

EPI NORTH

The Northwest Territories Epidemiology Newsletter

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Editorial Note:

A quick glance at the contents of this issue may find the topics and contributors to be diverse, with little to link breast cancer, traditional foods, car seats, rabies, salmonella and travel have in common, but there is one thing they have in common...

Promotion & Prevention!!!

Each of these articles deal with ways to prevent or minimize the consequences of various diseases. And each person who reads this issue can play a part in helping to pass the message along. So no matter if it is promoting a healthy lifestyle through nutrition, encouraging vehicle safety through use of restraints, promoting the canine rabies immunization program, recommending thorough washing of fruit and vegetables or use of travel immunizations, let's take every opportunity we can to promote healthy lifestyles and prevent unnecessary accidents or illness.

On that same note, the following "Steps to Health" were taken from "The Virtual Medical Clinic" at: <http://www.mediconsult.com>. Enjoy this issue of EpiNorth... and let's think "prevention"!!

The Seven Steps to Health

Protect yourself and your family. By knowing and acting on these Seven Steps to Health, you can help prevent cancer:

1. Choose to be a non-smoker and avoid secondhand smoke.
2. Choose a variety of lower fat, high fibre foods. Maintain a healthy body weight and limit your alcohol intake.
3. Protect yourself and your family from the sun. Practise regular skin examinations and report any changes immediately.
4. Regularly scheduled Pap tests and mammograms, according to age, are vital. Practise monthly breast self examination.
5. See your doctor and dentist regularly for checkups.
6. Be aware of changes in your normal state of health. If you discover a lump or a mole that has changed, or a sore that won't heal, check with your doctor immediately.
7. At home and at work, follow health and safety instructions when using hazardous materials.

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Preventing Breast Cancer:

Cancer is second only to heart disease as a major cause of illness and death among Canadian women.¹ Although the incidence of breast cancer in the NWT is still below the national average, the NWT incidence rate is increasing. This provides an incentive for action to prevent a further increase in the incidence of breast cancer.

The May/June 1997 issue of EpiNorth² provided statistical and risk factor information about breast cancer. This article focuses further on risk factors, primarily dietary, as well as new research related to the potential benefits of diet.

New study links dietary deficiencies to cancer risk

Many studies have provided evidence that diet may play a significant role in the development of breast cancer.³ However, until recently, attempts to identify these factors have been inconclusive. It was thought that high fat diets could explain the higher rates of breast cancer observed in western societies, although recent research results have not been consistently supportive of this theory. A new Australian study recently published in *The Lancet*⁴ has added an important piece to this puzzle. *It appears that dietary deficiencies may be the link to higher cancer rates.*

"Phyto-estrogens" are estrogen-like compounds which are found in many species of edible plants. Cell-culture and animal studies have shown that some types of phyto-estrogens can inhibit tumour growth. Other potentially protective properties have also been observed. In addition, it has been noted that in Asian populations where large amounts of these substances are consumed in soy-based diets, lower rates of breast cancer are observed (Lower rates of other hormonally influenced cancers such as prostate are also found in these populations).

In their study, which compared 144 women diagnosed with breast cancer and matching them with the same number of controls derived from a health population, David Ingram and colleagues⁴ found that increased consumption of phyto-estrogens was associated with a 3 to 4-fold reduction in breast cancer risk. Although this finding cannot yet infer causality, it is the first time that a potential preventive factor has been associated with such a degree of risk reduction.

A closer look at prevention

What may this information mean for people living in the Northwest Territories? Cancer remains a cause of significant concern in our northern communities. During the past year, some of the most

important forms of cancer have been reviewed in EpiNorth. Besides lung cancer, for which smoking remains the overriding risk factor, the apparent rise in the incidence of breast cancer in Inuit and of bowel cancer among Dene is particularly troubling, even if these still remain at rates below the Canadian average at this point in time. Both these cancers are linked to diet.

There are many reasons to believe that the traditionally low rates of breast cancer in North American aboriginal people are in large part associated with lifestyles, of which diet plays an important part. Traditional foods may contain similar cancer protective components, the same way certain fats from sea mammals are known to prevent strokes and heart attacks.

Lifestyle makes a difference!

□ **Traditional lifestyles** such as an early pregnancy and breastfeeding longer also help to prevent breast cancer.⁵ Breast cancer rates among Inuit women remain a fifth of the Canadian average.⁵

□ **Eating more traditional foods, especially berries, fruits and vegetables.** This type of diet is thought to prevent 20% or more of all cases of cancer. Lignans, one type of phyto-estrogens, are found in the fibre of whole grains, berries, fruits and vegetables.⁶

In the NWT, eating traditional foods, especially berries and other edible plants, have likely helped aboriginal people lower their risk of developing breast cancer. Eating a wide variety of traditional foods continues to be recommended as one of the best ways to decrease the risk of developing breast and other forms of cancer.

□ **Limiting dietary fat** - trans-fatty acids (mostly found in processed fats, such as margarines), have been linked to an increased risk of breast cancer. North American women eat about twice as much of these types of processed fats than do women in Europe.⁷ Reducing the intake of such fats is considered beneficial for women.

There are many valid concerns about the harmful elements of processed foods high in sugar, salt and fat. It is more urgent than ever to identify what food nutrients are being lost when people move away from a traditional to a southern diet. Traditional sources of foods provide essential and protective nutrients that may be missing from southern diets. In other words, what people do not or no longer eat (dietary deficiencies) are likely to be as important for health as what they *do* eat.

"Although the incidence of breast cancer in the NWT is still below the national average, the NWT incidence rate is increasing..."

"It appears that dietary deficiencies may be the link to higher cancer rates."

Diet may hold the key!!

- **Maintaining a healthy body weight.** Generally, being overweight increases the risk of developing breast cancer. Healthy habits will have the most benefit if established before puberty and maintained throughout life. The potential for prevention, starting in adult life, may be a 10-20% risk reduction by maintenance of a healthy body weight through an active lifestyle.²
- **Reduce consumption of alcohol and tobacco.** Both tobacco and alcohol use increase the risk of breast cancer. Tobacco use, however, is by far the most lethal.

Early detection by screening mammography can reduce breast-cancer mortality, but it does nothing to prevent new cases of the disease, with its associated emotional and physical suffering, as well as financial cost to both the individual and community. Learning more about traditional foods that help people stay healthy must be a greater priority. Learn from the elders in your communities. There is some urgency that an inventory of traditional knowledge be completed before too much gets lost. In this regard, work conducted by CINE (McGill's Centre for Indigenous Peoples Nutrition and Environment) in collaboration with Inuit and First Nations communities across Canada should prove invaluable for the future, as it will provide information that can help us address a broad range of health issues that have a link with diet, from cancer to diabetes to congenital anomalies.

For more effective health promotion, we will also need to improve our methods of reaching out and communicating the importance of healthy eating. In the long-term, success will only be achieved to the extent that we can find ways of sustaining access to wholesome foods in all communities, whether from traditional or new sources.

References:

1. *Eat Well, Live Well - Meeting Women's Nutritional Needs. A Resource Manual for Health Professionals*, Dietitians of Canada, 1993
2. *EpiNorth*, May/June 1997
3. *Food, Nutrition and the Prevention of Cancer: A Global Perspective*, World Cancer Research Fund/American Institute of Cancer Research, July, 1997
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7. *Medical Tribune*, Canadian Press (reprinted in the Globe and Mail: Fats and Breast Cancer, October 18/97)

*Dr. André Corrievau
Medical Health Officer
Elsie De Roose,
Consultant Nutritionist*

"Early detection by screening mammography can reduce breast-cancer mortality, but it does nothing to prevent new cases of the disease, with its associated emotional and physical suffering..."

For more information on traditional foods, see the accompanying article on pages 4 & 5.



Just A Reminder...

A toll-free cancer information line for all of the Aboriginal languages was launched earlier this year by Stanton Regional Hospital and the Canadian Cancer Society.

Callers can speak to trained medical interpreters who are able to utilize the national Cancer Database to answer questions. Encourage people to call with their questions.

**Cancer Information Line in
Aboriginal Languages**

**1-888-261-HOPE
(4673)**



An Excellent Educational Resource

Elsie DeRoose
Consultant
Nutritionist
GNWT - H&SS

The following table provides a summary of the traditional foods and nutrients represented in the series.

Fact Sheet Series	Dene/Metis	Inuit
Traditional foods		
Caribou	✓	✓
Moose	✓	
Fish	✓	✓
Muskrat	✓	
Beaver	✓	
Rabbit/Arctic Hare	✓	✓
Goose	✓	✓
Duck	✓	✓
Ptarmigan/grouse	✓	✓
Wild Plant Greens	✓	✓
Berries	✓	✓
Seal		✓
Walrus		✓
Narwhal		✓
Beluga		✓
Polar Bear		✓
Arctic Char		✓
Muskox		✓
Ground Squirrel		✓
Grizzly Bear		✓
Seaweed		✓
Seafood (scallops, shrimp, sea cucumber)		✓
Mussels, clams, crabs		✓
Nutrients		
Vitamin A	✓	✓
Vitamin C	✓	✓
B Vitamins	✓	✓
Calcium	✓	✓
Iron	✓	✓
Protein	✓	✓
Fat	✓	✓

As well as the Traditional Food Fact sheet series, other resources developed in the NWT promote the benefits of traditional foods, such as the *Northern Food: Tradition and Health Kits*. These resources form part of the ongoing promotion of traditional foods as being the best foods and sources of nutrients for northerners, recognizing the cultural, economic and other factors that contribute to overall health and well-being.

CARIBOU

NUTRITION FACT SHEET SERIES - A

CARIBOU IS GOOD FOR US !

For generations caribou has been an important part of the Dene diet and culture. Caribou gives us many nutrients that help build and repair body tissues. It also provides us with energy and helps to keep us healthy. As well, many parts of the caribou are used for clothing and crafts. There is no waste of the caribou.

WHAT DO WE KNOW ABOUT CARIBOU ?

The chart below shows the nutrient rating of different caribou body parts. Since there is little nutrient information on Caribou Fat, it is not listed as a body part. As well, no research has been done on caribou kidneys. Our elders tell us that caribou liver and kidney are healthy for us. We think they have similar nutrient values.

Body Part \ Nutrient Rating	Meat	Blood	Liver	Intestine	Bone Marrow	Stomach Contents
Excellent Source	Protein	Iron	Protein * Iron Vitamin A	Fat		
Good Source	Iron B Vitamin	Protein		Protein Iron	Iron Fat	Iron Vitamin A
Poor Source	Fat Calcium	B Vitamin	Fat Calcium	B Vitamin Calcium	Protein B Vitamin Vitamin A	Protein Fat B Vitamin Calcium

* AN EXAMPLE OF HOW TO READ THE CHART: Caribou liver is an excellent source of Protein, Iron and Vitamin A.

DID YOU KNOW ?

- It is best to choose traditional foods because they are rich in nutrients.
- Smoking or drying helps preserve the meat and may increase the amount of some nutrients. This is due to moisture loss during the drying process. Smoked or dried meat is great for travelling and snacks.
- The fat content of caribou meat is very low (1%) compared to 12-45% for beef, pork and poultry.

TO FIND OUT WHAT OTHER FOODS PROVIDE THESE NUTRIENTS AND WHY THEY ARE IMPORTANT TO OUR HEALTH, REFER TO THE NUTRITION FACT SHEET SERIES ON NUTRIENTS

The fact sheets have been very popular in the NWT as well as beyond our borders. They are used by health workers, in schools, by renewable resources offices and by many other organizations and individuals. They are also used in classrooms, workshops, prenatal nutrition programs, displays and health fairs.

Based on feedback and responses of the needs of NWT residents, the fact sheets may be updated and expanded to include more information and nutrients.

Some of the fact sheets have been enlarged to poster size as an additional teaching tool.

**For more information, please contact your
 Community Health Representative, Regional Nutritionist
 or H&SS - Population Health Division.**



Vehicles and Children:

Introduction

In Canada 70 children under the age of five are killed in motor vehicle accidents every year with an additional 4000 children being injured.¹ Motor vehicle accidents are the leading cause of death and injury for children in this country.² It is estimated that for every fatality there are 45 serious injuries that require children to be admitted to a hospital.³ In the Northwest Territories, 30 children under the age of 5 are injured or killed every year in traffic accidents.⁴

"In the Northwest Territories, 30 children under the age of 5 are injured or killed every year in traffic accidents"

"[checkstops by YKFD found] 18% of the car seats were used correctly. Approximately 15% of children required to be in car seats were unrestrained..."

Child Car Seats in the NWT

The use of child car seats, while applicable in all communities, is generally an issue in the Western Arctic. This is predominantly due to the extensive roadway system and the availability of vehicles to travel between communities. The Department of Transportation has identified that of the children required to be in an approved car seat, only 35% are.⁵ This usage rate can vary from between communities.

In 1996, the Yellowknife Fire Department assessed how parents were using car seats in a series of eleven checkstops in the month of May. Only 18% of the car seats were used correctly. Approximately 15% of children required to be in car seats were unrestrained completely. These children were carried on a parent's lap, standing in the vehicle, or sitting without a seat belt or car seat.

In an urban centre such as Yellowknife, a misuse rate of 82% points to a substantial public education issue. Motor vehicle accidents account for 5 to 9.7% of the injuries to children under age 5 seen at

Stanton Regional Hospital.⁶ There is a substantial injury risk to children while they are in a motor vehicle, yet a 1994 Angus Reid survey found that 97% of parents believe they are using their child's car seat and seat belt correctly.⁷

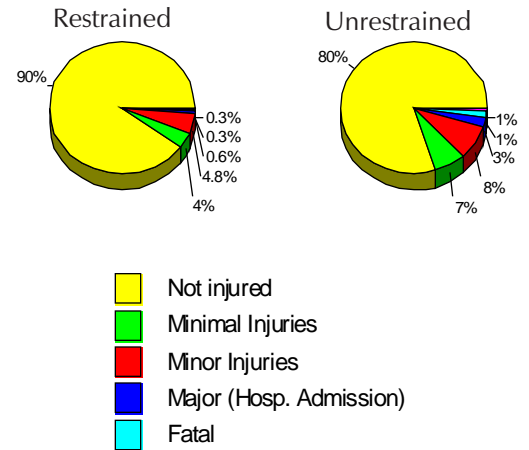
Why Use Car Seat's

The cost for life time care of a brain injured infant is estimated to exceed \$1.5 million.⁸ Transportation injuries are ranked as one of the five greatest risks to children.⁹ A car seat used correctly can reduce the risk of a child dying in a motor vehicle accident by 71% and being seriously injured by 67%¹⁰

At 48 km/h, a collision in a motor vehicle would be equal to a fall from a third story window.¹¹ Most deaths and injuries to children occur in cars travelling under 65 km/h.¹² An unrestrained infant weighing 11 kgs (25 lbs) in a collision at 45 km/h (25 mph), will weigh approximately 200 kgs (450 lbs) in kinetic energy.¹³ It is this kinetic energy that easily injures and kills children, even in a low speed accident when they are unrestrained.

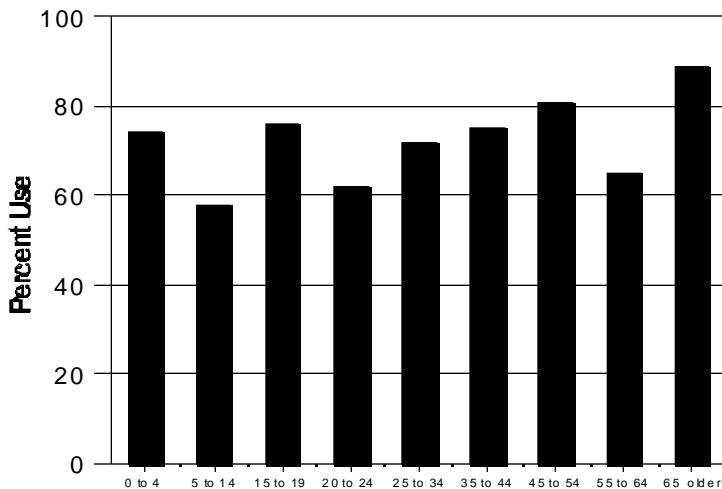
Motor Vehicle Injuries and Restraint Use

1996 NWT Traffic Accident Facts



Victim Restraint Use Rate by Victim Age

1996 NWT Traffic Accident Facts



Car Seat Legislation

In 1989, the Northwest Territories Motor Vehicle Act was amended to include car seat regulations. Any child weighing less than 18 kgs (40 lbs) is required to be secured in a car seat. All child car seats must meet the Canadian Motor Vehicle Safety Standards:

CMVSS Child Car Seats	Approved Wt Limits
Infant (Rear Facing)	0 to 9 kgs (20 lbs)
Toddler (Forward Facing)	9 kgs to 18 kgs (40 lbs)
Booster (Recommended Use)	18 kgs to 27 kgs (60 lbs)

The critical role of child car seats

*Mike Lowing
Deputy Fire Chief
City of YK Fire Dept.*

What Can We Do?

Poor car seat usage is not just a problem in Yellowknife. It is a chronic issue throughout the Northwest Territories. With most parents not understanding the importance of the car seats and how to use them correctly, public education is the only answer.

One of the best ways to educate parents is to conduct car seat inspections. These public education interventions allow healthcare and public safety professionals to educate caregivers on the proper use of car seats, correct any errors found, and decrease risk to children while they are in motor vehicles.¹⁴

Car seat inspections using trained car seat inspectors come in three formats:

Type of Inspection	Comments
Drop In Inspection	Caregivers voluntarily stop into a inspection station.
Car Seat Clinic	Caregivers are directed to stop at an inspection station.
Car Seat Checkstop	Caregivers are stopped by police where enforcement action is taken.

This type of approach to public education requires a community based approach involving law enforcement, public health and public safety personnel. Working together, these agencies can increase the correct use of car seats and reduce the morbidity and mortality to children from motor vehicle accidents.

References

- ¹ 1996, Keep them Safe: A Guide to Childrens' Car Seats, Transport Canada.
- ² 1995, Child Car Seat Instructor's Training Manual, Department of Transportation.
- ³ 1995, Child Car Seat Instructor's Manual, Department of Transportation.
- ⁴ 1995, Child Car Seat Instructor's Training Manual, Department of Transportation.
- ⁵ 1997, 1996 NWT Traffic Accident Facts, Department of Transportation.
- ⁶ 1996, Location of Injures for Children 1991-1995, CHIRRP.
- ⁷ 1996, Motor Vehicle Safety Fact Sheet, Alberta SAFE KIDS.
- ⁸ 1995, Child Car Seat Instructor's Training Manual, Department of Transportation.
- ⁹ 1996, Safe Kids: The Facts, Children's Health Foundation of Northern Alberta.
- ¹⁰ 1996, Motor Vehicle Safety Fact Sheet, Alberta SAFE KIDS.
- ¹¹ 1994, Occupant Restraint and the Human Collision, Transport Canada.
- ¹² 1996, Motor Vehicle Safety Fact Sheet, Alberta SAFE KIDS.
- ¹³ 1995, Child Car Seat Instructor's Training Manual, Dept of Transportation.
- ¹⁴ 1994, Car Seat Clinics, Alberta Motor Association

For further information on child car seat safety, inspection programs and the training of inspectors, contact Mike Lowing at 873-4506.

Common Mistakes with Child Restraints¹⁵

- *Failing to secure forward-facing seats to the vehicle with a tether strap*
- *Failing to secure a child car seat to the vehicle with the vehicle seat belt.*
- *Failing to use locking clips to lock the continuous loop type of seat belt when securing a child car seat*
- *Wrapping an infant in blankets before placing him or her in the child car seat.*
- *Placing a rear-facing infant seat in a forward-facing position.*
- *Using the child car seat harness incorrectly.*
- *Reclining a child car seat contrary to manufacturer's instructions*
- *Threading harness or tether straps incorrectly*
- *Failing to double loop harness straps after adjusting the harness of a child car seat*
- *Failing to use the harness on a child car seat equipped with an armrest*
- *Failing to secure the crotch strap on a child car seat*
- *Letting children ride unrestrained if they complain or climb out of the child car seat.*
- *Using a device that is not an approved child car seat*
- *Modifying a child car seat*



¹⁵ Alberta Motor Association website: www.ama.ab.ca/autoserv/pages/consumer/safeseat.htm



Reportable Diseases in the NWT:

Murphy's Law and Rabies in Tuktoyaktuk

On Monday, October 27, 1997, the Animal Disease Research Institute (A.D.R.I.) called to inform the Environmental Health Department in Inuvik that an Arctic Fox sent in from Tuktoyaktuk had tested positive for rabies. This began an investigation that eventually led to 42 people receiving rabies post exposure prophylaxis.

1997 by the Hamlet Dog Control Officer after showing signs of rabies. It was also learned that the quarantine requirements had not been implemented or monitored as requested. An onsite investigation revealed that after the puppy was returned to the owner it had been tied but not quarantined until the time that it was destroyed. On November 15, 1997 test results for the puppy were positive for rabies.

Contact tracing by Tuktoyaktuk Health Centre staff and the EHO resulted in 39 more people receiving rabies post exposure prophylaxis. Animal contact tracing resulted in 1 other puppy being destroyed and 3 unvaccinated dogs being placed into 6 month quarantine. Quarantine orders from the Canadian Food Inspection Agency were served on the owners.

What is rabies?

Rabies is an RNA virus which is present in the saliva of infected warm-blooded animals and is transmitted to humans through bites or by licking of mucosa or open wounds. Most rabies cases in humans throughout the world result from dog bites in areas in which canine rabies is enzootic. The incubation period is usually 2 to 8 weeks.

Events and Actions Taken

Upon investigation it was discovered that the fox had been destroyed in the Hamlet of Tuktoyaktuk on October 12, 1997 after it had come into contact with a puppy. The fox was delivered to the local R.C.M.P. Detachment by the Hamlet Dog Control Officer. The R.C.M.P. then sent the head of the fox to Resources, Wildlife & Economic Development in Inuvik who sent it to A.D.R.I. The puppy was taken to the Hamlet animal holding pen by the By-law Enforcement Officer for a 10 day observation period to clinically observe for signs of rabies. However, there are discrepancies as to the actual holding time and the puppy may have been loose within the 10 day observation period. Also, the Bylaw Enforcement Officer was not aware of the quarantine requirements for vaccinated or unvaccinated dogs. After or at some point during the observation period, the puppy was returned to the owner.

Contacts

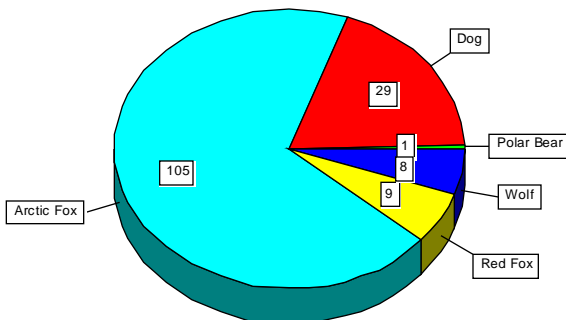
Human contacts were those who handled the fox or puppy on October 12, 1997 and who handled the puppy between October 28, 1997 and November 9, 1997. Animal contacts were those that interacted with the fox or puppy on October 12, 1997 and those that interacted with the puppy between October 28, 1997 and November 9, 1997.

Contact means exposure to rabies virus and can be considered to have occurred if :

1. Human and/or Animal :
 - a bite has been inflicted by a rabid animal
 - there is a transfer of saliva from a rabid animal onto skin or mucous membranes by any means; eg. handling, licking, fighting
2. Animal :
 - the rabid animal is found located in the same general area as the animal in question
 - the rabid animal is found where other animals may have been present, and there is a report by a competent observer that the rabid animal was molesting the other animals

Zoonotic Rabies in the NWT

By Animal - 1990 to May 1997 (n =152)



On October 27, 1997 the Environmental Health Officer (E.H.O.) was notified of the rabid fox by A.D.R.I. and attempted to ascertain the history of the fox, the whereabouts of the puppy and any contacts. The owner was identified and asked to place the puppy into strict quarantine for 6 months. A letter was sent by the E.H.O. on October 30, 1997 advising of proper quarantine procedures. A letter was also for-

warded to the Hamlet Bylaw Enforcement Officer on October 31, 1997 to request that the quarantine be monitored. Three human contacts were identified at this point and were notified by phone to report to the Tuktoyaktuk Health Centre to receive rabies post exposure prophylaxis.

Due to the nature of children and puppies the usual definition of a contact had to be expanded. Puppies bite and lick and young children often put their hands in their mouths and chew on gloves and mittens. The risk with these contacts is transmission of the rabies virus across the membranes of the mouth.

The risk with the puppy on October 12, 1997 was due to the possible presence of fox saliva on its fur. The puppy was again a risk when it developed rabies. The first day it was showing signs was on November 7, 1997. However, a rabid animal can actively shed the virus up to 10 days before it begins to show signs. Therefore, October 28, 1997 is the day from which contacts were determined.

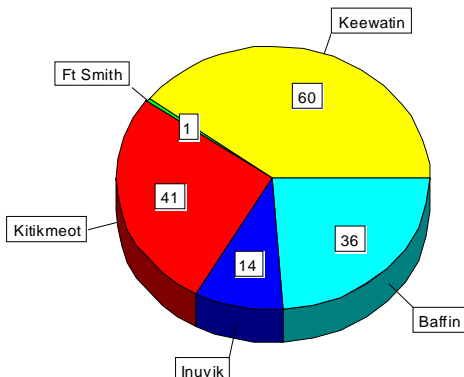
On November 10, 1997 the E.H.O. was informed that the puppy had been destroyed on November 9,

A Closeup Look at Rabies

Eric Bergsma
Environmental Health
Officer, Inuvik H&SS

Zoonotic Rabies in the NWT

By Region - 1990 to May 1997 (n = 152)



Conclusion

Due to several factors this rabies incident has become much larger than it should have ever been. Prompt reporting to an E.H.O. on October 12, 1997 would have reduced human exposure to the rabies virus. Ultimately, the puppy should have been isolated and observed for 10 days, followed by its destruction or placed into a strict 6 month quarantine pursuant to the Animal Disease Act. The quarantine period for unvaccinated dogs is 6 months since rabies can take up to 6 months to develop in an animal.

This situation demonstrates the need for further education of the public and municipal employees with regards to rabies. More importantly, it demonstrates how immediate communication with proper agencies needs to occur when situations like this arise. How quickly people communicate in order to determine what actions should be taken is essential to keep the number of people exposed to a minimum. It also underlines the importance of the rabies immunization program for dogs in the NWT.

Editor's Notes:

Any cases of confirmed or suspect rabies exposure should be reported immediately to the Health Protection Unit (HPU) at (867)920-8646. All recipients of post-exposure prophylaxis should also be reported to the Health Protection Unit. The cost for a full course of post-exposure prophylaxis (RIG & HDCV) is approximately \$350/individual.

The protocol which follows can be found in your Canadian Immunization Guide, which is in all of the community Health Centres. The statistics shown on rabies in the NWT wildlife population are courtesy of Dr. Brett Elkin, RWED.

Any further questions on Rabies can be directed to the regional Environmental Health Officer or to the Health Protection Unit.

Post-Exposure Rabies Prophylaxis Guide

Details of Animal	Nature of Exposure	Management of Exposed Person
a) Rabid b) Suspect Rabid c) Wild animal * in endemic area, particularly skunk, fox, coyote, raccoon, bat	No skin or mucosal contact with animal saliva, or casual contact, eg. petting with no possible contamination of broken skin or mucous membrane	No treatment
d) Escaped dog or cat in endemic area (unless exposure was clearly provoked)	Bite, or contamination of scratch, abrasion, open wound or mucous membrane with saliva, body fluids or tissue (except blood, urine or feces)	1. Local treatment of wound 2. RIG (local and intramuscular) 3. Full course ² of HDCV
Apparently healthy domestic dog or cat that can be held under observation for 10 days	Bite, or contamination of scratch, abrasion, open wound or mucous membrane with saliva, body fluids or tissue (except blood, urine or feces)	1. Local treatment of wound 2. At first sign of rabies in the animal during holding period, give RIG (local and intramuscular) and start full course of HDCV

Abbreviations:

RIG - Rabies Immune Globulin (Human) HDCV - Human Diploid Cell Vaccine

Notes:

¹(a) If possible, the animal should be killed and the brain tested as soon as possible; holding for observation is not recommended

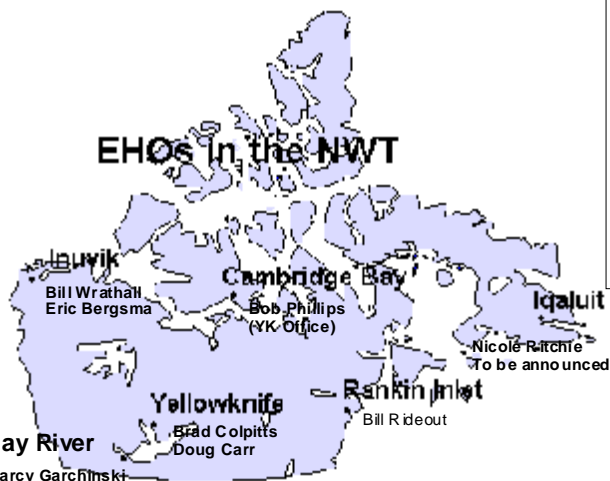
(b) Bites of squirrels, chipmunks, rats, mice, other rodents, rabbits and hares are seldom, if ever, an indication for rabies prophylaxis.

² Vaccine may be discontinued if fluorescent antibody test of animal killed at the time of the attack is negative

The names and numbers of the NWT EHOs were reported in the July/Aug 1997 issue of EpiNorth, however several of the individuals and numbers have changed recently. Here is an update:

EHO Contact Numbers

	Phone	Fax:
Inuvik Region	(867) 777-2955	(867) 777-2482
Hay River & district	(867) 874-6512	(867) 874-3377
Yellowknife & district	(867) 920-6592	(867) 920-4015
Kitikmeot Region	(867) 920-6529	(867) 920-4015
Keewatin Region	(867) 645-2171	(867) 645-2329
Baffin Region	(867) 979-7654/5	(867) 979-7659



Rabies Fast Facts

- Rabies-infected wildlife in Canada include:
BC - Bats
AB, SK and MB - skunks
ON&PQ- skunks & foxes
NWT - foxes, wolves
Labrador - foxes
- Since 1925, 21 persons have died of rabies in Canada
- Close to 3,000 persons in Canada receive post-exposure treatment each year because of exposure to rabid or suspect rabid animals



Health Protection Unit Mailbox:

Salmonella, to treat or not to treat?

A 33 year old male presented in April, 1997 with a history of severe diarrhea, blood in his stool for one day, fever, chills, headache for four days and dizziness for two days. He had also lost 17 pounds in one week. He is admitted to hospital and treated not only with Intravenous therapy to correct fluid and electrolyte imbalance but also given ampicillin and metronidazole. At this time the patient admitted to travelling to Edmonton and he had eaten at a number of commercial eating establishments. Stools for C&S were collected on the 27th and 28th of April/1997. Antibiotics were ordered without knowing the stool results.

Six months later, this gentleman remains symptomatic, with intermittent diarrhea and abdominal cramping. Stool samples remain positive for Salmonella enteritidis.

Dr. Edith Blondel-Hill, Medical Microbiologist with Dynacare Kasper Medical Laboratories in Edmonton has recommended that susceptibility patterns for Salmonella are *only to be done* on :

- patients <1 year of age
- patients >65 years of age
- on physician request.

This is in keeping with the desire to reduce the inappropriate use of antibiotics. Which, as in this case, not only contributes to the growing problem of resistance in microorganisms but increases rates of Salmonella carriage. In most cases that involve healthy adults, antimicrobial treatment is not recommended. Antibiotics do not shorten the duration of the disease and can prolong the duration of excretion of Salmonella organisms. The routine use of antibiotics to treat Salmonella directly correlates with increase in carriage status. Thus the persons remain infected and capable of transmitting the organism to others. In the above case, where antibiotics were used, the patient's stool remain positive for Salmonella enteritidis in October 1997 and he is still intermittently symptomatic. High dose of intravenous ampicillin or ciprofloxin (adults only) may eradicate carriage in some patients.

It is very important to identify the causative organism of enterocolitis prior to treatment. For uncomplicated cases rehydration and electrolyte replacement may be that all that is needed. Most cases of non-invasive Salmonella will resolve without the use of antimicrobials and indeed it is not recommended.

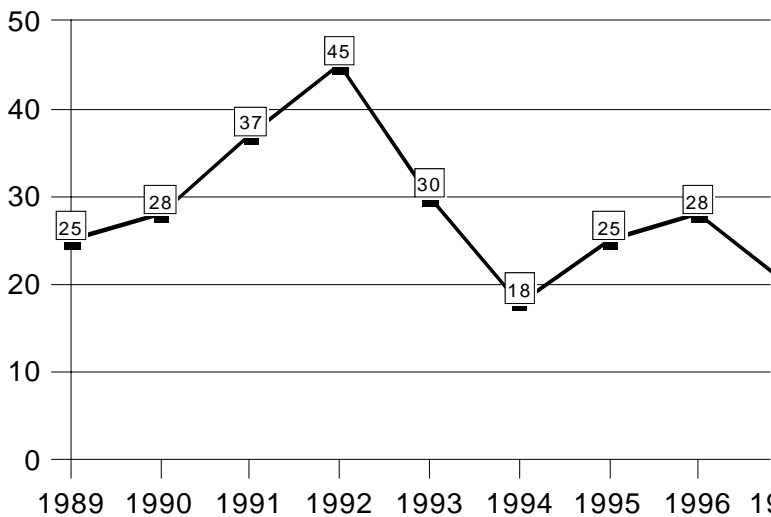
Editor's note: The graphs included in this article indicate salmonella incidence only. No statistics are currently available for chronic carriage of salmonella or antibiotic usage for salmonella in the NWT.

For more information contact:

Wanda White
 Communicable Disease Consultant
 GNWT - DH&SS
 (867)920-8646

Salmonella in the NWT

1989 to Oct 1997

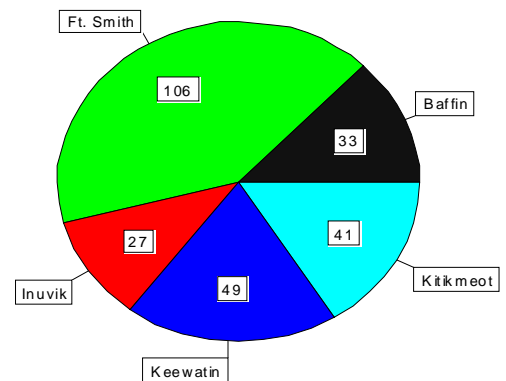


Who should be treated?

Antimicrobial therapy is not only warranted but can be lifesaving for Salmonella enterocolitis in patients with *invasive* disease. Those at increase risk for invasive disease are infants younger than 3 months of age and patients with immunosuppressive illnesses, and persons with chronic gastrointestinal tract disease, or with severe colitis.

Salmonella in the NWT

Cummulative by Region (1989 to Oct 1997)



Questions about Salmonella

Salmonella From Sprouts???

Let's ask an EHO...

While we're on the topic of Salmonella, did you hear about the recent recall on some types of alfalfa sprouts and their link to a strain of salmonella called "meleagridis"? (see New Briefs - page 16) How sprouts can become a foodborne disease vehicle is not difficult to imagine. Contamination of seeds occurs during seed growing or harvesting or during storage and distribution. Sprout seeds can be exposed to disease carrying rodents, birds, or irrigation water or fertilizer. Seed which sprouters buy is grown by farmers who may not know that the seeds are being used for human food or not aware of the potential health risks since most of the seed is grown for agricultural use. To compound the problem, lots of seeds grown in a number of different countries are pooled at a common distribution centre, assigned a lot number and then distributed around the world. This makes it difficult to trace back the origin of a given lot.

Even if the initial contamination of the seeds is low, the germination process, which involves keeping the seeds warm and moist for 5-7 days, is optimum for the multiplication of these bacteria. Their numbers can quickly reach levels high enough to cause food poisoning infection even though the seed may have gone through a sanitizing procedure.

Recently alfalfa sprouts have produced salmonella and ecoli infections but other seed sprouts such as radish, mustard, onion and bean have also played a role in the human illness game. Seed sprouts that are eaten raw in sandwiches and salads, may pose a higher risk than bean sprouts which are cooked briefly, as in stir fry dishes.

Health Canada has been actively involved with this issue and have developed options for the industry to lower risks from sprouted seeds at the source and at every stage of production. This should help lower the chance of foodborne illness to the consumer as there is little we can do at our end. However, this brings me to another point.

When it comes to produce, fresh does not always equal clean.

With the average Canadian consuming 200-300 pounds of fresh produce per year, cleanliness is becoming increasingly important.

And often, the kitchen sink is the last line of defence in making sure fruits and vegetables are clean and safe to eat.



Tips For Handling Fruits and Vegetables

- For consumers, it's important to store fruits and vegetables in the refrigerator when you bring them home from the market. If produce is not stored in refrigerated temperatures, any bacteria in these foods can multiply quickly and certainly make you sick.
- Wash each piece of fruit carefully, especially if you intend to consume it raw. **Although this step will not kill bacteria, it will reduce its numbers.**
- Lettuce leaves should be rinsed individually under cool tap water.
- Root vegetables should be scrubbed, even if you plan on peeling them later. After all, they were grown underground.
- Delicate fruit such as strawberries should be rinsed in a colander. Their leafy stems should then be removed, as they provide good hiding places for bacteria.

A number of outbreaks of food-borne illnesses this year were linked to fruits or vegetables contaminated with bacteria.

- Recently, basil has been connected to an outbreak of cyclospora, tomatoes with salmonella and alfalfa sprouts with both e-coli and salmonella.

Packages of sprouts now suggest they be rinsed before serving. Fresh herbs, such as basil, should always be carefully washed, especially when raw.

- Some fruits, in fact, should be washed on the outside even though their peels are not consumed. Lemons or melons, for example, should be cleaned because they may come into contact with other foods or beverages.
- Cantaloupes, for one, have been linked to outbreaks of salmonella, which is found on the rind. When you slice the rind, however, you can contaminate the entire fruit.
- If you prepare raw meats, wash the cutting surface before cutting fresh produce.

The rule is, even though many of these foods have been washed by growers, your kitchen sink is the key to making sure produce is clean and safe to eat.



For more information regarding safe food-handling or food & waterborne illness contact:

Frank Hamilton

Environmental Health Consultant

GNWT - DH&SS

(867)920-8646

"...the kitchen sink is the last line of defence in making sure fruits and vegetables are clean and safe to eat..."



Travel Wise...Immunize!!!

As winter is taking hold across the NWT, thoughts often wander to warmer climes. Many northerners will head south for business, resort or adventure travel. But as exciting as this may sound, there are several safety precautions which should be taken. Travellers should be aware of the risks involved in travel to specific areas, as well as any special requirements (such as proof of immunization against yellow fever) needed for entry to a country.

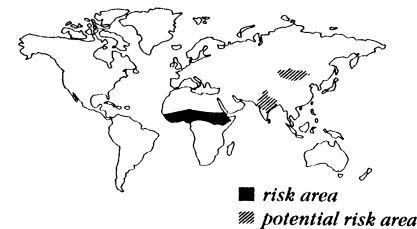
Many good information sources are available to help you or a client prepare for tropical travel. These include:

- Healthcare professionals
- Books and pamphlets
- The Internet

Polio



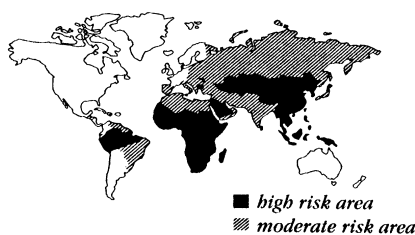
Meningococcal disease



Typhoid fever



Hepatitis B



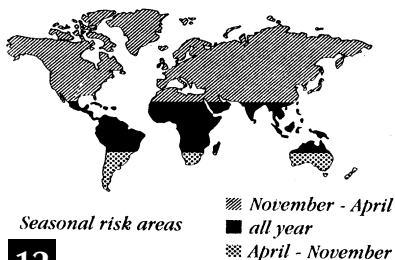
Japanese encephalitis



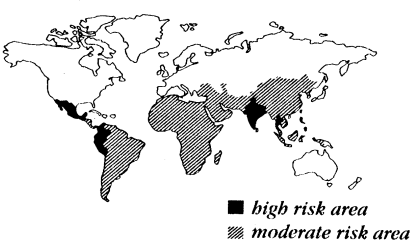
Hepatitis A



Influenza



Rabies



Healthcare Professionals

Questions which should be considered include:

- Current health status
- length of time before departure
- geographical destination(s)
- itinerary
- purpose of travel
- length of stay
- type of accommodation
- food and water sources

Books and Pamphlets

1. *Don't Drink the Water* - Canadian Public Health Association: (613) 725-3769
2. *Health Info for Canadian Travellers* - Canadian Society for International Travel: (613) 230-2654
3. *The Travel Booster: Health Tips for the Traveller* Pasteur Merieux Connaught Canada: 1-800-268-4171 or online: www.connaught.com/intro.htm
4. *International Travel and Health: Vaccination Requirements and Health Advice* - WHO

Travel Health Sites on the Internet

1. Travel Health Online - www.tripprep.com/index
2. Center for Disease Control - www.cdc.gov
3. International Traveller's Clinic - www.intmed.edu/travel.html
4. The Virtual Hospital (Travel Medicine) - www.radiology.uiowa.edu/Providers/Textbooks/TravelMedicine/TravelMedHP.html
5. Laboratory Center for Disease Control (Ottawa) www.ca/hpb/lcdc/osh/tmp_e.html

Steps for safe travel

Steps to take when planning an overseas trip include:

- Use common sense (be prepared for where you are going)
- Determine your risk (see above)
- Ask about immunization (routine, required & recommended)
- Recognize ways to reduce risks (through food & water precautions, insect protection, and consideration for contaminated soil and person-to-person (respiratory, sexual and bloodborne)

So, with all of that in mind...bon voyage!

What's New on the NET?

Instead of the usual "site" review which is usually in this spot, this issue will highlight a few recent "finds".

New Clinical Practice Guidelines for the Diagnosis of Diabetes Unveiled

The following information was found on the website for the Canadian Diabetes Association (CDA).

According to the CDA, diabetes currently affects more than 1.5 million Canadians (5% of the population) and an estimated 750,000 have the disease but remain undiagnosed. Released in conjunction with World Diabetes Day (November 14th), the new clinical practice guidelines outline comprehensive changes to the outpatient management of diabetes, including:

- Use of the fasting plasma glucose (FPG) as the basic test for diagnosis and lowering the level to include those ≥ 7 mmol/L (from a previous threshold FPG level of ≥ 7.8 mmol/L).

This will help to diagnose a larger portion of those individuals who remain undiagnosed with diabetes, but who may already be experiencing some of the effects of diabetes including retinopathy or nephropathy.

Additionally, the updated guidelines recommend that testing for diabetes mellitus should be considered in all individuals ages ≥ 45 years and should be repeated every 3 years. Those people in high risk sub-groups (even if ≤ 45) should be screened more frequently.

Sub-populations at **high risk** of developing diabetes mellitus include individuals who:

- are obese (a body mass index ≥ 27 kg/m²)
- have a first degree relative with diabetes mellitus
- belong to a high-risk ethnic population (First Nations, Hispanic, Asian and African descent)
- have been diagnosed with gestational diabetes or have delivered a baby weighing ≥ 4.5 kg.
- are hypertensive (BP $\geq 140/90$ mm Hg) or have known heart disease
- have a low HDL cholesterol level or an elevated triglyceride level.

These new guidelines will be published early in 1998 and will be accompanied by a major awareness program directed at physicians, diabetes educators and healthcare practitioners.



CANADIAN
DIABETES
ASSOCIATION
ASSOCIATION
CANADIENNE
DU DIABÈTE

www.diabetes.ca

The Ten Commandments of Infectious Disease

In an article called "The Sixth Commandment" from the journal *Infectious Medicine* 14(10), 774f, 1997, the following was found on the Medscape site at: <http://www.medscape.com> "Bug of the Month"

	Commandment	Interpretation
I	I am the Lord of Antimicrobial Agents. Do not holdeth Antipyretics before me.	Antimicrobial agents are not antipyretics. If you wish to treat a fever do so, but not with antimicrobials.
II	Thou shalt remember the History and Physical and keep them Holy.	A good history and physical examination will be very useful in the diagnosis of infection.
III	Thou shalt not bear false witness upon the location of the host.	You need to distinguish between community-acquired and hospital-acquired infections.
IV	Thou shalt not forget the little things.	Ask about travel, jobs, pets, immunizations, other people with the same symptoms.
V	Thou shalt knoweth thy neighbors.	Certain organisms cause infections in certain organ systems.
VI	Thou shalt useth what worketh, and thou shalt not covet thy apothecary's new agents without a good reason.	Use antimicrobial agents with proven efficacy for the suspected or known infection.
VII	Thou shalt remembereth primum non nocerum.	When given a choice, avoid toxicity.
VIII	Thou shalt treateth what thou findeth.	When the infection is established and sensitivities known, try to use the narrowest spectrum agents.
IX	Thou shalt not killeth thy own pharmacy budget.	After choosing for high efficacy and lowest toxicity, consider cost as a variable and try to aim low.
X	Thou shalt study thy adversary.	Learn about the natural history of what you are treating and how it responds to therapy.

Notifiable Diseases By Region for Sept & Oct 1997

DISEASE	Month	Cumulative		REGIONS (YTD - 1997)							
	Sep & Oct 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			
	Influenzae	0	0	15	0	0	0	15			
	Measles										
	Mumps	0	1	0	0	0	0	0			
	Pertussis	2	16	18	0	15	1	0			
	Rubella										
Enteric Diseases	Botulism	4	1	5	0	1	1	3			
	Campylobacteriosis	2	13	13	0	8	1	2			
	Cryptosporidiosis	9	0	23	16	0	0	2			
	E.Coli 0157:H7	0	0	6	0	2	0	0			
	Food Poisoning	0	0	5	0	5	0	0			
	Giardiasis	8	13	13	2	11	0	0			
	Salmonellosis	4	16	20	4	8	2	3			
	Shigellosis	1	0	2	1	1					
	Tapeworm Infestation	0	0	1	0	1	0	0			
	Trichinosis	10	2	11				11			
	Sexually Transmitted Diseases	Chlamydia	216	566	844	254	230	106	195		
		Gonorrhea	26	81	117	67	27	8	5		
Syphilis											
Viral Hepatitis	Hepatitis A	0	1	0							
	Hepatitis B	1	4	3	0	3	0	0			
	Hepatitis C	5	27	18	3	12	2	1			
	Hepatitis, Other	0	1	0							
Other Systemic Diseases	Brucellosis	1		5	1	1	0	0			
	Chickenpox	98	525	310	6	119	13	120			
	Group A Strep	1	0	3	0	1	1	0			
	Meningitis/Encephalitis	2	2	9	2	4	0	2			
	Meningococcal infection	1	2	1							
	Rabies Exposure	4	0	5			9				
	Tuberculosis	3	32	26	3	20	0	3			
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

September 1997

Brucellosis, 1: In Igloodik.

Campylobacter, 2: Inuvik, 1; Repulse Bay, 1.

Chickenpox (varicella), 17: Yellowknife, 8; Arviat, 4; Pangnirtung, 2; Rae, 1; Fort Simpson, 1; Hay River, 1.

Chlamydia, 89: Iqaluit, 15; Arviat, 9; Yellowknife, 9; Rae, 6; Igloodik, 5; Inuvik, 5; Wha Ti, 4; Baker Lake, 3; Fort Resolution, 3; Pond Inlet, 3; Arctic Bay, 2; Cape Dorset, 2; Coral Harbour, 2; Fort Liard, 2; Kimmirut, 2; Rankin Inlet, 2; Sanikiluaq, 2; Arviat, 1; Cambridge Bay, 1; Clyde River, 1; Fort McPherson, 1; Gjoa Haven, 1; Hall Beach, 1; Hay River, 1; Kugluktuk, 1; Pangnirtung, 1; Rae Lakes, 1; Resolute Bay, 1; Taloyoak, 1; Tuktoyaktuk, 1.

Cryptosporidiosis, 5: Gjoa Haven, 1; Grise Fiord, 1; Iqaluit, 1; Pelly Bay, 1; Rankin Inlet, 1.

Giardiasis, 4: In Yellowknife.

Gonorrhea, 11: Iqaluit, 5; Pangnirtung, 2; Cape Dorset, 1; Coral Harbour, 1; Fort Providence, 1; Kugluktuk, 1.

Hepatitis C, 5: Yellowknife, 2; Deline, 1; Grise Fiord, 1; Hay River, 1.

Meningococcal, 1: In Taloyoak.

Pertussis, 2: Fort Smith, 1; Pelly Bay, 1.

Salmonellosis, 2: Coral Harbour, 1; Kugluktuk, 1.

Tuberculosis, 3: Coral Harbour, 2; Yellowknife, 1.

October 1997

Chickenpox (varicella), 81: Coral Harbour, 59; Fort Smith, 8; Fort Good Hope, 5; Norman Wells, 4; Yellowknife, 2; Pangnirtung, 1; Rankin Inlet, 1; Repulse Bay, 1.

Chlamydia, 127: Arviat, 13; Rankin Inlet, 12; Igloodik, 10; Iqaluit, 10; Yellowknife, 9; Inuvik, 6; Pangnirtung, 6; Fort McPherson, 5; Tuktoyaktuk, 5; Wha Ti, 4; Whale Cove, 4; Baker Lake, 3; Cape Dorset, 3; Fort Simpson, 3; Kimmirut, 3; Rae Edzo, 3; Arctic Bay, 2; Cambridge Bay, 2; Coral Harbour, 2; Fort Liard, 2; Fort Smith, 2; Hall Beach, 2; Pond Inlet, 2; Tulita, 2; Aklavik, 1; Broughton Island, 1; Chesterfield Inlet, 1; Clyde River, 1; Grise Fiord, 1; Hay River, 1; Kugluktuk, 1; Quebec, 1; Resolute Bay, 1; Taloyoak, 1; Tsiigehtchic, 1; Wrigley, 1.

Cryptosporidiosis, 4: Clyde River, 2; Grise Fiord, 1; Pond Inlet, 1.

Giardiasis, 4: Fort Providence, 1; Fort Simpson, 1; Hay River, 1; Yellowknife, 1.

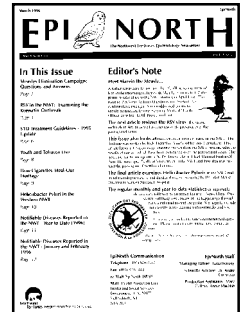
Gonorrhea, 15: Iqaluit, 3; Yellowknife, 3; Fort McPherson, 2; Rae Lakes, 2; Cape Dorset, 1; Deline, 1; Kugluktuk, 1; Pangnirtung, 1; Wha Ti, 1.

Meningitis/Encephalitis, 2: Coral Harbour, 1; Iqaluit, 1.

Rabies Exposure, 4: In Paulatuk.

Salmonellosis, 2: Yellowknife, 1; Coral Harbour, 1.

Trichinosis, 10: In Coral Harbour.



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.

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.



News Clips:

Salmonella meleagridis: Canada

LCDC is continuing to receive reports of confirmed and provisional identifications of this unusual serotype. Since July, 86 laboratory confirmed cases have been reported this year via the pilot National Enteric Surveillance Program at LCDC. The majority of cases were reported from Alberta (51) and Ontario (25); lesser numbers have also been reported from British Columbia, Manitoba, Northwest Territories, Quebec, and Saskatchewan. Preliminary investigations have linked *S. meleagridis* infection with eating alfalfa sprouts produced by Living Foods (Alberta) and Sprouts Alive (Ontario), both owned by the same parent company. The producers have issued a voluntary recall and the Canadian Food Inspection Agency (CFIA) has also issued a warning.

Source: *Laboratory Centre for Disease Control, CFIA*

Condom Recall: USA and Canada

A US condom manufacturer, Ansell Personal Products of New Jersey, has reported that certain lots of "Lifestyles", "Prime" and "Contempo" condoms with spermicidal lubricant, "...have been found to deteriorate before the end of their shell-life and may not adequately protect against pregnancy or sexually transmitted disease." The manufacturer reports that the implicated condoms represent about 3% of the US market and that about 82% have already passed through the marketplace.

Ansell Personal Products has initiated a recall of 57 million condoms (900 lots) in the United States because some of them may break before their expiry date. The exact cause of the problem is not yet known, although it appears to be linked to a specific machine in the manufacturing plant Ansell Canada has identified 3 lots of condoms that have been distributed in Canada and that are affected by the US recall. The 3 lots are:

Lifestyles Spermicide Lubricated
9411042300 11/97 (already expired)

Lifestyles Extra Strength With Spermicide
9502037900 02/98 (last sold in July 1995)

Lifestyles Extra-Strength With Spermicide
9610302100 11/99

The company has contacted all of its accounts, located in Ontario, Quebec and Western Region, and the products are being removed from the market. The therapeutic Products Directorate is closely monitoring the recall to ensure that it is conducted throughout the distribution levels. Information on the recall may be obtained by calling the Medical Devices Hot-line at 1-800-267-9675.

Source: *Medical Devices Bureau*

Hepatitis A Virus Advisory: British Columbia

The Vancouver/Richmond Health Board has issued a report that confirms a case of hepatitis A virus infection in a food handler employed at a fast food outlet in Vancouver. The food handler worked during a period in which infection could have been transmitted via food to other persons. This employee is now off work from this food establishment.

During the period of time that this food-handler was working/preparing food and infectious, there were numerous people from across Canada, and possibly from elsewhere, who attended meetings/conferences at locations near to this restaurant. Epidemiology Services, British Columbia Centre for Disease Control (BC CDC), has been contacting these groups and several other associations to inform conference organizers of this advisory. The management of the food outlet have cooperated fully in the investigation.

As of October 17, two secondary cases of hepatitis A in patrons have been identified. Both were local office workers who had eaten at the establishment on numerous occasions during the risk period. No secondary cases have been reported to-date among persons attending conferences in Vancouver.

Source: *BC CDC*

Influenza: North America and Europe

The indicators of influenza activity in Canada show only limited, sporadic activity across the country. A small peak in laboratory confirmations in mid October was largely associated with cases reported by the virology laboratory at the Hospital for Sick Children in Toronto (17 cases). Sporadic activity was reported in 14 US states in late October and in several western European countries in early November. Most reported isolations in North America and Europe have been of influenza A virus although a small number of isolations of influenza B virus have been recorded in Europe and in the USA.

Source: *LCDC*

Other Respiratory Illness: Canada

RSV activity is being seen across the Prairies and central Canada, primarily Quebec. Parvovirus activity has been climbing across most of the country. Three cases of laboratory confirmed cases of parvovirus were reported in Gjoa Haven in October, with many more clinical cases. Low-level adenovirus activity has been seen since September, primarily in the Prairies.

Source: *LCDC*

**Salmonella
meleagridis:
Canada**

**Condom Recall:
USA and Canada**

**Hepatitis A Virus
Advisory: British
Columbia**

**Influenza: North
America and
Europe**

**Other Respiratory
Illness: Canada**