Reducing the Risk of Transmission of Blood-Borne Infection

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All registrants of the College of Registered Nurses of Alberta (CRNA)[1] have a professional responsibility to protect the health and safety of their clients and reduce the risk of transmission of blood-borne infection. The importance of your role, both individually and as a member of the nursing profession, is to ensure and promote effective infection prevention and control (IP&C) in all practice settings in the interest of patient safety. Routine precautions should always be applied regardless of the perception of risk for the procedure or the health status of a client. All interventions have potential risks, including the general risk of infection (Public Health Agency of Canada, 2012).

Blood or Body Fluid Exposures

IP&C activities protect clients and nurses from acquiring health care-associated infections, but there can be instances where these precautions are not sufficient. If you think you have been exposed to blood and body fluids in your practice setting, it is essential to seek help from a health-care professional with experience in blood or body fluid exposure (BBFE) management.

Visit *bbfeab.ca* for modules, posters and more, to help you and your organization prevent BBFE in your workplace and learn what to do if you or one of your colleagues becomes exposed. You may also find it useful to review the case study on the CRNA website, entitled, *Sharps Gone Sideways*.

Exposure-Prone Procedures

Exposure-prone procedures (EPP) encompass invasive procedures where there is potential for direct contact between the skin (usually finger or thumb) of the health-care professional,

[1] CARNA is operating as the College of Registered Nurses of Alberta (CRNA).

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and sharp surgical instruments, such as needles or sharp tissues (spicules of bone or teeth) in body cavities, or in poorly visualized or confined anatomical sites. Health-care professionals routinely involved in EPP are surgeons or dentists. Nursing practice does not commonly include EPP.

Examples of EPP:

- trauma care due to the risk of sharp objects such as broken bones
- rectal examination in the presence of suspected pelvic fractures
- insertion of chest tube with rib fractures
- internal cardiac massage
- deep suturing to stop hemorrhage
- open surgical procedures in gynecology or obstetrics
- open orthopedic procedures with cutting or fixation of bone including Kirschner (K)wire fixation
- orthopedic procedures
- open general surgical procedures

Risk Reduction Measures

The risk of transmission of a blood-borne virus infection (BBVI) has been drastically reduced due to significant advances in our knowledge of risk-reduction measures of BBVIs, including the adoption of routine practices, double-gloving during invasive surgical procedures, routine vaccination of health-care practitioners with hepatitis B vaccine, antiviral therapy, personal protective equipment, hands-free transfer of sharps, and safety engineered devices, such as retractable syringes. These advances have almost completely eliminated the risk for transmission of hepatitis B virus (HBV), hepatitis C virus (HCV) and human immunodeficiency virus (HIV) during EPP (Australia Department of Health and Ageing, 2012; Bednarsh & Klein, 2003; Holmberg, Suryaprasad, & Ward, 2012).

Blood-Borne Virus Infection

If you know you are infected with a blood-borne virus, it is important for you to discuss with your regulated health-care provider any implications the blood-borne virus infection may have on your nursing practice.

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Blood-Borne Virus Infection and Risk of Transmission

Blood-borne viruses can only be transmitted from health-care workers to clients during EPP and when injury to the health-care professional results in their blood contaminating the client's open tissues. There is strong consensus in the literature that the risk of transmission of a BBVI is remote and approaching nil, and it will continue to decrease as more effective methods of prevention and treatment are developed (Bednarsh & Klein, 2003; Henderson et al., 2010; Holmberg, Suryaprasad, & Ward, 2012; Lewis, Enfield, & Sifri, 2015; Mellinger, 2015).

The authors, Cleary et al. (2016) reported on the risk of transmission of HBV, HCV, and HIV, noting that since 1992, there has been only one reported case in Canada and one case in the United States of transmission of HBV from an infected surgeon to a patient. The risk of transmission of HCV from an infected physician to a patient is extremely low, less than 0.0025%. It was also reported that there have been only two cases of surgeon-to-client transmission of HIV; both surgeons were not aware of their infections and consequently were not undergoing any therapy. The estimated risk of HIV transmission to a patient is between one in 2.69 million and one in 26.88 million.

Expert Review Panel

The *Public Health Act* requires the most responsible health-care practitioner to report to the medical officer of health (MOH) any client that has a specified communicable disease, including HBV, HCV, and HIV. For registrants known to be infected with a BBVI, and who perform EPP, the MOH will refer the individual to the multidisciplinary Expert Review Panel (ERP), who will provide a review of the practice for the person and make recommendations regarding their practice (Henderson et al., 2010); Holmberg, Suryaprasad, & Ward, 2012). For those providers known to be infected with a BBVI, and who perform EPP, their viral load status, if known, should be disclosed to an ERP to help determine if and when their scope of practice should be restricted based on their viral load status.

The College of Physicians and Surgeons of Alberta (CPSA) has administratively supported the ERP for BBVI in health-care workers since 1999. This advisory panel was established under Ministerial Order to review circumstances of health-care workers who were found to have a blood-borne infectious disease, and who perform EPP. The ERP accepts referrals from medical officers of health, infectious disease specialists, all health regulatory bodies, and educational institutions that may require expert advice and recommendations for continued or modified practice. Once a referral is received, the ERP administrator anonymizes the information, and commences the ERP review process. Following the review, the opinion of the ERP is communicated back to the referring agency, with a copy to the individual for their awareness.

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