KINGDOM OF BAHRAIN
MINISTRY OF HEALTH
Office of Assistant Undersecretary
for Primary Care & Public Health

مملكة البحرين
وزارة الصحة
مكتب الوكيل المساعد
للرعاية الأولية والصحة العامة

Ref: PH/DCS/Epi/**C_05** /2015
Date: 31 March, 2015

REMINDER CIRCULAR

To: All Doctors and Nurses in Government and Private Hospitals, Health Centers and Private Clinics.

Subject: Acute Flaccid Paralysis (AFP) Surveillance

Poliomyelitis eradication is global health priority. To maintain Poliomyelitis free status in the Kingdom of Bahrain you are kindly requested to report immediately any individual less than 15 years of age developing sudden onset of weakness (flaccid paralysis) in any of the limbs as Acute Flaccid Paralysis (AFP) to Disease Control Section communicable Diseases hotline: **66399868** or Immunization hotline: **38817484**

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Also you can call the office 17288888/ Ext: 2296/ 2141/ 2143/ 2145, and send the reporting form within 24 hours on Fax 17279268.

Moreover, in view of reporting of poliomyelitis cases from some countries, strengthen vigilance among returned travelers and sustaining high routine poliomyelitis immunization coverage to travelers and returned travelers from countries reporting poliomyelitis cases is recommended.

You are kindly requested to follow AFP guidelines. (Attached)

Thank you for your cooperation.

Dr. Mariam Athbi Al Jalahma
Assistant undersecretary for Primary Healthcare and Public Health
Chairperson of immunization committee

هاتف : ١٧٢٧٤٨١١/١٧ ٢٧٩٨٣٢ (٩٧٣) – تحويل : ٨٨٣٢ – فاكس : ١٧ ٢٣٣١٦٧ – ص.ب : ١٢ – المنامة – مملكة البحرين
Tel.: (973) 17 274811 / 17 279832 - Ext.: 8832 - Fax: 17 233167 - P.O. Box : 12 - Manama - Kingdom of Bahrain
email: AUP@health.gov.bh - website: health.gov.bh

Acute flaccid paralysis (AFP) Guidelines

AFP Case Definition: Any individual less than 15 years of age developing sudden onset of weakness (flaccid paralysis) in any of the limbs.
Any case meets the case definition should immediately be notified (within 24 hrs.) to Disease Control Section at Public Health Directorate and to be referred to Accident and Emergency (A&E).

Roles and responsibilities of the first contact physician entrance:

- Notify Communicable Diseases staff at hotline: **66399868** or Immunization group staff at hotline: **38817484**
- Send the reporting form within 24 hours on Fax No: 17279268
- The treating pediatrician, physician should elicit relevant history and Conduct clinical examination
- Check immunization status documentation (child immunization certificate)
- Refer to Accident & Emergency Department at Salmanyia Medical Complex(SMC) / Royal Medical Service (BDF)/ King Hamad University Hospital

Roles and responsibilities of the A/E physician:

- Notify AFP Focal Point of Communicable Diseases/ Immunization group staff.
- The treating physician should elicit relevant history and Conduct clinical examination.
- Refer the case to pediatrician

Roles and responsibilities of the treating pediatrician:

- Notify AFP Focal Point of Communicable Diseases/ Immunization group staff.
- The treating pediatrician should elicit relevant history, Conduct clinical examination and do laboratory investigations to the case.
- Admit the case
- Ensure neurologist consultation and refer to Poliomyelitis Eradication Experts Group as indicated in the attached AFP algorithm.
- Collect two stool specimens from the case at least 24 hours apart and within 14 days after onset of paralysis.
- Fill the case investigation form
- Conduct specialized investigations e.g. nerve conduction study and other investigations accordingly.

Roles and responsibilities of AFP focal point Public Health Specialist at (DCS-PHD):

- AFP focal point conducts case investigation.
- Arrange for two stool specimen collection > 24 hours apart and within < 14 days after onset of paralysis.
- Communicate with laboratory to ensure timeliness of sending the samples.
- If inadequate stool sample; arrange for contact sampling one stool sample from at least 3 contacts (aged < 5 years to 15 years) preferably < 5 years within the family, extended family and/or immediate neighborhood.
- Transport specimen in a special container within 30 minutes of collection, preferably frozen.
- Ensure that EMG is done if required.
- Ensure completion of data:
  1. Notification form
  2. Child immunization certificate
  3. Investigation report
  4. Laboratory results
  5. Discharge note
  6. Sixty-days appointment
- Ensure 60-days follow-up report (after onset) to assess for residual paralysis
- Prepare AFP report for the higher authority and WHO.
- Coordinates all AFP related activities including orientation, training of staff, surveillance and reporting.

Roles and responsibilities of Public Health Directorate Laboratory:

- Arrange and dispatch all stool specimens to reference Laboratory at the earliest.
- Communicate the results with AFP focal point in Disease Control Section

Roles and responsibilities of the Polio Eradication Experts Group

- Prepare report on case investigation
- Check and record polio vaccine immunization status
- Check and record Virological study results i.e. whether wild or Sabin like poliovirus isolated from the case or contacts (laboratory report within 21 days)
- Assess for residual paralysis after 60-days follow-up
- Clinical classification of the case
- Fill the sixty days follow up form and send it to Disease Control Section (attached)
- Final classification of case:
  - Discarded :Adequate sample and 'No' wild poliovirus isolated
  - Polio-compatible: Stool 'not' collected or is inadequate with residual paralysis after 60 days follow up
  - Confirmed Polio :Wild poliovirus isolated in presence of residual paralysis

Roles and responsibilities of Polio Eradication Certification Committee

Validation and Review of Data

Guidelines for Stool Sampling from Contacts of AFP Cases

Polio Eradication Initiative
Eastern Mediterranean Region, WHO

Rationale

Collection of adequate stool specimens from AFP cases is the golden standard. Under certain circumstances, the ability to collect adequate stool specimens from AFP cases represent a real challenge, especially in difficult areas and when the AFP surveillance system is weak. To address this situation and to increase the sensitivity of the surveillance system, supplemental surveillance activities[1] are introduced such as collection of stool specimens from contacts of selected AFP cases.

The rationale for contact sampling

a) polio is spread through contact, therefore contacts have a higher chance of being infected,

b) most poliovirus infections are asymptomatic,

c) an infected asymptomatic child may carry and excrete the virus for periods up to 2 months and sometimes longer, as in the case of immuno-deficient children

d) even vaccinated children who are protected from paralysis, if infected, can still excrete the virus in their stools for a short time.

Criteria for Contact sampling of AFP cases

1. **Contacts of AFP cases with inadequate stools**: *All countries* are required to collect stool samples from contacts of all inadequate AFP cases[2]. Some of the reasons which lead to inadequate stool specimens include:
    - Late case notification.
    - Death or loss of the AFP case before adequate stool collection.
    - Other reasons include: improper collection, inadequate cold chain during collection, storage and transportation, and poor quality due to leakage, desiccation and inadequate amount.

In addition to the above required criteria for collecting contact samples, it is suggested that countries (especially endemic, infected and high risk countries) collect contact samples from the following AFP cases:

2. **'Hot' or highly suspected AFP cases:**

    - The case is considered highly suspected for being polio based on *clinical characteristics* as seen by a clinician and/or based on the data available for the case. For example, AFP cases which are young (<5 years), have incomplete vaccination history and presenting with the following three clinical cardinal signs:
        1. fever at onset of paralysis
        2. asymmetric paralysis
        3. rapid progression of paralysis (within 3 days).

    OR

    - There is epidemiological evidence that the case has been in contact with or living in an area with possible or recent polio viral circulation. This includes being from a **high risk group** or being in a **high risk areas**.

3. **AFP cases from areas with limited accessibility or hard to reach districts even without reported virus isolation**. This would increase the sensitivity of AFP surveillance and allows the program to make use of windows of opportunity to detect any possible virus circulation in these areas.

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[1] Other supplemental surveillance activities include environmental surveillance.

[2] AFP cases detected late should have contacts samples collected for them up to 2 months from their date of onset.

4. Finally, contacts may be collected when there is any suspicion by the program regarding the collection process or handling of the index AFP stool specimens.

Definition of A Contact:

> ***A Contact of an index AFP case*** is defined as a child less than 15 years of age who had been in direct contact with the index AFP case within one week prior to the onset of paralysis and/or within two weeks after onset of paralysis.

Procedure:

Contact sampling should be done immediately upon identification of an eligible AFP case. The following procedure should be followed in selection of contacts:

1. Identify the contact based on the above definition.

2. Selection priority should be given to the following contacts:
   - Young contacts who are less than 5 years of age are preferred.
   - ***Close*** contacts of the index case who came in frequent contact with the case during the above mentioned time period. These include siblings, household, playmates and young neighboring relatives. If these are too few, sampling from children in the neighborhood or vicinity is acceptable.

3. Collect **one** sample from at least 3 contacts.

4. If the case traveled to areas during the above mentioned period, contacts should ideally be taken from both of these areas (3 contacts from each area).

5. Collection, storage and transportation of the stool specimens are dealt with in the same way as for AFP cases.

6. A specific form "*Contact Stool Collection*" should be filled for each contact selected. This form is sent to the laboratory along with the specimen and a copy is maintained in the AFP surveillance file of the index case after the data is entered. Each specimen should be labeled clearly as ***a contact*** of a case with a specific ID code the same as that for the case followed by contact number, e.g. C1, C2, or C3.

7. Data collection, management and monitoring are integral parts of this system to ensure quality and timeliness. Data related items are discussed in details in the last section of this document.

Interpretation:

Isolation of wild poliovirus from a contact while the case is negative is an evidence of wild poliovirus transmissions in the district. When this occurs, particularly in a previously polio-free district, the index AFP case would be confirmed as a wild polio case and should be classified as a confirmed case.

Intervention and response:

Once wild poliovirus is identified in an area (district), appropriate and timely response should follow the same as for a positive case, including: rapid and thorough investigation of the cases, strengthening of the AFP surveillance in the area, and implementing immediate and appropriate immunization activities. Existing guidelines, such as EMRO's "*Preparedness for an Effective Response to Wild Poliovirus Importation*", can further assist in these interventions.

System monitoring: data management and quality of contact sampling

Laboratories involved in processing of stool specimens already enter the available information about contact that is received with the specimens into the LABIFA. However, the surveillance side of the national polio eradication program may simply import the basic variables entered by the lab from the LABIFA to conduct the necessary analysis and monitoring.

The new programs will assist in entering, managing and monitoring the contact stool sampling system and relate the information to the index AFP cases within IFA. Automated programs should be developed to allow periodical monitoring and follow-up of the following indicators:

Process Indicators:

Timeliness of Contact Sampling: The monitoring of this indicator will ensure that the system is conducting contact sampling in a timely manner to allow early detection of any possible virus circulation for immediate response.

Timeliness of contact sampling is % of contact specimens collected within **7 days of date of notification** of the index AFP case.

$$= \frac{\text{\# of contact samples collected within 7 days of notification of the index AFP case} \times 100}{\text{Total number contact samples}}$$

Target: minimum 80%.

Completeness of contact sampling: The monitoring of this indicator will ensure that the system is conducting contact sampling in a complete manner, with at least 3 contact samples collected for each eligible index case.

$$= \frac{\text{Eligible AFP cases with at least 3 contact samples collected} \times 100}{\text{Total number of AFP cases eligible for contact sampling}}$$

Target: minimum 80%

Areas which do not achieve the minimum target of 80% for these indicators should be followed-up to identify the gaps and strengthen the system.

Quality of performance:

1. *Age distribution of contacts:* this should be used to monitor the proportion of contacts below 5 years of age. Ensure that the majority of contacts are below 5 years of age. Programs might further define cutoff age for contacts as agreed upon at the national level within the definition provided previously in this document

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   Target: minimum of 80% of contacts are under 5 years of age

2. *Average number of contacts per index AFP cases*.

3. Other indicators used for analysis of laboratory results of AFP specimens would also be utilized for contacts specimens with the same definition
   a. *Enterovirus isolation rate* is an indicator for the quality of the cold chain during collection and transport of the specimens.
   b. *Isolation of sabin-like virus* can be utilized in detecting the impact of SIA activities in the area.

c. *Arrival at the Lab*: To ensure quality and timeliness, contacts stool specimens must arrive immediately at the laboratory and no later than 3 days of collection during which samples were kept at optimal temperature.
d. *Stool Conditions*: % of contact stool specimens arriving in laboratory in good condition.

Outcome indicators:
The analysis of data from countries implementing this strategy has illustrated the benefit of the system in early identification of new or ongoing virus circulation (Table 1). The yield or benefit of the system can be assessed through different indicators listed below. These indicators are evaluated over a longer period of time (annually or semi-annually basis).

Identification of Newly Infected Districts:

$$= \frac{\text{districts with WPV isolated from contacts only} \times 100}{\text{Total infected districts}}$$

Overall WPV isolation from contact:

$$= \frac{\text{\# of contacts (persons) with WPV isolated from their stool specimen} \times 100}{\text{Total number of contacts (persons) with stool processed}}$$

Proportion of AFP cases confirmed as polio due to WPV isolated from contacts only:

$$= \frac{\text{\# of AFP cases confirmed as wild due to WPV isolation from contact stool specimen} \times 100}{\text{Total number of AFP cases confirmed as wild polio}}$$

Attached: "*Contact Stool Collection*" form

Example of *Contact Stool Collection Form*:

Contact Stool Collection Form						
EPID number of contact *(index AFP EPID number – C #)*						
Reason for collection	Inadequate	Hot case	Hard-to-reach area	Other		
Name of contact						
Address						
Area						
District						
Province						
Country						
Specimen number (in case of multiple samples from contact)						
Date of stool collection						
Date stool sent to laboratory						
Relation to index case	Household relative	Household non-relative	Out-of-household relative	Neighbor	Playmate/ Schoolmate	Other
Period of Exposure to Index AFP cases	( ) within 7 days prior to onset of paralysis ( ) within 2 weeks after onset of paralysis					
Date of birth or Age in months	___/_____/____ _____ months					
Sex	Male	Female				
Number of routine OPV doses						
Number of SIA OPV doses						
Date of last OPV						
Date stool received at laboratory						
Laboratory serial number						
Stool condition	Good	Poor				
Results: P1	Wild	Sabin	Positive – ITD pending	Negative	Not processed	
P2	Wild	Sabin	Positive – ITD pending	Negative	Not processed	
P3	Wild	Sabin	Positive – ITD pending	Negative	Not processed	
NPEV	Positive	Negative	Not processed			
Date culture results sent from lab to EPI						
Date ITD results sent from lab to EPI						
Comment and Signature						

KINGDOM OF BAHRAIN
PUBLIC HEALTH DIRECTORATE
IMMUNIZATION UNIT

Polio eradication DCS/EPI program No 9 form 1 of 2

Case investigation form (parts 1-2)

Part 1 : Immediate Case Investigation										
IDENTIFICATION										
EPID #					Date of case investigation		Day	month	Years	
Patient Name			Address							
Nationality										
Municipality/village			District			Province				
Date of Birth	Day	Month	Yeas	If birth date unknown, give age in months		Month	Sex	M	F	
Father's Name				Mother's name						
Notification										
Date the case was first reported to a government health office							Day	Month	Years	
Date of admission to hospital, if applicable							Day	Month	Years	
Name of hospital			Hospital record #							
Clinical diagnosis			Physician (name)							
PATIENT HISTORY & SYMPIOMS										
Date of onset of paralysis/ Weakness							Day	Month	Years	
If the patient died, date of death							Day	Month	Years	
Specify any prior paralysis/ weakness seizures or other neuralgic disorders of patient										
Verify	Is paralysis / weakness acute? (i.e. rapid progression)						Yes	No	Unknown	
	Is paralysis/ weakness flaccid? (i.e. floppy)									
If paralysis/weakness is not acute & flaccid, stop investigation. Specify diagnosis, if known										
If paralysis/ weakness is acute & flaccid, continue investigation										
Was there fever at the onset of paralysis/ weakness?							Yes	No	Unknown	
Is the paralysis/ weakness asymmetric?							Yes	No	Unknown	
How many days from the time of paralysis/ weakness onset to full installation of paralysis/ weakness							Day		Unknown	
Site of	Left leg	Yes	No	unk	Breathing muscles		Yes	No	Unknown	
Paralysis	Right leg	Yes	No	unk	Neck muscles		Yes	No	Unknown	
	Left arm	Yes	No		Facial muscles		Yes	No	Unknown	
	Right arm	Yes	No		Other specify					
Where was paralysis/ weakness in arms?				Proximal	Distal		Both	Neither	Unknown	
Where was paralysis/ weakness in legs?				Proximal	Distal		Both	Neither	Unknown	
Was there any sensory nerve function loss?							Yes	No	Unknown	
Did patient travel > 10 kilometers from home 28 days before paralysis/ weakness onset							Yes	No	Unknown	
Did patient had visitors from endemic area										
If yes, specify Dates	from	Day	Month	Yeas	To		Day	Moth	Years	
If yes, where?	country			district			Village			
Are there other AFP cases in patient's community within 60 days of patient's onset?							Yes	No	Unknown	
IMMUNIZATION HISTORY										
Did the patient have an immunization card available during the investigation							Yes	No	Unknown	
Number of OPV doses received during routine immunization (exclude 0 dose) before onset								Doses	Unknown	
Number of additional doses of OPV received during campaigns before onset								Doses	Unknown	
Date of last dose of OPV before collection of stool specimen							Day	Month	Unknown	
STOOL SPECIMEN COLLECTION										
Date of first stool specimen collection							Day	Month	Years	
Date of second stool specimen collection							Day	Month	Year	
Specialized investigation	EMG									
	Nerve conduction study									
Others investigation					Specify					
Name of investigator					Signature					
Thank you for your cooperation!!! Please send this form to the EPI programme manager (and retain you copy)										
Remember to conduct a follow – up exam at last 60 days after paralysis onset, and please use part II of this form!										

KINGDOM OF BAHRAIN
PUBLIC HEALTH DIRECTORATE
IMMUNIZATION UNIT

Polio eradication DCS/EPI Program No. 9 form 2 of 2

Case investigation form for acute flaccid paralysis (parts 1-2)

Part II : 60-day follow – up Examination						
EPID #		Date of follow up				
			Day	Month	Years	
Patient Name		Address				
Municipality/village		District		Province		
Was a 60 – day follow – up examination conducted?					Yes	No
If no, why not?					Patient died	
					Patient was lost to follow – up	
					Other reason, specify	
Date of exam						
				Day	Month	Years
Results of exam (I.e indicate whether patient had residual weakness)				Residual weakness	No residual weakness	Unknown
Print name of investigator		Signature of investigator				
Address of investigator						
Phone number						
Thank you for your cooperation ! please send this form to the EPI program manager (and retain your own copy)						

Part III : Final Classification of case (by expert Committee)						
EPI #		Date of final classification				
				Day	Month	Years
Patient name		Province		District		
Final classification of case?					Confirmed	
					Discarded	
					Compatible	
Based on what criteria ? (check only one)				Wild poliovirus		
				No wild poliovirus from adequate stool		
				Inadequate stool specimens		
				No stool specimen		
				Residual weakness after 60 days		
				No residual weakness after 60 days		
				Died after polio-compatible illness		
				Lost to follow – up & compatible illness		
If classified as "discarded, specify final diagnosis						
Comments						
Signature of expert committee chairperson						
Please send this completed form to the EPI programme manager (and retain your own copy)						

Kingdom of Bahrain
Ministry of Health
Public Health Directorate - Disease Control Section

مملكة البحرين
وزارة الصحة
إدارة الصحة العامة - قسم مكافحة الأمراض

ACUTE FLACCID PARALYSIS (AFP)

Poliomyelitis Eradication Initiative in Bahrain
All Primary, Secondary & Tertiary Health Care Facilities including Private Clinics/Hospitals are responsible for
AFP Mandatory Reporting

AFP Case Definition: Any individual less than 15 years of age developing sudden onset of weakness (flaccid paralysis) in any of the limbs

Notify AFP Focal Point of Communicable Diseases hotline: 66399868 OR Immunization (EPI) hotline: 38817484

Preliminary Case Investigation & Reporting
- The treating Pediatrician, Physician or (GP) should elicit relevant history & Conduct clinical examination
- Check immunization status documentation (child immunization card)
- Notify the Public Health Directorate- Disease Control Section immediately
- Refer to accident & emergency at Salmanyia Medical Complex(SMC) / Royal Medical Service (BDF)/ King Hamad University Hospital

SMC Hospital/ BDF Hospital/ KHUH
- Notify AFP Focal Point of Communicable Diseases/ Immunization) EPI)
- Admit the case
- Ensure neurologist consultation
- Thorough clinical examination & laboratory investigations
- Collect two stool specimens from the case within 24 to 48 hours if not collected earlier
- Fill the case investigation form
- Conduct specialized investigations e.g. nerve conduction, velocity etc.
- Offer final discharge diagnosis

Epidemiological Investigation
- AFP focal point to conduct investigation & coordinate all AFP related activities including orientation & training of staff, surveillance, & reporting.
- Arrange for two stool specimen collection > 24 hours apart and within < 14 days after onset of paralysis.
- If inadequate stool arrange for < 5 yrs one stool sample from each f 5 contact (aged < 5 yrs to 15 yrs) within the family, extended family &/or immediate neighborhood.
- Transport specimen in a special container, preferably frozen.
- 60-days follow-up report (after onset) to assess for residual paralysis.

Notify
Head of communicable Disease Group & Head of Immunization Group EPI

Refer to Polio Eradication Experts Group, Pediatric and consult pediatric Neurology
(SMC)
Dr. Fatima Nema
Dr. Ayman Khalil
Dr. Ohood Al Muslimani
(BDF)
Dr Raafat Hammad
(KHUH)
Prof Kevin Dunne

Public Health Laboratory Investigation
- Arrange & dispatch all stool specimens to reference Laboratory at the earliest
- Communicate the results with Disease Control Section

Disease Control Section
- To coordinate surveillance activities at national level & report to WHO-EMRO
- To collate following reports:
  1. Notification form
  2. Child immunization card
  3. Investigation report
  4. Laboratory results
  5. Discharge note
  6. Sixty-days report
- To prepare profile of notified AFP case for submission to the " Polio Eradication Expert Group "

Polio Eradication Expert Group

Required Documents:
- Epidemiological investigation report
- Polio vaccine immunization records
- Virological study Results i.e. whether wild or Sabin like poliovirus isolated from case or contacts (laboratory report within 21 days)
- Final clinical classification with discharge diagnosis
- Residual paralysis after 60-days follow-up

Final Classification

Discarded
Adequate sample & 'No' wild poliovirus isolated

Polio-compatible
Stool 'not' collected or is inadequate with residual paralysis after 60 days follow up

Confirmed Polio
Wild poliovirus isolated in presence of residual paralysis

Polio Eradication Certificate Committee
Validation & Review of Data

Design by: Ali Al Mawali

For information about vaccines, kindly contact Immunization Group at Disease Control Section in the Public Health Directorate on hotline: 38847484 OR tel: 17288888/ Ext: 2296 /2145 /2141 - Fax: