

# The MalariaCare Toolkit

## Tools for maintaining high-quality malaria case management services

### Checklist for assessing management of severe malaria

*This checklist was developed by the MalariaCare project for use in project countries.  
It can be adapted for use in specific national settings.*

Download all the MalariaCare tools from: [www.malariacare.org/resources/toolkit](http://www.malariacare.org/resources/toolkit).



**MalariaCare**  
A USAID PARTNERSHIP



U.S. President's Malaria Initiative

# MalariaCare checklist for assessing management of severe malaria

## Introduction

Checklists are used during outreach training and supportive supervision (OTSS) visits by supervisors to guide them in their role as mentors. Checklists help supervisors to focus on key steps in diagnosis, treatment, and overall management of patients with malaria. The checklists also serve as tools for collection of performance monitoring and facility readiness data to help stakeholders make decisions and effectively target resources.

The five MalariaCare checklists focus on:

- Assessing health facility readiness (including register review).
- Assessing clinical management of patients suspected of having malaria.
- Assessing management of severe malaria.
- Assessing malaria microscopy skills.
- Assessing rapid diagnostic test use.

All five checklists and more information about OTSS can be found in the Toolkit section of the MalariaCare website ([www.malariacare.org/resources/toolkit](http://www.malariacare.org/resources/toolkit)).

## MalariaCare checklist for assessing management of severe malaria

### Contents

Introduction .....	1
A. Health facility information .....	3
B. Severe malaria: Diagnostics and adherence.....	4
C. Severe malaria: Planning the dosing schedule .....	5
D. Severe malaria: Managing complications.....	6
E. Severe malaria: Ongoing case management .....	7
F. Severe malaria: Patient monitoring .....	7
G. Administrating injectable artesunate to a patient: Direct observation.....	8
H. Direct observation: reconstituting artesunate with the correct amount of normal saline .....	9
I. Rechecking the dose calculation and withdrawing the required dose .....	10
J. Administrating injectable artesunate .....	11
K. Comments .....	12
L. Supervisor feedback and action plan .....	13

MalariaCare checklist for assessing management of severe malaria

**A. Health facility information**

Name of Health Facility

Province/Region

District

Name of Head of Health Facility

Signature of Head of Health Facility

Date of Visit (DD/MM/YYYY)

Supervisor's Name

Supervisor's Cadre  Clinical  Lab  Other

Supervisor's Signature:

Supervisor's Phone Number:

**B. Severe malaria: Diagnostics and adherence**

Is malaria treatment based on lab diagnosis?  Yes  No  N/A

If "Yes", what diagnostic is used?

- RDT  Microcopy thick smear  Microscopy thin smear  
 Microscopy thick & thin smear  Both RDT & microscopy

Is blood glucose used to monitor patients with severe malaria in most (80%+) of the cases?  Yes  No  N/A

Diagnostics: Is microscopy used to confirm the diagnosis of severe malaria in most (80%+) of the cases?  Yes  No  N/A

Diagnostics (hospitals only): Is parasite density reporting used to confirm the diagnosis of severe malaria in most (80%+) of the cases?  Yes  No  N/A

Has your facility had supplies of injectable artesunate in the last month?  Yes  No  N/A

Which drug do you prescribe/administer to treat severe malaria?  
 Injectable artesunate  Injectable quinine  Other (specify)

**C. Severe malaria: Planning the dosing schedule**

Type of provider being observed (tick one):

- |  |  |  |
|--|--|--|
| <input type="checkbox"/> Medical Officer   | <input type="checkbox"/> Medical Intern        | <input type="checkbox"/> Lab Tech        |
| <input type="checkbox"/> Medical Assistant | <input type="checkbox"/> Nurse                 | <input type="checkbox"/> Lab Assistant   |
| <input type="checkbox"/> Clinical Officer  | <input type="checkbox"/> Student on Attachment | <input type="checkbox"/> Other (specify) |

Has the provider been formally trained in malaria case management?  Yes  No

Has the provider received OTSS mentorship before?  Yes  No  N/A

If "Yes", how many times? (Leave blank if not mentored) \_\_\_\_\_

- **Ask the provider to describe his or her dosing plan.**  
**Tick "Yes" if the provider correctly completes the task.**

Gives three parenteral doses of artesunate in the first 24 hours:  Yes  No

- 1st dose: On admission.
- 2nd dose: 12 hours after 1st.
- 3rd dose: 24 hours after 1st.

After first 24 hours: Gives one parenteral dose daily for 6 days maximum or until oral medication can be given.  Yes  No

Prepares a fresh solution for each administration and discards any unused solution.  Yes  No

Records the dose, route, ml, and time given for each administration of artesunate.  Yes  No

Evaluates the patient's progress regularly, in particular: Level of consciousness, blood sugar, anemia, and the ability to tolerate oral fluids.  Yes  No

After first 24 hours and when patient can take oral medication, gives 3-day course of oral ACT.  Yes  No

Ensures peers follow the SOP and National Treatment Guidelines for the follow-up and case management of patients with severe malaria receiving injectable.  Yes  No

**D. Severe malaria: Managing complications**

Type of provider being observed (tick one):

- |  |  |  |
|--|--|--|
| <input type="checkbox"/> Medical Officer   | <input type="checkbox"/> Medical Intern        | <input type="checkbox"/> Lab Tech        |
| <input type="checkbox"/> Medical Assistant | <input type="checkbox"/> Nurse                 | <input type="checkbox"/> Lab Assistant   |
| <input type="checkbox"/> Clinical Officer  | <input type="checkbox"/> Student on Attachment | <input type="checkbox"/> Other (specify) |

Has the health worker been formally trained in malaria case management?  Yes  No

Has this worker received OTSS mentorship before?  Yes  No  N/A

If "Yes", how many times? (Leave blank if not mentored) \_\_\_\_\_

- **Ask the provider to describe how he or she manages the complications of severe malaria. Tick "Yes" if the provider correctly completes the task.**

How do you manage the potential for bacterial co-infection in children?  
Do you start all children on broad-spectrum antibiotic treatment at the same time as the antimalarial to manage the potential for bacterial co-infection?  Yes  No

Which of the following do you do to manage complications of severe malaria?

Hypoglycemia	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Convulsions	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Respiratory distress	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Severe anemia	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Hypovolemia	<input type="checkbox"/> Yes	<input type="checkbox"/> No

**E. Severe malaria: Ongoing case management**

- **Ask the provider to describe the management of complicated malaria cases when the patient is able to take medicine orally.**

Supervisor: The description was

Unsatisfactory     Fair     Satisfactory     Excellent

Comments:

**F. Severe malaria: Patient monitoring**

- **Review case notes (CNs) for three patients.**

Do the records include monitoring:

	Enter "Yes" or "No" regarding whether or not HCW correctly completes task					
	CN1		CN2		CN3	
Level of consciousness (using coma score)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Vital signs every 4 hours (temperature, pulse, respiration, blood pressure)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Fluid balance (urine volumes, intake volumes—IV and oral—puffy eyes, chest crepitation, elevated jugular venous pressure)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Increasing anemia (pallor, heart failure with increasing liver size)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Convulsions	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Blood glucose every 4 hours while unconscious	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
[Hb]/Packed Cell Volume—at least daily, or more often if anemia is suspected	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Ability to suck, drink, eat, sit, and walk, and measures of overall strength	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Anemia treatment with iron and folic acid for at least 3 months	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Outpatient appointments for follow-up scheduled	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No



**G. Administrating injectable artesunate to a patient: Direct observation**

Type of provider being observed (tick one):

- |  |  |  |
|--|--|--|
| <input type="checkbox"/> Medical Officer   | <input type="checkbox"/> Medical Intern        | <input type="checkbox"/> Lab Tech        |
| <input type="checkbox"/> Medical Assistant | <input type="checkbox"/> Nurse                 | <input type="checkbox"/> Lab Assistant   |
| <input type="checkbox"/> Clinical Officer  | <input type="checkbox"/> Student on Attachment | <input type="checkbox"/> Other (specify) |

- Has the health worker been formally trained in malaria case management?  Yes  No
- Has this worker received OTSS mentorship before?  Yes  No  N/A

If "Yes", how many times? (Leave blank if not mentored) \_\_\_\_\_

• **Observe the provider administering injectable artesunate.**  
**Tick "Yes" if the provider correctly completes the task.**

- Washes hands and puts on gloves before reconstituting artesunate.  Yes  No
- Lines up the vials of artesunate powder and removes the vial covers.  Yes  No
- Cleans the top of each vial with a disinfectant swab.  Yes  No
- Breaks open the 1 ml ampoule of 5% sodium bicarbonate by using a swab and pressing the thumb on the blue dot.  Yes  No
- If artesunate is not prepackaged with sodium bicarbonate ampoule, uses 1 ml of 5% sodium bicarbonate. Never uses saline or sterile water for reconstitution.  Yes  No  N/A
- Uses a 5 ml syringe to withdraw the full contents of the sodium bicarbonate ampoule into the syringe.  Yes  No
- Injects the 1 ml of 5% sodium bicarbonate into the vial of artesunate powder.  Yes  No
- Moves the needle back slightly so it is no longer touching the liquid and withdraws 5 ml of air from the vial to ensure adequate space in the vial to inject the saline solution for dilution.  Yes  No
- Discards any vials that do not clear; replaces with a new vial and reconstitutes again.  Yes  No
- Ensures that peers follow all of the steps in the SOP for reconstituting artesunate correctly.  Yes  No

**H. Direct observation: reconstituting artesunate with the correct amount of normal saline**

- **Observe the provider administering injectable artesunate.**  
**Tick “Yes” if the provider correctly completes the task.**

Breaks open the 5 ml ampoule of normal saline by using a swab and pressing the thumb on the blue dot.  Yes  No

If artesunate is not prepackaged with normal saline ampoule, uses 0.9% sodium chloride or 5% dextrose solution. (Never uses sterile water for dilution.)  Yes  No  N/A

Uses a 5 ml syringe to withdraw the required quantity of normal saline solution for each vial depending on the route of administration:

- 5 ml of normal saline solution for each vial for IV route. (The IV solution has a concentration of 10 mg/ml.)
- 2 ml of normal saline solution is required to dilute each vial for IM route. (The IM solution has a concentration of 20 mg/ml.)  Yes  No

Ensures all the air has been withdrawn from the vial and injects the correct amount of normal saline solution into the reconstituted vial.  Yes  No

Writes the time of dilution on the vial to ensure it is given within one hour.  Yes  No

Repeats the above steps for each additional vial of artesunate.  Yes  No

Ensures that peers follow all of the steps in the SOP for diluting artesunate correctly.  Yes  No

**I. Rechecking the dose calculation and withdrawing the required dose**

- **Observe the provider administering injectable artesunate.**  
Tick "Yes" if the provider correctly completes the task.

Rechecks the dose calculation for the route of administration to ensure it is accurate.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Records the total number of milligrams and milliliters to be given.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Cleans the top of the vial with a disinfectant swab.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Withdraws all the required milliliters from all the reconstituted and diluted vials of artesunate solution for the route of administration <u>using a new syringe and needle.</u>	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Helps to verify others calculations are correct and the correct amount of reconstituted and diluted artesunate is given.	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Cleans the top of the vial with a disinfectant swab.	<input type="checkbox"/> Yes	<input type="checkbox"/> No

**J. Administering injectable artesunate**

- **Observe the provider administering injectable artesunate.**  
Tick “Yes” if the provider correctly completes the task.

Administers artesunate within one hour of preparation.  Yes  No

Discards any prepared solution not used within one hour.  Yes  No

If gloves have been removed, washes hands and puts on a new pair of gloves.  Yes  No

**Is this an intravenous dose of artesunate?**  Yes  No

**If “Yes”:**

Prepares one syringe with 6 ml of normal saline to flush the IV line with 3 ml before and 3 ml after IV injection.  Yes  No

Cleans the IV port with an alcohol swab.  Yes  No

Checks the patency of the IV line by pulling back on the syringe to check for flashback of blood.  Yes  No

Flushes the IV line with 3 ml sodium chloride or 5% dextrose solution.  Yes  No

Administers the dose of artesunate slowly—20 seconds per ml.  Yes  No

Flushes the IV line with 3 ml sodium chloride or 5% dextrose solution.  Yes  No

**Is this an intramuscular dose of artesunate?**  Yes  No

**If “Yes”:**

Uses the vastus lateralis (anterior thigh) as the preferred site for children under 36 months. Avoids the gluteus as a site of injection in children.  Yes  No

Spreads doses of more than 2 ml for children and more than 5 ml for adults over different sites to avoid tissue damage.  Yes  No

MalariaCare checklist for assessing management of severe malaria

**For both intravenous and intramuscular injections:**

Records the dose, route, ml, and time artesunate was given.  Yes  No

Ensures peers follow aseptic technique when administering artesunate.  Yes  No

Ensures that peers follow the SOP for administering artesunate and that all prepared artesunate that is not used within one hour of preparation is discarded.  Yes  No

**K. Comments**

## L. Supervisor feedback and action plan

- If you found more than one gap during the last facility visit, or if you have identified more than one during the current visit, make a copy of this page for each gap.
- Leave a copy of the supervisor feedback and action plan at the health facility.

Date of facility visit: \_\_\_\_\_

Number of staff mentored on malaria case management: Male \_\_\_\_\_ Female \_\_\_\_\_

### 1. What were the biggest gap(s) identified during the *last* facility visit?

Briefly describe gap(s):

Briefly describe the action plan laid out in the previous visit:

Were these gaps addressed?

Not addressed       Partially addressed       Completely addressed

If addressed, explain action taken. If partially or not addressed, what is the new action plan to address the gap(s)?

### 2. What were the biggest gap(s) identified today?

Briefly describe gap(s):

Was immediate feedback provided?  No       Yes

If "Yes," how was the feedback provided?

Guideline review       Demonstration       SOP review       Lecture  Clinical mentoring

Other (specify): \_\_\_\_\_

What is the action plan for assessing whether these gap(s) have been addressed?

### 3. Supervisor comments





**USAID**  
FROM THE AMERICAN PEOPLE

## U.S. PRESIDENT'S MALARIA INITIATIVE

