North Lambton
Community Health Centre

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Policy

Per Ontario Regulation 67/93 – Health Care and Residential Facilities, the North Lambton CHC in consultation with its Occupational Health & Safety Committee, shall develop, establish, and put into effect measures and procedures for the health and safety of workers. These measures and procedures will be put into writing and may deal with proper hygiene practices and the use of hygiene facilities; the control of infections; immunization and inoculation against infectious diseases; and the use of appropriate antiseptics, disinfectants and decontaminants.

6.1 Proper Hygiene Practices

Hand hygiene is a general term that applies to handwashing and the use of alcohol-based hand rub (ABHR). In addition to protecting clients, good hand hygiene practices also protect staff. Gloves are not a substitute for hand hygiene. ABHR is the preferred method of hand hygiene when the hands are not visibly soiled.

Hand hygiene should be performed:

- Before initial contact with a client and his/her environment
- Before an aseptic procedure (using and maintaining sterile equipment and fluids)
- After a risk of exposure to body fluids and following removal of protective gloves
- After contact with the client and his/her environment
- When your hands are visibly soiled
- Before handling food and/or eating
- Frequently during communicable disease outbreaks and cold & flu season; especially after touching/handling "high-touch" objects such as doorknobs and computer keyboards
- After personal body functions such as using the washroom or blowing your nose
- After close contact with potentially infectious people and/or their immediate environment

3 Steps for Cleaning your Hands with ABHR

1. Apply the alcohol-based product to the palm of one hand (read the label instructions on the amount to apply)
2. Rub hands together making sure to cover all surfaces of your hands and fingers. Remember to rub your thumbs, the areas between your fingers and the surface of your nails
3. Rub until your hands are dry – 20 to 30 seconds.

6 Steps for Hand Washing with Soap and Water

1. Wet your hands with warm (not hot) water. Frequent washing in hot water may cause skin problems such as dermatitis.
2. Apply liquid soap from a dispenser
3. Rub your hands together for 40 to 60 seconds making sure to cover all surfaces including thumbs, between fingers and nail surfaces
4. Rinse your hands well and dry them with a disposable paper towel
5. Use the towel to turn off the tap and to handle the doorknob (whenever possible)
6. Discard the used towel in a waste receptacle

6.2 Universal Precautions for Body Substances

The objective of Universal Precautions for Body Substances is:

- To protect staff from unprotected contact with infectious organisms.
- To protect clients from developing infections through cross-infection

This policy is based on the premise that body substances from clients are potentially infectious. By adhering to this policy, staff will protect themselves from disease, diagnosed or undiagnosed. Also, by reducing the incidence of unprotected exposure to organisms, by staff there will be a reduction in the transmission of these organisms to clients.

It is the responsibility of North Lambton CHC to provide the appropriate protective barriers wherever they are needed: this includes gloves (vinyl and latex), masks, goggles, aprons, resuscitation equipment, and sharps and biohazardous waste disposal containers.
It is the responsibility of the Primary Care Team Leads and the Risk Management Team Lead to ensure compliance with this policy.

Principles

- Consider the procedure you are about to begin, including the client involved. (e.g. child, uncooperative adult, etc.)
- Determine likely body substance exposure, and which barrier equipment will be required.
- Wear appropriate barrier equipment, complete procedure, remove and dispose of equipment, and WASH HANDS.

Barriers

a) Hand washing is the single most important infection control practice. Keep the skin on your hands healthy and intact, skin is an excellent physical barrier. If you have open areas or cuts in your skin, cover them with a bandage. Hand washing is indicated:
   - Before performing invasive procedures.
   - Before and after touching wounds or drainage.
   - After contact with mucous membranes or body substances.
   - After touching inanimate sources that are likely to be contaminated with body substances.
   - When common sense dictates.

b) Gloves are to be worn for anticipated contact with:
- Body substances
- Mucous membranes
- Non-intact skin
- Wiping up surfaces contaminated with body substances, especially blood
- Rash

Wearing gloves will help protect staff members but will only protect clients if the following principles are observed:
- Gloves must be worn for only ONE client. (Disposable gloves must never be washed and reused.)
- Gloves must be discarded after every client procedure and then hands are to be washed.

A variety of gloves may be selected:
- Sterile latex - for sterile procedures only
- Non-sterile latex - for procedures which require manual dexterity and involve body substance exposure
- Vinyl - for procedures involving body substance exposure
- Eudermic - for procedures completed by employees and clients who have an allergy to regular sterile latex gloves.

c) It is advised that masks be worn:
- During procedures is which body substances are likely to be splashed on the mucous membranes of the nose or mouth.
- When staff, who are contagious with an airborne infection, are well enough to come to work, but there is a risk of staff spreading infection to clients.
- Any time there is a concern re: a body substance splash to the nose or mouth, eye protection is also to be worn.

To maximize the effectiveness of the mask:
- Ensure the mask covers nose and mouth.
- Use only once, then discard.
- Change masks frequently.

d) Eye Protection is to be worn:
- For procedures in which there is a likelihood of splatter from body substance. (Examples of protective eye wear are personal glasses and goggles.)
- Anytime there is a concern about a body substance splash to the face, a mask is also to be worn.

e) It is advised that gowns/aprons be worn during procedures where skin or clothes are likely to be soiled by body substances.

f) Resuscitation Equipment is to be used during all cardiopulmonary resuscitation situations. Direct mouth to mouth resuscitation has not been implicated in the transmission of communicable diseases, but in keeping with the principle of Universal Precautions, staff are advised not to do direct mouth to mouth resuscitation unless there is an immediate threat to someone's life. Protective plastic devices for mouth-to-

mouth resuscitation are kept in various locations at each site. Resuscitation Equipment is kept in the Treatment Room in the Primary care area and is to be used only by staff with current CPR training.

g) Sharps, once used, are to be immediately placed in a designated Sharps Container, (e.g. needles, ampoules, and scalpel blades.) These containers need to be replaced when 3/4 full. Safety-engineered needles must be supplied by the organization in order to achieve compliance with relevant legislation, including the OH&S Act, Ontario Regulation 474/07 – Needle Safety. **(See Clinical Policy 114 Sharps Safety)**

h) It is the responsibility of the person who performs any procedure to ensure that ALL SHARPS, soiled towels and gauze are removed from the tray before the nurse or receptionist remove for cleaning. **(See Clinical Policy 114 Sharps Safety)**

i) Disposal of any linen, paper and other materials soiled with body substances is to be handled with gloves and placed in garbage bags. Ensure proper hand washing after handling such materials.

6.3 Immunizations

Employees of North Lambton CHC are at risk of exposure to communicable diseases because of their contact with clients or materials from clients with infections, both diagnosed and undiagnosed. Consistent with local public health guidelines, employee immunization against vaccine-preventable diseases is an integral part of North Lambton CHC's occupational health program. Having current immunization of North Lambton CHC staff will not only safeguard the health of staff members, but may in some cases, protect clients from becoming infected by staff. See *Appendix N in PIDAC's Infection Prevention and Control for Office Settings* document for Canada's immunization schedule for staff.

In the event of an outbreak of a particular illness, the Executive Director may exclude non-immune staff from work with (for religious or medical reasons) or without pay (personal choice). No staff person may be dismissed from employment for his/her immunization status.

Vaccines Recommended for All North Lambton CHC Employees

- **Diphtheria and Tetanus Toxid** - Ensure the employee has had the appropriate series and booster doses. All adult employees over the age of 14 must have received one dose of acellular pertussis vaccine (Tdap). Booster doses of Td should be routinely given every ten (10) years.
- **Measles Mumps Rubella Vaccine** – Ensure the employee has either two doses of measles, mumps, Rubella (MMR) vaccine documented or serologic documentation of immunity. Measles vaccine (given as MMR) should be given to health care employees who were born in 1957 or later, who have no documented record of measles immunization or are known to be seronegative. The rubella immune status of female employees of childbearing age should be carefully reviewed and those without documented immunity should be vaccinated with MMR unless there are contraindications.
- **Varicella (chicken pox)** – Ensure the employee has either two doses of varicella **OR** serological evidence of immunity. Childhood history of chicken pox is no longer

accepted as proof of immunity.

- **Hepatitis B Vaccine** - Hepatitis B Vaccine (complete series: 0, 1, & 6 months) **AND** serological confirmation of immunity, (check serology 1 month after series completion), is strongly recommended for health care employees who may be exposed to blood or blood products, or who may be at risk of sharps, bites, or penetration injuries. Health care employees who have sustained a percutaneous or mucous membrane exposure from a source that is known or likely to be HbsAg positive should be assessed for the need for Hepatitis B vaccine and HBIG in accordance with the reference.
- **Influenza Vaccine** - Influenza vaccine is strongly recommended and available annually to all NLCHC employees.

6.4 Tuberculosis (TB) Testing and Follow-up

TB is transmitted by bacilli in the air, which have been produced by persons with pulmonary or laryngeal TB and spread by such activities as coughing, sneezing or laughing. Because tuberculosis is an airborne disease, it is face-to-face contact that is significant, not physical contact with patients or articles in the environment.

The purpose of the TB testing and follow-up procedures is to:

- Provide direction to conducting a surveillance program with respect to tuberculosis.
- Identify personnel who may be or may become infected with tuberculosis.
- Establish a system that would allow for the identification and prevention of tuberculosis.

The responsibility for follow-up treatment is that of the individual's attending physician

a) <u>Testing for New Staff</u>

All new employees (permanent and contract), volunteers, and students who have direct contact with clients, shall receive Mantoux testing within 14 days of hiring. NLCHC has a responsibility, when hiring contract employees or training students, to inform the supplying agency/school that the agency/school has the responsibility to ensure that their personnel working at the Centre are tested and followed appropriately. Mantoux testing may be arranged by making an appointment with Primary Care or arranging testing through their family physician. Some employees may require two-step testing. Mantoux testing will be done once, when the new staff person or volunteer first joins NLCHC; testing will only be repeated if there has been direct exposure to TB or the staff/volunteer has worked in an area considered high risk for TB.

Persons who have had a positive TST, or who test positive with the two-step method, should have medical follow-up with their primary care provider to rule out active disease.

A TST using the two-step skin test is recommended at the beginning of employment for all persons who work in the clinical office. The TST may be done by the employer or by the employee's personal physician

A single-step TST is sufficient if:

- There is documentation of a prior two-step test, **OR**
- There is documentation of a negative TST within the last 12 months, **OR**
- There are two or more documented negative TST results at any time, but the most recent was less than twelve months ago.

Two-Step Procedure

- Give an initial tuberculin skin test (Mantoux, 5TU PPD);
- The TB test is read 48-72 hours after administration. If the test is 0-9 mm the second test, is given in the opposite arm, is administered at least one week and no more than four weeks after taking the first test;
- The results of the second test should be used as the baseline in determining treatment and follow-up;
- A skin test result of 10 mm or more is considered significant. (Note: Pregnancy is not a contraindication for a Mantoux test.)

If the Mantoux test result is a significant reaction:

- Inform the employee about the risks of developing disease and the risk they may pose to their contacts;
- Refer employees to their family doctor for follow-up;
- Ask if the employee has received BCG (Bacille Calmette-Guerin) vaccine. If so, document that the employee has had BCG, indicating date of administration;
- Follow the steps outlined above

b) Prevention of Transmission

All employees with positive reactions are informed about the risks of developing the disease and risks that they may pose to their contacts. Preventive treatment is explained. Employees are given up-to-date epidemiological information on tuberculosis so that they are aware of high-risk groups in their client population. Employees are also educated as to the modes of transmission of the mycobacterium tuberculosis.

c) Work Restrictions

Employees who have an infectious form of TB are excluded from work until adequate treatment has begun and the sputum is free of bacilli on three consecutive smears, or until sputum culture shows no growth. Persons who have a non-infectious form of TB may be allowed to continue in their usual activities.

d) Client with Known / Suspected TB

Clients are considered non-infectious after smears are negative - usually 2-3 weeks after treatment begins. The following precautions are taken, especially in the early stages of chemotherapy:

- Clients are instructed to cover their nose and mouth with tissues when coughing, sneezing or laughing and to expectorate into tissues or a covered sputum cup.
- Follow the usual procedures for sanitary disposal of waste.
- A mask should be worn only if clients are unable or unwilling to control their coughing in the presence of others and if uncooperative in covering the mouth while coughing.
- When considering whether a person has direct patient contact, consideration should be given to the following: frequency of client contact, proximity to clients

involved, and duration of face-to-face contact.

e) Recheck of Employees

Recheck employees only if there is any active TB identified in the practice. All cases of tuberculosis shall be reported to Lambton Public Health. Employees, students or contract employees will be notified, when appropriate, that an exposure has occurred, and follow-up as indicated by the Health Unit. The Primary Care Team Leads will work with Lambton Public Health to ensure that all exposed people have been adequately informed and offered follow-up as per Lambton Public Health guidelines.

6.5 Outbreak Management

North Lambton CHC ensures a coordinated approach to detect, identify and manage outbreaks through the implementation of this policy and procedure that meet federal and provincial guidelines.

a) Definitions

Case: Standardized criteria used to determine if a person has a specific disease, condition, or outcome; usually incorporates clinical, laboratory, and other diagnostic criteria

Cluster: A group of cases that occurs closely related in time and place. A cluster is a sign to the Infection Prevention & Control Professional that something may be going on and an investigation is required.

Endemic: Usual presence of a disease or condition in a specific population or geographical area.

Epidemic: The occurrence of more cases of a disease than expected in a given population and place during a specified time period; synonym of "outbreak"

Outbreak: The Public Health Agency of Canada defines an outbreak as "the occurrence of a disease in excess of its expected frequency

Pandemic: An epidemic spread over a wide geographical area, such as countries or continents

Surveillance: The systematic, active, ongoing observation of the occurrence and distribution of disease within a population, and of the events or conditions that may increase or decrease the risk of such disease occurrence.

b) Roles and Responsibilities

In the event of an outbreak, the Management Team has the overall responsibility for overseeing, directing and ensuring that the outbreak practices and procedures recommended are put into place. The Management Team may also identify members of the Clinical Team to assist to carry out the following activities:

- Address how to detect an outbreak, how to identify the cause of the outbreak including those resulting from contaminated food, collecting data and specimens to look for additional cases, and how to contain an outbreak once it is identified;
- Define accountabilities for employees and volunteers who are involved in identifying and managing outbreaks;

- Analyze and review any recommendations made (during the outbreak and following the outbreak), and discuss any changes required for outbreak investigation and management within the Centre to prevent future recurrences;
- Prepare reports and recommendations during and following an outbreak;
- Evaluate client demographics and characteristics such as age, underlying illness, possible exposures to diseases and infections, and procedural or therapeutic risks;
- Monitor surveillance data: outcome surveillance to detect if there is an increase in cases occurring. Surveillance is an integral part of detecting both clusters and outbreaks of organisms and infections.

c) Collaboration

The Centre will:

- Collaborate with its partners, e.g. Lambton Public Health, Regional Infection Control Network, to define outbreaks in terms of person, place, and time.
  i. **Describing the place** in terms of service, unit, or location helps to understand if the outbreak is localized, or if it has organization- or community-wide implications. It may also help to identify clusters of cases.
  ii. **Describing the time entails defining the exact period of the outbreak, from the first case or first indications, and drawing the epidemic curve. It is based on diagnosis and probable period of exposure. It helps to determine if the outbreak is from a single (common) source or a propagated source (continuing source or person-to person transmission).**
- Work with partners and the community to develop plans, policies, and procedures that integrate responses to outbreaks
- The team will meet daily during the outbreak and/or as needed to receive reports related to the current status of the outbreak, to discuss potential areas of concern and make recommendations on the practices and procedures to be initiated and maintained in each area.
- The members of the team are responsible for the day-to-day functioning of the outbreak practices and procedures and have the ensuing authority and accountability for carrying out the practices, policies and procedures and to report concerns to the Executive Director or the Primary Care Team Leads.
- Accountability and guidelines for communicating with employees, clients, students, volunteers, visitors and the media will be determined by the Executive Director.
- The Primary Care Team Leads will be responsible for collating data, completing a report on the outbreak and include recommendations following the outbreak.

6.6 Management of Biomedical Waste

To dispose of waste generated by the facility in accordance with provincial and local regulations and in a manner that prevents the transmission of infectious diseases to clients, staff, volunteers and visitors and community.

a) Definitions

Biomedical Waste - *Biomedical waste* is contaminated, infectious waste from a health care setting that requires treatment prior to disposal in landfill sites or sanitary sewer systems. Biomedical waste includes human anatomical waste; human and animal cultures or specimens (excluding urine and feces); human liquid blood and blood products; items contaminated with blood or blood products that would release liquid or semi-liquid blood if compressed; body fluids visibly contaminated with blood; body fluids removed in the course of surgery, treatment or for diagnosis (excluding urine and feces); sharps; and broken glass which has come into contact with blood or body fluid.

Sharps - Sharps are devices that are capable of causing a cut or puncture wound. Some examples of sharps include needles, sutures, lancets, blades and clinical glass.

b) Procedure

Procedures for waste management are based on provincial and municipal regulations and legislation. Specific legislation related to waste management may be found at the end of this policy.

i. Staff receive education about the risks associated with sharps, including safe disposal of sharps in puncture-resistant containers, if found in the environment (e.g., sharps in laundry, waste, floor).

ii. The prevention of sharps injuries is actively promoted:
- rigid, puncture-resistant sharps containers are provided at or near the point-of-use to permit safe, one-handed disposal;
- a tool (e.g., tongs) is used to pick up used needles that avoids picking them up by hand;
- safety sharps are used according to legislation
- staff do not reach into waste or sharps containers;
- sharps containers are replaced when they are three-quarters full or the sharps have reached the fill line, and the lid is securely closed;

iii. Staff is aware of the protocol to follow in the event of a sharps injury

iv. Biomedical waste is handled and disposed of in a manner that avoids transmission of potential pathogens:
- biomedical waste is segregated, at the point of generation, into a plastic bag
- waste bags are of a thickness that will resist puncture, leaking and breaking, and they are waterproof;
- double bagging is only necessary when the first bag becomes stretched or damaged, or when waste has spilled on the exterior;
- when a bag is three-quarters full, it is closed and tied in a manner that prevents contents from escaping.

v. Waste is segregated according to the categories listed in Table 1 and:
   - waste from several different categories is not mixed in one bag;
   - waste is placed in appropriate containers at the point-of-care/use.

vi. Waste is transported within the facility incorporating the following procedures:
   - transport routes have been defined and communicated to staff;
   - waste is transported in leak-proof carts that are cleaned on a regular basis;
   - staff transporting waste avoid crossing through clean zones, public areas;

vii. Transportation of biomedical waste by an external agency complies with the following:
   - waste is transported by a certified waste hauler who has provided a certificate of approval;
   - where the primary biomedical waste container is a sharps container or a rigid container with a non-removable lid, additional packaging or containment of the waste is not necessary for off-site transportation;
   - where the primary container is a plastic bag, the bag is placed into a rigid, leak-proof outer container for off-site transportation.

viii. Waste is stored in a designated enclosed room with access limited to authorized staff.

ix. Refrigerated space at or below 4°C is provided for storage of anatomical waste and/or biomedical waste if stored for more than four days.

x. Biomedical waste storage areas are kept locked, except where authorized staff is on hand.

xi. Waste bags are not stored directly on the floor.

xii. There is a contingency plan for dealing with the storage of refrigerated waste in the event of:
   - excess waste production;
   - the on-site cold storage unit or treatment equipment becoming inoperative; or
   - other disruption of disposal services.

c) Legislation Related to Medical Waste

Biomedical waste handling

1. The *Environmental Protection Act, R.S.O 1990*, Part V, Sections 19 and 27; Part XVII, Section 197: Guideline C-4, '*The Management of Biomedical Waste in Ontario*'. Available online at: http://www.ene.gov.on.ca/envision/gp/425e.pdf.
2. Transport Canada's *Dangerous Goods Transportation Act, R.S.O. 1990,* Chapter D.1 for external transportation of infectious waste. Available at: http://www.search.e-laws.gov.on.ca/en/isysquery/ce736ace-514a-4718-bde3-93e14b1596a6/1/doc/?search=browseStatutes&context=#hit1.

Cytotoxic waste handling

1. The *Environmental Protection Act, R.S.O 1990*, Part V, Sections 19 and 27; Part XVII, Section 197: Guideline C-4, '*The Management of Biomedical Waste in Ontario*'. Available online at: http://www.ene.gov.on.ca/envision/gp/425e.pdf.
2. The *Occupational Health & Safety Act, R.S.O. 1990*, c.0.1 including *Health Care and Residential Facilities O. Reg. 67/93*, Sec. 97. Available online at: http://www.e-laws.gov.on.ca/html/regs/english/elaws_regs_930067_e.htm.
3. Canadian Standards Association's '*Handling of Waste Materials in Health Care Facilities and Veterinary Health Care Facilities*' (Z317.10-01).

Chemical waste handling

1. The *Environmental Protection Act, R.S.O 1990:*
   a. *O. Reg 461/05* amending *Reg. 347*, R.R.O. 1990 dealing with hazardous and chemical waste. Available online at: http://www.e-laws.gov.on.ca/html/source/regs/english/2005/elaws_src_regs_r05461_e.htm);
   b. O. Reg 558/00 deals with hazardous and liquid chemical waste (available online at: http://www.e-laws.gov.on.ca/html/source/regs/english/2000/elaws_src_regs_r00558_e.htm);
   c. O. Reg 718/94 deals with sterilants (available online at: http://www.e-laws.gov.on.ca/html/regs/english/elaws_regs_940718_e.htm).
2. Canadian Standards Association's 'Handling of Waste Materials in Health Care Facilities and Veterinary Health Care Facilities' (Z317.10-01).

Table 1: Waste Streams for Biomedical Waste in Ontario

Waste Category	Colour Code	Examples	Disposal
Anatomical waste	Red	Tissues, organs, body parts	Incineration Must be packaged in a sealed, impervious container that is refrigerated or frozen until disposal Must never be kept longer than one week
Microbiologic waste	Yellow	Diagnostic specimens, cultures, vaccines	Incineration, or Treatment that is capable of inactivating spores (e.g., autoclave), then landfill
Fluid waste	Yellow	Drainage collection units and suction container contents, blood, blood products, bloody	Sanitary sewer if permitted by municipal bylaws, or Incineration, or

Waste Category	Colour Code	Examples	Disposal
		body fluids and other materials that will release liquid or semi-liquid blood if compressed	Treatment that is capable of inactivating spores (e.g., autoclave), then landfill
Sharps	Yellow *or* Red if incinerated	Needles, syringes, lancets, blades, clinical glass	Incineration, or Treatment that is capable of inactivating spores, then landfill
General waste	Green, Black or Clear	Dressings, sponges, diapers, incontinent pads, PPE, disposable drapes, dialysis tubing and filters, empty IV bags and tubing, catheters, empty specimen containers, lab coats and aprons and pads that will not release liquid or semi-liquid blood if compressed Isolation waste from Contact, Droplet and Airborne Precautions rooms Waste from offices, kitchens, washrooms, public areas	Landfill

6.7 Reprocessing Medical Devices

The purpose is to ensure medical devices are clean and reprocessed according to infection control principles that will maintain a safe environment, free from the possibility of spreading infectious disease through medical equipment or devices to clients, employees, students and volunteers.

Appropriate cleaning, disinfection and/or sterilization of medical equipment and devices are critical in limiting the transmission of microorganisms within the community health centre. The process involves multiple steps requiring specialized equipment, dedicated space, trained staff and regular monitoring to ensure standards are being met.

a) Definitions

Cleaning: The physical removal of foreign material (dust, soil) and organic material (blood, secretions, excretions, microorganisms). Cleaning physically removes rather than kills microorganisms. It is accomplished with water, detergents and mechanical action.

Critical Medical Equipment/Devices: Medical equipment/devices that enter sterile tissues, including the vascular system (e.g., biopsy forceps, foot care equipment, dental hand pieces, etc.).

Decontamination: The process of cleaning, followed by the inactivation of microorganisms, in order to render an object safe for handling.

Detergent: A synthetic cleansing agent that can emulsify oil and suspend soil. A detergent contains surfactants that do not precipitate in hard water and may also contain protease enzymes (see Enzymatic Cleaner) and whitening agents.

Disinfection: The inactivation of disease-producing microorganisms. Disinfection does not destroy bacterial spores. Medical equipment/devices must be cleaned thoroughly before effective disinfection can take place.

High-Level Disinfection (HLD): The level of disinfection required when processing semi-critical medical equipment/devices. High-level disinfection processes destroy vegetative bacteria, mycobacteria, fungi and enveloped (lipid) and non-enveloped (non-lipid) viruses, but not necessarily bacterial spores. Medical equipment/devices must be thoroughly cleaned prior to high-level disinfection.

Low-Level Disinfection (LLD): Level of disinfection required when processing non-invasive medical equipment (i.e., non-critical equipment) and some environmental surfaces. Equipment and surfaces must be thoroughly cleaned prior to low-level disinfection.

Noncritical Medical Equipment/Device: Equipment/device that either touches only intact skin (but not mucous membranes) or does not directly touch the client/patient/resident. Reprocessing of noncritical equipment/devices involves cleaning and may also require low-level disinfection (e.g., blood pressure cuffs, stethoscopes).

Reprocessing: The steps performed to prepare used medical equipment/devices for use (e.g., cleaning, disinfection, and sterilization).

Sterilization: The level of reprocessing required when processing critical medical equipment/devices. Sterilization results in the destruction of all forms of microbial life including bacteria, viruses, spores and fungi. Equipment/devices must be cleaned thoroughly before effective sterilization can take place.

b) Responsibilities
Management is responsible for ensuring that:

- The employee involved in the reprocessing of medical devices is properly trained and audited.
- Management and reporting to administration or appropriate regulatory body of incidents where client safety may have been compromised;
- Requirements for internal or external subcontractors, if applicable;
- Written procedures, protocols are in place and audits are conducted regularly

c) Qualification, Education, and Training

- It is the Centre responsibility to ensure that: any individual involved in the cleaning, disinfection and/or sterilization of medical equipment/devices is properly trained by a recognized qualification/certification course in reprocessing practices.
- their practice audited on a regular basis to verify that standards are met;
- training includes information on cleaning, disinfection and sterilization, occupational health and safety issues, and infection prevention and control;

- orientation and continuing education are provided at least annually or as new best practices are available and documented for all personnel involved in reprocessing of medical equipment/devices.

d) Work Restrictions
Reprocessing employees are subject to some work restrictions:

- employees who have respiratory problems (e.g., asthma) should be assessed by their physician prior to working with chemical disinfectants or cleaning agents; and
- employees who have exudative lesions or weeping dermatitis shall refrain from handling client care equipment until the condition is resolved.
- Eating, drinking, storage of food, smoking, and application of cosmetics or lip balm and handling contact lenses in the reprocessing area are prohibited.

e) Environment
The environment where the reprocessing is performed will:

- Have adequate space for the cleaning process and storage of necessary equipment and supplies;
- Be an area of minimal traffic;
- Be distinctly separate from areas where sterile equipment/devices are handled or stored;
- Have easy access to hand hygiene facilities;
- Have an eyewash station installed to prevent a potential hazard to the eye due to contact with a biological or chemical agent;
- Have surfaces that can be easily cleaned;
- Exhaust ventilation systems adequately protect staff from toxic vapours.
- Have appropriate storage for chemicals,
- Material Safety Data Sheets (MSDS) are readily available as required by the Workplace Hazardous Materials Information System (WHMIS), R.R.O. 1990, Reg. 860 Amended to O. Reg. 36/933;
- Personal protective equipment such as impervious gloves (insulated if using a steam autoclave) for unloading the autoclave are present and comply with regulatory requirements

f) Selection of Medical Devices
Purchasing and Assessing Medical Equipment Devices
The appropriate selection of equipment and devices is imperative to ensure that they can be adequately cleaned and disinfected. Products used for decontamination must be appropriate to the level of reprocessing that is required for the use of the medical equipment/device. No medical equipment or device should be reused in the organization if it cannot be properly cleaned and disinfected or sterilized. In addition to the appropriate selection of equipment and devices, products used for any/all stages of reprocessing (e.g., cleaning, disinfection, and sterilization) must be appropriate for their intended use. All medical equipment/devices that will be purchased and will be reprocessed must have:

- written device-specific manufacturer's instructions for cleaning, disinfection, wrapping and sterilization;

- detailed instructions with pictures must be included if disassembly and reassembly is necessary.

Single-Use Medical Equipment/Devices
Specific items are classified as single use only. These items must never be reprocessed or re-used and should follow manufacturer's recommendations.

g) Maintenance
All sterilization processes must ensure that they follow the manufacturer's instructions for installation, operation and preventive maintenance of the equipment. Sterilizers must be subjected to rigorous testing and monitoring on installation and following disruptions to their normal activity as per manufacturer's instruction.

h) Procedures
Selection of Process for Reprocessing
The reprocessing method and products required for medical equipment/devices will depend on the intended use of the equipment/device and the potential risk of infection involved. The classification system developed by Spaulding divides medical equipment/devices into three categories based on the potential risk of infection involved in their use (Table 1)

The products and process used for cleaning, disinfection and/or sterilization must be compatible with the medical equipment/devices and appropriate to the level of reprocessing that is required for the use of the equipment/device. Effective reprocessing requires rigorous compliance with recommended protocols and instructions should be visible assessable at the point of reprocessing:

- written device-specific manufacturer's instructions for cleaning, disinfection, wrapping and sterilization;
- detailed instructions with pictures must be included if disassembly and reassembly is necessary.

Table 1 Spaulding's Classification of Medical Equipment/Devices Required Level of Processing/Reprocessing

Critical equipment / device	Equipment / device that enters sterile tissues, including the vascular system	**Cleaning followed by sterilization**
Semi-critical equipment / device	Equipment / device that comes in contact with non-intact skin or mucous membranes, but does not penetrate them	**Cleaning followed by high-level disinfection (at a minimum). Sterilization is preferred**
Non-critical equipment / device	Equipment / device that does not touch the resident or that touches only intact skin. Does not touch mucous membranes	**Cleaning followed by low-level disinfection (in some cases cleaning alone is acceptable)**

Adapted from: Spaulding: The role of chemical disinfection in the prevention of nosocomial infections. In: International Conference on Nosocomial Infections; Chicago, IL: American Hospital Association; 1970.

Reprocessing Steps
The steps for sorting, cleaning, drying, packaging, high-level disinfecting, sterilizing and storing need to be completed correctly to make certain the instruments are safe to be re-used on other clients.

i) Low-Level Disinfection
Level of disinfection required when processing noncritical equipment/devices or some environmental surfaces. Low level disinfectants kill most vegetative bacteria and some fungi as well as enveloped (lipid) viruses. Low-level disinfectants do not kill mycobacteria or bacterial spores.

a) Transportation and Handling of Contaminated Medical Equipment/Devices
Special handling of contaminated equipment and devices is required:

- Disposable sharps, such as needles and blades, shall be removed and disposed of in an appropriate puncture-resistant sharps container at point-of-use, prior to transportation;
- Soil should not be allowed to dry on instruments as can damage instruments and causes organisms to grow. Soak and wipe off all instruments immediately to prevent drying of soiled debris. Place moist towel in container
- Soiled items must be contained during transport to cleaning area. Containment minimizes airborne or contact spread of microorganisms from soiled items and thus reduces the risk of cross contamination;
- Container must be able to be disinfected and seal with covers for transport;
- Employee must wear personal protective equipment appropriate to the task to protect themselves from exposure to potential pathogens and chemicals and to protect the integrity of their skin: gloves
- Contaminated equipment/devices shall not be transported through areas designated for storage of clean or sterile supplies, client/patient/resident care areas or high-traffic areas.

b) Disassembly and Cleaning
Disassembly and cleaning is always essential prior to disinfection or sterilization. An item that has not been cleaned cannot be disinfected or sterilized: Complete disassembly of each item as necessary to allow effective cleaning.

- All equipment/devices need to be disassembled prior to cleaning;
- The cleaning process physically removes microorganisms from the equipment/device rather than destroying or killing them;
- Cleaning is achieved using water, detergents and the mechanical action of scrubbing. The soaking solution should be enzymatic and diluted according to product directions;
- Employee must wear personal protective equipment appropriate to the task to protect themselves from exposure to potential pathogens and chemicals and to protect the integrity of their skin. E.g. impervious gowns long sleeved, gloves chemical resistant, goggles, masks, etc.
- Use brushes appropriate for the size of lumens, channels, parts, connectors and orifices.

- All brushes should be kink free so as not to damage instruments soil or other foreign materials can shield microorganisms and protect them from the action of disinfectants or sterilants.
- Clean and disinfect brushes at the end of each day with low level disinfectant.
- Decontamination allows for the removal of disease producing microorganisms to leave an item safe for further handling;
- Hand wash water must be changed after each set;
- Where applicable flush lumens with syringe filled with enzymatic detergent.

c) Rinsing

All equipment/devices need to be rinsed thoroughly with potable water to remove residues which might react with the disinfectant/sterilant.

d) Drying

Drying is an important step that prevents dilution of chemical disinfectants which may render them ineffective and prevents microbial growth. Equipment/devices may be air-dried or dried by hand with a clean, lint-free towel.

e) Inspection:

Visually examine all items in "open" position for cleanliness prior to terminal disinfection / sterilization. Devices that are not cleaned must be returned to decontamination area and be recleaned.

f) Lubrication:

Follow the manufacturer's guidelines for lubrication;

- equipment/devices requiring lubrication shall be lubricated prior to sterilization;
- lubricants shall be compatible with the device and with the sterilization process;
- discard lubricants on or before the expiry date or when visibly soiled or contaminated;

All medical devices being sterilized proceed to section H (Wrapping).

g) High-Level Disinfection

High-Level disinfection is only used for Semi-critical medical devices that comes in contact with non-intact skin or mucous membranes but does not penetrate them. Sterilization is preferred.

All instruments must be completely and thoroughly decontaminated, disassembled, cleaned with enzymatic detergent, and cleaned in Ultrasonic cleaner when possible, inspected and lubricated, before being prepared for high level disinfection. Manufacturer's requirements must be followed.

Follow High Level Disinfection Protocol

All high-level disinfectants must:

- Have a DIN from Health Canada;
- Be compatible with both the equipment/device manufacturer's instructions for disinfection and the cleaning products involved in the reprocessing of the equipment/device;

- Use manufacturer's recommended test strips to ensure effective concentration of active ingredient(s). Do not use these solutions after expiry date
- Semi-critical medical equipment/devices should receive, at a minimum, high-level disinfection, although sterilization is the preferred method of decontamination:
- All equipment/devices should be dry prior to immersing into the high-level disinfectant to prevent the dilution of chemical concentration;
- All equipment/devices must be fully immersed and soaked in the high-level disinfectant for the minimum amount of contact time stated on the product label. Time must be recorded for the contact of the disinfectant.
- Once removed from disinfectant, all equipment/devices must be thoroughly rinsed at least three times with fresh, sterile water to remove chemical residues that may harm the client;

h) Pouching / Wrapping

Equipment/devices that are to be sterilized require wrapping prior to sterilization. Materials used for wrapping shall:

- Be prepared in a manner that will allow adequate air removal, steam penetration and evacuation;
- Have the ability to maintain sterility during storage.
- Hinged instruments should be processed open and unlocked.
- Recommended pouching – standardized approach
- Wrapping in 4 layers is required

i) Steam Sterilization

Critical medical equipment/devices must be sterilized.

- **Semi-critical** medical equipment/devices should be sterilized wherever possible:
- All sterilization processes shall follow the manufacturer's instructions for installation,
- operation, preventive maintenance and quality assurance monitoring of the equipment;
- The following processes shall not be used for sterilization: boiling; ultraviolet light; glass bead sterilization; microwave ovens.
- Do not over fill the sterilizer. Allow for adequate steam circulation;

The following **shall be** completed to ensure that effective sterilization has been achieved, following specific sterilizer manufacturer process:

- Mechanical monitoring including time, temperature, and pressure graphs;
- Chemical monitoring – each pack must have internal and external chemical indicators;
- Biological monitoring – a biological monitor shall be included in the first load of each day a sterilizer is used;

Steps:

- Ensure items are dry and inspect medical devices for cleanliness and damage
- Choose pouch/textile wrap, insert chemical indicator and medical device
- Self-seal pouch or autoclave tape the textile wrap

- Write name of item, date, initials, lot number onto autoclave tape which is closing the wrapper or placed on the plastic side of the pouch
- Record all items and departments items in the Log Sheet will be returned to on the load record for recall purposes
- First load of every day, biological indicator must be done, and recorded
- Place packages into sterilizer to ensure contact of sterilant and run cycle
- When sterilizer rings as complete, check read out for all parameters and initial read out and ripe off record
- Crack sterilizer door and leave cool for at least 30 minutes (If first load of the day, remove biological and let cool, then incubate. Record time and load number)
- Document parameters on Steam Sterilizer Sterilization Record Log (Appendix A)
- Remove packages when cool and check external and internal chemical indicators and biological indicator, record results on Steam Sterilizer Sterilization Record Log

System Failure
If a failed chemical indicator is found, or a positive result of the biological indicator the contents of the package(s) shall be reprocessed as per documentation, before use.

j) Storage and Use of Reprocessed Medical Equipment/Devices
Medical devices that have been reprocessed must be stored in a clean, dry location in a manner that minimizes contamination or damage

To maintain sterility until equipment/device is used:

- Store reprocessed medical equipment/devices in a clean, dust-free area, not at floor level, at least one meter away from debris, drains, moisture and vermin to prevent contamination;
- Store devices in an area where it is not subject to tampering by unauthorized persons;
- Transport devices in a manner that avoids contamination or damage;
- Containers used for storage of clean devices should be moisture-resistant and cleanable;
- At point-of-use, upon opening the reprocessed medical equipment/device, check for integrity of the packaging and the equipment/device;
- Validate results of chemical monitors, if present.

k) Documentation – Log
A permanent record of reprocessing shall be completed and retained. Recommended documentation includes the following information:

- the identification of the equipment/device to be sterilized;
- results of each inspection;
- date and time;
- results of mechanical indicator;
- results of internal and external chemical indicator;
- results of biological indicator;
- the name of the person completing the reprocessing.

l) Audits

The reprocessing processes (who, when, how) must be audited at least annually or whenever best practice changes.

A quality improvement process must be in place to deal with any irregularities/concerns resulting from the audit.

This policy and procedures based on current recognized standards/recommendations will be reviewed, every 3 years or as new evidence-based best practice guidelines are available.

OHS 6.0 Reprocessing Medical Devices - Appendix A

STEAM STERILIZER STERILIZATION RECORD LOG

Date *D/M/Y*	Equipment Or Device Inspected		Equipment/ Device	Time Sterilized *3 min (unwrapped) 5 min(pouch) 30 min (packs)*		Temp *270F (unwrapped pouches) 250F (Packs)*		Pressure *27.1 psi (unwrapped, pouches) 15.0 psi (packs)*		Biological indicator		Internal indicator *Change in colour*		External indicator *Change in colour*		Signature
	Y	N		Y	N	Y	N	Y	N	P	F	Y	N	Y	N	

OHS 6.0 Reprocessing Medical Devices - Appendix B
REPROCESSING DECISION CHART

MANUFACTURERS' RECOMMENDATIONS FOR PRODUCT, CONCENTRATION AND EXPOSURE TIME MUST BE FOLLOWED			
Level of Processing/Reprocessing	**Classification of Equipment/ Device**	**Examples of Equipment/Devices**	**Products****
Cleaning Physical removal of soil, dust or foreign material. Chemical, thermal or mechanical aids may be used. Cleaning usually involves soap and water, detergents or enzymatic cleaners. Thorough cleaning is required before disinfection or sterilization may take place.	All reusable equipment/devices	All reusable equipment/devices Oxygen tanks and cylinders	**** concentration and contact time are dependant on manufacturer's instructions** Quaternary ammonium compounds (QUATs) Enzymatic cleaners Soap and water Detergents 0.5% Accelerated hydrogen peroxide
Low-Level Disinfection Level of disinfection required when processing noncritical equipment/devices or some environmental surfaces. Low-level disinfectants kill most vegetative bacteria and some fungi as well as enveloped (lipid) viruses. Low-level disinfectants do not kill mycobacteria or bacterial spores.	Noncritical equipment/devices	Environmental surfaces touched by staff during procedures involving parenteral or mucous membrane contact (e.g. dental lamps, dialysis machines) Bedpans, urinals, commodes Stethoscopes Blood pressure cuffs Oximeters Glucose meters Electronic thermometers Hydrotherapy tanks Client/patient/resident lift slings ECG machines/leads/cups etc. Sonography (ultrasound) equipment/probes that only contact intact skin Bladder scanners Baby scales Cardiopulmonary training mannequins Environmental surfaces (e.g. IV poles, wheelchairs, beds, call bells) Fingernail care equipment that is single-client/patient/resident use	**** concentration and contact time are dependant on manufacturer's instructions** 3% Hydrogen peroxide (10 minutes) 60-95% Alcohol (10 minutes) Hypochlorite (1000 ppm) 0.5% Accelerated hydrogen peroxide (5 minutes) Quaternary ammonium compounds (QUATs) (10 minutes) Iodophors Phenolics ** (should not be used in nurseries)

MANUFACTURERS' RECOMMENDATIONS FOR PRODUCT, CONCENTRATION AND EXPOSURE TIME MUST BE FOLLOWED			
Level of Processing/Reprocessing	**Classification of Equipment/ Device**	**Examples of Equipment/Devices**	**Products****
<u>High-Level Disinfection</u> The level of disinfection required when processing semicritical equipment/devices. High-level disinfection processes destroy vegetative bacteria, mycobacteria, fungi and enveloped (lipid) and non-enveloped (non-lipid) viruses, but not necessarily bacterial spores.	Semicritical equipment/devices	Flexible endoscopes that do not enter sterile cavities or tissues Laryngoscopes Bronchosopes, cystoscopes (sterilization is preferred) Respiratory therapy equipment Nebulizer cups Anaesthesia equipment Endotrachial tubes Specula (nasal, anal, vaginal – disposable equipment is strongly recommended) Tonometer foot plate Ear syringe nozzles Sonography (ultrasound) equipment/probes that come into contact with mucous membranes or non-intact skin (e.g. transrectal probes) Pessary and diaphragm fitting rings Cervical caps Breast pump accessories Glass thermometers CPR face masks Alligator forceps Cryosurgery tips Ear cleaning equipment, ear curettes, otoscope tips Fingernail care equipment used on multiple clients/patients/residents	**** concentration and contact time are dependent on manufacturer's instructions** 2% Glutaraldehyde (20 minutes at 20°C) 6% Hydrogen peroxide (30 minutes) 0.55% Ortho-phthalaldehyde (OPA) (10 minutes at 20°C) Pasteurization (30 minutes at 71°C) 7% Accelerated hydrogen peroxide (20 minutes) 0.2% Peracetic acid (30-45 minutes)
<u>Sterilization</u> The level of reprocessing required when processing critical equipment/devices. Sterilization results in the destruction of all forms of microbial life including bacteria, viruses, spores and fungi.	Critical equipment/devices	Surgical instruments Foot care equipment Implantable equipment/devices Endoscopes that enter sterile cavities and spaces (e.g., arthroscopes, laparoscopes) Bronchoscopes, cystoscopes (sterilization preferred) Biopsy forceps, brushes and biopsy equipment associated with endoscopy (disposable equipment is strongly recommended)	**** concentration and contact time are dependent on manufacturer's instructions** Steam autoclave 100% Ethylene oxide Dry heat Hydrogen peroxide gas plasma (75 minutes at 50°C)

MANUFACTURERS' RECOMMENDATIONS FOR PRODUCT, CONCENTRATION AND EXPOSURE TIME MUST BE FOLLOWED			
Level of Processing/Reprocessing	Classification of Equipment/ Device	Examples of Equipment/Devices	Products**
		Colposcopy equipment Electrocautery tips Endocervical curettes Fishhook cutters Transfer forceps Eye equipment, including soft contact lenses Dental equipment including high speed dental hand pieces	2.5-3.5% Glutaraldehyde (10 hours at 20°C) 0.2% Peracetic acid (12 minutes at 50-56°C) 6-25% Hydrogen peroxide liquid (6 hours) 7% Accelerated hydrogen peroxide (6 hours at 20°C)

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OH&S Policy 6.0 Infection Control - APPROVALS

Policy Reviewed and Adopted by Board of Directors

Date: Nov 20/20 Board of Directors Representative: Diane Jones

Policy Reviewed and Adopted by Resources Committee:

Date: Nov 18/2020 Resources Representative: Columbus

Policy Reviewed and Adopted by Occupational Health & Safety Committee:

Date: _____ OHS Ctte. Representative: _____

Policy Approved by:	Signature:	Date:
Executive Director	Kary a Breen	Sept 22/2020
Quality & Chronic Disease Team Lead	[illegible]	Sept 25/20
Data Management Team Lead	Kennie Maxfield	Sept 22/20
Finance Team Lead	[illegible]	Sep 22/20
Health Promotion Team Lead	[illegible]	Sept 25/2020
Risk Management Team Lead	[illegible]	Sept 16, 2020
Primary Care Team Lead	[illegible]	Sept 23, 2020
Primary Care Team Lead – NEST	[illegible]	Sept 16, 2020