York Region Community and Health Services is mandated to promote safe water practices. This fact sheet is part of a series to provide information and standards on this topic.

Well Disinfection

To ensure a bacteriologically safe drinking water supply, private well owners should test their drinking water at least twice a year. Should the results warrant disinfection of your well, please follow the steps outlined below.

Chlorination

1. Draw off a supply of drinking water for overnight use, before disinfecting the well. See Safe Water Fact Sheet #2 - Emergency Water Treatment.

2. Disconnect the carbon filter on your system, if applicable, since the filter will tend to remove the chlorine from the water.

3. Add to your well the proper amount of required chlorine (see below for Method for Calculating amount of Bleach needed). Ensure that the household bleach used contains 5% to 5.25% available chlorine, without additives i.e. lemon scent.

   Mix the chlorine with several litres of water before adding it to the well. The vent hole on a drilled well may provide a place to pour in the solution.

4. With a garden hose connected to an outside tap, turn on the water until the odour of the chlorine is detected. Gradually extend the garden hose into the entire depth of the well to ensure complete disinfection. Circulate for 5-10 minutes.

5. Turn on all inside taps (hot and cold) to disinfect the entire water distribution system inside the home. Close all taps once the chlorine smell is detected. Let sit for 12 hours.

6. Drain the water system using a garden hose until the chlorine odour is no longer present (being careful not to run the well dry). Drain the water into a drainage ditch, not into drains of septic systems.

Method for Calculating Amount of Bleach Needed

The depth of water in the well will be somewhat less than the total depth of the well. For the following calculation, use the depth of water, if known; otherwise use the total depth of the well. The total depth may be found on the well record.

Using the table below, estimate the volume of water in the well, and the amount of bleach required.

Table 1: Volume of Bleach Required Per 10 ft or 3 Metres of Water Depth using 5.0% - 5.25% Household Bleach (unscented)

Diameter of Well Casing, or Pipe		**Volume of Bleach Per 10ft or 3m Depth of Water in Well or Pipe (using 5.0%-5.25% unscented household bleach)**	
Inches	*Centimetres*	*Per 10 ft*	*Per 3 Metres*
2	5	2 tsp	6 ml
4	10	6 tsp	30 ml
6	15	12 tsp	60 ml
8	20	7 tbsp	100 ml
10	25	14 tbsp	200 ml
12	30	1 cup	250 ml
24	60	4 cups	900 ml
36	90	9 cups	2.0 L
Note: 1 cup = 16 tbsp = 48 tsp			

Resampling

Boil or chlorinate all drinking water until you receive a satisfactory laboratory report. *See Safe Water Fact Sheet #2 - **Emergency Water Treatment**.*

1. Take a water sample **(see Safe Water Fact Sheet #3: Private Well Water Sampling Procedure)** for bacteriological testing 3-4 days after the chlorination of the well.

2. If the test is clear, wait one week and retest. Two consecutive safe tests indicate that the treatment was effective.

3. If bacteria are still present, repeat chlorination and retest.

Remember…

Chlorination will disinfect a well and water system. However, unless the source of the bacterial contamination is found and corrected, the problem will continue to recur and chlorination will not solve the problem. In some cases, a new well may have to be constructed or a water treatment device may have to be installed.

Please Note: Results are unreliable if the sample was improperly collected or stored, or took more than 48 hours to reach the laboratory. If the water sample takes more than 48 hours to reach the laboratory, it will not be tested.

Only a professional should enter a well. Read the label before using chemical disinfectants.

Water Sample Bottle Pick-up and Drop-off Locations

Health Services Offices:	
Markham:	**4261 Highway No. 7 East, Suite B6-9, Unionville,**
Richmond Hill:	**50 High Tech Road, 2nd Floor, Richmond Hill**
Newmarket:	**The Tannery, 465 Davis Drive, Suite 240, Newmarket**
Town of Georgina	
Georgina:	**Georgina Civic Centre, 26557 Civic Centre Road, Keswick**
Township of King (PICK UP ONLY)	
King City:	**King Township Offices, 2075 King Road, King City**
Nobleton:	**Dr. W. Laceby Nobleton Arena, 15 Old King Road, Nobleton**

A Public Health Inspector is available to answer questions Monday to Friday 8:30 a.m. to 4:30 p.m. toll-free at 1-800-361-5653 or TTY 1-866-252-9933.

Information Sources: Ontario Ministry of Health and Long-Term Care (Public Health Laboratory Branch)
Ontario Ministry of Food and Agriculture – Best Management Practices – Water Wells

Revised January 19, 2011