THE advisory
YOUR PUBLIC HEALTH DOWNLOAD

Issue 96, 2020

What's Inside

Message from the Medical Officer of Health

Dear Colleagues,

When the calendar changes from one year to the next, it's a time to reflect on what was and prepare for what is to come. As health care providers, you play an important role in keeping our community safe and healthy. We are pleased to work closely with you so that collectively we respond to the global situation of a novel coronavirus and respond to our communities' needs. We will continue to provide your practice with clinical alerts and guidance, as needed. As the situation evolves, we encourage you to visit phsd.ca for the most current information. We thank you for your attention to this matter and encourage you to contact us as you feel is needed.

This issue of *The Advisory* provides valuable information and highlights important topics of interest in health care, and in particular, public health. Our first article provides you with important resources and guidance to help your patients maintain healthy habits in 2020. Read on to learn about the smoking cessation services available in our community. As always, Public Health Sudbury & Districts will continue to advocate for healthy choices that includes abstinence from nicotine, and the use of smoking cessation aids that are proven to be effective.

Next, blastomycosis in now a reportable disease. We'll help you understand what this means for you and your patients. Other important topics covered in this issue range from Lyme disease, trichinosis, and preventing and controlling the transition of classic Creutzfeldt-Jakob Disease, to reducing exposure to radon. Lastly, we're providing you with resources that address cannabis use and reproductive health.

Please read and share these articles with your colleagues, clients, and fellow health care professionals and enjoy a safe and healthy New Year.

Sincerely,

Dr. Penny Sutcliffe, Medical Officer of Health

Public Health
Santé publique
SUDBURY & DISTRICTS

Smoking cessation services

Terri Lazinski and Cheryl Harvey, Health Promotion

Tobacco use remains Ontario's leading cause of preventable disease and premature death and claims 16 000 lives each year. That is 44 lives every day. Based on 2012 estimates, smoking accounted for $2.26 billion in direct costs to health care. This cost included $1.29 billion in hospital care, $565.5 million in prescription drugs, and $401.3 million in physician care costs[1].

The integration of tobacco control interventions in health care delivery is crucial for smoking cessation. Health care settings can reach a variety of different populations and strategies can be tailored to increase quit attempts[2]. Brief interventions, such as the 3 A's (see insert), are evidence-based approaches that healthcare providers can use to motivate clients to reduce or abstain from tobacco use.[3]

Important local and provincial cessation resources for your patients

Pharmacists in Ontario provide cessation counselling services and some may even have additional training to prescribe oral smoking cessation medications.

The Smoking Treatment for Ontario Patients (STOP) Program provides free nicotine replacement therapy (NRT) and one-on-one support to individuals who want to quit. This program can be accessed through participating Ontario family health teams, community health centres including Aboriginal health access centres, nurse practitioner clinics, and addictions services agencies.

Public Health Sudbury & Districts' Quit Smoking Clinic in Sudbury and Sudbury-East provides free one-on-one support to help people quit smoking. Free NRT (patch, gum, lozenge, inhaler, and mist) will be provided to eligible clients while supplies last. To speak to a registered nurse or to book an appointment, individuals can contact 705.522.3433 or (toll-free 1.866.522.9200, ext. 3433) (Sudbury) or 705.222.9201, ext. 217 (St-Charles).

The 3 A's Approach

- **ASK** about tobacco use with each patient.
- **ADVISE** each patient of the importance of quitting.
- **ACT** by providing the patient with information or a referral for cessation services.

Change in service: Telehealth Ontario and Smokers' Helpline

On October 1, 2019, telephone-based smoking cessation services transitioned from the Canadian Cancer Society's Smokers' Helpline to Telehealth Ontario. Patients can self-refer by calling 1.866.797.0000 or a referral can be made online at www.smokershelpline.ca/healthcare/make-a-referral.

Smokers' Helpline will continue to provide digital services such as online tools, email support, text messaging support, and live chat by text. Patients can text 'iQuit' to number 123456.

QuitMap.ca is a searchable database to find quit programs and services for specific needs and locations.

References:

1. Dobrescu, A., Bhandari, A., Sutherland, G., Dinh, T. (2012). The Costs of Tobacco Use in Canada, 2012. Ottawa: The Conference Board of Canada.
2. Smoke-Free Ontario Scientific Advisory Committee, Ontario Agency for Health Protection and Promotion (Public Health Ontario). (2017). Evidence to guide action: Comprehensive tobacco control in Ontario (2016). Toronto, ON: Queen's Printer for Ontario.
3. Registered Nurses' Association of Ontario (RNAO). (2017). RNAO Clinical Best Practice Guidelines: Integrating Tobacco Interventions into Daily Practice (3rd ed.) (p.20). Toronto, ON: RNAO.

Blastomycosis is now reportable: what does this mean for you?

Jon Groulx, Environmental Health

Key message for health care practitioners

Blastomycosis is a "Disease of Public Health Significance." In accordance with Ontario Regulation 135/18, cases of blastomycosis should be reported by the next working day to the Medical Officer of Health.

Sudbury and Manitoulin districts are endemic for blastomycosis. We are reminding health care practitioners that diagnostic vigilance is recommended. Given that delays in diagnosis can contribute to illness and death, clinicians should consider blastomycosis in their differential diagnoses of lung, skin, and bone infections, particularly if the patient does not respond to conventional antimicrobial drug therapy.

What is blastomycosis and how might my patients be exposed?

Blastomycosis is caused by *Blastomyces dermatitidis*, a fungus found in acidic, warm, moist soil, especially in wooded areas along waterways such as lakes and rivers. Cases have been documented locally, as well as in other parts of Ontario.

Exposure occurs by inhalation of airborne spores or by the fungus entering a lesion on the skin during activities, such as camping, forestry work, farming, and hunting, in endemic areas.

What are the signs and symptoms?

Anyone is susceptible to the infection and immunocompromised individuals are more likely to suffer severe illness. Symptoms may appear between 3 to 15 weeks after initial exposure. In Ontario, exposure most often occurs in the summer and fall months as the activities that would expose an individual usually occur during that time of year. Clinical presentation is therefore most common in the fall and early winter, but can occur at any time of the year.

Clinical manifestations include pulmonary, cutaneous, and disseminated disease (skin, bones, joints, genitourinary tract). Untreated disseminated or chronic pulmonary blastomycosis can be fatal.

Pulmonary blastomycosis can present with generalized symptoms that can be mistaken for other illnesses such as influenze or pneumonia. Up to 50% of cases may be asymptomatic[1]. Chest X-ray can reveal pulmonary infiltrates that can cavitate. Resolution occurs spontaneously in one to three weeks; however, extrapulmonary manifestations may be present in the absence of respiratory symptoms[2].

Cutaneous involvement is common and presents with erythematous papules progressing to wart-like, crusted, or ulcerated lesions affecting the face and distal extremities.

Consider blastomycosis in the differential diagnosis of febrile patients presenting with respiratory or "flu-like" symptoms and risk behaviours for exposure.

How do I test for blastomycosis?

Diagnostic tests can include culture and microscopy of samples from sputum, tracheal aspirates, cerebrospinal fluid, urine, and cutaneous lesions. Please refer to Public Health Ontario's test directory for specific submission information (http://www.publichealthontario.ca/en/ServicesAndTools/LaboratoryServices/Pages/Specimen-Collection.aspx).

How do I treat blastomycosis?

Treatment with oral itraconazole or fluconazole is recommended for cases with mild or moderate blastomycosis infections. Amphotericin B is indicated in severe or disseminated infection. The suggested course of therapy is six months to one year, followed by a course of oral itraconazole.

Key messages for patients

- Know the symptoms of blastomycosis and areas where it is found.
- If you feel ill after camping, hunting, or working in these area, see a doctor.
- Be aware of your potential exposure from high-risk activities.
- While it won't eliminate the risk, wearing protective gear may reduce your chance of exposure when doing work that disturbs the soil. This gear includes:
  - work gloves
  - long sleeve shirts and long pants
  - proper footwear
  - disposable NIOSH N100 approved HEPA filter dust mask

References:

1. Health Protection and Promotion Act. Ontario Regulation 135/18; Designation of Diseases. https://www.ontario.ca/laws/regulation/180135
2. Committee on Infectious Diseases. Red Book: 2009 report of the Committee on Infectious Diseases. 28th Ed. American Academy of Pediatrics. http://aapredbook.aappublications.org/
3. Control of Communicable Disease Manual. 20th Ed. Heymann, David L.

Lyme disease: a quick reference tool for physicians

Holly Browne, Environmental Health

Key message for health care practitioners

Public Health Sudbury & Districts has developed a quick reference tool that provides an algorithm for Lyme disease management. The tool summarizes the Infectious Diseases Society of America's (IDSA) guidelines for treatment of early localized Lyme disease as well as laboratory testing information.

What is Lyme disease?

Lyme disease is a vector-borne infection caused by the spirochete Borrelia burgdorferi and is transmitted in Ontario through the bite of blacklegged ticks (also called deer ticks). Transmission occurs if the tick feeds for more than 24 hours when attached to its host. The blacklegged tick is found in various parts of the province, particularly southeastern Ontario. The number of Lyme disease cases has increased in Ontario as a result of tick populations expanding into new areas around the province.

Can my patients get Lyme disease in the Sudbury and Manitoulin districts?

Yes they can. Although not endemic to our area, blacklegged ticks have been identified within Sudbury and Manitoulin districts, some of which have tested positive for B. burgdorferi. There has been lab-confirmed human cases reported in the area. Surveillance data indicate that a small number of blacklegged ticks are introduced into widely separated areas of Canada by migratory birds, posing some risk to individuals in those areas.

What are the signs and symptoms?

Clinical manifestations depend on the stage of the disease[1,2]:

1. Early localized (<30 days)
   - Dermatologic: erythema migrans ("bull's eye rash") at the site of the tick bite
   - Systemic: flu-like illness, stiff neck, lymphadenopathy
2. Early disseminated (> 30 days)
   - Cardiac: palpitations
   - Dermatologic: multiple erythema migrans lesions
   - Musculoskeletal: arthralgia, myalgia
   - Neurologic: central (lymphocytic meningitis, facial nerve palsy, encephalitis), peripheral (radiculopathy)
3. Late disease (≥ 3 months)
   - Musculoskeletal: arthritis (monoarticular, oligoarticular)
   - Neurologic: encephalomyelitis, peripheral neuropathy

How do I test for Lyme disease?

Diagnosis should be based on clinical assessment for symptoms and exposure history. Serological testing should only be used to

References:

1 American Academy of Pediatrics. In: Pickering LK, Baker CJ, Kimberlin DW, Long SS, eds. Red Book: 2009 Report of the Committee on Infectious Diseases. 28th ed. Elk Grove Village, IL: American Academy of Pediatrics; 2009.

2 Wright WF, Riedel DJ, Talwani R, Gilliam BL. Diagnosis and management of Lyme disease. Am Fam Physician. 2012 Jun 1;85(11): 1086-93.) (http://www.health.gov.on.ca/en/ms/lyme/pro/)

3 Sider, D. Patel, S. Russell, C. Jain-Sheehan, N. Moore, S. Technical report: update on Lyme disease prevention and control. Public Health Ontario. February 2012.

supplement clinical assessment. Public Health Ontario (PHO) laboratories uses a two-tier test method (ELISA and Western blot) as recommended by the Canadian Public Health Laboratory Network. If the ELISA is reactive or indeterminate, PHO laboratories will perform a Western blot to detect Borrelia burgdorferi IgM and IgG. If laboratory testing is sought, complete a PHO laboratory requisition (https://www.publichealthontario.ca/en/laboratory-services/test-requisitions) for serology. Serology testing is not useful in patients with early localized disease as the antibodies have not yet developed.[3]

How do I treat Lyme disease?

Treatment is with antibiotics (doxycycline and amoxicillin are commonly used), and in the early stage, will usually result in a good prognosis. Treatment during the later stages typically requires intravenous antibiotics. Providers are strongly encouraged to consult the complete IDSA guidelines for treatment of early localized, early disseminated, and late disseminated disease as treatment may require adjustment or change if neurological, cardiac, or nervous system diseases are present. These guidelines are available at https://www.idsociety.org/practiceguidelines#/date_na_dt/DESC/0/+/.

How is Lyme disease prevented?

The best way to prevent Lyme disease is to avoid a tick bite. To prevent tick bites:

- Perform a tick check immediately after activities such as hiking and gardening.
- Avoid walking in tall grass.
- Make sure yards are kept clear of debris and overgrown vegetation, grass, bushes, and trees.
- Keep woodpiles and bird feeders away from homes.
- Wear a long-sleeved, light-coloured shirt, pants, and closed-toe shoes. Tuck pants in socks.
- Use insect repellants that are approved by Health Canada and follow the application recommendations on the package.
- Take a shower after outdoor activities to help wash off ticks that have not yet attached themselves to the skin.

How to remove a tick

- If you see a tick on your skin, remove it as soon as possible. Ask someone to check areas you cannot see.
- Carefully remove the tick by snugly grasping its front end with tweezers. Pull it straight out. DO NOT SQUEEZE THE TICK. If any parts remain, see a health care provider.
- Wash your hands and the site of the bite with soap and water and disinfect the site.
- If you can, place the tick in a jar or screw-top bottle, and take it to your local health unit.

Radon reduction

Adam Ranger, Environmental Health

Radon is the second leading cause of lung cancer in Canadians, with smoking being the first. Exposure to radon and tobacco use together can significantly increase an individual's risk of lung cancer. For example, if a lifelong smoker's risk of getting lung cancer is 1 in 10 and they also experience long-term exposure to a high level of radon, their risk becomes 1 in 3. On the other hand, a non-smoker's lifetime lung cancer risk at the same high radon level is 1 in 20.[1] There are no acute symptoms from short-term exposure to radon: simply lung cancer from prolonged exposure to high levels.[1] This means that there are no early warning symptoms to indicate exposure to radon.[1]

Testing for radon in the home

Radon is present in every home, at varying levels.[1] Two homes side by side can have different levels, and the levels of radon gas vary in the winter months (heating season) compared to the summer months when windows are opened.[2] The only way to tell the levels in our homes is to test. Testing should be done during the fall and winter months, when our homes are more sealed up to prevent heat loss.[1]

The most common test is a passive tester, which is placed in the lower part of the home and is then sent away for analysis. A three-month test is recommended to assess long-term average of radon levels.[1] There are newer technologies that display a digital readout of the immediate level of radon gas in the home, and can also produce a long-term average. These devices do not have to be sent away for analysis. Once the levels of radon gas are known, reduction measures can take place.[2] Testing equipment can be found at many hardware stores.

Radon remediation

The current Canadian guideline for radon in indoor air for dwellings is 200 Becquerels per cubic metre (200 Bq/m3). If results are higher than 200 Bq/m3, remediation should be undertaken immediately.

There are several remediation methods which can be used to reduce radon levels in the home. In warmer climates, digital monitors are connected to an air exchange system which activates when higher levels of radon gas are detected, reducing the levels immediately. In colder climates, this may not be cost effective as warm air is expelled and cold air brought into the house during winter. In more northerly climates, the common method of reducing radon in the home is a soil suction reduction system.[2] These can be installed after a home has been built quite easily. In parts of Ontario where radon gas is known to have high levels due to natural uranium deposits in the ground, the mitigation measures are part of the Ontario Building Code and must be installed during a new build.[2] For low exceedances, sealing the basement floor and foundation with sealant and paint can help reduce the amount of radon gas from entering the home.[2] After any reduction method, follow-up testing is important to ensure that the radon gas levels have been reduced.[2]

References:

1 Health Canada. (2017). Radon: is it in your Home?. Retrieved from https://www.canada.ca/en/health-canada/services/environmental-workplace-health/reports-publications/radiation/radon-your-home-health-canada-2009.html

2 Health Canada and Canadian Mortgage and Housing Corporation. (2007). Radon: A Guide for Canadian Homeowners. Printed in Canada. Canadian Cataloguing in Publication Data

Accredited CPD resources on radon
Radon Education – radon.machealth.ca

In order to better equip you to answer your patients' questions about radon and the need for at-home testing, McMaster University, together with Health Canada, the Ontario College of Family Physicians and the Clean Air Partnership, have designed a free, certified program to provide you and your colleagues with reliable, evidence-based information on radon.

It's easy to access and free.

It only takes one hour to complete, which you can do in one session, or multiple sessions. The course (radon.machealth.ca) is accredited for Continuing Professional Development credit by the College of Family Physicians of Canada (1 Mainpro-M1 credit) and the Royal College of Physicians and Surgeons of Canada (1.0 hours).

Be aware: hunters and the risk of trichinosis

Jon Groulx, Environmental Health

Key message for health care practitioners

- Trichinosis is a foodborne parasitic infection caused by the intestinal parasite *Trichinella spp.*[3]
- Humans are at risk of acquiring trichinosis through the consumption of undercooked wild game.[1]
- Patients who report a food history of wild game or pork, and present with symptoms of abdominal discomfort, nausea, vomiting or diarrhea initially, which later progress to fever, myalgia, perorbital edema, rash, and conjunctival and subungual hemorrhages, should be serologically tested.[3]

What is trichinosis and how might my patients be exposed?

Trichinosis is a disease that can affect both animals and humans. It is caused by nematodes (roundworms) of the *Trichinella* species.[2] The parasites are found worldwide in a wide range of birds and mammals, including grizzly bears, black bears, wolves, foxes, and wild hogs.[3] Consuming raw or undercooked wild game meat can result in the disease known as trichinosis.[2]

Be aware: hunters and the risk of trichinosis (Continued)

Jon Groulx, Environmental Health

What are the clinical signs and symptoms?

Clinical illness in humans is highly variable and can range from mild infection to severe disease, depending on the number of larvae ingested.[3] Systemic symptoms usually appear about 8 to 15 days after ingestion of infected meat.[4]

Early symptoms include abdominal discomfort, nausea, vomiting or diarrhea.[3] One to several weeks later as the larvae migrate into tissues, fever, myalgia, perorbital edema, rash, and conjunctival and subungual hemorrhages may develop.[3]

Cardiac and neurological complications may appear in the third to sixth week.[4]

How do I test for trichinosis?

Trichinosis cannot be diagnosed by microscopic examination of the stool. The following tests can constitute a confirmed case of trichinosis: [5]

1. Positive serology test for *Trichinella spp*. (for example, enzyme immunoassay):
   - Serology for *Trichinella spp*. is fairly reliable, but they are generally not positive until 3 to 5 weeks after symptom onset.[2]
   - If the results are negative, an initial diagnosis of Trichinosis can be based on symptoms and the presence of elevated levels of eosinophils in a blood sample.[2]
2. Demonstration of *Trichinella spp*. in a muscle biopsy:
   - A biopsy of muscle tissue done after the second week of infection, may reveal larvae or cysts.[2]

For further information about human diagnostic testing, contact the Public Health Ontario laboratories or refer to their webpage: http://www.publichealthontario.ca/en/ServicesAndTools/LaboratoryServices/Pages/default.aspx[4].

References:

1 Canadian Food Inspection Agency. Trichinellosis – Fact Sheet. Taken from: http://www.inspection.gc.ca/animals/terrestrial-animals/diseases/reportable/trichinellosis/fact-sheet/eng/1330023015817/1330023110684. Date last modified: 2013-03-11

2 Pearson, R. Merck Manual. Parasitic Infections: Trichinosis. Taken from: https://www.merckmanuals.com/en-ca/home/infections/parasitic-infections/trichinosis. Date last modified: 2018-01-30

3 Heymann DL, editor. Control of communicable diseases manual. 19th ed. Washington, DC: American Public Health Association; 2008.

4 Ontario. Ministry of Health and Long-Term Care. Infectious diseases protocol, 2014. Appendix A: Disease Specific Chapters – Trichinosis. Taken from: http://www.health.gov.on.ca/en/pro/programs/publichealth/oph_standards/docs/trichinosis_chapter.pdf

5 Ontario. Ministry of Health and Long-Term Care. Infectious diseases protocol, 2014. Appendix B: Provincial Case Definitions for Reportable Diseases – Trichinosis. Taken from: http://www.health.gov.on.ca/en/pro/programs/publichealth/oph_standards/docs/trichinosis_cd.pdf

How do I treat trichinosis?

Albendazole or mebendazole are effective in the intestinal stage and muscle-stage trichinosis though antihelminthic treatment. Albendazole is available through Health Canada's Special Access Program (SAP): http://www.hc-sc.gc.ca/dhp-mps/acces/drugs-drogues/index-eng.php[4].

- Analgesics (such as nonsteroidal anti-inflammatory drugs, or NSAIDs) help relieve muscle pain.
- Corticosteroids (such as prednisone) may be prescribed to reduce inflammation in severe infection.[2]
- Most people with trichinosis recover fully.[3]

Additional information is available at through Health Canada's guidance document for industry and practitioners: special access programme for drugs available at: http://www.hc-sc.gc.ca/dhp-mps/alt_formats/hpfb-dgpsa/pdf/acces/sapg3_pasg3-eng.pdf.[4]

Key messages for your patients

Hunters are encouraged to practices routine good hand hygiene when handling, cleaning, and cooking wild game. Public Health Sudbury & Districts recommends:[1]

- Wearing rubber or disposable latex gloves while handling and cleaning game.
- Washing hands with soap and water and thoroughly clean knives, equipment and surfaces (including tables and cutting boards) that come into contact with game.
- Not eating, drinking or smoking while handling or cleaning wild fowl or game.
- Not handling or eating game or fowl that appeared ill before being killed.

Trichinosis can be prevented by:[1]

- Properly cooking all whole cuts and ground meat from wild game animals to an internal temperature of 71°C.
- Using a meat thermometer be used to measure meat temperatures, because colour is not a reliable indicator of doneness (temperature) in wild game animals.

Important note: Freezing wild game meat in your freezer, smoking, or curing game meat does not kill all species of the Trichinella parasite.[2]

A primer on a prion…Preventing and controlling the transmission of classic Creutzfeldt-Jakob Disease

Stephanie Vendetti-Hastie, Clinical Services

Creutzfelt-Jakob Disease (CJD) is a human prion disease, also known as transmissible spongiform encephalopathy (TSE). It is believed to be caused by a misfolded form of a normal host protein, the prion protein (PrP).

While the mode of sporadic transmission is unknown, some cases of CJD have occurred iatrogenically and some have a genetic component. The low incidence suggests that the risk of person-to-person transmission is low.

Current recommendations for prevention of direct transmission of CJD include avoidance of blood, tissue, or organ donation for persons who are at high-risk for transmitting CJD.

Routine practices and additional precautions are the infection prevention and control practices required for the care of CJD cases.

The most effective, safe, and efficient means of preventing iatrogenic transmission of CJD is to identify individuals at high-risk of transmitting CJD before an invasive procedure, in order to implement the required infection prevention and control measures.

Recommendations to prevent CJD transmission include limiting the number of instruments used for any procedure and using disposable, rather than reusable instruments when possible and particularly when the instrument will be in contact with high-infectivity tissue. If reusable instruments must be used, choose those that can withstand the rigors of CJD decontamination. In addition, have a system for tracking instruments. In the case of retrospective identification of CJD contacts, knowing which instruments were used on patients is important for follow-up.

The reprocessing procedures recommended for managing instruments used on patients at high-risk of transmitting depends on risk assessment including: the **potential infectivity of the tissue contacted** and the **known status of the patient** (confirmed, suspected and asymptomatic carrier). Reprocessing outcomes may include discarding instruments, performing CJD decontamination on instruments, quarantining instruments or routine reprocessing, depending on risk assessment.

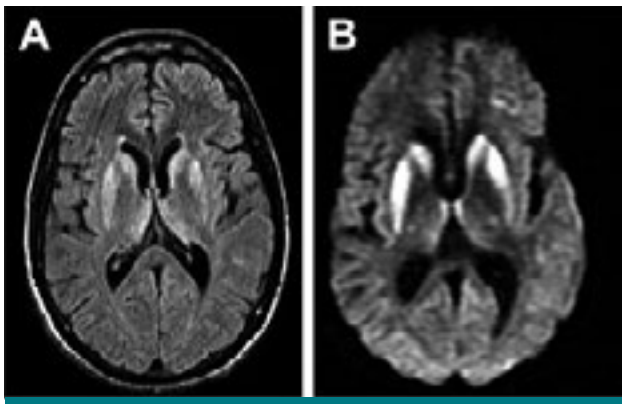
Key facts about CJD:

- Affects — one person/million/year worldwide
- Most frequently appears in people age 50–75
- Rapidly progressive and fatal
- Most cases (~85%) occur on a sporadic basis via unknown mechanisms
- Up to 15% of cases are hereditary (Gerstmann-Straussler-Scheinker syndrome (GSS) and Fatal Familial Insomnia FFI)
- 1% of cases are attributed to iatrogenic transmission (iCJD) through exposure to brain or nervous system tissue, usually through certain medical procedures

High-infectivity tissue includes:

- brain
- cerebrospinal fluid
- dura mater
- pituitary gland
- posterior eye (optic nerve and retina)
- spinal cord and spinal ganglia
- trigeminal ganglia

For further information on instrument reprocessing risk assessment, as well as additional guidance on the prevention of CJD, refer to the Public Health Agency of Canada, *Infection Control Guidelines for Classic Creutzfeldt-Jakob disease in Canada: Quick reference Guide 2007.*



Magnetic resonance image of sporadic CJD

Notification

CJD is a disease of public health importance, and suspected or confirmed cases must be reported to the local Medical Officer of Health. It is also important that should a case of CJD be identified, for the purposes of infection prevention and control planning, the local hospital infection control service should also be alerted (with client consent). This alert presents an important opportunity for prevention of future iatrogenic transmission of CJD. Elective procedures in high-risk patients involving high- or low-infectivity tissues should be well justified and carefully planned in advance.

Patients considered to be at high-risk of transmitting CJD iatrogenically are those diagnosed, prospectively or retrospectively, with:

- CJD—confirmed, probable, or possible CJD, familial CJD, GSS, or FFIA
- Suspected CJD—undiagnosed, rapidly progressive dementia and CJD not ruled out
- Asymptomatic carrier of genetic transmissible spongiform encephalopathy (TSE)—a person who displays no symptoms or signs of TSE, but meets one or more of the following criteria:
  - The person has been confirmed by genetic testing to carry a genetic mutation causative of familial CJD, GSS, or FFI[A].
  - The person has at least one first-degree relative who has been confirmed by genetic testing to carry such a mutation, with or without pathologic confirmation of TSE.
  - The person has two or more first-degree relatives who have been diagnosed with either confirmed or probable TSE, with or without confirmation by genetic testing.

[A] Depending on pathological, laboratory, and clinical evidence and following the surveillance definitions for Classic CJD.

References:

1 Public Health Agency of Canada, Infection Control Guidelines for Classic Creutzfeldt-Jakob disease in Canada: Quick reference Guide 2007.

Cannabis and reproductive health

Katy Peacock, Health Promotion

Cannabis and consumption

Cannabis is a psychoactive substance that contains more than 100 chemicals called cannabinoids. The two main and most widely talked about cannabinoids are delta-tetrahydrocannabinol (THC) and cannabidiol (CBD).

- THC is a psychoactive cannabinoid that causes mental and physical effects.
- CBD has no intoxicating effect and is being studied for therapeutic uses.

Cannabis, when smoked, contains many of the same harmful chemicals as cigarette smoke. These chemicals can have harmful effects on women who are pregnant, planning on becoming pregnant, and who are breastfeeding. These harmful effects also extend to the developing fetus and breastfed infant[2]. Regardless of method of consumption (smoked, vaporized, or ingested) all cannabis can contain THC or CBD.

Cannabis, preconception, and fertility

Cannabis use has been linked to:

- Changes in a women's menstrual cycle
- Reduced sperm count and quality in men

Women who are planning on becoming pregnant should be advised to avoid cannabis use, in any form, as it has been shown to affect fertility[1].

Pregnancy

Maternal use of cannabis exposes the fetus to cannabinoids, which crosses the placenta. The greatest transfer of cannabinoids (THC) occurs during early pregnancy.

- Cannabis use during pregnancy can cause low-birth weight, reduced alertness, and slower growth.
- Risk of long-term developmental effects as the baby grows, such as decreases in memory, attention span, reasoning, and problem solving.
- Children born to mothers who consumed cannabis are at an increased risk for future substance use.

References:

1 Alvarez, S. (2015). Do some addictions interfere with fertility? Fertility and Sterility, 103(1), 22-26.

2 Carsley, S. and Leece, P. (2018). Evidence brief: Health effects of cannabis exposure in pregnancy and breastfeeding. Toronto, ON: Ontario Agency for Health Protection and Promotion (Public Health Ontario).

3 Fischer, B., Russell, C., Sabioni, P., van den Brink, W., Le Foll, B., Hall, W., Rehm, J. & Room, R. (2017). Lower-Risk Cannabis Use Guidelines (LRCUG): An evidence-based update. American Journal of Public Health, 107(8).

4 Seabrook, J., Biden, C., & Campbell, E. (2017). Does the risk of exposure to marijuana outweigh the benefits of breastfeeding? A systematic review. Canadian Journal of Midwifery Research and Practice, 16(2), 8-16.

5 Wang, G. S. (2017). Pediatric Concerns Due to Expanded Cannabis Use: Unintended Consequences of Legalization. Journal Of Medical Toxicology: Official Journal Of The American College Of Medical Toxicology, 13(1), 99-105.

- Pregnant women should be strongly encouraged to abstain from cannabis use, in any form, during pregnancy[2].

Morning sickness

Pregnant women should not use cannabis in any form during pregnancy, even those experiencing nausea and vomiting.

Pregnant women should be educated about the risks of cannabis use during pregnancy and the safe treatment options that are available to alleviate symptoms of morning sickness[2,5].

Breastfeeding

When a parent is impaired by cannabis, their ability to recognize a baby's hunger cues and to make responsible decisions about their infant's needs and safety can be affected.

- THC is passed into the breastmilk and is taken into a baby's brain and fat cells, where it can be stored for a prolonged period.
- Research has found that infants exposed to THC through breastmilk had slower motor development and may experience drowsiness and difficulty latching.

If a mother chooses to continue breastfeeding while using cannabis:

- Cannabis should be used in moderation, and breastfeeding should occur before use.
- They should be made aware of the harmful effects and risks of second- and third-hand cannabis smoke and vapour.
- If a woman is smoking or vaping cannabis, she should be educated about the importance of changing her clothing and washing her hands, as they may contain harmful chemicals from the smoke or vapour.

Key messages for your patients

Resources for health care providers

Clearing the Smoke on Cannabis
Canadian Centre on Substance Use and Addiction
bit.ly/clearingthesmokeoncannabis

Government of Canada
Cannabis Evidence Brief
bit.ly/cannabisbrief

Canada's Lower-Risk Cannabis Use Guidelines
Centre for Addiction and Mental Health (CAMH)
bit.ly/lowerriskguidelines

Lower-Risk Use Guidelines: A Comprehensive Update of Evidence and Recommendations
Centre for Addiction and Mental Health
bit.ly/lowerriskupdate

Helpful resources for clients

Thinking about using cannabis before or during pregnancy?
Public Health Agency of Canada and Best Start Resource Centre
bit.ly/cannabisandpregnancy

Thinking about using cannabis while parenting?
Public Health Agency of Canada and Best Start Resource Centre
bit.ly/cannabisandparenting

Cannabis and reproductive health (Continued)

Katy Peacock, Health Promotion

- Unlike alcohol, cannabis stays in the body for a long time. This means that women should not be advised to "pump and dump" their breastmilk as is suggested after alcohol consumption, as cannabinoids remain in breastmilk for hours after cannabis usage.

Breastfeeding mothers should be strongly encouraged to abstain from cannabis use, in any form, while breastfeeding. At this time, there is conflicting evidence between the harms of cannabinoid transference versus the benefits of breastfeeding[2,4]. Recommendations about breastfeeding for women using cannabis should be individualized based on amount and frequency of cannabis used[2,4,5].

If any individuals decide to continue using cannabis, they should be encouraged to follow Canada's Lower-Risk Cannabis Use Guidelines, created by the Centre for Addiction and Mental Health (CAMH)[3].

Public Health Sudbury & Districts

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