

# Acute Flaccid Paralysis (AFP) Fact Sheet

## What is it?

Acute flaccid paralysis (AFP) is the clinical presentation of a set of symptoms, and is not a final diagnosis. Surveillance is conducted in an attempt to identify cases of AFP and to investigate all reported cases for evidence to rule out poliomyelitis (polio), which is essential for polio eradication.

## What are the signs & symptoms?

Acute onset of focal weakness or paralysis, characterized as flaccid without other obvious causes (e.g., trauma), in children less than 15 years old. The most characteristic feature of AFP associated with paralytic polio is its asymmetric distribution (not affecting both sides equally), which affects some muscle groups while sparing others, with fever present at onset. The most typical pattern is involvement of one leg only, or one arm, although this occurs less often. It is less common for both legs or both arms to be affected. AFP due to Guillain-Barre Syndrome may present as symmetrical paralysis and may progress for up to 10 days.

## What causes it?

AFP may be caused by a number of agents. The immune-mediated condition Guillain-Barré Syndrome (GBS) is the most common cause of AFP in Canada. The causes of AFP, some of which lead to GBS, include, but are not limited to, enteroviruses (including poliovirus\*), echoviruses, adenoviruses, acute West Nile virus infection, *Campylobacter* spp., transverse myelitis, peripheral neuropathy, acute non-bacterial meningitis, brain abscess, China syndrome, post-polio sequelae, tick paralysis, myasthenia gravis, porphyria and botulism.

\*Poliomyelitis must be distinguished from other paralytic conditions by isolation of poliovirus from stool. If polio is identified as the causative agent of AFP, please refer to the fact sheet on poliomyelitis.

## Diagnosis & Testing:

AFP is a syndrome which can be caused by a number of pathogens. Laboratory testing (of stool, serum and other appropriate clinical specimens) is used to rule out poliomyelitis and/or determine pathogens causing AFP.

Clinically confirmed case: Acute onset of focal weakness or paralysis characterized as flaccid (reduced tone) without other obvious cause (e.g. trauma) in children <15 years old. Cases of Guillain-Barré Syndrome (GBS) should be included as cases of Acute Flaccid Paralysis (AFP). Transient weakness (e.g. post-ictal weakness) should not be reported.

Stool samples (collection of three stool samples) and a pharyngeal swab within two weeks (up to six weeks) after the onset of paralysis for: viral studies and campylobacter.

Serum samples: A sample should be collected immediately for polio serology. A second serum sample should be collected two weeks later if the patient presents in the acute phase of the illness, or one month later if the patient presents in the convalescent phase. Samples should be tested in parallel for poliovirus antibody titres using neutralization testing.

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Nasopharyngeal swab, viral throat swabs and CSF may be collected to assist with the investigation.

Neurologic investigations, as appropriate, should take place (electromyography, MRI, CT, nerve conduction studies).

**Treatment & Case Management:**

Treatment is under the direction of the attending healthcare provider. Routine Practices are recommended for hospitalized cases and additional precautions would depend on the causative organism. Immediate case investigation and specimen collection is essential by public health to rule out polio as a source of infection, maintain Canada's polio-free certification status, and determine the source of infection.

NOTE: The elimination of indigenous wild poliovirus transmission in Canada and the rest of the American region was certified in September 1994. However, until global polio eradication is attained, there remains an ongoing risk of wild poliovirus importation from polio-endemic regions to Canada. Consequently, active surveillance of acute flaccid paralysis (AFP) in children less than 15 years is used to monitor potential cases of paralytic poliomyelitis.

**Other Questions?**

Talk to your health care provider or call our Communicable Disease Program at 613-966-5500 x349. Toll Free 1-800-267-2803 | TTY Dial 711 (1-800-267-6511) | [www.hpepublichealth.ca](http://www.hpepublichealth.ca)

**Reference**

- The Ministry of Health & Long-Term Care, Infectious Disease Protocol, 2013.

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