative proposal on protecting healthcare workers from blood-borne infections due to needlestick injuries. This eventually led to the European Social Partners, representing healthcare workers and healthcare employers, entering into formal negotiations.

On 17 July 2009 a binding agreement was officially signed by the European Social Partners, the designated EU representatives of healthcare workers (European Public Service Union, EPSU) and healthcare employers (European Hospital and Healthcare Employers' Association, HOSPEEM) on the prevention of sharps injuries in the hospital and healthcare sector. Throughout the negotiations leading to the agreement, medical sharps and particularly needlestick injuries have been formally recognised by all parties as a very serious occupational hazard to workers in the hospital and healthcare sector that needed to be effectively dealt with.

The European Commission later confirmed that at the request of the European social partners and after having examined their representativeness and the legal conformity of the text, it intended to submit a proposal to the Council for implementation of the agreement by a directive. We now await the Council's adoption of the Commission's proposal. However there is not time to waste. Europe's healthcare workers have already waited too long to receive the protection that they deserve.

Implementing Effective Prevention Measures

We are all looking to achieve the safest possible working environment in healthcare by preventing injuries to workers caused by medical sharps, including needlesticks. Protection is required to safeguard all staff in hospitals, laboratories and providing healthcare in alternate settings who may come into contact with used needles and other medical sharps.

Injury from hollow-bore needles is the main route by which healthcare workers acquire blood-borne and potentially fatal diseases occupationally. The bore of the needle acts as a reservoir for blood and other body fluids. The highest risk procedures include blood collection, IV cannulation and percutaneously placed syringes. Surprisingly small amounts of blood can result in potentially life threatening infection.

There is a recognised hierarchy of priorities for sharps injury prevention.

- 1 The first priority is to eliminate and reduce the use of needles and other sharps wherever possible. In some cases needle-free devices and alternative means of administering medicines are available (such as inhalers, transdermal patches and needleless IV systems).
- 2 The next priority is to isolate the hazards by protecting otherwise exposed sharps, through the use of medical devices incorporating safety-engineered sharps protection mechanisms, such as shielding and retraction mechanisms. These devices are widely available and independent studies demonstrate their safety and overall cost-effectiveness.
- 3 Finally, regardless of whether an engineering control is available, safe work practices are always necessary to reduce sharps hazards in the workplace.

A huge range of independent studies conducted in Europe and elsewhere in the world show that a combination of training, safer working practices and the use of medical devices

incorporating safety-engineered protection mechanisms can prevent more than 80 per cent of needlestick injuries.² Studies have also demonstrated that failure to implement any one of these three elements will result in a significantly reduced impact. Similarly, attempts to implement safety-engineered medical devices only in certain areas or on certain patients is not practicable or effective.

The incidence of hepatitis B virus (HBV), hepatitis C virus (HCV) and human immunodeficiency virus (HIV) is significantly higher in the hospital population than in the general population. Additionally, patients are treated before it is known that they are carrying a serious blood-borne infection, so it is not feasible to reliably segregate patients on the basis of risk and universal sharps injuries prevention measures are therefore, appropriate.

Managers should consult with nurses on the choice and use of safety-engineered devices, identifying how best to carry out training, information and awareness-raising processes. In Spain there are already four regions where sharps prevention measures, including the mandatory use of medical devices incorporating safety-engineered needle protection, is required by law. In supporting the implementation of these measures my colleagues from the Spanish Nursing Council found that it is very important that the nurses that will use the devices are involved in the selection process.

When considering safety-engineered medical devices the following selection criteria should be applied:

- The device must not compromise patient care;
- The device must perform reliably;
- The safety mechanism must be an integral part of the safety device, not a separate accessory;
- The device must be easy to use and require little change of technique on the part of the health professional;
- The activation of the safety mechanism must be convenient and allow the care-giver to maintain appropriate control over the procedure;
- The device must not create other safety hazards or sources of blood exposure;
- A single-handed or automatic activation is preferable;
- The activation of the safety mechanism must manifest itself by means of an audible, tactile or visual sign to the health professional;
- The safety mechanisms should not be easily reversible once activated.

In the Annex to Directive 89/655/EEC, which specifies the minimum requirements for work equipment, it states:

2.8 "Where there is a risk of mechanical contact with moving parts of work equipment which could lead to accidents, those parts must be provided with guards or devices to prevent access to danger zones or to halt movement of dangerous parts before danger zones are reached."

Comprehensive user training is also vital to the introduction of safety-engineered medical devices. Experience has shown that when this is done well, in combination with safer working procedures, the implementation of the safety measures is much more effective.

The employer also has a responsibility to raise awareness amongst workers:

- Highlighting the risks of handling sharps;
- Giving guidance on existing legislation and local policies

- Promoting good practices and safe systems of work regarding the prevention of sharps injuries
- Promoting the importance of recording sharps injuries;
- Raising awareness by developing activities and promotional materials in partnership with representative trade unions and/or workers' representatives;

No Time to Waste

Europe's healthcare workers have waited too long to be adequately protected from life-threatening and life-changing injuries. Our colleagues in the US have enjoyed the benefits of mandatory protection measures to eliminate needlestick injuries since 2001³, with a major reduction in the number of injuries having been achieved, yet we are still discussing the subject.

The time for debate has passed and we owe it to our colleagues working at the bedside of the patient, who are a vital element of the healthcare system, to act quickly. I encourage all healthcare employers to be proactive in working with their staff to quickly plan the implementation of all of the preventative measures outlined in this article.

The 2004 European Competitiveness Report (SEC(2004)1397) acknowledges the escalating shortage of healthcare workers as a cause for concern throughout Europe. As well as safeguarding the safety of healthcare staff and making this a more attractive profession, these measures have been proven to be cost effective.⁴

We need to work together to quickly make universal protection a reality. There is no time to waste.

The European Federation of Nurses Associations (EFN) consists of nurses associations from all 27 EU Member States, representing more than 1.2 million nurses across Europe.

¹ Proposal for a Council Directive COM (2009) 577 Final, European Commission

² a) Advances in Exposure Prevention; vol. 3, no. 4; Libourne study GERES day_09/2001

b) D. Adams*, T.S.J. Elliott, 'Impact of safety needle devices on occupationally acquired needlestick injuries: a four-year prospective study' *Journal of Hospital Infection* (2006) 64, 50e55

c) *Four-year surveillance from the Northern France network*, *Am J Infect Control*. 2003 Oct;31(6):357-63. Tarantola A, Golliot F, Astagneau P, Fleury L, Brucker G, Bouvet E; CCLIN Paris-Nord Blood and Body Fluids (BBF) Exposure Surveillance Taskforce.

d) Cullen BL, Genasi F, Symington I, Bagg J, McCreaddie M, Taylor A, Henry M, Hutchinson SJ, Goldberg D, 'Potential for reported needlestick injury prevention among healthcare workers in NHS Scotland through safety device usage and improvement of guideline adherence: an expert panel assessment' (2006), *Journal of Hospital Infection*, 63: 445-451.'

e) Meryl H. Mendelson, Bao Ying Lin-Chen, Lori Finkelstein-Blond, Eileen Bailey, Gene Kogan. Evaluation of a Safety IV Catheter (IVC) (Becton Dickinson, INSYTE™ AUTOGUARD™) : Final Report ELEVENTH ANNUAL SCIENTIFIC MEETING Society for Healthcare Epidemiology of America, 2001 SHEA, Toronto, Canada.

f) Louis N, Vela G, Groupe Projet. Évaluation de l'efficacité d'une mesure de prévention des accidents d'exposition au sang au cours du prélèvement de sang veineux. *Bulletin Épidémiologique Hebdomadaire* 2002 ;51 : 260-261.

³ Needlestick Safety and Prevention Act, 2000, Federal Register

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- ⁴ a) A. Wittmann, F. Hofmann, B. Neukirch, Ch. Thürmer, N. Kralj, S. Schroebl, K. Gasthaus; 'Blood-borne viral infections: causes, risks and prevention strategies', Bergische Universität Wuppertal, May 2005
- b) US General Accounting Office, Impact assessment regarding Needlestick Safety and Prevention Act; Nov 17, 2000
- c) Evaluation of the Efficacy of a Measure to Prevent Accidental Needlestick Injuries by Using Safety Needles for Venous Blood. Louis Nicole (1), Vela Gilles (2) and the Project Group Cellule d'Hygiène [Hygiene Unit], Centre Hospitalier 06401 – Cannes cedex Département d'Ergonomie [Department of Ergonomics], Centre Hospitalier Cannes
- d) 2004 Center for Disease Control Sharps Safety Workbook, USA - Cost of Needlestick Injuries