GUIDELINES FOR ADMINISTRATION OF INJECTABLE ARTESUNATE FOR SEVERE MALARIA

**PRODUCT DESCRIPTION**

Dose: For children < 20 kg: 3.0 mg/kg
For children > 20 kg and adults: 2.4 mg/kg

Can be given by intravenous route (IV) or intramuscular route (IM). IV is the preferred route of administration.

* Water for injection is not an appropriate diluant

**WEIGHT THE PATIENT**

**DETERMINE THE NUMBER OF VIALS NEEDED**

<table>
<thead>
<tr>
<th>Weight</th>
<th>Less than 25 kg</th>
<th>26-50 kg</th>
<th>51-75 kg</th>
<th>76-100 kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>60 mg vial</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

**RECONSTITUTE**

Activate the drug: artemesunate powder + bicarbonate ampoule (immediately before use)

**DILUTE**

Reconstituted artemesunate + saline solution (or dextrose 5%)

<table>
<thead>
<tr>
<th>Volume for dilution</th>
<th>IV</th>
<th>IM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bicarbonate solution volume</td>
<td>1 ml</td>
<td>1 ml</td>
</tr>
<tr>
<td>Saline solution volume</td>
<td>5 ml</td>
<td>2 ml</td>
</tr>
<tr>
<td>Total volume</td>
<td>6 ml</td>
<td>3 ml</td>
</tr>
</tbody>
</table>

Artemesunate 60 mg solution concentration

10 mg/ml | 20 mg/ml

**CALCULATE THE DOSE**

Calculate and withdraw the required dose in ml according to route of administration:

For intravenous route (IV)

<table>
<thead>
<tr>
<th>Concentration: 10 mg/ml</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.0 mg x body weight (kg)</td>
</tr>
<tr>
<td>IV artemesunate solution concentration 10 mg/ml</td>
</tr>
<tr>
<td>Round up to the nearest whole number</td>
</tr>
</tbody>
</table>

Example:

Dose needed ml for 8 kg child:

\[
\frac{3.0 \times 8}{10} = 2.4 \text{ ml}
\]

2.4 ml rounded up to 3 ml

For intramuscular route (IM)

<table>
<thead>
<tr>
<th>Concentration: 20 mg/ml</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.0 mg x body weight (kg)</td>
</tr>
<tr>
<td>IM artemesunate solution concentration 20 mg/ml</td>
</tr>
<tr>
<td>Round up to the nearest whole number</td>
</tr>
</tbody>
</table>

Example:

Dose needed ml for 8 kg child:

\[
\frac{3.0 \times 8}{20} = 1.2 \text{ ml}
\]

1.2 ml rounded up to 2 ml

**ADMINISTER**

1. **IM:** Inject slowly. Spread the doses of more than 2 ml over different sites for babies and 5 ml for adults.

2. **IV:** slow bolus 3–4 ml per minute.

**DOSE SCHEDULE**

1. Give 3 parenteral doses over 24 hours as indicated in the opposite table.

2. Give parental doses for a minimum of 24 hours once started irrespective of the patients ability to tolerate oral treatment earlier.

- **Day 1** Dose 1: on admission (0 Hours)

- **Day 2** Dose 3: 24 hours after first dose

   - When the patient can take oral medication, prescribe a full 3-day course of recommended first line oral Artemisinin Combination Therapy (ACT). The first dose of ACT should be taken between 8 and 12 hours after the last injection of artemesunate.

   - Until the patient is able to take oral medication, continue parenteral treatment (one dose a day) for a maximum of 7 days.

   - A course of injectable artemesunate should always be followed by a 3-day course of ACT.

- Evaluate the patient’s progress regularly.

**RECOMMENDED TREATMENT**

- Prepare a fresh solution for each administration.

- Discard any unused solution after use.

This document is intended to demonstrate to health workers how to prepare and administer injectable artemesunate, a treatment for severe malaria. It is not intended to provide personal medical advice. The responsibility for the interpretation and use of this material lies with the reader. In no event shall WHO be liable for damages arising from its use.

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