

**NOTE:** This is a template based on the Ghana telemedicine pilot experience. Countries must review the content and adapt to their local procedures and policies.Edit the content directly within each text box. **Please delete this note before sending out to your telemedicine staff.**

**GHANA TELEMEDICINE TOOLKIT**

**Telemedicine protocol for fever – child**

**A telemedicine**

**protocol is a standardized**

**procedure to guide treatment and referral during a teleconsultation.**

**Please follow systematically when managing a case – it will save time and lives.**



We acknowledge the contributions of partners on the Ghana Telemedicine pilot: Airtel, Earth Institute, Columbia University, Ericsson, Ghana Health Service, the Ghana Ambulance Service, Ministry of Communication, Ministry of Health, and National Health Insurance Agency, MedGate, Millennium Promise Alliance, Novartis Foundation, and St. Martin’s Hospital.

1. If yes (RDT has been conducted), is it positive or negative?
2. Duration of the fever
3. Has the child convulsed?
4. Has malaria rapid diagnostic test (RDT) been conducted?

* Jaundice
* Rash
* >10 pustules
* Eye discharge
* Decreased activity
* Not sucking
* Red, offensive, or discharging umbilical cord

**For newborns**(in addition to previous):

**Past medical history**

* Sickle-cell disease
* Diabetes, metabolic disorders
* Hereditary or acquired immunodeficiency
* Drug history
* Renal, liver or heart disease
* Previous swelling, feet or abdominal distension
* Chronic respiratory disease (Asthma, cystic fibrosis)
* Height and weight
* Convulsions or seizures
* Neck stiffness
* Very weak or coma
* Painful swallowing or drooling
* Cola-colored or red urine
* Deep, fast or difficult breathing
* Not growing well
* Inconsolable crying Irritable
* Rash (including blisters)
* Abdominal pain or distention
* Not feeding at all
* Vomiting
* Painful swelling

Swollen joints

Swelling of both feet

* Diarrhea
* Pallor
* Shivering/rigors
* Runny nose
* Immunized in last 3 days
* Ear pains or discharge
* Headaches
* Cough
* Painful urination

**Alarm/danger signs and symptoms for children**

**Usually refer to hospital**

* Child is under 6 months of age
* Currently having convulsions or has had 2 or more seizures
* Neck stiffness
* Very weak
* Coma (unconscious)
* Painful swallowing/drooling
* Cola-colored or red urine
* Deep, fast or difficult breathing
* Failure to thrive/Not growing well
* Inconsolable crying
* Rash (including blisters)
* Abdominal pain/distension
* Not feeding
* Vomiting more than 3 times per hour
* Painful swelling, swollen joints, swelling of both feet
* Severe wasting
* For newborns (in addition to above): jaundice, rash,

>10 pustules, weight <2 kg, decreased activity, not sucking,

temperature <36.5°C or >37.5°C, red, offensive or discharging umbilical cord

1. Age of the child
2. What is the child’s temperature now? (if greater than 38.5°C, do tepid sponging)

**First answer these questions:**

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**Positive RDT results – exclude severe malaria**

**Negative RDT results**

Go through this list of alarm symptoms

Check for accompanying symptoms

**Questions/accompanying symptoms**



**Treatment:**

**Give rectal artesunate, paracetamol (for temperature >38°C and age >6 months)**

**Telemedicine protocol for fever – child**

**GHANA TELEMEDICINE TOOLKIT**

**Non referral –** Potential diagnosis for children (refer to standard treatment guidelines)

**Malaria (uncomplicated)** – if patient has fever and

* Vomiting
* Diarrhea
* Shivering/rigors
* Headache

**Ear infection** – if patient has fever and

* Vomiting
* Diarrhea
* Ear pain and discharge

**Urinary tract infection (UTI)** – if patient has fever and

* Painful urination
* Vomiting
* Diarrhea
* Shivering/rigors

**Upper respiratory infection** – if patient has fever and

* Runny nose
* Headache
* Cough

**Enteric fever (typhoid)** – if patient has fever and

* Fever persists with more than 3 days of treatment and RDT-negative
* Vomiting
* Diarrhea or altered bowel habits
* Abdominal pain

**Adverse event from immunisation** – if patient has fever and all of the following:

* Immunization in the last 3 days
* Feeding well
* No other symptoms

**Management/Therapeutic strategies**

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**Treatment:**

**Check random blood sugar (RBS) and give dextrose if <4 mmol/l or <72 mg/dl**

**Treatment:**

**Give ampicillin/penicillin plus gentamycin (if available)**

**Possible hypoglycemia**

* Symptoms include:
* Currently convulsing or has had 2 or more seizures
* Lethargy/coma
* Not feeding or severe vomiting

**Severe malaria**

* Symptoms include:
* Currently having convulsions or has had 2 or more seizures
* Lethargy/coma
* Cola-colored or red urine
* Deep, fast or difficult breathing
* Not feeding at all
* Vomiting 3 or more times in an hour

**Pre-referral treatments**

**Serious bacterial infection**

* Symptoms include:
* Currently having convulsions or has had 2 or more seizures
* Neck stiffness
* Very weak/coma
* Dysphagia/drooling or painful swallowing
* Fast or difficult breathing
* For newborns with alarm symptoms

**Management/Therapeutic strategies**



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1. If yes (RDT has been conducted), is it positive or negative?
2. What is the temperature now?
3. Has malaria rapid diagnostic test (RDT) been conducted?
4. Age of the adult
5. Duration of the fever

**First answer these questions:**

* Hereditary or acquired immunodeficiency?
* Drug history
* Renal, liver or heart disease
* Previous swelling, feet or abdominal distension
* Chronic respiratory disease (Asthma, cystic fibrosis, COPD)
* Metabolic disorders

**Past medical history**

**A telemedicine protocol**

**is a standardized procedure**

**to guide treatment and**

**referral during a teleconsultation.**

**Please follow this systematically when managing a case – it will save time and lives.**

**Telemedicine protocol for fever – adult**

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* Sickle-cell disease?
* Diabetes, metabolic disorders?
* Lower abdominal pain
* Vaginal discharge
* Last menstrual period (LMP)

or pregnant

**For women**(in addition to above):

* Height and weight
* Blood pressure
* Headache
* Shivering/rigor
* Chills
* Vomiting
* Loss of appetite
* Pallor
* Jaundice
* Cola-colored or red urine
* Convulsions or seizures
* Very weak/unconscious
* Neck stiffness
* Sudden or inappropriate behavior
* Sensitive to light (photophobia)
* Recent onset of limb weakness
* Painful swallowing or drooling
* Cough
* Runny nose
* Rash (including blisters)
* Ear pain or discharge
* Deep or difficult breathing
* Diarrhea
* Abdominal pain or distension
* Painful or difficult urination (dysuria)
* Pain in the loins
* Swelling of both feet
* Painful swelling
* Weight loss

**Positive RDT results – exclude severe malaria**

**Negative RDT results**

Go through this list of alarm symptoms

Check for accompanying symptoms

**Alarm symptoms for adults**

**Usually refer to hospital**

* Blood pressure (BP) <90/60 – Set 1 litre of normal saline (N/S) or Ringer’s lactate (R/L)
* Convulsions or seizures
* Neck stiffness
* Very weak/coma
* Severe headache
* Painful swallowing/drooling
* Cola-coloured or re urine
* Jaundice
* Deep, fast or difficult breathing
* Sensitive to light (photophobia)
* Sudden onset of inappropriate behaviour
* Pain in the loins
* Recent onset of painful swelling
* Recent onset of limb weakness
* Pregnant and lower abdominal pains

**Questions/accompanying symptoms**

**Telemedicine protocol for fever – adult**

**GHANA TELEMEDICINE TOOLKIT**

**Pre-referral treatments –** All referrals should have random blood sugar (RBS) checked

**Hyperglycemia**

**Treatment:**

**Give intravenous (IV) normal saline (N/S) if RBS >1.11 mmol/l or >200 mg/dl**

**Hypoglycemia**

**Septic shock**

**Treatment:**

**Give fluids – N/S or Ringer’s lactate (R/S)**

**BP <90/60**

**Treatment:**

**Give N/S**

**Treatment:**

**Give dextrose if RBS <4 mmol/l or <72 mg/dl**

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**Non-referral –** Potential diagnosis for adults (refer to standard treatment guidelines)

**Malaria (uncomplicated)** – if patient has fever and

* Vomiting
* Diarrhea
* Shivering/rigors
* Headache

**Ear infection** – if patient has fever and

* Ear pain and discharge

**Urinary tract infection (UTI)** – if patient has fever and

* Painful urination
* Vomiting
* Shivering/rigors
* Blood in urine

**Upper respiratory infection** – if patient has fever and

* Runny nose
* Headache
* Cough

**Enteric fever (typhoid)** – if patient has fever and

* Fever persists with more than 3 days of treatment and RDT-negative
* Vomiting
* Diarrhea or altered bowel habits
* Abdominal pain

**Pelvic inflammatory disease** – if patient has fever and

* Lower abdominal pain
* Vaginal discharge

**Management/Therapeutic strategies**

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