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COLUMNARIS *Flavobacterium columnare*

What is columnaris?

- Columnaris is a disease of freshwater fish caused by the bacterium *Flavobacterium columnare* (shortened to *F. columnare*). The name comes from the appearance of the long, rod-shaped bacteria under a microscope.

Can people get columnaris?

- No, *F. columnare* is not known to be a risk to human health. The bacterium does not grow well at the temperature of the human body.

How do fish get columnaris?

- This type of bacteria lives in water and mud and is found on the bodies of fish and in the gill area. Bacteria may enter the fish through the gills or broken skin.
- Columnaris is found worldwide. Epidemics occur when fish are under some type of stress, such as a low level of oxygen in the water, excessive handling, crowding or unfavourable temperatures.
- Under poor conditions massive losses can occur one or two days following the emergence of the bacterial infection.
- Epidemics rarely occur when water temperatures are less than 13°C. The infection can spread rapidly when temperatures are higher than 18°C. The ideal temperature for the growth of *F. columnare* is 20 to 25°C, although it can grow at temperatures ranging from 4 to 33°C.

What fish are susceptible?

- Freshwater fish of all ages and various species can get columnaris.
- Warmwater fish are susceptible to the infection when water temperatures are greater than 18 to 20°C.
- Coldwater fish are susceptible when water temperatures are above 15°C.



Photo: MNR

- Bullheads and catfish (Ictalurids) are particularly susceptible to columnaris.
- Juvenile rainbow trout and other young salmonids are more likely to contract the disease than older fish of these species.

Some fish show the following signs:

- Sores on the gills and body that are white to brown, greyish-white or orange-yellow.
- Sores or ulcers on the fins, head and body that eventually increase in size and may expose the underlying muscle.
- White area of affected tissue encircling the body (often called "saddleback").
- Ulcers on the mouth and jaw in the most severe cases.
- Some infected fish show no signs but have the bacteria in the kidneys.



Photo: MNR

Can outbreaks be prevented?

- Outbreaks of columnaris in the wild are almost impossible to prevent or treat.
- The risk of outbreaks in cultured fish can be reduced by keeping the water temperature low for salmonids. Minimize handling in warm weather, reuse water with caution, and avoid crowding. Treat with antibiotics in consultation with your veterinarian.