

Workplace Health and Safety & The Australian/New Zealand Standard for the Removal of Scalpel Blades From Scalpel Handles

Naiomi Pham
Qlicksmart Pty Ltd
<http://www.qlicksmart.com>

Abstract: Workplace safety standards are set out with the aim to establish a safe and healthy work environment that minimizes risk and potential threats benefiting everyone involved. In doing so, there are certain responsibilities that each individual as part of the organisation needs to be aware of, and maintain. The purpose of this paper is to bring to light these obligations; and in particular the standards of scalpel blade removal in order to minimize all possible occurrences of accidents and contamination transfer.

Author Keywords: Sharps injury, needlestick injury, percutaneous injury, Qlicksmart, engineered devices, scalpel, and scalpel safety

Current situation in Healthcare environment

The current situation in Australian hospitals has been described by J.Jagger as the “no data, no problem” syndrome⁵. In the US where there are databases for the maintenance and analysis of such information, it has been estimated that 98.5% of percutaneous injuries sustained by the healthcare worker are caused by sharp medical devices⁵. The CDC estimates that 385 000 needlesticks and other sharps injuries are sustained by hospital workers every year which works out to be 1 000 sharps injuries per day⁹. According to the paper by Sharpsmart, the Exposure Prevention Information Network (EPINET) estimated the amount of sharps injury in Australia as to be 20/100 occupied beds per year which equates to 47 000 sharps injuries annually¹⁰.

Health and Safety in the workplace

Workplace Health and Safety Act: The Workplace Health and Safety Act (1995), is designed to assist employers and others to create and maintain healthy and safe workplaces and work practices¹. Compliance standards are in place to prohibit exposure to risk or prescribed ways to prevent risk. A breach of compliance standard is a breach of a person’s obligation under the Act³.

The Act applies to all persons who may affect or be affected by workplaces, workplace activities or specified high-risk plant in all areas¹. It includes and is not restricted to the healthcare industry covering hospitals, dentists, podiatrist, general practitioners and day surgeries,

veterinaries, pathologies, mortuaries and plastic surgeries.

Employers: According to this Act, it is the employer's obligation to ensure the workplace health and safety of each and every employee at that workplace. The employer must ensure that the way they conduct any of their work or other undertaking does not affect their own or their employee's workplace health and safety¹.

Persons in control: Persons in control of the workplace, have the obligation to minimize the risk of disease or injury for persons coming to work or people coming into the workplace. They are required to ensure that any substance or equipment they provide minimizes risk when used correctly¹.

Duty of care/Negligence: Another concern for all workers is the common law's obligation of Duty of Care. This is applicable to everyone to ensure that the outcome of anyone's actions of interaction does not affect others negatively⁴. If this duty is not exercised, they can be found negligent, that is; the unintentional action or non-action that wrongfully causes injury to another⁴. The duty of care is breached by failure to conform to the standard. This is particular to the hospitals as they are responsible for the safety of such a large number of people at any one time; from workers to patients and visitors. The areas of health issues have been conveniently divided into 4 parts by B, Sadleir. These are personal staff protection, patient protection, population or community protection and environmental protection⁶. It is necessary to take into account all of these factors when setting out rules and guidelines for the workplace.

Workers: The worker's of a workplace are obligated to comply with the instruction for workplace health and safety given by the workplace or the instructor/s holding direct responsibility for the worker¹.

Workers must:

- wear protective equipment provided to them by the instructor or the workplace
- not willfully or recklessly interfere with or interfere with anything provided for workplace health and safety
- not willfully place at risk the workplace health and safety of any person at that workplace
- not willfully injure him/herself.

Government Assistance

The Australian Council for Safety and Quality in Health Care was formed at the beginning of 2000 by the Federal, State and Territory health ministers with the ultimate goal of improving the standard of quality and safety in the health care arena by changing their current culture⁷. The belief is that this goal can be achieved by the development, implementation and strengthening of national standards. There is also a great deal of emphasis on the educational support to assist health care professionals to put standards in place effectively. As of 2001 council will work closely with governments, management and health care funders, consumers and educators to ensure that developed standards are put into place and monitored sufficiently⁷.

What is Australian Standards?

Australian Standards represents the interest of a number of bodies including

Queensland Health, National Occupational Infection Control Association and Australian Society for Microbiology. The standards are developed through an open process of consultation and consensus involving all interested parties. Through a Memorandum of Understanding with the Commonwealth government, Standards Australia is recognized at Australia's peak national standards body².

Australian Standards on Blade Removal

Safety concerning the usage of scalpel blades occurs at 3 different stages of usage; the insertion of the blade onto the handle, the usage/cutting and the removal of the blade from the scalpel handle. It is important to be weary at all stages of handling a scalpel. Common practice of insertion of blade at this point in time is by hand. The removal of the blade however is not only more dangerous due to the more tedious nature of removal, but also because it has been contaminated by use. If a cut occurs, the possibility of contamination transfer is apparent and needs to be minimized for safety and protective reasons.

Health and Safety Commission, Australia
The design of the blade removal device should include the following characteristics ²:

1. permit the removal of the blade so as to prevent contamination, breaking, flipback of the blade or damage to the handle
2. be disposable without manual handling
3. ease of action
4. offer protection for the user
5. an attached container – closed system
 - a. a fill line, counting device or capacity indicator is necessary
 - b. a separate lid or cover or shut-off mechanism.
6. allows safe separation of the removal device from the container
7. ease of cleaning if it was designed for multiple usage
8. protect the hand engaged in activating the removal process at all times
9. minimize risk of injury occurring from slippage or incorrect usage.
10. require minimal force for removal and should minimize jamming
11. discourage the directing of the loaded scalpel handle in the direction of the user's body or the hand holding/supporting the removal device and the container.



FIGURE 1

Removal by a single-handed Scalpel Blade Remover **is recommended**



FIGURE 2

Removal by forceps or similar devices is **not recommended.**



FIGURE 2

A re-sheathing type action is **not recommended**



FIGURE 4

Removal by hand is **not recommended.**

Extracted from the AS/NZ Standards 3825-1998 pages 6 & 7.

Consequences

Legal consequences: Now more than ever it is important for all workers to be aware of the legal requirements and obligations that they are responsible for and also the potential liability if an accident occurs⁵. Of course it is always better to be preventative and protect oneself from such litigation and liability.

The breach of an obligation under the Act can result in prosecution. Penalties for an individual can range from \$24 000 or 6 months imprisonment to \$75 000 or 2 years imprisonment. For a corporation –the educational institute, this amount can range from \$187 500 to \$370 000¹¹.

Workplace Health and Safety Act 1995	Individual	Imprisonment	Corporation
Multiple deaths	\$150,000	3 years	\$750,000
Offences causing death or grievous bodily harm	\$75,000	2 years	\$375,000
Exposure to a substance likely to cause death or grievous bodily harm	\$56,250	1 year	\$281,250
Offences causing bodily harm	\$56,250	1 year	\$281,250
Other offences	\$37,500	6 months	\$187,500

Sourced from www.dir.qld.gov.au/workplace/law/penalties/maximum

Best Practices:

The Bloodborne Pathogens Standard established and effective November 5 1999 by OSHA in the USA, was put in place to ensure uniform procedures are enforced to all healthcare facilities exposed to bloodborne pathogens. It is required that all healthcare facilities enforce policies and procedures that meet these standards. This entails adopting effective engineering controls and or devices to prevent injuries before, during or after use. It compels employers to use engineering and work practice control means to minimize or eliminate occupational exposure; for example under 1910.1030(d)(2)(vii)(B) of the standards, it is required that bending, recapping or needle removal must be accomplished through the use of a mechanical device or

a one-handed technique and recommends no-hands passing of sharps, blunt suture

needles, needleless IV connectors, self-sheathing and retracting needles or syringes⁸.

In order to ensure the highest standard of safety for science and medical students, two universities (Indiana University School of medicine; USA¹² and University of Queensland; Australia¹³) have taken the initiative to implement the use of the Qlicksmart single-handed scalpel blade removal device into their guideline and university policy and procedures.

Healthcare workers are exposed to blood and potential bloodborne pathogens regularly, it would be wise to adopt a system or standard such as the above to provide a safer working environment for

the people/workers who are there to take care of us when we need it most. It is encouraging that educational institutes are beginning to implement safer work practices into their programs and preparing the students for the workforce. This will increase the awareness and the standard of safety in all healthcare and laboratory workplaces.

References:

1. The Workplace Health and Safety Act. Retrieved July 2005
www.whs.qld.gov.au/whsact/whasact2003v5.pdf.
2. Australian/New Zealand: 3825-1998. *Procedures and Devices for the removal and disposal of scalpel from scalpel handles*.
3. Employers: How are you really going with Workplace Health & Safety? Retrieved July 2005.
www.whs.qld.gov.au/brochures/bro030.pdf
4. B. Sadleir. *Environmental and Occupational Health Issues in Hospitals*. Retrieved July 2005.
www.tropmed.org/rreh/vol1_2.htm
5. J, Jagger. Are Australia's healthcare workers stuck with inadequate needle protection? MJA 2002 117: pages 405-406. Retrieved July 2005.
www.mja.com.au/public/issues/177_08_211002/jag10486_fm.html
6. S, Bierman & B, Poulos. New Developments in Primary Prevention and Sharps Safety. Retrieved July 2005.
www.infectioncontroltoday.com/articles/461feat5.html
7. Safety and quality in Australian healthcare: making progress. Medical Journal of Australia 2001; Issue 174: pages 616-617 Retrieved July 2005
www.mja.com.au/public/issues/174_12_180601/barraclough/barraclough.html
8. What OSHA requires in the OR. Retrieved July 2005
www.orprecautions.com/needlestickact.html#osha
9. Overview: Risks and Prevention of Sharps Injuries in Healthcare Personnel. Retrieved July 2005
www.cdc.gov/sharpsafety/wk_operationa1_intro.html
10. T. Grimmond et al. Sharps Injury Reduction Using Sharpsmart – A reusable Sharps Management System. Journal of Hospital Infection, Vol 24 Issue 3. July 2003 pages 232 – 238 Retrieved July 2005
http://www.sharpsmart.com/info_req/Sharps_Injury_Paper.pdf
11. Workplace Health and Safety, Queensland Government, Department of Industrial Relations. Retrieved July 2005.
www.whs.qld.gov.au