Blood Borne Viruses

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REFERENCE MATERIALS: David K. Henderson et. al., SHEA Guideline for Management of Healthcare Workers Who Are Infected with Hepatitis B Virus, Hepatitis C Virus, and/or Human Immunodeficiency Virus;


Public Health Ontario, Ministry of Health and Long-Term Care of Ontario, Routine practices and additional precautions in all health care settings. November 2012;

Public Health Ontario, Ministry of Health and Long-Term Care of Ontario, Best practices for hand hygiene in all health care settings. April 2014;


OTHER REFERENCES: Mandatory Questions for Registration Renewal: Frequently Asked Questions; Classification of BBP Exposure Risk for Otolaryngology–Head and Neck Surgery

COLLEGE CONTACT: Physician Advisory Services
INTRODUCTION
Hepatitis B virus, hepatitis C virus and human immunodeficiency virus can be transmitted between a physician and a patient during the course of treatment. The risk of transmitting infectious diseases is a concern shared by both physicians and patients.

The risk of transmitting blood borne viruses to a patient is greater when a physician’s blood borne infection is unrecognized and untreated. This is why it is important for a physician to know his or her status in regard to whether they are infected with a blood borne virus. This information is essential not only to safeguard physicians’ health and that of their patients, but also to ensure that patient and public trust in the profession is maintained.

This policy sets expectations with respect to reducing the risk of acquiring or transmitting a blood borne virus, as well as expectations for physicians if they are exposed to a blood borne virus, and lastly, if they are infected with a blood borne virus.

The expectations are grounded in the principles of medical professionalism as set out in the Practice Guide, best available evidence relating to blood borne viruses, and the College’s statutory mandate to protect and serve the public.

SCOPE
This policy applies to physicians who perform or who assist in performing exposure prone procedures as these are procedures where there is a higher risk of blood borne virus transmission. This includes physicians who perform or assist in performing procedures that may become exposure-prone (for example, a laparoscopic procedure that may convert to an open procedure) and also includes physicians who have the potential to perform or assist in performing exposure prone procedures in the course of providing day-to-day care (for example, emergency medicine physicians) even though they may not be currently performing them.

TERMINOLOGY
Blood Borne Viruses:
Blood borne viruses (BBVs) refer to hepatitis B virus (HBV), hepatitis C virus (HCV), and or human immunodeficiency virus (HIV).

Expert Panel:
The Expert Panel is a panel struck to evaluate the health information and practices of seropositive physicians for the purpose of recommending to the College what restrictions, if any, will be required on the seropositive physician’s practice. It is comprised of experts, external to the College, in surgery, public health, infectious diseases, occupational medicine, along with a chief of staff, and other experts, including those from the member’s own specialty, as appropriate.
Details about the College’s practices with respect to the evaluation of practice and practice restrictions of seropositive physicians are set out in Appendix A.

Exposure Prone Procedures:
The Centers for Disease Control and Prevention (CDC) defines an exposure prone procedure as one which involves one or more of the following:

1. digital palpation of a needle tip in a body cavity (a hollow space within the body or one of its organs) or the simultaneous presence of the health-care worker’s fingers and a needle or other sharp instrument or object in a blind or highly confined anatomic site (e.g., during major abdominal, cardiothoracic, vaginal and/or orthopaedic operations); or
2. repair of major traumatic injuries; or
3. manipulation, cutting or removal of any oral or perioral tissue, including tooth structures during which blood from a health-care worker has the potential to expose the patient’s open tissue to a blood borne pathogen.

The College has adapted the list of procedures that have been identified in the SHEA Guideline for Management of Healthcare Workers Who Are Infected with Hepatitis B Virus, Hepatitis C Virus, and/or Human Immunodeficiency Virus as those for which there is a definite risk of blood borne virus
transmission (Category III Procedures). See Appendix B for examples of procedures that are classified as ‘exposure-prone’.

**Routine Practices:**
Routine Practices refers to a set of practices designed to protect health-care workers and patients from infection caused by a broad range of pathogens including blood borne viruses. These practices must be followed when caring for all patients at all times regardless of the patient’s diagnosis. Key elements of Routine Practices include: point of care risk assessment; hand hygiene; use of barriers (e.g., personal protective equipment, such as gloves, mask, eye protection, face shield and/or gowns) as per the risk assessment; safe handling of sharps; and cleaning and disinfection of equipment and environmental surfaces between uses for each patient. Routine practices are set out in Appendix C.

**Treating Physician:**
For the purposes of this policy, treating physician refers to the physician who is managing the care of the seropositive physician with respect to their infection with a blood borne virus.

**PRINCIPLES**
The key values of professionalism articulated in the College’s Practice Guide – compassion, service, altruism and trustworthiness – form the basis for the expectations set out in this policy. Physicians embody these values and uphold the reputation of the profession by:

1. Maintaining patient trust and assisting in maintaining the reputation of the profession through a commitment to altruism, compassion and service;
2. Acting in patients’ best interests, by taking steps to safeguard their own health and the health of their patients;
3. Being aware of their own health, and recognizing when they are not able to provide care safely and competently in accordance with this policy;
4. Maintaining their own wellness, which includes knowing their own serological status and availing themselves of appropriate immunization and treatment;
5. Providing care to patients only when health and viral loads make it safe to do so; and
6. Participating in self-regulation of the medical profession, by complying with the expectations in this policy.

**POLICY**
Physicians must take steps to safeguard their own health and that of their patients, and report their own seropositive status to the College in accordance with the requirements of this policy.

**A. Safeguarding Health**
Physicians must comply with the expectations set out in this section, as well as other precautionary measures, as required and as recommended by their treating physician and relevant public health authorities.

**Routine Practices**
Physicians must adhere to Routine Practices in accordance with Appendix C. This expectation applies equally to physicians who are seropositive for blood borne viruses, and physicians who are seronegative.

**HBV Vaccination**
It is strongly recommended that physicians who are not currently and have not previously been infected with HBV be immunized for HBV and tested to confirm the presence of an effective antibody response, unless a contraindication exists, or there is evidence of prior immunity. This is for the protection of both physicians and their patients.

Physicians who do not respond to the vaccine (do not seroconvert as evidence of immunity) are advised to seek expert advice on alternative vaccination protocols in order to confirm the presence of an effective antibody response.

**B. Testing for BBVs**
The College’s expectations for BBV testing are set out below. Testing is required when beginning to perform or assist in performing exposure prone procedures in Ontario, on a periodic basis and following a potential exposure to a BBV.

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4. The terminology describing these infection prevention and control measures has evolved. Formerly, the term ‘Universal Precautions’ was used. Routine Practices is now the current term of usage and encompasses a broader scope of measures.
5. This includes precautionary measures required by hospitals and other health-care institutions at which physicians work.
6. If a physician has received the hepatitis B vaccine and is immune, the physician will have antibody to hepatitis B surface antigen (anti-HBsAg).
Beginning Exposure Prone Procedures in Ontario
Physicians who want to perform or assist in performing exposure prone procedures in Ontario must be tested for HCV, HIV and HBV, if they haven’t been confirmed immune to HBV, before they commence performing or assisting in performing exposure prone procedures in Ontario. This includes physicians who perform or assist in performing procedures that may become exposure-prone (for example, a laparoscopic procedure that may convert to an open procedure) and also includes physicians who have the potential to perform or assist in performing exposure prone procedures in the course of providing day-to-day care (e.g., emergency medicine physicians) even though they may not be currently performing them.

Periodic Testing
Physicians who perform or assist in performing exposure prone procedures must be tested for HCV and HIV every three years.

Physicians who perform or assist in performing exposure prone procedures must be tested annually for HBV unless the physician has been confirmed immune to HBV.

Testing Post-Exposure
Physicians who have been exposed to bodily fluids of unknown status through a specific incident, such as a needle prick, or splash onto a mucous membrane or non-intact skin must seek appropriate expert advice regarding the frequency of testing that is required to determine if they have been infected with one or more blood borne viruses and whether any post-exposure prophylaxis is necessary.

Physicians should note that following an exposure to a patient’s bodily fluids, they may be able to have the patient’s serological status confirmed under the Mandatory Blood Testing Act. Physicians should inquire with their institution, or seek independent legal advice from legal counsel or the Canadian Medical Protective Association, as to whether this statute is applicable in the circumstances.

The College encourages physicians to consult the Blood Borne Diseases Surveillance Protocol for Ontario Hospitals and their own hospital’s protocols and/or policies for detailed information about post-exposure protocols, including post-exposure prophylaxis.

C. Reporting Serological Status
Physicians who perform or assist in performing exposure prone procedures must report if they are seropositive with respect to HBV, HCV, and/or HIV through the completion of the Annual Renewal Survey.

When a physician learns he or she is seropositive for HBV, HCV and/or HIV they are expected to report, outside the context of the Annual Renewal Survey. Physicians are expected to make a report to the College as soon as is reasonably practical after learning of their status. It is not acceptable for physicians in these instances to wait to report their status on the next Annual Renewal Survey. This enables the College to ensure that appropriate steps are being taken with respect to a physician’s health and practice, and to ensure that patients are protected.

Details about the College’s practices with respect to management of physician information are set out in Appendix A.

D. Seropositive Physicians
Physicians who have tested positive for HBV, HCV, and/or HIV and who wish to begin performing or assisting in performing exposure prone procedures in Ontario or to continue performing or assisting in performing exposure prone procedures must be under the care of a treating physician who has expertise in the management of their infection (e.g., infectious diseases expert, hepatologist). This includes physicians who wish to perform or assist in performing procedures that may become exposure-prone (for example, a laparoscopic procedure that may convert to an open procedure) and also includes physicians who will have the potential to perform or assist in...
performing exposure prone procedures in the course of providing day-to-day care even though they may not be currently performing them.

Physicians who have tested positive for HBV, HCV, and/or HIV must undergo such regular testing as is recommended by their treating physician, and approved by the College for the purposes of monitoring their health, including their viral loads.

In determining whether seropositive physicians will be able to continue performing or assisting in performing exposure prone procedures, the College’s priority is to ensure that patient safety is protected. The College will evaluate each situation based on the specific facts, including the physician’s practice and viral loads, and will consider the best available evidence and the recommendations of the Expert Panel where applicable. Appendix A contains further detail on College practices with respect to the Evaluation of Practice and Practice Restrictions.

APPENDICES
Appendix A
College Practices: Blood Borne Viruses
The following describes the College’s practices with respect to physicians infected with blood borne viruses. It does not create any new or unique obligations but, rather, articulates how existing obligations and practices apply to blood borne viruses.

Confidentiality and Privacy
As set out in the Privacy Code, the College respects the confidentiality and privacy of all information it receives or creates in the course of fulfilling its regulatory functions. This includes information about blood borne viruses and physician health.

To do so, the College ensures that information about physicians’ serological status and physicians’ practices is only made available to College Committees or the Expert Panel, if it is struck, for the purpose of evaluating seropositive physicians’ practices and making decisions regarding any practice restrictions if necessary. All those who have access to this information know and understand their obligations regarding confidentiality and privacy. The Expert Panel is not advised of a physician’s name.

Seropositive Physicians: Evaluation of Practice and Practice Restrictions
When a physician is seropositive, and wishes to continue performing and assisting in performing exposure prone procedures, the College will evaluate the physician’s practice and health information to determine what restrictions, if any, are required to safeguard patient health.

The College will take steps to gather relevant information about the physician’s health and practice. The College will evaluate each situation based on the specific facts, including the physician’s practice and viral loads.

Based on the information the College receives, there are two potential outcomes for a physician. If a physician poses no increased risk of causing harm to a patient based on his or her serologic status, the physician will be monitored to ensure that the physician continues to pose no increased risk of harm. If a physician poses a higher risk of harm to a patient then practice restrictions may be imposed. Where the College requires assistance in coming to a decision, the College will convene an Expert Panel. A physician will have an opportunity to make representations and to provide his or her own expert’s opinion if he or she wishes to do so.

Restricting physicians from doing exposure prone procedures is resorted to when other options are not sufficient to safeguard patient health. If the College does impose restrictions on a physician’s practice, it will ensure that the institution(s)
at which the physician works are aware of the restrictions. The College generally does not make institutions aware of the details when a physician poses no increased risk, and is subject only to health monitoring to ensure the risk level stays the same. Whether broader notification is required will depend on the circumstances of each case. When evaluating whether broader notification is required, the College will strive to protect physician privacy to the greatest extent possible, while not compromising patient safety.

Any advice provided by the College to the physician or where necessary, restrictions imposed on a physician’s practice, will be informed by evidence and the recommendations of the Expert Panel if one is struck.

Appendix B
SHEA Guideline for Management of Healthcare Workers who are Infected with Hepatitis B Virus, Hepatitis C Virus, and/or Human Immunodeficiency Virus

Examples of Procedures Classified as Exposure Prone
The College has adapted the list of procedures that have been identified in the SHEA Guideline as those for which there is a definite risk of blood borne virus transmission (Category III Procedures). The list that follows sets out examples of procedures that are classified as ‘exposure prone’ for the purposes of the Annual Renewal Survey, and the Blood Borne Viruses policy.

- General surgery, including nephrectomy, small bowel resection, cholecystectomy, subtotal thyroidectomy, other elective open abdominal surgery;
- General oral surgery, including surgical extractions, hard and soft tissue biopsy (if more extensive and/or having difficult access for suturing), apicoectomy, root amputation, gingivectomy, periodontal curettage, mucogingival and osseous surgery, alveoplasty or alveoectomy, and endosseous implant surgery;
- Cardiothoracic surgery, including valve replacement, coronary artery bypass grafting, other bypass surgery, heart transplantation, repair of congenital heart defects, thymectomy, and open-lung biopsy;
- Open extensive head and neck surgery involving bones, including oncological procedures;
- Neurosurgery, including craniotomy, other intracranial procedures, and open-spine surgery;
- Nonelective procedures performed in the emergency department, including open resuscitation efforts, deep suturing to arrest hemorrhage, and internal cardiac massage;
- Obstetrical/gynecological surgery, including cesarean delivery, hysterectomy, forceps delivery, episiotomy, cone biopsy, and ovarian cyst removal, and other transvaginal obstetrical and gynecological procedures involving hand-guided sharps;
- Orthopedic procedures, including total knee arthroplasty, total hip arthroplasty, major joint replacement surgery, open spine surgery, and open pelvic surgery;
- Extensive plastic surgery, including extensive cosmetic procedures (e.g., abdominoplasty and thoracoplasty);
- Transplantation surgery (except skin and corneal transplantation);
- Trauma surgery, including open head injuries, facial and jaw fracture reductions, extensive soft-tissue trauma, and ophthalmic trauma;
- Any open surgical procedure with a duration of more than three hours, probably necessitating glove change.

Appendix C
Routine Practices
The information set out in this appendix consists of information found in Public Health Ontario’s documents set out in the references below.

Preamble
The term “Routine Practices” (RP) refers to a set of practices designed to protect health-care workers (HCW) and patients from infection caused by a broad range of pathogens including blood borne viruses. These practices must be followed when caring for all patients at all times regardless of the patient’s diagnosis. Although RP are targeted to prevent transmission of microbes from patient to patient and HCW to HCW as well as between HCW and patient, the focus of this discussion is the transmission of microbes from HCW to patient and/or patient to HCW, in particular as related to the blood borne viruses hepatitis B (HBV), hepatitis C (HCV) and human immunodeficiency virus (HIV).
RP begin with a point of care risk assessment to consider the potential for microbial transmission during the upcoming process of care. This risk assessment is routinely followed by hand hygiene and donning of the appropriate barrier equipment (Personal Protective Equipment) prior to examining the patient. RP also include care in the use and disposal of needles and other sharp instruments, documented immunity/immunization against HBV as appropriate, and proper reprocessing of medical equipment. HCW’s performing exposure prone procedures* are at an increased risk of infection with blood borne pathogens and must be knowledgeable about and diligently adhere to RP. The key elements of RP are discussed briefly below, and a glossary of terms appropriate to this document follows. For more information please check the appropriate reference(s).

Point of Care Risk Assessment
- The risk of exposure to blood, body fluids* and non-intact skin* should be considered by assessing the nature of the upcoming process of care, the patient, the HCW and the health-care environment.
- Strategies (e.g., choice of barrier precautions) should be identified and implemented to decrease exposure risk and prevent the transmission of microorganisms.

Hand Hygiene
- Hand hygiene is the single most important measure to prevent the spread of infection.
- Hand hygiene refers to both washing with soap and water or the use of alcohol-based hand rubs (ABHR).
- Use of ABHR (70-90% alcohol) is the preferred method of cleaning hands when hands are not visibly soiled. Hand washing with soap and water must be performed when hands are visibly soiled.
- Hand hygiene must be performed:
  - Before initial patient/patient environment contact,
  - Before performing an aseptic procedure,
  - After body fluid exposure risk and after gloves have been removed, and
  - After patient/patient environment contact.

To prevent cross-contamination of different body sites, it may be necessary to perform hand hygiene between procedures on the same person.

Gloves
- Medical grade gloves (clean, non-sterile gloves are adequate for routine care) should be worn when contact with blood/ body fluids, secretions, excretions, mucous membranes*, non-intact skin and/or potentially contaminated items is anticipated.
- Gloves should be changed or removed after touching a patient’s contaminated body site and prior to touching the patient’s clean body site or the environment.
- Gloves should be removed promptly after use, followed by immediate hand hygiene.

Personal Protective Equipment: Mask, Eye Protection, Face Shield and Gowns
- Masks, eye protection (safety glasses, goggles or face shield) and/or gowns as appropriate to the type of contact anticipated should be worn in order to protect mucous membranes and/or clothing during clinical procedures, care activities or handling used medical equipment if splashes or sprays of blood, body fluids, secretions, or excretions might be generated.

Handling Sharps
- Sharps should be handled as minimally as possible.
- Needles should not be re-capped.
- Used needles and other sharps should be discarded in a specially designed sharps container.

Cleaning and Disinfection of Equipment and Environmental Surfaces
- All used medical equipment must be cleaned and then disinfected or sterilized as appropriate prior to use on another patient.
- Equipment that enters sterile tissues, including the vascular system is referred to as a critical device and must be sterilized after cleaning.
- Equipment that comes in contact with non-intact skin or mucous membranes but does not penetrate them is referred to as a semi-critical device and requires high level disinfection after cleaning.
- Equipment that touches only intact skin and not mucous membranes...
membranes, or does not directly touch the patient is referred to as a non-critical device and requires low level disinfection after cleaning.

• Single-use items should be discarded after use and never be reprocessed.

Glossary

*Body fluids: blood, vomit, stool, semen, vaginal fluid, urine, CSF, peritoneal fluids, pleural fluids, droplets from coughing or sneezing, except sweat, regardless of whether or not they contain visible blood.

*Exposure Prone Procedures are defined as follows:
1. Digital palpation of a needle tip in a body cavity (a hollow space within the body or one of its organs) or the simultaneous presence of the health-care worker's fingers and a needle or other sharp instrument or object in a blind or highly confined anatomic site e.g., during major abdominal, cardiothoracic, vaginal and/or orthopaedic operations, or
2. Repair of traumatic injuries, or
3. Manipulation, cutting or removal of any oral or perioral tissue, including both tooth structures, during which blood from a health-care worker has the potential to expose the patient's open tissue to a blood borne pathogen.

*Mucous membranes: lining of the eyes, nose and mouth.

*Non-intact skin: open lesions, and dermatitis.

References

