

Public Swimming Area Policy
August 1, 1995

SWIMMING AREA ILLNESS AND INJURY PREVENTION

GENERAL PURPOSE AND GOAL

It is the purpose of this policy to reduce and control risk of human illness and injury in swimming or bathing areas. These are areas **not** in contained or disinfected water.

It has been known for decades that there is some risk of disease transmission in swimming waters. While it does not appear possible to eliminate risk of illness or injury, it is possible for citizens, facility managers and the health department to reduce and control risk.

We recognize the recreational and fitness values of swimming and water contact activities. It is not the intention of this policy to eliminate these valuable community recreation resources, but to protect the health of the public while engaged in these activities.

The preferred means of risk control will be non-regulatory.

For the health of the community, emergency intervention will be considered when illness, injury or significant risk-factor information is evident.

This policy does not eliminate or repeal existing laws.

Contact persons:

1. For question regarding this policy: Sammy Berg (360) 867-2568
2. For illness reporting: (360) 786-5470
3. For questions regarding general lake water quality: Sue Davis (360) 867-2643
4. For questions regarding swimming pools and spas: Bob Poole (360) 867-2574
5. For questions regarding sewage disposal: (360) 867-2673

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I. PREVENTION MEASURES FOR PEOPLE, ACTIONS THAT MAY BE TAKEN BY SWIMMERS AND PEOPLE SUPERVISING YOUNGER SWIMMERS

The purpose of this section is to provide information to citizens regarding steps they themselves may take to prevent illness and injury to themselves and others using public swimming areas. Public information, handouts, public service announcements and other means could be used to disseminate this information and advice.

A. REDUCE YOUR OWN RISKS

Drowning prevention. Before swimming, find out where the safety equipment is located so you can help others in need of it. Make sure that personal flotation devices are available and are worn when boating. These are especially important for persons using canoes, inflatable boats, jet skis and other power boats.

Avoid areas where animal manure or human sewage is discharged. There are many bacteria, viruses and parasites that cause disease in humans that can come from and be spread by the fecal material of man, wild and domestic animals.

Don't drink (swallow) the swimming water while you are swimming. It's probably impossible to avoid swallowing some water while swimming but the less you swallow, the smaller the chance of getting enough germs to make you sick.

Consult your health care provider before you swim if you have an immune deficiency. People with immune deficiency problems are at higher risk even in disinfected swimming pool water. (Cryptosporidium and Giardia are extremely resistant to chlorination.)

Avoid large crowds of bathers. The larger the number of swimmers, the higher the risk of illness transmission.

Swimmer's Itch. Avoid swimming in areas where there is evidence of a lot of waterfowl (ducks, geese, etc.). Towel dry immediately after swimming. Some swimmers have had some success in preventing Swimmer's Itch by applying a good waterproof sunscreen prior to entering the water.

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Avoid small, shallow ponds. These areas are frequently very rich biologically and can also be very rich in the bacteria and parasites shed by wildlife or which may be free living, many of which can cause illness in humans.

B. AVOID BECOMING A SOURCE OF CONTAMINATION

Shower before you swim.

Do not swim if you now have (on the day of swimming) or have had a diarrheal illness or loose stools **within the last two days.**

Keep children who are not toilet trained out of the water.

Keep children who have **diarrhea or loose stools, today or within the last 2 days** out of the water.

Don't allow children with dirty diapers to be in the water.

Do not swim if you have a skin infection.

Keep dogs and pets out of beach areas.

C. REPORT ILLNESS ASSOCIATED WITH SWIMMING

Report illness occurring within two days after swimming to your health care provider. Report illness in yourself or a member of your family or in a group that swam if you believe the illness is associated with swimming. Report to the **Thurston County Disease Reporting Line at (360) 786-5470.**

Lab tests positive for Giardia, Cryptosporidium, Shigella, E.coli 0157:H7, Hepatitis A, or any illness, including diarrhea or loose stools that you suspect is associated with swimming, should be reported to (360) 786-5470.

Report cases of swimmers itch, or other skin rash illness you think may be associated with swimming to (360) 786-5470.

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II. PREVENTION MEASURES FOR PARK OWNERS AND MANAGERS

A. THE FOLLOWING REDUCE THE RISK OF ILLNESS AND INJURY:

Note to facility owners and managers: The recommendations in this section are intended to act as a guideline for preventative actions. They are not code or law. They are intended to help eliminate the precursors to illness and injury.

Locate restrooms and bathhouses within 500 feet of the swimming area. *Keep them clean, especially when the swimming area is very crowded.*

Provide hand-washing facilities with permanent and temporary restrooms. Hot water, soap and paper towels are highly desirable.

Post a "Shower Before Swimming" sign in an appropriate location.

Provide extra, temporary rest room facilities for high bather attendance days.

Provide drinking fountains within 500 feet of the swimming area.

Perform daily safety inspections to assure the absence of dangerous or sharp objects or damaged equipment in the bathing area.

Perform inspections of rest room and sewage disposal facilities during peak bather loading hours to assure proper sewage system function.

Ensure septic systems are well maintained, and not failing. Pay special attention to avoiding and surfacing sewage effluent or sewer backups. Surfacing sewage requires immediate action. Repair systems according to Thurston County Health Department Standards. (Call (360) 867-2673 for assistance).

Check the condition of bathhouses and restrooms often to ensure they are clean, in proper working order and supplied with toilet paper, soap and paper towels.

Locate a signpost where information and advisories may be posted with minimal effort. More than one sign may be necessary.

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Clean up broken glass and make it part of the facility's general inspection cycle. Prohibit glass drinking containers in areas where people are likely to walk bare-footed.

Contain solid waste in adequate containers with tight fitting lids. Remove waste at least weekly.

B. SAFETY AND FIRST AID EQUIPMENT: KEEP THE FOLLOWING EQUIPMENT AVAILABLE AND IN GOOD REPAIR:

At least one American Red Cross 24 unit or equivalent first aid kit.

A rescue pole or throwing rope attached to a ring buoy.

A telephone or other means of communication for emergency use with emergency phone location and numbers posted.

C. DEPTH MARKING (DIVING ACCIDENT PREVENTION)

Provide clearly visible depth markers such as a float-line to show the separation of the shallow and deep areas, at a depth of three to four feet, the diving area, drop offs, and underwater obstructions.

Prohibit diving from rafts, piers or other platforms unless a minimum water depth of eight feet is provided and maintained for a distance of at least twelve feet from the edge of the diving platform.

Diving boards installed at three feet or less above the water should have a water depth at the end of the diving board of at least ten feet and should continue for at least twelve feet beyond the end and sides of the board.

Diving boards or platforms installed more than three feet above the water should have a minimum water depth of twelve feet at the end of the diving board and for at least twelve feet beyond the end and sides of the board.

Do not install a diving board or platform that is more than ten feet above the water. Account for seasonal variation in water depth in areas where diving is allowed.

Note: A spine board or rescue board with collar and ties should be provided only when qualified personnel are present.

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Report illness or injury to the Health Department Disease Reporting Line (360) 786-5470.

Provide a Secchi disk for visibility measurement. A Secchi disk is a black and white disk at least six inches in diameter and is used for checking the depth of visibility into the water. Visibility measurements should be performed daily at a minimum of three different locations in the bathing area.

The disk should be visible at a depth of four feet whenever the swimming area is open for use. During periods of low visibility a sign with appropriate warning should be posted so swimmers and persons supervising children can take precautionary measures. Older children and adults should use the buddy system and child supervisors should be watchful. A Warning Notice of low visibility should be posted. (See appendix A for example caution sign language)

Control of Swimmer's Itch. Do not allow the feeding of ducks or wildlife in or near swimming areas. Ducks and geese shed a parasite (schistosome) in their feces that causes Swimmer's Itch. Snails are part of this parasite's life cycle. Controlling snails also helps.

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III. SWIMMING AREA CLOSURE POLICY

(Guidelines for the Health Officer and staff under his/her supervision)

The purpose of the swimming area closure policy is to act as a guide to the Health Officer in interpreting reports of illness, injury and water quality sample results from swimming areas. Swimming area closure is not the first action sought, but will be the result when it is necessary for the protection of public health.

A. STANDARDS FOR CLOSURE

(See glossary for technical terms)

The Health Officer may close a swimming area for any of the following circumstances or combination of them. The length of time an area is closed depends on the severity of the risk (as evaluated by the Health Officer) and the ability of the facility to reduce the identified risk.

1. Reports of gastrointestinal illness, (supported by epidemiological investigation) that indicate a significant risk is associated with a specific swimming or water contact sports area.
 - a. Reports of illness in two or more individuals from a family or group of individuals associated with a swimming or water contact sports area; or
 - b. Reports of illness in individuals associated with the use of a swimming or water contact sports area.
2. Contamination of a swimming area by sewage, manure or hazardous chemicals. Examples are: sewage draining or having drained into an area, a chemical or other hazardous or dangerous material spill or discharge. The Health Officer shall base a closure decision on the properties and quantity of the material discharged and risk to human health.
3. Biological intoxication (poisoning) resulting from toxic blue-green algae (cyanobacteria) blooms. Several cyanobacteria have been confirmed to be hazardous to humans and certain animals. Prohibit swimming when the swimming area is 50% or more covered with algal scum or when visibility is less than four feet of depth and in both cases when toxic blue-green algae are confirmed. The use of bioassay techniques may be employed.
4. A single swimming area water sample yields the results of 1,000 fecal coliform bacteria or greater per 100 ML.

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5. The average (arithmetic mean) of a set of samples taken on a single day, is 200 or more fecal coliform bacteria per 100 ML and when illness levels are above those expected.
6. The average (geometric mean) of five (5) daily sets of samples on five different days in a 30-day period is 200 fecal coliform bacteria per 100 ML. The Daily Set Average shall be the arithmetic mean of all of the samples taken at a specific bathing area on a single day and shall be a minimum of five samples.
7. The presence of a physical hazard that has caused injury has been identified. Examples are injuries from submerged or not-visible objects or from sharp objects that can cause cuts, abrasion or penetration injuries or the change in water depth which would cause a drowning or diving injury risk.
8. Reports of upper respiratory infections, skin infections and skin irritation illness may result in closure, official warning or swimmer advisory depending on the circumstances.
9. Confirmed reports of sewage system failure.
10. Any other condition that is determined to be a significant health threat to members of the community.

Note for action causes above: The above causes may be considered basis for the convening of the Departmental Epidemiology Team. This team, which includes the Board appointed Health Officer, evaluates the seriousness of the circumstances as well as the strength of the data. The Health Officer will consider the specific illness(es) reported and the number of persons ill in determining the nature of the response. A single case of illness associated with a swimming area is usually not cause for closure but could be if the specific illness warrants it.

Other Actions which resolve or correct the issue may be taken which do not result in area closure when such action eliminates or significantly reduces the identified risk factor(s).

Note: Closure Action or other emergency action may be taken by the Health Officer under RCW 70.05.070 Powers and Duties of the Health Officer.

B. GUIDELINE FOR RE-OPENING

After closing a swimming area, the Health Officer may re-open the area when:

1. The arithmetic mean of two daily sets of samples are each less than 100 fecal coliforms per 100

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ML; or

2. A sanitary survey of the closed area indicates risk factors are controlled in addition to one daily set of samples with the arithmetic mean of 100 fecal coliforms per 100 ML or less (a minimum of 5 samples using the standard sample protocol);

and

3. Illness is absent or significantly reduced with A or B above; or

4. Risk factors are significantly reduced or eliminated.

Note: Regarding possible extended closure. If the Health Officer finds that illness exists causing significant risk to public health, a swimming area may be required to remain closed even if indicator organisms (such as fecal coliform) are found at below the stated re-opening levels. Examples are illnesses caused by Shigella sonnei, E. coli 0157:H7, or certain other pathogenic E. coli or Hepatitis A or other viral illness.

C. CAUSES FOR PUBLIC HEALTH ALERTS

The following circumstances may result in health alerts to the public:

1. Presence of communicable illness in the community in numbers in excess of usual or expected levels.
2. Reports of Swimmer's Itch (schistosome dermatitis) associated with a specific swimming area.
3. Illness which is present in the community which can be transmitted in swimming waters but has not (yet) been associated with a specific swimming area.
4. Presence of objects in a bathing area which can cause injury.
5. Presence of blue-green algae in significant quantity.
6. Low visibility in swimming area water.

Note: Public health alerts may be a public announcement in the print or electronic media, signs posted at specific swimming areas, or other means that may be used to educate the public.

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APPENDIX A, MEASUREMENT AND SAMPLING

WATER VISIBILITY MEASUREMENT

A Secchi disk, a black and white disk, six inches in diameter, with alternate quadrants of black and white, shall be available for measuring visibility depth. Lower the disk into the water on a cord to the depth where the disk becomes invisible or to the bottom, whichever is shallower. Record the length of cord from the water surface to where the disk becomes invisible as the depth of visibility. Measure the depth in feet and inches.

Perform visibility measurements daily in swimming areas at a four-foot depth at a minimum of three different locations in the bathing area.

If visibility is less than four feet in depth, a sign should be posted to warn of this condition. An example is:

CAUTION!
Low Visibility in Swimming Water - Use Buddy System
Watch Children!

FECAL COLIFORM SAMPLING PROTOCOL

Collect bacterial samples within one foot of the surface in water three to six feet deep in various locations in the bathing area.

Submit samples collected from bathing beaches for analysis to laboratories certified by the Washington State Department of Health or Department of Ecology. They must be identified as surface water samples with request to run for fecal coliform.

Laboratory analysis standards shall be according a valid copy of Standard Methods for the Examination of Water and WasteWater.

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APPENDIX B, GLOSSARY

Arithmetic Mean. The sum of the sample densities divided by the number of samples. For example, $10+100+1000=1110$, divided by 3 equals 370. This method is used to avoid the dampening effect of the geometric mean and is intended to be used in a single swimming area and for a single day's set of samples.

Cryptosporidium species. Cryptosporidium is a parasite that infects mammals and causes diarrhea, typically lasting for approximately one week. Can be very serious in persons with impaired immune systems.

Cyanobacteria. For the purpose of this policy, any of the following blue-green algae genera: Anabaena (flos-aquae), Aphanizominon (flos-aquae), Nodularia (spumigena) or Microcystis (aeruginosa). These algae can produce toxins which can cause illness. (Species names in parentheses are for illustrative and not legally limiting purposes).

Escherichia coli (E. coli). A bacterium that usually exists as normal flora in the guts of mammals. Usually not a pathogen.

E. coli 0157:H7. A serotype of E. coli that can cause severe and even fatal illness in humans.

Epidemiology. The science of the occurrence, distribution and control of disease, including the factors that control the presence and absence of such disease.

Geometric Mean (definition for this policy). The geometric means shall be the Nth root of the product of N sets of samples.

Geometric Mean (explanation). Means the Nth root of the product of N sample bacterial densities. A first example is $10 \times 100 \times 1000=1,000,000$. The third root of this is 100. Another example, bacterial sample results of the following: $2 \times 4 \times 10 \times 100 \times 1,000 = 8,000,000$ and then the fifth root equals a geometric mean of 24. This number would be below the 200 standard calling for a closure. This is a method to "dampen out" the large variation in bacterial numbers which may be seen over a relatively wide area and over a longer time.

Giardia lamblia. Giardia is a parasite that resides in the guts of many wild animals, frequently without symptoms in humans but can cause severe diarrhea, typically with elevated levels of gas in humans. Giardia cysts are very resistant to chlorination.

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Hepatitis A. A viral illness of humans. Infection can cause varying levels of illness from no symptoms at all to severe liver dysfunction.

Public Swimming Area. Any body of water or portion thereof used for swimming, diving or recreational bathing, not contained in structure, chamber or tank. This includes lakes, artificial lake impoundments, ponds, rivers and streams and similar outdoor facilities which are partially natural in character, together with buildings, equipment and appurtenances pertaining thereto, irrespective of whether a fee is charged for the use thereof.

Secchi Disk. A black and white disk, at least six inches in diameter with alternate quadrants of black and white, used to determine water clarity or visibility depth.

Set of Samples (explanation). Means all of the samples taken from a specific swimming area on a single day and is minimum of five samples. The mean is calculated from the results in each sample set.

Shigella sonnei. A bacterium that causes severe diarrheal illness in humans.

Swimmer's Itch. A rash-like skin irritation caused by a parasite (Schistosome dermatitis). Symptoms may vary from mild itching to severe rash over most of the body and an allergic reaction. The rash is self limited (does not lead to further parasitic illness and resolves without treatment) and treatment usually involves control of the itching. Rash is often more severe where bathing suit maintains wetness longer than parts dried with towel.

Successive Sets of Samples. All of the sample results from a specific swimming area during a sequence of five days. For example, samples taken on the 1st, 3rd, 8th, 12th and 20th of the month. In this example, samples taken in the previous month would not enter the geometric mean calculation. Samples need not be in daily succession, that is Monday, Tuesday, Wednesday, etc.