

Polio eradication and acute flaccid paralysis (AFP) surveillance

Frequently Asked Questions

1. **What is acute flaccid paralysis (AFP) and why do we do surveillance for AFP?**

AFP is a clinical syndrome – i.e a collection of signs and symptoms. AFP is not a diagnosis. There are many infectious and non-infectious causes of AFP. Polio, caused by wild polio virus (the natural circulating strain of polio) is one of the causes of AFP. In order to be sure that polio is eradicated – and as part of the world-wide campaign to eliminate polio, all countries in the world do surveillance for polio by looking for clinical cases of AFP, and investigating each one thoroughly to be sure that it is not caused by wild polio virus. The clinical syndrome of AFP is defined as the acute onset of weakness or paralysis, with reduced muscle tone in children <15 years. Persons over the age of 15 who develop a paralytic illness and in whom polio is suspected are also classified as ‘AFP cases’. AFP usually has a progressive and acute onset, but it may become chronic. AFP can be fatal if the paralysis affects the diaphragm, as persons may develop respiratory failure.

2. **What causes AFP?**

AFP has multiple causes including Guillain-Barre Syndrome (GBS) (the most common cause), wild polio virus (WPV), vaccine-derived polio-virus (VDPV), non-polio enterovirus, adenovirus, acute West Nile virus, campylobacter *spp*, transverse myelitis, peripheral neuropathy, acute non-bacterial meningitis, tick paralysis and brain abscess. Where polio has been eradicated, all cases of AFP should be due to causes other than polio.

3. **Where does AFP occur in South Africa?**

AFP cases occur everywhere in the world, including South Africa, but if polio is eradicated from a region, none of the cases will be caused by polio. At least 4 cases/100,000 population are expected to occur in the WHO AFRO region for surveillance to be deemed adequate. The last cases of polio in South Africa was documented in 1989.

3. **What are the signs and symptoms of AFP in humans?**

The general symptom of AFP is acute paralysis of the lower extremities characterised as flaccid without other obvious causes (e.g. trauma). The most characteristic of AFP with paralytic polio is its asymmetrical distribution (not affecting both sides equally). Typical the characteristic involve one leg or arm, and rarely affect both limbs. The signs and symptoms of AFP depends on the cause but common symptoms include; muscle atrophy, fever onset, respiratory insufficiency, tingling of the palms and soles of the feet, cramps, and sensory loss, and loss of bladder control.

4. **How are cases of AFP reported and investigated?**

AFP is diagnosed clinically when an acute onset of focal weakness or paralysis characterised as flaccid (reduced tone) occurs in children <15 years. The EPI manual (found at http://www.nicd.ac.za/assets/files/EPI%20Surveillance%20Manual_15Dec2015.pdf) describes in detail the clinical management and investigation of a case of AFP. In brief,

- AFP is a notifiable clinical condition, and all cases should be reported in accordance with the policies for notifiable medical conditions (see NMC tab on the NICD website www.nicd.ac.za). The notification form should be completed and submitted to the email address NMCsurveillance@NICD.ac.za AND to the provincial communicable disease co-ordinator
- All AFP cases should be fully investigated from a clinical perspective and a complete neurological assessment form (Annex 2.4 in the EPI manual) should be completed.
- Two stool specimens, 24-48 hours apart should be collected from the patient within 14 days of onset of paralysis and sent to the NICD.
- At 60 days post onset, the cases should be followed up to check for residual symptoms including paralysis. Laboratories where specimens are submitted should be accredited by the WHO for polio testing.

5. **Where can I find out more information?**

Medical/clinical related queries: NICD Hotline +27 82 883 9920 (for use by healthcare professionals only).

Laboratory related queries: Centre for Vaccines and Immunology Laboratory: +27 11 386 6536.

Results inquiries: NICD Specimen Receiving Laboratory: +27 11 386 6404. Or Centre for Vaccines and Immunology Laboratory: +27 11 386 6536.

Guidelines and other documents: NICD website at www.nicd.ac.za under the 'Diseases A-Z' tab.