

**Village of Tarrytown
Westchester County, New York**

ANNUAL DRINKING WATER QUALITY REPORT

2007

Prepared By:

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**ANNUAL DRINKING WATER QUALITY REPORT
FOR YEAR 2007
VILLAGE OF TARRYTOWN
(Public Water Supply ID # NY 05903461)**

Introduction

To comply with the State regulations, the Village of Tarrytown has been issuing an annual report, describing the quality of your drinking water. The purpose of this report is to raise your awareness of the need to protect our drinking water sources. Last year, your tap water met all State drinking water health standards. We are proud to report that our system did not violate a maximum contaminant level or any other water quality standard. This report provides an overview of last year's water quality. Included are details of where your water comes from, what it contains, and how it compares to State standards.

If you have any questions about this report or concerning your drinking water, please contact the Tarrytown Water Department office at 914-631-0356 between the hours of 7:00 a.m. to 3:30 p.m. If you want to learn more, please attend any of our regularly scheduled Village Board meetings. The meetings are held on first and third Mondays of each month, with the exception of summer months, when the Board only meets once a month. Exact meeting schedules, date and time can also be reviewed by public by visiting Tarrytown's website, www.tarrytowngov.com or by calling the Village Hall at 914-631-1885.

Where does our Water come from?

In general, the sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activities. Contaminants that may be present in source water include: Microbial contaminants; inorganic contaminants; pesticides and herbicides; organic chemical contaminants; and radioactive contaminants. In order to ensure that tap water is safe to drink, the State and the EPA prescribe regulations which limit the amount of certain contaminants in water provided by public water systems. The State Health Department's and the FDA's regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Tarrytown has two (2) sources of water. Tarrytown's year round major source of water comes from the New York City Catskill Aqueduct System. The Village is "tapped" into the Aqueduct just South of the Kensico Reservoir. This water is not filtered due to the high quality of the water. Tarrytown's emergency source is the New York City Croton Aqueduct. This source is normally used when the Catskill source is unavailable due to repairs or low flows. The Croton source can supply 4 million gallons daily and is not filtered. In the year 2007, no water was supplied from the Croton Aqueduct. Water from both the sources is disinfected with Chlorine and meets Federal and State microbiological standards. The Croton source does not meet the new 1996 Surface Water Treatment Rule requirements for turbidity (suspended material in water, usually fine clay). The turbidity normally cannot be seen by the human eye. All surface water supplies including Tarrytown are under a Federal and State mandate to filter their water; however,

Tarrytown is currently operating under a filtration avoidance waiver. The Village of Tarrytown has prepared a filtration study, which can be implemented if or when required.

The Village is also required to comply with the lead and copper monitoring program. All samples have been in full compliance with the regulatory Action Levels of Lead and Copper (i.e., 0.015 mg/L for Pb and 1.3 mg/L for Cu based on 90th percentile level of tap water samples). Due to the excellent results achieved and demonstrated during consecutive monitoring periods from 2004 to 2007, the New York State Department of Health has granted reduced monitoring of these contaminants. In accordance with the Lead and Copper Rule (subpart 5-1.42(a) 9(c) 5(ii)), the Village has been qualified for further reduction in frequency of Lead and Copper monitoring to once every third year at the reduced number of sites. Accordingly, the next round of sampling for Lead and Copper is scheduled in June of 2010.

Tarrytown Water Department uses injection of a blended orthophosphate in the treated water, as a sequestering agent, use of this chemical in drinking water has been approved by the Westchester County Department of Health.

Source Water Assessment Program (SWAP) Introduction

The NYS DOH has evaluated the susceptibility of water supplies statewide to potential contamination under the Source Water Assessment Program (SWAP), and their findings are summarized in the paragraphs below. It is important to stress that these assessments were created using available information and only estimate the potential for source water contamination. Elevated susceptibility ratings do not mean that source water contamination has or will occur for this PWS. This PWS provides treatment and regular monitoring to ensure the water delivered to consumers meets all applicable standards.

NYC Watershed Introduction

This Public Water System obtains water from the New York City water supply system. Water primarily comes from the Catskill watershed east of the Hudson River and in emergencies from the Croton watershed in Putnam and Westchester counties. The New York City Department of Environmental Protection (NYCDEP) implements a series of programs to evaluate and protect source water quality within these watersheds. Their efforts focus on three important program areas; the enforcement of strengthened Watershed Rules and Regulations; the acquisition and protection of watershed lands; and implementation partnership programs that target specific sources of pollution in the watersheds.

Due to these intensive efforts, the SWAP methodologies applied to the rest of the state were not applied for this PWS. Additional information on the water quality and protection efforts in these New York City watersheds can be found at DEP's web site www.nyc.gov/dep/watershed.

Source Specific Assessments

This Public Water System obtains its water primarily from the Catskill watershed east of the Hudson and in emergencies from the Croton watershed in Putnam and Westchester counties. The main water quality concerns associated with land cover in these watersheds are agriculture and residential land uses which can contribute microbial contaminants, pesticides, and algae producing nutrients. There are also some concerns associated with wastewater, but advanced

treatments which reduce contaminants are in place for most of these discharges. Additionally, the presence of other discrete facilities, such as landfills, chemical bulk storage, etc. could lead to some local impacts on water quality, but significant problems associated with these facilities are unlikely due to the size of the watershed and surveillance and management practices. In addition, the shallow nature of the Croton reservoirs, along with excess algae nutrients and the presence of wetlands in the watershed, contribute to periods of elevated water tint and disinfection by-product precursor levels.

Facts and Figures

The population served by the Tarrytown Water System is approximately 12,000 people, which include approximately 2,500 service connections.

In 2007 the Tarrytown Water Department delivered 765,938,000 gallons of water from the Catskill Aqueduct only. The following are the reported flows for the year 2007:

1. Annual Average 2.098MGD
2. Maximum Month 2.388 MGD
3. Maximum Day 4.920 MGD*

The estimated unaccounted for water in the Tarrytown Water System is 18%. This figure is based on the amount of water pumped against the amount of water sold. Unaccounted for water includes water lost due to water main breaks, firefighting, street cleaning, hydrant flushing and other miscellaneous unmetered uses of water.

The Village of Tarrytown has had a permanent Water Conservation Law in effect since 1989. A copy of this law may be obtained at the Tarrytown Water Department c/o the Village Administrator's Office, 21 Wildey Street, Tarrytown, NY.

The Village utilizes a 4.4 million gallon high service tank, a 900,000 gallon low service tank, and a 50,000 gallon air break tank. All water is fed to the air break tank, where it is chlorinated and chemically treated prior to distribution.

The average household in the Tarrytown Water Department uses 18,000 cubic feet of water per year. The Tarrytown Water Department bills four times a year and the average bill per billing period is \$218.29 for a total of \$925.68 per year. The cost for water is \$46.20/1,000 cubic feet. Outside users, Hackley School and Consolidated Edison, pay \$69.04/1,000 cubic feet. Senior citizens who qualify for reduced rate pay \$34.44/1,000 cubic feet.

The Village Water Department Budget is \$2,737,738 dollars and the cost of water purchased from the New York City is \$798.62 per million gallons. Excess water charge is \$1,901.91 per million gallons for greater than 147 gpcd use.

Are there contaminants in our Drinking Water?

As the State regulations require, we routinely test our drinking water for numerous contaminants. These contaminants include: total coliform, turbidity, inorganic compounds, nitrate, nitrite, lead and copper, volatile organic compounds, total trihalomethanes, and synthetic organic compounds. The table presented below depicts the compounds, which were detected in our drinking water. The State allows us to test some contaminants less than once per year

* Calculated Maximum Day Peaking Factor is approximately 2.35, based on Annual Average.

because the concentrations of these contaminants do not change frequently. Some of our data, though representative, may be more than one year old.

TEST RESULTS							
Contaminant (Unit)	Violation⁵ Y/N	Date of Sample	Level Detected (Avg./Max)	Range	MCLG	MCL	Likely Source of Contamination
Turbidity (NTU)	N	Annual	1.20	0.54-1.90	0.5	5	Soil Runoff
Total-Trihalomethanes (µg/l)	N	Quarterly	32.60	10.4-62.4	---	80	By-products of drinking water chlorination need to kill harmful organisms. They are found when source water contains large amounts of organic matter.
Haloacetic Acids (µg/l)	N	Quarterly	39.81	16.0-75.9	---	60	By-Product of Drinking Water Chlorination
Barium (mg/l) ⁵	N	01/22/2008	0.0156	-	---	2	Discharge of drilling wastes, metal refineries, erosion of natural deposits
Chloride (mg/l) ⁵	N	01/22/2008	8.95	-	---	250	Naturally occurring or indicative of road salt contamination
Iron (µg/l) ^{3,5}	N	01/22/2008	99.4	-	---	300	Naturally occurring
Zinc (mg/l) ⁵	N	01/22/2008	0.008	-	---	5	Naturally occurring, mining waste
Sulfate (mg/l) ⁵	N	01/22/2008	5.06	-	---	250	Naturally occurring
Fluoride (mg/l) ⁵	N	01/22/2008	0.798	-	---	2.2	Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories
Manganese (µg/l) ^{3,5}	N	01/22/2008	19.2	-	---	300	Naturally occurring; indicative of landfill contamination.
Nitrate (mg/l) ⁵	N	01/22/2008	0.373	-	---	10	Fertilizers, septic systems sewage, natural deposits.
Nitrite (mg/l) ⁵	N	01/22/2008	<LOQ	-	---	1	Fertilizers, septic systems sewage, natural deposits.

TEST RESULTS							
Contaminant (Unit)	Violation Y/N	Date of Sample	Level Detected (Avg./Max)	Range	MCLG	MCL	Likely Source of Contamination
Radionuclides:							
Alpha (pCi/L)	N	2004 ⁴	0.0±0.3	-	---	15	Erosion of natural deposits.
Beta (pCi/L) ²	N	2004 ⁴	1.5±0.8	-	---	50	Decay of natural deposits and man made emissions.
Radium 226 (pCi/L) ²	N	2004 ⁴	0.0±0.2	-	---	5	Decay of natural deposits and man made emissions.
Radium 228 (pCi/L) ²	N	2004 ⁴	0.0±1.3	-	---	5	Decay of natural deposits and man made emissions.
Lead and Copper 90th Percentile*							
Lead (µg/l)	N	2007	4.7	<MDL-15.0	---	15	Corrosion of household plumbing system; Erosion of natural deposits
Copper (µg/l)	N	2007	263	38-470	---	1300	Corrosion of household plumbing system; Erosion of natural deposits; leaching from wood preservatives

Entry Point Turbidity Data

Turbidity	1/07	2/07	3/07	4/07	5/07	6/07	7/07	8/07	9/07	10/07	11/07	12/07
Highest Monthly Value	1.47	1.40	1.32	1.23	1.44	0.95	0.81	0.76	0.89	0.85	0.73	0.80

1. The level presents the 90th percentile of the sites tested. These results represent 2007 sample data, which is valid till 2010. The Village conducts reduced monitoring for Lead and Copper once every third year at the reduced number of sites.
2. The state considers 50pCi/l to be the level of concern for beta particles.
3. If iron and manganese are present, total concentration of both should not exceed 500 µg/l.
4. Grandfathered Historical Radionuclide Monitoring Data
5. This was a monitoring violation cited by the WCDOH. Sampling results completed in January 2008 were in compliance with the water quality standards.

It should be noted that all drinking water, including bottled drinking water, might be reasonably expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at 800-426-4791 or the Westchester County Department of Health at 914-813-5127.

Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of water quality. High turbidity can hinder the effectiveness of disinfectants. Turbidity

has no health effects. However it can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea and associated headaches.

Lead levels were within acceptable limits (below the action levels), as per Department of Health requirements. Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the Safe Drinking Water Hotline (800-426-4791) The Village will continue their chemical application and testing for both lead and copper to ensure continued compliance with the Health Department requirements.

Coliform bacteria are naturally present in the environment, and are used as an indicator of the possible presence of other potentially harmful bacteria. On a routine basis the District collects 10 total coliform bacteria samples in the distribution system each month. Additional samples are collected at the entry point during high turbidity alerts. In year 2007 there were no positive total coliform bacteria samples collected and no MCL violations occurred.

Cryptosporidiosis and Giardiasis are intestinal illnesses caused by microscopic parasites. Cryptosporidiosis can be very serious for people with weakened immune systems, undergoing chemotherapy treatment, dialysis or transplant patients and people with Crohn's disease or H.I.V. infection. People with weakened immune systems should discuss with their health care providers the need to take extra precautions such as boiling water, using certified bottled water or a specialty approved home filter. Individuals who think they have Cryptosporidiosis or Giardiasis should contact their health care providers immediately.

The New York City Department of Environmental Protection (NYCDEP), samples for Giardia Cysts and Cryptosporidium Oocysts on a weekly basis. During the 2007 sampling period, NYCDEP collected samples at the Catskill lower effluent chamber, at the Kensico Reservoir, 4 Cryptosporidium Oocysts and 146 Giardis Cysts were detected. Actual results are included in the report supplement. At New Croton Reservoir, 3 Oocysts and 72 Giardis Cysts were detected.

Refer to the attached Cryptosporidiosis and Giardiasis background information and Cryptosporidiosis fact sheet.

Definitions

- Milligrams per liter (mg/l) - part per million
- Microgram per liter ($\mu\text{g/l}$) - part per billion
- Million Fibers per liter (MFL) - A measure of the presence of asbestos fibers that are longer than 10 micrometers.
- Pico curie per liter (pci/l) - part per quadrillion, measure of radioactivity in the water
- Nephelometric Turbidity Unit (NTU) - measure of the clarity of the water

- Maximum Contaminant Level (MCL) - the highest level of a contaminant that is allowed in drinking water. MCLs are set as close as possible to MCLGs using the best available treatment technology.
- Maximum Contaminant Level Goal (MCLG) - the level of a contaminant in drink water below which there is not known or expected risk to health. MCLGs allow for a margin of safety.
- Treatment Technique - A required process intended to reduce the level of a contaminant in drinking water.
- Action Level - The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements, which a water system must follow.
- Turbidity - measure of the cloudiness of the water.

What does this information means?

As you can see by the table, our system had no violations. We have learned through our testing that some contaminants have been detected; however, these contaminants were detected below the level allowed by the State.

Is our water system meeting other rules that govern operations?

Full chemistry monitoring is required once every calendar year. Since this monitoring was not completed in 2007, a monitoring violation was cited by the WCDOH. Immediate sampling and testing was conducted in January 2008. Sampling results completed in January 2008 were in compliance with the water quality standards.

Do I need to take special precautions?

Although our drinking water met or exceeded state and federal regulations, some people may be more vulnerable to disease causing microorganisms or pathogens in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice from their health care provider about their drinking water. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium*, *Giardia* and other microbial pathogens are available from the Safe Drinking Water Hotline (800-426-4791).

All sources of drinking water (both tap water and bottled water) including rivers, lakes, streams, ponds, reservoirs, springs, and wells contain contaminants. As water travels over the surface of the land or through the ground, it dissolves naturally - occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include:

- *Microbial contaminants*, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

- *Inorganic contaminants*, such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, farming.
- *Pesticides and herbicides*, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- *Organic chemical contaminants*, including synthetic and volatile organic chemicals, which are by-products of industrial process and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
- *Radioactive contaminants*, which can be naturally occurring or be the result of oil and gas production and mining activities.
- *Unregulated contaminants* are those for which the EPA has not established drinking water standards. The purpose of unregulated contaminants monitoring is to assist the EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.

The Village has available a supplement for analytical testing results for contaminants required to be tested by the United States Environmental Protection Agency and the New York State Department of Health. This supplement is available for review upon written requests to customers of the Tarrytown Water Department. All requests must be made to the Tarrytown Water Department c/o the Village Administrator's Office, 21 Wildey Street, Tarrytown, NY 10591. This supplement will also be available for review at the Warner Library, North Broadway, Tarrytown, NY.

Information for Non-English Speaking Residents

This report contains important information about your drinking water. Translate it, or speak with someone who understands it.

Spanish

Este informe contiene información muy importante sobre su agua beber. Tradúzcalo ó hable con alguien que lo entienda bien.

French

Ce rapport contient des informations importantes sur votre eau potable. Traduisez-le ou parlez en avec quelqu'un qui le comprend bien.

Why save Water and how to avoid wasting it?

Although our system has an adequate amount of water to meet present and future demands, there are a number of reasons why it is important to conserve water:

- Saving water saves energy and some of the costs associated with both of these necessities of life;

- Saving water reduces the cost of energy required to pump water and the need to construct costly new wells, pumping systems and water towers; and
- Saving water lessens the strain on the water system during a dry spell or drought and helps to avoid severe water use restrictions so that essential fire fighting needs are met.

You can play a role in conserving water by becoming conscious of the amount of water your household is using, and by looking for ways to use less whenever you can. It is not hard to conserve water. Conservation tips include:

- Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity.
- Turn off the tap when brushing your teeth.
- Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it up and you can save almost 6,000 gallons per year.
- Check your toilets for leaks by putting a few drops of food coloring in the tank, watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from these invisible toilet leaks. Fix it and you can save more than 30,000 gallons a year.
- Use your water meter to detect hidden leaks. Simply turn off all taps and water using appliances, then check the meter after 15 minutes. If it moved, you have a leak.

System Improvements

Over the course of the year, nine (9) water main breaks occurred which were repaired. Additionally, Village replaced eighteen (18) distribution system valves and eighteen (18) fire hydrants in the Water District.

This year Village replaced approximately 1600-linear feet of undersized distribution system water main within larger diameter 8-inch mains to improve the water quality and fire fighting capabilities in the area. Additionally, 42-existing customer services were also replaced with new service connections as part of the system improvements.

Thank you for allowing us to continue to provide your family with quality drinking water this year. We ask that all our customers help us protect our water sources, which are the heart of our community. Please call our office if you have questions.

**NEW YORK STATE
DEPARTMENT OF HEALTH
BUREAU OF PUBLIC WATER SUPPLY PROTECTION**

Following information is provided for public education purposes. This does not interpret that our drinking water is contaminated with any of these contaminants.

LEAD AND COPPER

What is Lead?

Lead is a toxic "heavy metal" that tends to accumulate in the body and is stored primarily in bones. Lead can be found in the air, water and soil. It has no known beneficial effect on humans or animals.

Lead and your Health:

Lead is readily absorbed by the body. High blood lead levels contribute to a variety of problems including mental retardation, interference with kidney and neurological functions, and hearing loss in children. Children are quite susceptible to the adverse effects of lead due to their immature central nervous systems and their high rate of lead adsorption. Because water intake per pound of body weight is higher in children than adults, contaminated water is a higher risk to youth.

Lead in Water:

Lead is rarely found as a naturally occurring contaminant in water. Its presence is most often due to the corrosion of water system piping. Lead piping (older homes), connections and solder have been identified as the primary sources of lead in drinking water. Lead has also been found recently in the brass fittings of certain brands of submersible well pumps. Lead piping and solder were banned by the EPA in 1986. Though a given home may contain lead in its water system, this does not necessarily mean that there will be lead in the water. The water's corrosivity will influence the rate of lead dissolution in water. Softened and acidic waters are the most likely to leach lead (and copper) from the system plumbing. To confirm the presence of lead the water must be analyzed by a state certified laboratory.

Drinking Water Maximum Contaminant Levels (MCL's):

The EPA, through the federal Safe Drinking Water Act, recently reduced the drinking water lead action level to 0.015 mg/L. This is equivalent to 15 parts per billion. Levels exceeding this limit in public water supplies can trigger large-scale treatment programs aimed at overall reductions in lead levels.

I have Lead in my Water. Now what?

Lead (and copper) levels are likely to be highest in water that has been sitting stagnant over time. Flushing the lines until the water is fresh is an effective way to reduce lead consumption. Reverse osmosis, adsorptive cartridges, distillation and, at times, a water softener are common technologies used to reduce overall lead levels. Other methods include chemically manipulating the water's corrosivity and purchasing bottled spring water. A reputable water treatment company can help you determine which method is best for your situation.

CRYPTOSPORIDIOSIS AND GIARDIASIS BACKGROUND INFORMATION

What are Cryptosporidiosis and Giardiasis?

Cryptosporidiosis (crip-toe-spo-RID-i-o-sis) and giardiasis (gee-AR-di-a-sis) are intestinal illnesses caused by parasites, which are too small to be seen by the naked eye.

Who gets Cryptosporidiosis and Giardiasis?

Anyone can get Cryptosporidiosis and Giardiasis. In people who are otherwise healthy, the illnesses usually last less than two weeks. Cryptosporidiosis can be very serious for people with weak immune systems (high risk individuals) - for example, chemotherapy, dialysis or transplant patients, and people with Crohn's disease or HIV infection.

How do they spread?

People get cryptosporidiosis or giardiasis by swallowing water or food that has been contaminated with the parasite. Direct contact with feces from infected people or animals can also cause illness. It can be spread any time basic hygiene breaks down.

What are the symptoms?

For cryptosporidiosis, symptoms usually appear from 1 to 12 days after infection, with an average of 7 days. The most common sign is watery diarrhea. There may also be cramps, fever, nausea, vomiting, and loss of appetite. Symptoms of giardiasis occur from 5 to 25 days after exposure but usually within 10 days. The main symptom is mild or severe diarrhea. Fever is rarely present. In both illnesses, some people who get infected may not get sick.

How are these infections diagnosed?

These infections are diagnosed by looking at a stool sample under a microscope. Looking for Giardia is part of a routine lab test called an "O&P" (Ova and Parasites) test. However, Cryptosporidium is not a routine part of this test. Unless your doctor requests it, Cryptosporidium may be missed.

Can Giardiasis and Cryptosporidiosis be treated?

Giardia can be treated with anti-parasitic drugs. However, there is no specific treatment for cryptosporidiosis. For some patients, antibiotics may help. Anti-Diarrhea drugs, which reduce the motion of the intestines, may provide temporary improvement, but oral liquids or intravenous fluids may be necessary.

Should an infected person be excluded from work or school?

Generally, it is not necessary. Casual contact is likely to transmit the disease. Special precautions may be needed by food handlers or children enrolled in day care settings. Consult your local health department for advice in such instances.

NEW YORK STATE DEPARTMENT OF HEALTH FACT SHEET

CRYPTOSPORIDIOSIS - (*crip-toe-spor-id-i-o-sis*)

Information for People with Weakened Immune Systems

What is Cryptosporidiosis?

Cryptosporidiosis is an intestinal illness caused by a microscopic parasite called *Cryptosporidium*.

Is Cryptosporidiosis a new disease?

Although *Cryptosporidium* is not new, it was recognized as a cause of human disease until 1976. Cryptosporidiosis was added to the list of reportable diseases in New York State in February 1994.

How common is Cryptosporidiosis?

The number of Cryptosporidiosis cases that occur each year is not yet well documented. Since the disease has recently been added to the list of reportable diseases, state and county health departments are now beginning to record the number and location of identified cases so that public measures can be developed. In 1994, 302 cases were reported to the New York State Department of Health. However, more cases may have occurred that were not detected, either because the *Cryptosporidium* stool test may not have been requested by the health care provider or the laboratory may have failed to use the necessary tests to identify it.

What are the symptoms of Cryptosporidiosis?

The most common symptom is diarrhea, which is usually watery. It is often accompanied by abdominal cramping. Nausea, vomiting, fever, headache and loss of appetite may also occur. Some people infected with *Cryptosporidium* may not become ill.

Who is susceptible to Cryptosporidiosis and how long does the illness last?

All people are presumed susceptible to infection with *Cryptosporidium*. In healthy individuals with normal immune systems, signs and symptoms generally persist for two weeks or less. However, immunocompromised persons (those with weak immune systems) may have severe and long lasting illness. Some examples of immunocompromised people are those receiving cancer, chemotherapy, kidney dialysis, steroid therapy, people with HIV/AIDS and patients with Crohn's disease.

How long after exposure do symptoms appear?

The incubation period may range from 1c to 12 days with an average of 7 days.

Should immunocompromised persons take extra precautions to minimize their risk of Cryptosporidiosis?

Because cryptosporidiosis can be a severe disease in immunocompromised persons, such individuals should discuss the need for extra precautions with their health care provider to minimize their risk of infection. Keep in mind that contaminated drinking water is only one of a number of ways in which cryptosporidiosis can be acquired. Here are some suggested steps:

- Wash hands thoroughly after changing diapers or whenever fecal soiling occurs.
- Avoid sexual practices that may result in hand or mouth exposure to feces, such as oral/anal contact (rimming).
- Avoid direct exposure to cattle and other farm animals. If exposure cannot be avoided, wash your hands thoroughly immediately thereafter.
- Avoid swallowing water when swimming, especially in lakes, ponds or rivers. There has been one documented case of cryptosporidium transmitted to a number of people who swam in a recreational wave pool and apparently swallowed the water.
- Thoroughly wash all fruits and vegetables. Avoid drinking un-pasteurized apple cider, as there has been a documented incident of cryptosporidium transmitted through fresh cider made from apples gathered in a field in which cows were grazing.

If an outbreak of waterborne *Cryptosporidium* is identified (none has been to date in New York), immunocompromised patients should carefully and consistently comply with all public advisories and notices issued by the local or state health department.

The four items listed below may help immunocompromised patients and their health care providers decide whether to take extra routine precautions with drinking water under normal, non-outbreak conditions:

- Boiling water for at least one minute with a rolling boil will kill *Cryptosporidium*.
- Properly drilled and maintained wells, which utilize underground water, are generally protected from surface contamination and are likely to contain *Cryptosporidium* cysts.
- Unless it is distilled or pasteurized, bottled water may not be safer than tap water. Those bottling companies using properly designed and operated ground water sources have a very low likelihood of producing water containing *Cryptosporidium* cysts. Those companies using surface water sources have the same risk of being cryptosporidium free. Bottled water sold in New York must also include on the label whether the water comes from a well, spring or municipal source. A list of bottled waters certified for sale in New York along with their sources can be obtained from the New York State Department of Health at 800-458-1158.
- During an outbreak of cryptosporidiosis in Milwaukee in 1993, one study showed that less diarrhea occurred in homes using water filters with a pore size less than two microns, as compared to others using filters with large pore sizes. If home water filters are used, follow the manufacturers instructions supplied with the unit. The instructions will provide information on filter maintenance needed to prevent clogging and ensure proper filtration. Filters should be certified by the National Sanitation Foundation (NSF) or an equivalent testing agency for cyst removal.