EPI NORTH

The Northwest Territories Epidemiology Newsletter

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Editorial Note: Influenza Alert

In the last issue of EpiNorth, we reminded everyone to prepare for the upcoming fall immunization campaigns (Influenza, Pneumococcal and Hepatitis B), by ordering their supplies. In this issue, we want to remind everyone about the specific recommendations for influenza (and pneumococcal) vaccine programs as well as providing some specific information regarding this years influenza vaccine components.

"Flu" season gets underway...

LCDC recently sent out an alert regarding an Influenza A outbreak on a cruise ship in early September. A 10 day cruise departed New York City on September 4, 1997, bound for Halifax, Charlottetown, Quebec City and Montreal. On September 10, 1997, 6 passengers who disembarked in Montreal were hospitalized with pneumonia. Over 100 medical consultations for upper and lower respiratory tract infections occurred among the 1392 passengers and 625 crew members between Sept 4 and Sept 10th. The initial concern was possible Legionella. Influenza A was later confirmed in five of the hospitalized passengers. This was the second instance of Influenza A virus isolation in Quebec in the 1997/98 flu season, although passengers on this cruise ship came from across Canada and the US.

This is a warning that we may well be in for an early flu season and therefore places the impetus on identifying high risk groups and promptly providing them with vaccine.

During the 1996/97 flu season, significant influenza activity was not seen until mid November, with the primary peak occurring in early January (attributable to influenza A) and a secondary peak in early March (attributable to influenza B). In the northern hemisphere, many countries reported moderate to severe influenza epidemics. Based on epidemiological review of last season's influenza activity, as well as on the growth properties of certain strains, the North American vaccine for the 1997/98 flu season will contain: A/Nanchang; A/Johannesburg and B/Harbin.

On page 2, recommendations for specific groups target Influenza Vaccine are outlined. An Influenza Fact Sheet is included on page 3, which can be copied and used as a patient information sheet. Please contact the Health Protection Unit if there are any questions regarding the implementation of this campaign. Good Luck!

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Influenza Vaccination Recommendations

Subject: Adminstration of Seasonal Immunization (Influenza & Pneumococcal Vaccines)

Purpose:

1) To protect children and adults from communicable diseases for which there are vaccines.

2) To reduce /prevent morbidity/mortality associated with these communicable diseases.

Influenza Vaccine:

- Influenza vaccine is given free of charge on an annual basis to the following risk groups:

  1) Adults 65 years of age or older.*

  2) Adults and children with chronic cardiac or pulmonary disorders (including bronchopulmonary dysplasia, cystic fibrosis and asthma) severe enough to require regular medical follow-up or hospital care).

  3) Adults and children with chronic conditions such as diabetes and other metabolic diseases, cancer, immunodeficiency (including HIV infection), immunosuppression, renal disease, anemia and hemoglobinopathy.

  4) People of any age who are residents of nursing homes and other chronic care facilities.

- Influenza vaccine should be actively promoted to caregivers and other people who may transmit the virus to those at risk, as well as those who provide essential community services.

- Influenza vaccine should also be made available on a cost-recovery basis, to anyone who asks for it.

The target groups for influenza and pneumococcal vaccine overlap considerably. The concurrent administration of the 2 vaccines at different sites does not increase the risk of side effects.

*** Lowered age may be predicated on Regional factors. The recommendation of the Canadian Immunization guide is for adults 65 years and older.**

Pneumococcal Vaccine:

- **Pneumococcal vaccine should be given to**:**

  1) Adults 65 years of age or older.* (see above)

  2) Adults with Chronic conditions: cardiac, respiratory, renal disease, alcoholism, diabetes mellitus, chronic cerebrospinal leak, asplenia, and other conditions associated with immuno suppression.

  3) Children 2 years of age or older with asplenia, splenic dysfunction, nephrotic syndrome, chronic cerebrospinal fluid leak, and other conditions associated with immunosuppression.

  4) HIV postive individuals over the age of 2 years.

- **Dosage:**

  Adminster a single (0.5 ml) dose of pneumococcal vaccine (pneumovax) IM, preferable in the deltoid muscle or lateral midthigh.

**** No boosters will be required with the exception of: patients with asplenia, nephrotic syndrome, renal failure or transplant recipients, for whom boosters every 6 years are recommended. Children less than 10 years whould be revaccinated if they have sickle-cellanemia, asplenia or nephrotic syndrome. Consult with the MHO.**

NWT Influenza Fact Sheet

What is influenza (flu)?

Influenza or flu is a viral infection of the nose, throat, bronchial tubes and lungs. There are two main types of virus: A and B. Each type includes many different strains which change from year to year.

When does influenza occur?

Influenza occurs most often in the winter months. Illness resembling influenza may occur in the summer months but they are usually due to other viruses.

Who gets influenza?

Anyone can get influenza, but it is most serious in the elderly, in people with chronic underlying illnesses (such as cancer, emphysema, asthma, or diabetes) or those with a weak immune system.

How is it spread?

Influenza is highly contagious and is easily transmitted through contact with droplets from the nose and throat of an infected person during coughing and sneezing.

What are the symptoms of influenza?

Typical flu symptoms include headache, fever, chills, cough and body aches. Intestinal symptoms are uncommon. Although most people are ill for only a few days, some people have a much more serious illness, such as pneumonia and may need to be hospitalized. Each year in Canada, deaths are attributable to the flu or flu-related complications.

How soon do symptoms appear?

The incubation period for influenza is one to five days.

How is influenza diagnosed?

Usually influenza will be diagnosed on the basis of typical symptoms such as fever, chills, headache, cough and body aches. Specific lab tests will normally be limited to confirm an ourbreak or as part of a sentinel surveillance efforts.

When and for how long is a person able to spread influenza?

The contagious period varies, but probably begins the day before symptoms appear and extends for a week.

Does past infection with influenza make a person immune?

Generally, no. The viruses that cause flu change frequently, so people who have been infected or given a flu shot in previous years may become infected with a new strain. Because of this, and because any immunity produced by the flu shot will possibly decrease in the year after vaccination, people in high risk groups should be vaccinated every year.

What are the high-risk groups?

The following groups are at increased risk for serious illness with the flu and should receive vaccine:

- all people 65 years and older;
- adults and children with long-term heart or lung problems;
- residents of nursing homes and other institutions housing patients of any age who have serious long-term health problems ;
- people who have kidney disease, cystic fibrosis, diabetes, anemia, severe asthma, cancer or immunological disorders and other medical conditions for which they are under the close supervision of a doctor.

Others who should receive vaccine include household contacts of high-risk people and health care workers who provide care to high-risk patients.

Who is the treatment for influenza?

Rest and liquids are usually adequate. A prescription drug called amantadine may prevent or reduce the severity of influenza type A, but is not effective against type B.

What can be done to control or prevent influenza?

Routine immunization against influenza is the most important control measure. Influenza vaccines may be available (flu shot) through your personal physician or local health department. When influenza type A occurs, amantadine may be prescribed for certain individuals.

Because new influenza viruses evolve continuously, the effectiveness of the vaccine sometimes varies from one year to the next. Nevertheless, studies have shown that even in years when new strains emerge, people in high-risk groups who obtain annual flu shots tend to have milder illness and are less likely to be hospitalized with complication due to influenza A.

"The viruses that cause flu change frequently, so people who have been infected or given a flu shot in previous years may become infected with a new strain."

For more information contact your Public Health Unit or community Health Centre

Anatomy of a Tuberculosis Outbreak

Introduction

Tuberculosis remains a significant public health problem in the NWT. In 1994, the NWT saw a resurgence in the number of active tuberculosis cases resulting in a rate of 102.6 cases per 100,000 population.[1] The second highest provincial/territorial rate for the same time period was 29.9 cases per 100,000 in the Yukon, while the Canadian rate was only 7.1 per 100,000 population.

In reviewing the 67 cases which occurred in the NWT in 1994, it becomes clear that the majority are associated with multi-case community outbreaks. An outbreak is an occurrence of more cases than expected in a specified time period.[2] For the NWT this usually equates to 6 or more cases involving 2 or more families. Forty-nine of the 67 cases or 73% of the total number of tuberculosis cases recorded in 1994, were associated with outbreaks. TB outbreaks occurred in four communities:

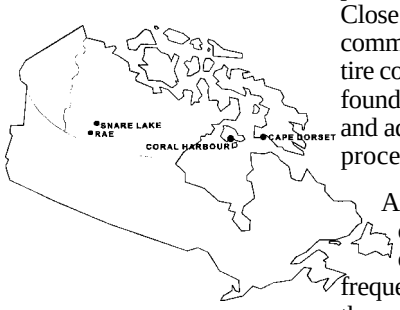
Cases attributed to TB outbreaks in 1994:

Cape Dorset - 11 cases

Coral Harbour - 11 cases

Rae Edzo - 17 cases

Snare Lake - 10 cases



The costs associated with a community tuberculosis outbreak, are high both in terms of financial and human resources. Individuals with advanced disease can require 1-2 months of hospitalization. Due to inadequate isolation facilities in some regions, infectious patients have been transferred to Stanton Hospital. Close social interaction, which is common in northern communities, often requires the screening of the entire communties where more than one TB case is found. Proper TB contact tracing is labour intensive and additional staff must be hired for the screening process.

An outbreak of tuberculosis in one community, creates the possibility of spread to other communities. Increased road access and greater frequency of flights between communities, promotes the spread of TB. Infected individuals who go undetected create a reservoir of infection which may act as the catalyst for outbreaks in future generations.

By reviewing the multi-case outbreaks experienced in NWT communities, strategies can be developed and implemented to prevent their occurrence and significantly reduce the overall rate of tuberculosis in the NWT. Factors relating to the development of TB outbreaks in the NWT have varied from community to community, but the common underlying components are discussed below.

Crowded Housing

Crowded housing conditions continue to be an important identified social issue in many NWT communities. Since tuberculosis transmission is predominantly airborne, overcrowded housing increases the likelihood of its spread, especially if someone in the household is highly infectious. Long winters maximize the amount of time individuals spend in their dwellings and extended families often spend time visiting each other which may also propagate the spread of TB.

Large Reservoir of Infected People

Historically high rates of TB have been characteristic of northern aboriginal communities. A large proportion of individuals born before 1960 have either been infected with tuberculosis or have developed active TB. Records are often unclear or incomplete concerning past treatment especially for individuals who were sent to southern sanatoriums. Due to the large pool of past infection and uncertain previous treatment regimes, the development of a small percentage of reactivated cases should be expected.

Delayed Diagnosis

The following nursing notes are from a patient with tuberculosis who was the source of a TB outbreak. The individual was initially infected a year and half earlier and was non-compliant with INH prophylaxis. Based on the evidence, the individual probably had smear positive TB when initially seen on May 16, but did not become hospitalized until July 6th. Incidently, during this time period, the health centre was short staffed.

May 16: S- *I have a headache and have been coughing x3/7. Also c/o sore throat, Sweating at times;* ***O-*** *21y.o. student, smokes++, ENT normal, T. 37.0 P.80, R. 22; Lungs-Crackles and rhonchi upper lobes, A/E to bases, no wheeze;* ***A-****URTI;* ***P-*** *Amoxil 500 tid x 7/7, tylenol plain prn, Stop smoking; RTC 3/7 for f/u*

May 19*:* ***S-*** *Recheck lungs, feeling better, still c/o sweating at night;* ***O-*** *T. 37 R. 20, Upper lobes still have crackles;* ***A-*** *URTI;* ***P-*** *Continue Amoxil, CXR, to see MD, f/u 1/52 or PRN*

May 25: *Settlement MD reviews CXR. Tells nurse that there are infiltrates both lungs. Orders ESR and mantoux*

June 8: *Settlement MD receives report from radiologist. The radiologist Report states " Fairly extensive bilateral infiltrates compatible with bilateral pneumonia. The possibility of tuberculosis cannot be excluded. Correlation with sputum examination, and culture and follow-up is recommended." MD writes on report that sputums have been ordered.* ***(Up to this point, neither the MD or health centre contacted the Medical Health Officer or Disease Control concerning the possible case of TB)***

June 10*:* ***S-*** *c/o headache starting today. Had headache last week. States is still in school. Unsure what she's doing now -Vague historian. Also called in for ESR and mantoux. Previous mantoux 17mm;* ***O-*** *R eye 20/40, L eye 20/40, PERL, red reflex. Blood drawn for ESR 115;* ***A-*** *Headache; Needs glasses; ? TB (see May 19 & 25 entries);* ***P-*** *Sputums for AFB x 3; On opthamology list; Tylenol ES prn*

Factors which Affect the Spread of TB

Greg Stark, RN BSN
Public Health Officer
Baffin Reg. Health Board

(Patient notes continued on side bar - this page)

Incomplete/delayed follow up of contacts

TB contact tracing is labour intensive and places additional work load requirements upon health centre staff. If there is an indication that more than one case of infectious tuberculosis is present in a community, additional staff are needed for contact tracing to be completed properly. The ramifications of incomplete contact tracing may not be seen for months or years later.

Staff and Patient Education

High rates of staff turnover and short staffing often means that new staff are not provided with a thorough orientation to the evaluation and management of suspected tuberculosis cases. Many health care professionals originate from the south, where tuberculosis is seldom seen, and thus do not consider it as a differential diagnosis.

Residents who reside in communities with high rates of tuberculosis, must be educated that they are at risk for developing TB. Most individuals who have TB, are diagnosed when they seek medical attention. If community members are aware of the signs and symptoms of tuberculosis, they may seek medical attention early, resulting in the early identification of a case and limiting potential spread.

Lack of surveillance & screening programs

During the 1960's, the Medical Services Branch implemented tuberculosis surveillance and screening programs which successfully lowered tuberculosis rates in the north. These programs were eventually discontinued, but their resurrection may be appropriate in communities which have recently experienced tuberculosis outbreaks.

Discussion

Communities in the NWT which have high prevalence rates of tuberculosis infection will continue to experience cases of tuberculosis. The key to lowering tuberculosis rates in these populations, is to prevent community outbreaks. The result will lead to fewer active cases, but more importantly, the reservoir of infected people will decrease thus limiting the potential for new TB cases in future generations.

The first priority in TB control is to identify and adequately treat all individuals with active disease.[3] Rapid diagnosis of suspected cases is based on the patient entering the healthcare system when the first signs of active tuberculosis appear, and the healthcare practitioner's ability to recognize tuberculosis. Both of these factors are based on education. Patient education can be emphasized through the use of posters, pamphlets, and radio shows which reinforce risk factors and signs and symptoms of TB.

New staff must receive orientation to the potential of TB in their community and region. This should encourage them to maintain a high index of suspicion for tuberculosis, and they should learn the diagnostic methods necessary for the diagnosis of TB. Staff should also be aware of the resources which they can utilize if they have any questions concerning a suspected case of TB. These resources include the Regional Medical Health Officers, the Disease Control Unit and the Tuberculosis Protocol for the Northwest Territories. Delays in diagnosing cases can lead to community outbreaks.

The second priority involves contact investigation. This involves screening all individuals who have come into contact with an active case. Some of these people may be active cases or are at high risk for developing TB. Contact tracing should be initiated promptly, as soon as possible after the initial case is diagnosed. If initial contact tracing identifies further active cases, additional staff should be recruited to assist with the contact tracing. All individuals infected with TB, should be offered INH prophylaxis which will prevent them from developing active disease.

The third priority involves screening and surveillance. In a healthcare era which stresses the importance of health prevention strategies, screening for TB in high risk communities is a cost effective approach. It has been estimated that the cost of treating one active case of TB which requires hospitalization at $81,000.[4] Screening programs should be flexible, and community specific, rather than being based on one regional policy. As tuberculosis rates change in a community, so should the screening and surveillance programs.

Conclusion

The NWT has the highest rate of tuberculosis in Canada. In reviewing the 1994 cases, 73% of the cases were related to community outbreaks. Due to the large reservoir of tuberculosis infection, it is likely that additional tuberculosis cases will develop in the future. However, if community outbreaks can be prevented, the rate of tuberculosis cases in the NWT will be drastically reduced. Community education, orientation of Health Care Workers, and the implementation of screening and surveillance programs are strategies which can be utilized for tuberculosis control. These strategies are focused to identify active cases of tuberculosis, which if detected, can prevent future community outbreaks.

References:

[1] Notifiable Diseases Annual Summary 1994. Canada Communicable Disease Report June 1996; 22S2: 102.

[2] Managing A Tuberculosis Outbreak. Canadian Tuberculosis Standards 1996: 89.

[3] Screening For Tuberculosis and Tuberculosis Infection In High-Risk Populations. Morbidity and Mortality Weekly Report 1995; (44): 19.

[4] Tuberculosis Services Annual Report. Alberta Health 1992: 22.

(continued from page 4...)

June 13: *No call/No show*

June 16: *Called in for f/u sputums. No show*

June 20: *Called for sputums over radio. No show*

June 22: *Pt. Called in response to radio request. States is unable to bring up sputum. Will come in for f/u ESR and check up. No show.*

S- *RTC this am stating lungs hurt. Previous CXR in May states pneumonia but TB can not be ruled out. ESR done June 10 115, + PPD 17mm Pt. notes weight loss;* ***O-****Thin emaciated 20 y.o., T. 37.9, P 140, RR. 36, B.P 98/64; Wt. 44kg (last recorded wt. 53kg). Chest: inspiratory creps R upper airway;* ***A-*** *TB?, Resp Infection?;* ***P-*** *Sputum* induced with ventolin mask and chest physio. Sputum thick green. Sent for AFB. F/U to*morrow for repeat sputum*

July 6: ***S-*** *RTC this am as requested. Reports blood in spit after leaving clinic yesterday;* ***O-*** *P. 150 RR. 34, Chest Inspiratory creps R upper lobe, Decreased A/E to bases;* ***A-*** *R/O active TB;* ***P-*** *Sputum collected. Green streaked with blood. Discussed case with disease control. To send pt. out on flight tomorrow. Pt. to wear mask on flight.*

Playgrounds:

Exploring the Safety of Playgrounds

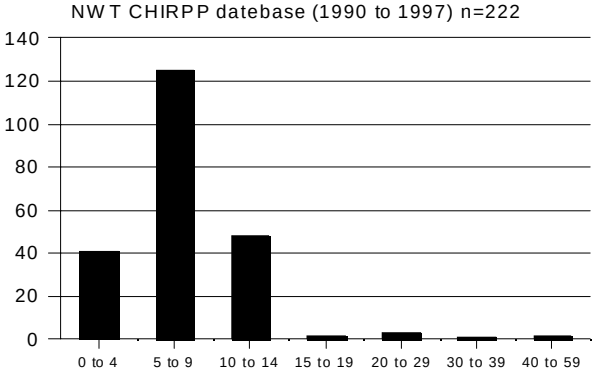
Playgrounds are an important part of a child's learning environment. These play environments provide children with recreation, assist with development of motor and social skills, plus provide an enjoyable outlet for physical exercise. For parents, playgrounds represent a safe haven for children to play and to enjoy themselves free from any threat of injury.

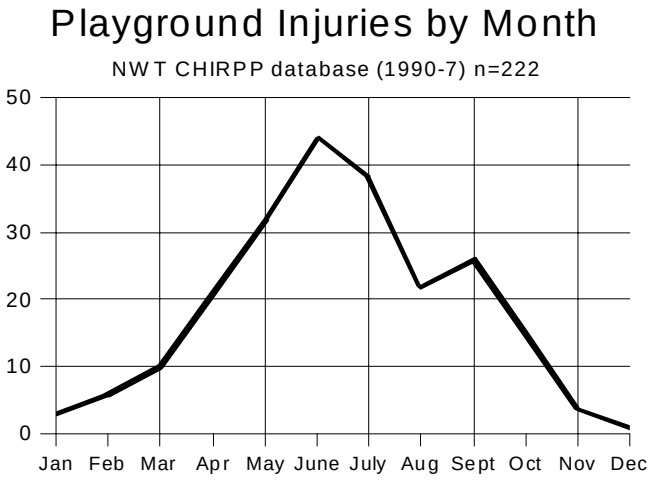
"Are playgrounds safe? Each year in Canada, 10,000 children are injured on playgrounds."

But are playgrounds safe? Each year in Canada, 10,000 children are injured on playgrounds.[1] The Canadian Institute of Child Health identifies that 21% of childhood injuries in children ages 5 to 9 occur on playgrounds.[2] This age group sustains more injuries than any other age group, with boys being injured more often than girls.[3] Falls account for more than 70% percent of the injuries sustained by children in a playground environment.[4] Fractures, head injuries, lacerations and even traumatic amputations also occur. Playground accidents account for almost half of the children under age 10 that the Yellowknife Fire Department treats and transports by ambulance to the Emergency Ward of Stanton Regional Hospital.

Even more disturbing and tragic is that since 1982, 15 children died of strangulation after drawstrings on their clothing got caught on equipment or they became entangled in their skipping ropes that were tied to play equipment.[5] Fatal incidents at playgrounds have been as recent as 1991 in Edmonton and 1994 in Toronto. The next most common cause of death involves falls from equipment, collapsing play apparatus, collisions between children and playground equipment or children being struck by moving equipment.[6]

Many parents are unaware of the injury potential that playgrounds in their community may present to their children. Between August 1990 and May 1997, 222 children were seen at the Emergency Ward of Stanton Regional Hospital for an injury sustained on a playground with seventeen of them being admitted.[7] With one third of the population of the NWT under age fifteen, playgrounds have the potential to produce substantial injury.

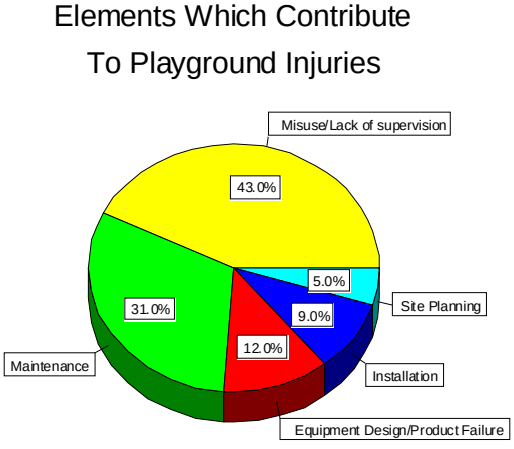




Determining the Problem

Why are children being injured on playgrounds? Presumably they spend a large amount of time at playgrounds, so it can be expected that they would experience a higher number of injuries. In the 5 to 9 age group, 31% of injuries are experienced in the child's home which supports the theory that increased exposure correlates to higher injury rates.[8]

But what factors cause children to become injured while on a playground? The critical elements that produce injury have been identified by Victor Hergott in the following graph.[9]



Essentially, injuries to children occurring on a playground are caused by two factors:

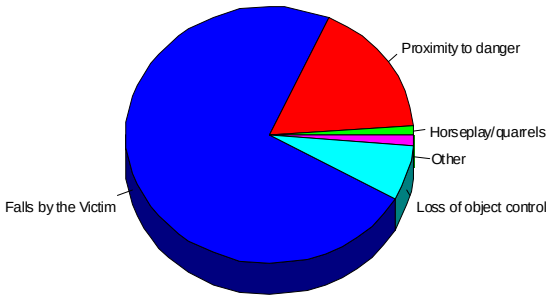
1. The way children play with equipment and use the playground.
2. The playground itself through the layout, type of equipment, maintenance, installation, etc.

Are they safe for our children?

Mike Lowing
Deputy Fire Chief
YK Fire Department

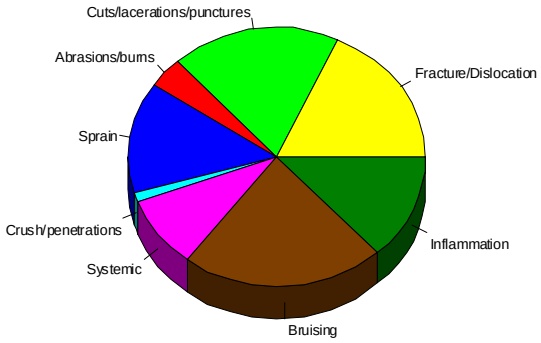
Injury by Event

NWT CHIRPP database (1990-7) n=222



Nature of Playground Injuries

NWT CHIRPP database (Total injures incurred)



Preventing Playground Injuries

As with the two factors, playground injury prevention programs can be split into two formats.

Playground Supervisor's Training

Those individuals that monitor children on the playground should be trained to recognize unsafe behaviour that can lead to a potential injury and provide corrective interventions. Intended for teachers, parents, daycare workers, and playground supervisors, the program focuses on the following injury prevention actions:

a) checking children for clothing or play items that can cause strangulation;

b) establishing policies or safety procedures for clothing and play activities;.

c) conducting quick daily inspections of the playground and play equipment;

d) age appropriate on-site supervision; and

e) identifying behaviours linked to injuries.

Playground Inspection Program

More than half the injuries to children pertain to the physical environment of the playground. Inspections of the playground are the best way to address this issue and they are divided into three categories.[10]

1. Daily Inspections
   - conducted by playground supervisors
2. Monthly Detailed Inspections
   - conducted by maintenance personnel
3. Annual Comprehensive Written Reports
   - conducted by maintenance personnel or external inspector

All new playgrounds and play equipment should meet the Canadian Standards Association (CSA) Guideline on Children's Playspaces and Equipment (CAN/CSA-Z614-M91). This document applies to existing playgrounds and those sites undergoing renovation and is not just specifically for new playground operations.[11]

Looking to the Future of Playground Safety

Any person, group, or organization can get involved in the safety of their community playgrounds. The first step is get the training, then take action. The City of Yellowknife Fire Department offers both training for playground supervisors and for playground inspectors. In addition, personnel from the Fire Department can perform the comprehensive inspections and provide recommendations for operators to upgrade existing playgrounds to meet the CSA guideline. The upgrade of older sites can reduce the injury potential of these playgrounds

By becoming involved you can make a difference in the safety of the playgrounds in you community.

For further information on playground safety contact Mike Lowing at the Yellowknife Fire Department at (403)873-4506.

References

1 SAFE KIDS Canada, Playground Fact Sheet, 1996.

2 Canadian Institute of Child Health, The Health of Canada's Children, 2nd ed, 1994.

3 SAFE KIDS Canada, Playground Fact Sheet, 1996.

4 Alberta SAFE KIDS, For Children's Sake: A Playground Safety Guide, 1996.

5 SAFE KIDS Canada, Playground Fact Sheet, 1996.

6 SAFE KIDS Canada, Playground Fact Sheet, 1996.

7 CHIRPP, Stanton Regional Hospital, 1997.

8 Canadian Institute of Child Health, The Health of Canada's's Children, 2nd ed, 1994.

9 Hergott, Victor A., It's Time to Stop Playing Around, 1997.

10 SAFE KIDS Canada, Child's Play, 1997.

11 Canadian Standards Association, A Guideline on Children's Playspaces and Equipment, 1991.

NWT Botulism Cases:

1997 - 5 (to date) (Inuvik-1; Ft Smith - 1; Keewatin - 3)

1996 - 1 (Kitikmeot)

1995 - 1 (Inuvik)

1994 - 2 (Keewatin & Inuvik)

1993 - 1 (Keewatin)

1992 - 1 (Inuvik)

1991 - 6 Keewatin (5) Kitikmeot (1)

1990 - 1 (Baffin)

1989 - 4 (Inuvik)

General Botulism Prevention Guidelines:

- Use clean tools/ cutting surface when handling muktuk
- Do not ferment muktuk in plastic
- Do not mix fresh muktuk with old muktuk
- Do not use old seal oil/blubber to ferment muktuk
- Keep muktuk or caribou in refrigerator or community freezer
- Consult Environmental Health for educational materials

Reportable Diseases in the NWT...

Positive identification of Botulism type E in Arviat

Introduction

On Friday, August 1, 1997, 3 persons from the community of Arviat had been taken to the local Health Centre complaining of abdominal cramps, diarrhea, vomiting and malaise. On August 3, 1997 at 1700 hours the Environmental Health Officer in Rankin Inlet was notified by telephone of the situation. The following outlines the investigation led by the EHO.

Coordinating an investigation

Data control with nurses involved

Immediately after notification, a full scale investigation began which encompassed setting up a communication line via fax modem to educate the nurses regarding the appropriate protocol to follow as per International Association of Milk, Food and Environmental Sanitarians, (I.A.M.F.E.S.) (1988)

- Log the complaint data
- Notify the Medical Health Officer immediately
- Forward all background information on each patient to Environmental Health Officer. Collect clinical specimens.
- Collect food samples and record: Time, Date, Quantity, Temperature, Kind of food and who collected the samples (as per procedure for collection and submission of specimens).

Continuance of investigation by Environmental Health Officer

Initial contact with the closest laboratory for immediate assistance in isolating the pathogen(s) was made. This included speaking directly to the Serologist on call. Following that, contact was again made with the laboratory to ensure that all samples arrived safely and to inform the analyst that a portion of the food sample must be sent on to the Botulism Reference Service (BRS) in Ottawa. This was necessary as one of the patients developed symptoms associated with Botulism poisoning, ie, dry mouth, blurred vision and urinary retention.

Initial food samples were collected using the Foodborne Investigation form, which was a valuable tool for data collection In depth interviews were then conducted with the family members to obtain a complete food history. The emphasis was placed on determining what and where food items were purchased and what the sequence of events were involving the hunting, killing and processing of muktuk (whale blubber) from one baby beluga whale.

By the time the E.H.O was notified, all the food had been consumed or deposited in the trash can, so to the trash cans the investigators went. This was the only option in order to secure some samples of muktuk (whale blubber) and caribou meat and fat associated with the food history.

Laboratory Findings

The laboratory involved was able to isolate the following:

Baby Beluga

- Bacillus Cereus
- Clostridium, perfringens
- Fecal coliforms MPN
- Total coliforms MPN
- Staphylococcus aureus SP

Caribou Fat

- Bacillus Cereus
- Clostridium perfringens
- Fecal coliforms MPN
- Total coliforms MP
- Staphylococcus aureus SP

After the patients began exhibiting symptoms associated with Botulism food poisoning, the staff at Enviro Test Laboratory in Winnipeg was notified and samples of the suspected food were sent on to the Botulism Reference Service for further analysis.

Discussion

As the investigation progressed, a growing number of individuals within the community became more curious and the nurses were being inundated with telephone calls and visits from these individuals. As a result, an information sheet was prepared and broadcast on the local radio phone-in show. This was done in English and Inuktitut. The radio show was followed with a release to all Health Centres in the Keewatin Region to update the nurses. The release included general guidelines for the prevention of botulism related to food poisoning (see sidebar - p. 8)

Food borne illness investigations seldom run smoothly for a number of reasons, some of which are mentioned below:

- Ill persons do not want to be queried.
- Cultural values and beliefs dictate a lifestyle

An Outbreak of Botulism

Lesley Moody, EHO
Keewatin Regional Health Board

(food preparation practices) that may be unfamiliar to unvestigators/nurses and other health care professionals.

- Cultural boundaries may not be obvious to investigators, thus posing obstacles to the documentation of the incidents involved and the collection of necessary specimens, both clinical and biological.
- Delayed notification by Health care professionals to Environmental Health Officer.
- Meeting with scheduled airline departures for transportation of specimens to Laboratory in Winnipeg.
- Failure to follow appropriate procedure for immediate sample collection and preparation for transport.

As a result, the management and professionals involved in the incident are presently developing a uniform protocol for the Keewatin Regional Health Board that will be implemented upon completion. Finally, during the course of the investigation several issues arose that needed attention, one such was the safety of the food supply at the local stores (see radio announcement entitled Response to Food Poisoning Investigation in Arviat). This was addressed by way of a radio announcement.

Outcome

As part of the investigation, contact was made with the Observer Communicator for the Arviat Airport, to ascertain the ambient air temperature for July 30, 31 and August 1, 2. These temperatures have yet to be quality assured by Climate Services in Winnipeg. A comparitive analysis was made using Rankin Inlet ambient air temperatures for the same days (see chart on sidebar - page 9).

The temperature were gathered to correlate the kind of environment the muktuk was stored in and the evidence of accelerated growth rates found in the sample. The following is an outline of the processing that the family involved used, which resulted in the food borne illness.

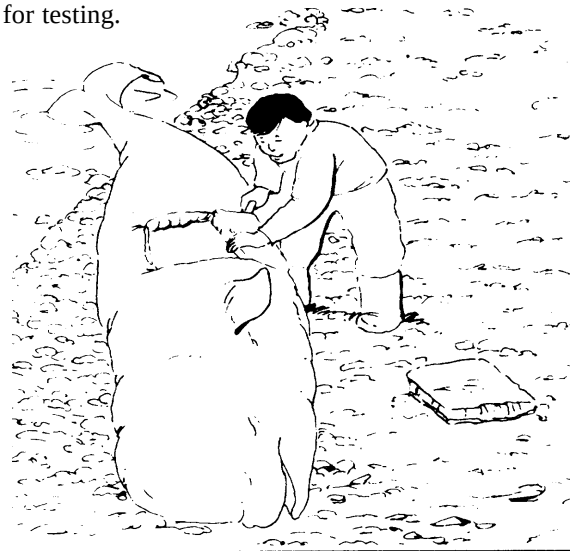
- July 31,1997. Whale blubber and oil seperated (same day Whale was caught).
- Container: A commercial box used for foood products initially, but it is not known what use or uses it had prior to having the Muktuk stored in it. The size of box was approximately 56cm X 46cm X 20cm.
- Muktuk stacked in layers in a box and placed in the back porch, without refrigeration for at least 24 hours.
- The temperature was noted to have reached as high as 32.2 to 37 degrees celsius in these back porches during days with ambient air temperatures as reported.

All remaining Muktuk was confiscated and stored in the community freezer and later destroyed at the direction of the Environmental Health Officer.

During the course of the investigation, the question "why did only 3 members of the family become ill although all members consumed the muktuk?" was raised. It was postulated that it may have been the way the muktuk was stored and served. It is possible that those family members who remained well had eaten from the top layers and those who became ill had eaten from the bottom layers where the anaerobic conditions would have prevailed. The temperature of the porch combined with no change in the pH of the blubber and the lack of other competitive flora provided the ideal environment for the prolieration of C. Botulinum cells. This theory has been qualified by Dr. Burke Branchfield of the Botulism Reference Service in Ottawa.

Acknowledgements

A special thanks to and recognition of the dedication of the nurses and the community health representative (CHR) involved in Arviat. Much of the initial investigation was done by these individuals. Also many thanks to the Enviro.Test Laboratory in Winnipeg for their quick analysis of the samples sent and the promptness with which they forwarded the remaining sample on to the Botulism Reference Service (BSR) in Ottawa for testing.



Thanks to Wanda White, Communicable Disease Consultant for Health and Social Services in Yelowknife, for her direction and to Frank Hamilton for his input. Finally, many thanks to the airline people involved in getting all samples delivered to the laboratory on time and in good condition.

Ambient Air Temperatures

Arviat:

Jul 30 -	17	(high)
	10	(low)
Jul 31 -	14	
	11	
Aug 1 -	13	
	10	
Aug 2 -	16	
	11	

Rankin Inlet:

Jul 30 -	16.6	(high)
	8.0	(low)
Jul 31 -	13.6	
	7.0	
Aug 1 -	11.3	
	5.3	
Aug 2 -	11.3	
	4.5	

An educational pamphlet entitled "Botulism: What you should know" (which bears this picture) is available in both English and Inuktitut, from Regional Environmental Health Officers or from the DHSS - Environmental Health Consultant.

Nutrition News: New Report Released!

Report on Dietary Reference Intakes

The ***Report on Dietary Reference Intakes for Calcium, Phosphorous, Magnesium, Vitamin D and Fluoride*** was released by the National Academy of Sciences, August 13, 1997, in Washington, DC. This report received front page news in the *Globe and Mail.*

The National Academy of Sciences is an American non-profit society of scholars interested in the advancement of science and technology. However, work on this report involved nutrition specialists from both Canada and the United States. Canada has increased its efforts to work internationally for several reasons: there is an increasingly complex knowledge base of nutrients, food and health; global trade and international agreements; and a recognition that the science of nutrition knows no borders.

"Science in the area of nutrition and chronic disease has progressed to the point where nutrition recommendations can be made to help people achieve measurable physical indicators of good health. The focus of the future will be an emphasis on the health benefits that food can provide."

Highlights of the Report

1. Science in the area of nutrition and chronic disease has progressed to the point where nutrition recommendations can be made to help people achieve measurable physical indicators of good health. The focus of the future will be an emphasis on the health benefits that food can provide.

2. CALCIUM - the most important recommendation made in the report is about calcium. Very few Canadians or Americans get enough of the mineral for healthy bones. Teenagers need to get 1,300 mg a day, the equivalent of 4 glasses of milk, as their bones are rapidly growing. The current Recommended Nutrient Intake of Calcium for 13 - 15 year Olds is 1,100 mg/day.

3. There should be Dietary Reference Intakes for men and women at different ages. They suggest a set of four guidelines:

- ***Recommended Dietary Allowances*** - nutrient intakes that meet the nutrient needs of almost all healthy individuals.
- ***Adequate Intakes*** - intakes set for a nutrient that does not have enough scientific evidence to estimate an average requirement.
- ***Estimated Average Requirements*** - intakes that meets the estimated nutrient need of half of the individuals in a specific group.
- ***Tolerable Upper Intake Levels*** - the maximum intake by an individual that is unlikely to pose risks of adverse health effects in almost all healthy individuals in a specified group.

How will this report affect Canadians?

Currently, Nutrition Recommendations are established by Health Canada to recommend a diet which meets the needs for essential nutrients while reducing the risk of diet-related diseases, such as heart disease, cancer, diabetes, and osteoporosis. Nutrient Recommendations form the scientific basis for nutrition policy and programs across Canada.

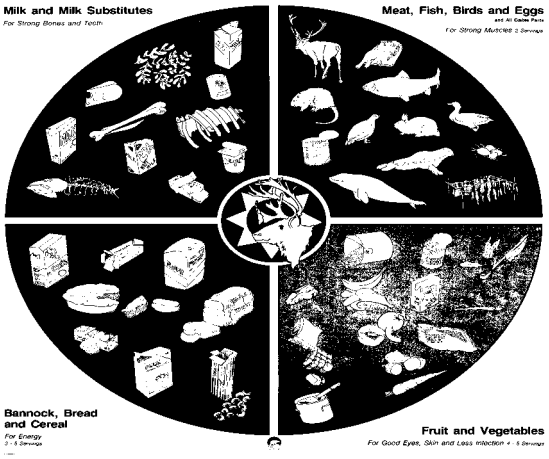
Health Canada will be reviewing the report in consultation with the Canadian nutrition community. They will consider how the dietary references should best be translated for Canadian applications. This will take some time. Ultimately, the report's new information will affect current nutrition recommendations. These are established in the *Canada's Food Guide to Healthy Eating* and the *NWT Food Guide*.

For more information....

Contact your local nutritionist or dietitian or the Consultant Nutrition, Department of Health and Social Services. They can provide you with updates.

N.W.T. FOOD GUIDE

Eat foods from each group every day for Health



Website information:

The **Health Canada website** is at <http://www.hc-sc.gc.ca/datahpb/datafood> along with links to the US sites.

These sites provide general information on the **Dietary Reference Intakes (DRI's)** and the text of the report at <http://www2nas.edu/fnb>.

A copy of the **National Academy of Sciences (NAS)** press release at <http://www.nas.edu/new> and ordering information at <http://www.nap.edu>.

Chlamydia in Canada & the NWT: An Update

Chlamydia trachomatis infections contribute to 84% of reported genital chlamydial infections in Canada and 88% of reported infections in the NWT. Genital Chlamydia became nationally notifiable in Canada in 1990; however, data from all provinces and territories are only available from 1992 onward. Prior to 1990, positive test results were collected from Canadian laboratories through a voluntary reporting system. The Canada Communicable Disease Report (August 1, 1997 Vol. 23-15) provides the following picture of chlamydia in Canada, and includes recommendations for screening programs.

Approximately 70% of infections in women are asymptomatic. Symptoms may occur within 6 to 14 days of exposure. In males, the main clinical manifestation of chlamydia is urethritis. An estimated 1% to 25% of sexually active men are asymptomatic carriers of infection and act as a reservoir for its spread.

The greatest impact of untreated infections is felt by women of childbearing age. Up to 65% of all pelvic inflammatory disease cases, 70% of all tubal infertilities and 30% of all extopic pregnancies are associated with a prior chlamydia infection. The estimated burden of illness in Canada is between $41 and $123 million annually. Vertical transmission of infection from mother to neonate via the birth canal often results in pneumonia or conjunctivitis. This problem was highlighted in a previous issue of EpiNorth (Vol. 8 Issue 6).

In 1995, 37,557 cases of genital Chlamydia were reported in Canada, a decrease of 19% from 1992. The national rate of infection decreased 22%, from 162.4 to 126.8 cases per 100,000 between 1992 and 1995. Within the NWT there has been very little change over the past four to five years. In 1992 there were 899 reported cases and in 1995 there were 914 cases. Rates per 100,000 decreased from 1437.1 in 1992 to 1388.5 in 1995, making the NWT rate 11 times the national rate. The next closest juresdiction is the Yukon, with a rate of 518/100,000 in 1995.

Screening programs for STDs are focused primarily on sexually active individuals <25 years of age. This is due to their high rate of infection and because females within this age cohort are at risk for developing serious sequelae (as noted above). Screening should include obtaining the individual's sexual history, a physical examination and laboratory tests. General screening of pregnant women is also recommended.

Case Finding

A patient-based strategy for individuals with an increased risk of one or more STD (eg. sexual contacts).

Whom to Screen

1. Sexual contacts of persons proven or suspected of having one or more of the following:

- chlamydia
- gonorrhea
- syphilis
- hepatitis B virus
- HIV
- urethritis
- cervicitis
- PID
- epididymitis

2. Neonates at risk of congenitally acquired STD infection when:

- mother is at high risk for STD (see focused screening)
- mother's STD status is unknown (i.e no prenatal screening)
- one or both parents are known to have urethritis, cervicitis, PID, epididymitis, or an infection with Chlamydia, gonorrhea, syphilis, HIV, or hepatitis B virus

3. Persons who have been sexually assaulted and children who have been sexually abused.

Focused Screening

A group-based strategy for subpopulations with high STD prevalence rates (e.g. street youth, adolescents, core groups)

Whom to screen

1. Siblings of sexually abused children

2. Sexually active persons with one or more of the following risks:

- < 25 years of age
- injection drug user
- other substance abuser
- street user
- history of STD in the past year
- new partner in the past 2 months
- two or more new partners in the past year
- use of non-condom contraception
- unprotected sex (no condom used) with any partners having any of the preceding risks

General Screening

A population-based strategy for certain members of the general public who are not considered to be at increased risk for STD but in whom serious consequences may result if infected (e.g. syphilis and HIV testing of pregnant women)

Whom to Screen

- High risk pregnant women in the third trimester

Data Sources:

CCDR Volume 23-15 (Aug 1/97)

GNWT Communicable Disease database.

Editor's Note:

While 1996 chlamydia statistics for Canada have not been released, in the NWT, the number of cases increased to 926 (up from 914).

For 1997, up to the end of August, there have been 628 cases reported, compared to 566 cases for the same period in 1996.

These numbers underscore the importance of vigilent screening and treatment in the NWT.

Health Protection Unit Mailbox

Questions??

Contact:

Wanda White

Communicable Disease Consultant Health Protection Unit

(403) 920-8646

Q: What does it mean when certain parts of an hepatitis B screen is positive, or negative.

A: The interpretation of hepatitis B markers can be difficult, but with a modicum of experience and knowledge it becomes easier. There are many reasons why hepatitis serology is ordered on a patient. A number of times it is a matter of routine screening: prenatally, in conjunction with STD investigation, or prior to immunization Also hepatitis B virus (HBV) may be a differential diagnosis in the investigation for acute hepatitis. It is very important to know what the markers mean because each mark is indicative of a different phase of the disease and demands a different action on part of the health care provider.

There are many serological antigen tests available to detect various phases of hepatitis B infection. Hepatitis B surface antigen (HBsAg) is the first screen that will be done in the lab. This antigen is usually detectable during acute infection, except during the period of resolution when anti-HBs has not yet appeared ("window phase"). Thus it is important to test for Immunoglobulin M anti-Hbc, as it is highly specific in establishing the diagnosis of acute infection; and it is present early in the infection as well as during the "window phase" in older children and adults. However, IgM anti-HBc is usually not present in perinatal HBV infection. Persons with chronic HBV infection have circulating HBsAg and HBc. Only anti-HBs and Ant-HBc are detected in persons with resolved infection, whereas anti-HBs alone is present in persons immunized with hepatitis B vaccine.

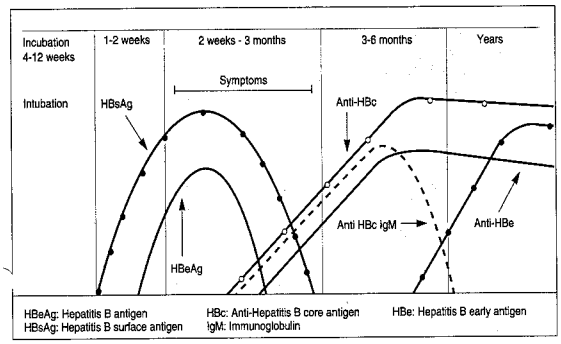


FIGURE 1. Serologic profile of acute hepatitis B.

Acute hepatitis B is usually identified clinically in conjunction with a positive HBsAg and IgM Anti-HBc antigen. The clinical picture in those recently infected varies from asymptomatic to mild symptoms of anorexia,nausea, malaise to severe disease resulting in fulminant fatal disease. There isn't any specific treatment for HBV infection.

When a person has a positive HBsAg test and is IgM anti-HBc-negative and the HBsAg remains positive for a period of six months then they become know as hepatitis B carriers. These people form the greatest pool of infection for the general population. Hepatitis B carriers can go on to develop chronic hepatitis with an escalation in liver damage. Therefore it is very important to follow liver function on a yearly bases, for early identification of chronicity. These patients require consultation with an Internist as alppha-interferon has demonstrated limited efficacy in resolving chronic infection.

The HBeAg status of all HBsAg positive persons should be determined. All those with a continuing positive envelop antigen (HBeAg) are at increased risk for transmitting HBV. This has implications for vigilence in contact tracing and public health initiatives to protect contacts from exposure. HBeAg positive health care workers have been implicated in several outbreaks of hepatitis B in their clients.

A brief description of the various diagnositic tests for Hepatitis B can be found in Figure 2.

If you have any difficulty whatsoever in interpreting the results of hepatitis B serology do not hesitate to contact your Medical Health Officer or myself at the Health Protection Unit.

The following page identifies some Internet resources which will help provide caregivers and clients with up to date information on Hepatitis B.

Figure 2: Diagnostic Tests for Hepatitis B Virus (HBV)

Abbreviation	Hepatitis B Virus Antigen or Antibody	Use
HBsAg	Surface antigen	Detection of acutely or chronically infected persons
Anti-HBs	Antibody to surface antigen (HBsAg)	Identification of persons who have had infections with HBV; determination of immunity after vaccination
HBeAg	e antigen	Identification of infected persons at increased risk for transmitting HBV
Anti-HBe	Antibody to HBe	Identification of HBsAg carriers with low risk for transmitting HBV
Anti-HBc	Antibody to core antigen	Identification of persons with acute or past HBV infection (not immunization)
IgM Anti-HBc	IgM antibody to core antigen	Identification of acute or recent HBV infections (including those in HBsAg-negative persons)

Site Seeing on the 'Net

Since we're on the the topic of Hepatitis B, this seemed like a great opportunity to search the Internet for some useful resources. Our first stop is:

Destination: http://www.hepnet.com

Where are we?

The Hepatitis Information Network

HepNet

What's there?

This site focuses on the needs of the medical community, providing updates on patient care issues, serology, new clinical papers and news releases, as well as links to many other excellent hepatitis related sites.

Special attractions: Not one, but two!

1) Slide Shows: There are three slide shows which are available to watch on screen, as well as to download eg. as a PowerPoint presentation. These are:
Hepatitis C Slide Presentation
Hepatitis Presentation for GPs
CASL Hepatitis Consensus 1997 Slides

2) Interactive Quizzes: Several quizzes are available to answer on line and receive immediate feedback on. These include:
General Hepatitis Info Quiz
Risk Factor Quiz
Serology Quiz
Hepatitis C Quiz
NIH Consensus Quiz

Some sample questions are listed to the right. After having read the HPU mailbox on page 12 , let's see how you fare.

Roadblocks?

Generally, this site is easy to negotiate around. Some difficulties were encountered when attempting to download the slide presentations.

Overall rating:

This is an extremely informative site which comes with a Canadian focus. Professionals should especially take advantage of this up-to-date information on Hepatitis C, familiarizing themselves with the extent of this emerging pathogen as well as new research findings.

This site is a MUST SEE!!!!

Other interesting sites:

1) Program for interpretation of serologic tests for hepatitis: **<www.med-expert.co.at/hepax>** This site demonstrates a software program which will interpret Hepatitis blood results. Simply enter in test findings online and the program will provide an interpretation. Check it out!

2) Patient Information Sites: Most of the following sites provide fact sheets on a number of communicable diseases, although some adaptation is required where US statistics are given.

<www.libertynet.org/~hepb>

<www.hlth.gov.bc.ca/general> (choose "Health Files")

<www.charm.net/~epi1/diseases>

<www.cdc.gov/ncidod/diseases/diseases>

<www.hawaii.gov/health/chicdd01>

Check out these sites as you travel the Internet!

Hepatitis B Quiz

(All questions were taken from the Hepatitis Information Network site

1. Which marker indicates immunity against hepatitis B?

   a. HBsAg
   b. HBeAg
   c. HBV-DNA
   d. anti-HBV
   e. anti-HBs

2. Which marker is present after vaccination for hepatitis B?

   a. HBcAg
   b. HBeAg
   c. anti-HBe
   d. anti-HBs
   e. anti-HCV

3. In adults, once acquire, hepatitis B is always chronic. T or F
4. Chronicity is a measure of disease severity. T or F
5. Hepatitis B can be transmitted sexually. T or F
6. There is a vaccine available for all forms of hepatitis. T or F
7. If a patient tests positive for hepatitis B (HB), a vaccination will clear the virus. T or F
8. Hepatitis B is about 100 times more infectious than HIV. T or F
9. Soap and water can kill the hepatitis B virus. T or F
10. Tattooing is a risk factor for acquiring hepatitis B and C. T or F

Answers: 1. e; 2. d; 3. F 4. F; 5. T; 6. F; 7. F; 8. T; 9. F; 10. T

Notifiable Diseases By Region for July and August 1997

	DISEASE	Month	Cumulative		REGIONS (YTD - 1997)				
		Jul & Aug 1997	1996 YTD	1997 YTD	Baffin	Fort Smith/ Mackenzie	Inuvik	Keewatin	Kitikmeot
Vaccine Preventable Diseases	H. influenzae B	0	2	0	0	0	0	0	0
	Influenzae	0	0	15	0	0	0	15	0
	Measles								
	Mumps	0	1	0	0	0	0	0	0
	Pertussis	1	16	16	0	14	1	0	1
	Rubella								
Enteric Diseases	Botulism	4	1	5	0	1	1	3	0
	Campylobacteriosis	5	13	11	0	8	0	1	2
	Cryptosporidiosis	6	0	14	10	0	0	1	3
	E.Coli 0157:H7	0	0	6	0	2	0	0	4
	Food Poisoning	0	0	5	0	5	0	0	0
	Giardiasis	2	13	5	2	3	0	0	0
	Salmonellosis	9	16	16	4	7	2	1	2
	Shigellosis	1	0	2	1	1			
	Tapeworm Infestation	0	0	1	0	1	0	0	0
	Trichinosis	1	2	1					
Sexually Transmited Diseases	Chlamydia	160	566	628	177	177	81	142	51
	Gonorrhea	15	81	91	54	20	5	4	8
	Syphillis								
Viral Hepatitis	Hepatitis A	0	1	0					
	Hepatitis B	1	4	3	0	3	0	0	0
	Hepatitis C	4	27	13	2	9	1	1	0
	Hepatitis, Other	0	1	0					
Other Systemic Diseases	Brucellosis	3		4	0	1	0	0	3
	Chickenpox	67	525	212	3	98	4	55	52
	Group A Strep	1	0	3	0	1	1	0	1
	Meningitis/Encephalitis	1	2	7	1	4	0	1	1
	Meningococcal infection	0	2	0					
	Rabies Exposure	1	0	5			5		
	Tuberculosis	4	32	23	3	19	0	1	0

HIV INFECTIONS BY YEAR SEEN IN NWT RESIDENTS

YEAR	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
NUMBER/YEAR	3	2	2	3	3	8	4	2	0	2	**1**
CUMULATIVE	3	5	7	10	13	21	25	27	27	29	**30**

Notifiable Diseases Reported By Community

July 1997

Brucellosis, 1: In Taloyoak.

Campylobacteriosis, 1: In Iqaluit.

Chickenpox (varicella), 33: Yellowknife, 23; Rankin Inlet, 4; Norman Wells, 2; Ft Simpson, 2; Ft Providence, 1; Repulse Bay,1.

Chlamydia, 92: Arviat, 11; Iqaluit, 10; Yellowknife, 10; Baker Lake, 7; Rae, 6; Cape Dorset, 5; Inuvik, 4; Wha Ti, 4; Coral Harbour, 3; Igloolik, 3; Kimmirut, 3; Rankin Inlet, 3; Ft Good Hope, 2; Ft McPherson, 2; Ft Providence, 2; Ft Simpson, 2; Kugluktuk, 2; Tuktoyaktuk, 2; Whale Cove, 2; Aklavik, 1; Arctic Bay, 1; Clyde River, 1; Ft Smith, 1; Hay River, 1; Pangnirtung, 1; Pelly Bay, 1; Pond Inlet, 1; Whale Cove, 1.

Giardiasis, 1: Ft Smith.

Gonorrhea, 6: Yellowknife, 2; Hay River, 1; Iqaluit, 1; Kugluktuk, 1; Sankikiluaq, 1.

Hepatitis C, 4: Yellowknife, 2; Cape Dorset, 1; Iqaluit, 1.

Pertussis, 1: In Yellowknife.

Rabies Exposure, 1: In Tuktoyaktuk.

Salmonellosis, 2: Pond Inlet, 1; Yellowknife, 1.

Tuberculosis, 3: Yellowknife, 2; Sanikiluaq, 1.

August 1996

Botulism, 4: Arviat, 3; Aklavik, 1.

Brucellosis, 2; Lutselk'e, 1; Taloyoak, 1.

Campylobacteriosis, 4: Rae, 2; Yellowknife, 2.

Chickenpox (varicella), 34: Lutselk'e 19; Yellowknife, 13; Rankin Inlet, 1; Ft Simpson, 1.

Chlamydia, 68: Arviat, 12; Rankin Inlet, 11; Igloolik, 1; Coral Harbour, 3; Inuvik, 3; Tutoyaktuk, 3; Ft Simpson, 2; Hay River, 2; Kugluktuk, 2; Pangirtung, 2; Wha Ti, 2; Whale Cove, 2; Yellowknife, 2; Arctic Bay, 1; Cape Dorset, 1; Chesterfield, Ft Resolution, 1; Holman, 1; Inuvik, 1; Iqaluit, 1; Rae, 1; Repulse Bay, 1; Sanikiluaq, 1.

Cryptosporidiosis, 6: Pelly Bay, 3; Igloolik, 1; Pond Inlet, 1; Repulse Bay, 1.

Giardiasis, 1: In Pond Inlet.

Gonorrhea, 9: Pangnirtung, 2; Yellowknife, 2; Iqaluit, 2; Kugluktuk, 1; Rankin Inlet, 1; Whale Cove, 1.

Group A Streptococcus, 1: In Tuktoyaktuk.

Hepatitis B, 1: In Yellowknife.

Meningitis, 1: In Ft Providence.

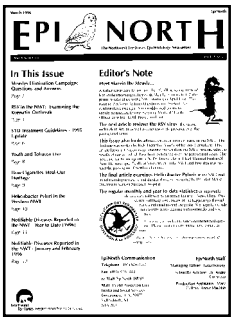
Salmonellosis, 7: .Yellowknife, 3; Kugluktuk, 2; Ft McPherson, 1; Rankin Inlet, 1.

Shigellosis, 1: In Iqaluit.

Trichinosis, 1: In Baker Lake.

Tuberculosis, 1: In Hall Beach.

Notifiable disease information reported in **EpiNorth** on a monthly basis reflects reports ***received*** in the ***Health Protection Unit*** during the current month, not the month in which the cases occurred. Health professionals who suspect or diagnose a Notifiable Disease are required to report it to their ***Regional Medical Health Officer*** within the time frame legislated in the Public Health Act/Communicable Disease Regulations.


EPI NORTH

In This Issue

Editor's Note

EpiNorth is a publication of the Health Protection Unit, Division of Population Health, Department of Health and Social Services.

Contributions are welcome and should be sent to the Managing Editor. Articles should be in WordPerfect format. Inclusion of material in **EpiNorth** does not preclude publication elsewhere.

Views expressed are those of the authors and do not necessarily reflect departmental policy.

News Clips:

- ***Cryptosporidiosis in Pelly Bay***
- ***Salmonella Meleagridis: Canada***
- ***Suspected Hantavirus: Ontario***
- ***Outbreak of Botulism: Quebec***
- ***Vibrio parahaemolyticus: BC***
- ***Voluntary recall of ground beef: USA***

Around the NWT

Cryptosporidiosis in Pelly Bay

In early August 3 confirmed cases of cryptosporidiosis were reported to the EHO for the Kitikmeot Region. The NIC for Pelly Bay also reported that an additional 23 persons had presented at the health centre with profuse, watery diarrhea, and cramping abdominal pain. A few also experienced vomiting. Of these 23 persons, 3 stool samples had been collected and came back negative for cryptosporidiosis.

A "boil water order" was issued for the community and water treatment plant inspected. Samples from water trucks found chlorine levels to be 0.4 mg/L, with no evidence of total or faecal coliforms. No source for the cryptosporidiosis/diarrheal outbreak was found. The boil water order remained in effect until chlorination levels were satisfactory.

Source: Robert Phillips, EHO, Kitikmeot Region

Elsewhere in Canada

Salmonella Meleagridis: Canada

The Bureau of Microbiology, LCDC, has been notified regarding 14 additional cases of a rare Salmonella serotype *S. meleagridis* isolated in Alberta. This brings the case tally for 1997 to 34: 18 from Ontario; 14 from Alberta; 1 each from Manitoba and Saskatewan. Investigations into whether there is a common link between the cases in Alberta are being made.

Susequently, there has also been one case recently reported in the NWT. Interestingly, recent travel to Saskatewan was reported in this instance. No epidemiological link has yet been made.

Source: LCDC; Alberta Health; NWT HPU

Suspected Hantavirus: Ontario

The news media have recently reported a case of hantavirus pulmonary syndrome in Southern Ontario. Further testing of the virus, a type previously only reported from California, is currently being carried out by LCDC. Provincial and local health authorities are continuing to investigate the circumstances relating to this infection. Hantavirus pulmonary syndrome is a rare infection and only 18 cases had been recorded in the period 1989 to 1997. All 18 cases had occurred in the provinces of Alberta, British Columbia and Saskatchewan.

Source: Ontario Department of Health; Bruce-Grey-Owen Sound Health Unit; LCDC

Outbreak of Botulism: Quebec

On September 8, the Botulism Reference Service (BRS) in Ottawa was informed of a new outbreak of botulism in northern Quebec. Reports indicate that 14 people consumed meat and micerak (fermented fat of marine mammals), 9 of whom showed symptoms of botulism. Serum samples from 7 of the 14 people were positive for Type E neurotoxin. Neurtoxin has also been detected in the food. The food, gastric liquid, and fecal samples will be analyzed for the presence of viable *Clostridium botulinum.*

Source: HPB/Food Directorate/Bureau of Microbial Hazards/Botulism Reference Centre.

Vibrio parahaemolyticus: British Columbia

Thirty-three lab-confirmed cases and an additional 38 clinical cases of infection due to Vibrio parahaemolyticus ditributed in the greater Vancouver and Vancouver Island areas have been reported to the BC Centre for Disease Control as of August 12, 1997. Information has been obtained from 28 of the confirmed cases: 25 had consumed raw oysters prior to the onset of symptoms, 3 of whom have eaten self-harvested oysters from the beach; 3 had no history of eating oysters. Sixty-nine percent of the cases are male. The range in age are is 21-65 with a mean age of 40.7 years. The ban on serving raw shellfish in restaurants in the municipalities of Vacouver and Richmond will continue for at least another 2 weeks. It is still not clear whether the contaminated shellfish are from local or imported sources.

Sources: B.C Centre for Disease Control; FSNet

In the USA and beyond...

Voluntary recall of Ground Beef: USA

The Hudson Foods Company Inc of Arkansas had issued a voluntary recall of approximately 1.2 million pounds of ground beef because of possible contamination with E. Coli 0157:H7. A small cluster of cases of E.coli 0157:H7 infection in Colarado has been epidemiologyically linked to eating frozen, pre-formed beef patties and burgers produced by the Hudson Foods Co. Reported onset of illness for patients from whom isolates were obtained, and had very highly related pulse-field gel electrophoresis (PFGE) patterns, was from June 14 to July 14, 1997. Five persons havebeen hospitalized, there have been no cases of Hemolytic Uremic Syndrome (HUS) and no deaths.

Source: CDC; USDA, FSNet