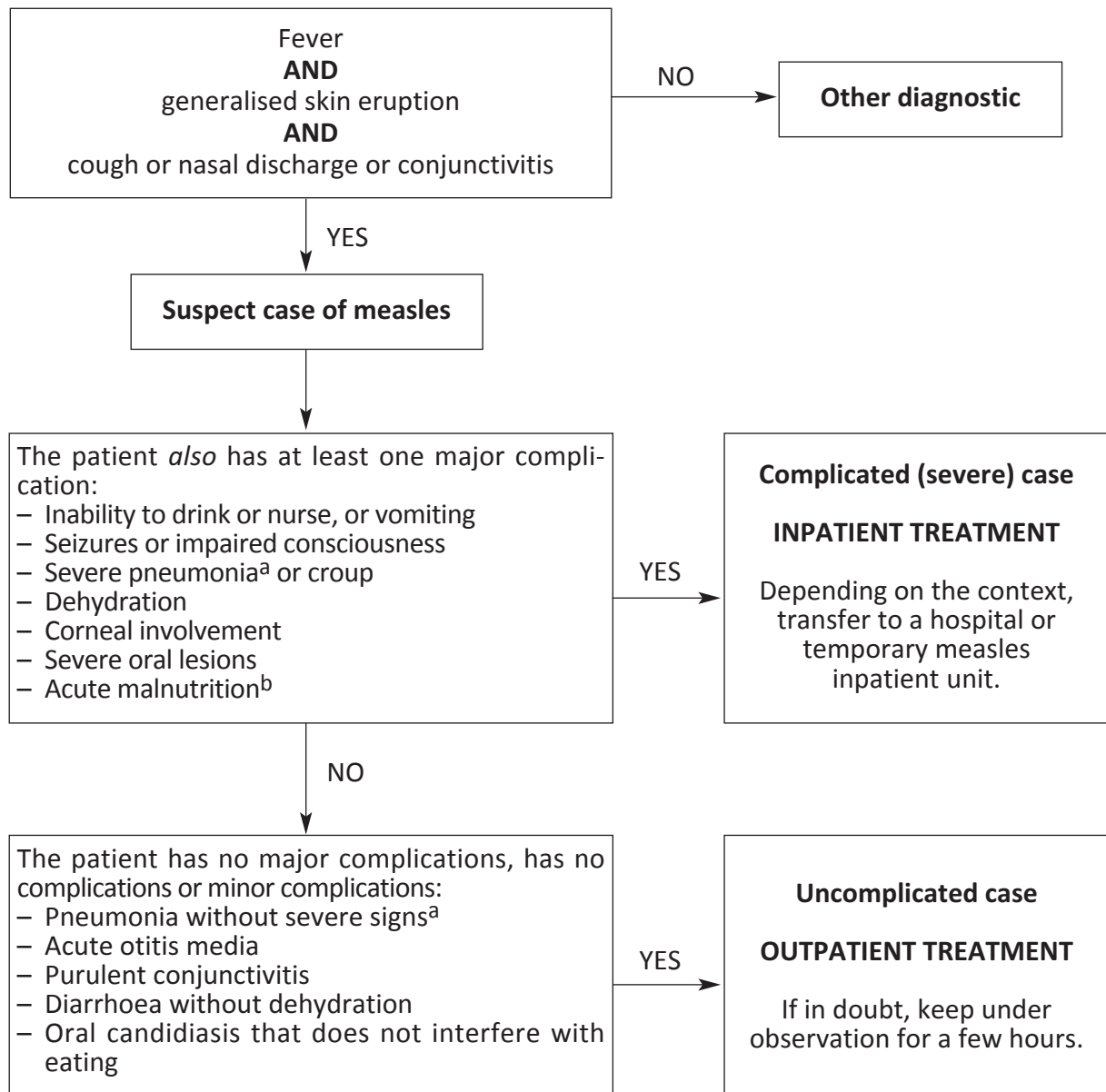


Appendix 13. Case management

Case definitions, triage and treatment



^a Pneumonia is always considered as severe in children less than 2 months of age or suffering from severe malnutrition.

^b Look for malnutrition only if justified by the context (food insecurity or crisis, or displaced population) and in children under age 3 or 5 years.

Uncomplicated cases (outpatient treatment)

STANDARD TREATMENT

- Paracetamol PO: 60 mg/kg/day in 3 divided doses

Age	< 2 months	2-11 months	1-4 months	5-10 months	11-15 months	Adult
Weight	< 5 kg	5-9 kg	10-17 kg	18-32 kg	33-47 kg	
Oral sol. 120 mg/5 ml	3 ml x 3	4 to 10 ml x 3	–	–	–	–
100 mg tab	3/4 tab x 3	1 to 2 tab x 3	2 to 3 tab x 3	–	–	–
500 mg tab	–	–	½ tab x 3	½ to 1 tab x 3	1½ to 2 tab x 3	2 tab x 3

- Amoxicillin PO: 80 to 100 mg/kg/day in 2 divided doses for 5 days in children under 5 years

Age	< 2 months	2-11 months	1-4 years
Weight	< 5 kg	5-9 kg	10-17 kg
Oral susp. 125 mg/5 ml	½ tsp x 2	2 to 3 tsp x 2	–
250 mg tab	1 tab x 2	1 to 2 tab x 2	2 to 3 tab x 2
500 mg tab	–	–	1 to 2 tab x 2

- Retinol* (vitamin A) PO: one dose on Day1

Age	< 6 months	6-11 months	1 year and over
Weight	< 7.5 kg	7.5-9 kg	10 kg and over
Dose	50 000 IU	100 000 IU	200 000 IU
200 000 IU capsule (8 drops)	2 drops	4 drops	1 capsule

* except in pregnant women

- Wipe eyes with cotton and clean water.
- Keep nasal passages clear (using a tissue or by nasal lavage with 0.9% sodium chloride if appropriate).
- Depending on the context, for children < 3 or 5 years, food supplement: 500 kcal/day, ready-to-use food, 2 weeks.

TREATMENT OF COMPLICATIONS

- *Pneumonia without severe signs or acute otitis media*: amoxicillin PO 5 days
- *Purulent conjunctivitis*: clean the eyes with clean water + tetracycline eye ointment 1% (2 times/day, 7 days)
- *Bitot's spots*: retinol PO one dose on Day1, Day2, Day8
- *Oral candidiasis*: nystatin 100 000 IU/ml oral suspension (1 ml 4 times/day, 7 days)^a
- *Diarrhoea without dehydration*: WHO plan A

- Administer the first dose of treatments during the consultation.
- Advice to parents:
 - Make the child drink, give smaller, more frequent meals or breastfeed more frequently.
 - Keep the eyes clean, blow the child's nose frequently.
 - Bring the child back in if: his consciousness is impaired or in case of seizures, if he cannot drink or nurse, or is vomiting, if diarrhoea appears or worsens, if he has respiratory problems or ear pain or if fever persists after 2 days.
 - Family members with symptoms of measles should also come for consultation.

^a If not available, 0.25% gentian violet, applied 2 times/day for 5 days maximum.

Complicated cases (inpatient treatment)

STANDARD TREATMENT

- Paracetamol PO: 60 mg/kg/day in 3 divided doses

Age	< 2 months	2-11 months	1-4 years	5-10 years	11-15 years	Adult
Weight	< 5 kg	5-9 kg	10-17 kg	18-32 kg	33-47 kg	
Oral sol. 120 mg/5 ml	3 ml x 3	4 to 10 ml x 3	–	–	–	–
100 mg tab	3/4 tab x 3	1 to 2 tab x 3	2 to 3 tab x 3	–	–	–
500 mg tab	–	–	½ tab x 3	½ to 1 tab x 3	1½ to 2 tab x 3	2 tab x 3

- Only in case of high fever in a child who is vomiting repeatedly or whose consciousness is impaired, **paracetamol IV**, 500 mg vial (10 mg/ml, 50 ml)

Weight	< 10 kg	10-50 kg	> 50 kg
Dose to be administered every 6 hours (in mg)	7.5 mg/kg	15 mg/kg	1 g
Dose to be administered every 6 hours (in ml)	0.75 ml/kg	1.5 ml/kg	100 ml
Dose maximum	30 mg/kg/day	60 mg/kg/day	4 g/day

Administer paracetamol IV in 4 doses at 6-hour intervals. Each dose is administered over 15 minutes. Change to oral route as soon as possible.

- Amoxicillin PO: 80 to 100 mg/kg/day in 2 divided doses for 5 days in children under 5 years

Age	< 2 months	2-11 months	1-4 years	5-10 years	11-15 years	Adult
Weight	< 5 kg	5-9 kg	10-17 kg	18-32 kg	33-47 kg	
Oral susp. 125 mg/5 ml	1½ tsp x 2	2 to 3 tsp x 2	–	–	–	–
250 mg tab	1 tab x 2	1 to 2 tab x 2	2 to 3 tab x 2	–	–	–
500 mg tab	–	–	1 to 2 tab x 2	2 to 3 tab x 2	3 to 4 tab x 2	4 tab x 2

- Retinol (vitamin A) PO: one dose on Day1 and Day2

Age	< 6 months	6-11 months	1 year and over
Weight	< 7.5 kg	7.5-9 kg	10 kg and over
Dose	50 000 IU	100 000 IU	200 000 IU
200 000 IU capsule (8 drops)	2 drops	4 drops	1 capsule

Administer retinol PO in 2 doses (Day1, Day2) to all patients except:

- pregnant women (contra-indicated);
- in the event of **corneal lesions** or **Bitot's spots** (in this case, give 3 doses, on Day1, Day2, Day8).

- Wipe eyes with clean water 2 times/day.
- Keep nasal passages clear (using a tissue or by nasal lavage with 0.9% sodium chloride if appropriate).
- Give caloric food, smaller, more frequent meals or breastfeed more frequently.
- Make the child drink regularly.
- Depending on the context, for children < 3 or 5 years, food supplement: 500 kcal/day, ready-to-use food, 2 weeks.

RESPIRATORY AND ENT COMPLICATIONS

Severe pneumonia

- **Oxygen** if cyanosis or O₂ saturation < 90%
- **Ceftriaxone** slow IV or IM (1 g to be dissolved in 5 ml): 100 mg/kg once daily

Age	1-11 months	1-4 years	5-10 years	11-15 years	Adult
Weight	4-9 kg	10-17 kg	18-32 kg	33-47 kg	
Dose	400 to 900 mg	1 to 1.5 g	2 to 3 g	3 to 4 g	4 g
Volume to be injected (1 g vial /5 ml of diluent)	2 to 5 ml	1 to 1½ vial	2 to 3 vials	3 to 4 vials	4 vials



IV injection:

When ceftriaxone is administered by IV route, the powder (1 g) must be dissolved in 5 ml of water for injection.

IM injection:

Vials of ceftriaxone for IM injection are provided with a specific diluent containing lidocain. **Once reconstituted with this diluent, ceftriaxone can be administered by IM route only, NEVER BY IV ROUTE.** Doses (in ml or vials) in the table above are based on a ceftriaxone-concentration of 1 g diluted in 5 ml of diluent with lidocain. Always verify the dosage and the volume of diluent as they can vary according to the manufacturers (500 mg/2 ml, 500 mg/5 ml, 1 g/5 ml, 1 g/10 ml, etc.). All of the diluent must be used for reconstitution. If the volume to be injected is large, administer half the dose into each buttock.

PLUS

- **Cloxacillin** IV (500 mg to be dissolved in 5 ml water for injection): 100 to 200 mg/kg/day in 4 divided doses over 60 minutes. Each dose is administered in 100 ml of 0.9% sodium chloride.

Age	< 2 months	2-11 months	1-4 years	5-10 years	11-15 years	Adult
Weight	< 5 kg	5-9 kg	10-17 kg	18-32 kg	33-47 kg	
Dose	200 mg x 4	250 to 400 mg x 4	500 to 750 mg x 4	1 g x 4	1.5 g x 4	2 g x 4
Volume to be injected (500 mg vial /5 ml)	2 ml x 4	2.5 to 4 ml x 4	1 to 1½ vial x 4	2 vials x 4	3 vials x 4	4 vials x 4

Parenteral treatment for at least 3 days then, once the child no longer has fever or clinical signs of severe infection, change to **amoxicillin/clavulanic acid** PO: 80 mg/kg/day in 2 divided doses to complete 7 to 10 days of treatment

Age	< 2 months	2-11 months	1-4 years	5-10 years	11-15 years	Adult
Weight	< 5 kg	5-9 kg	10-17 kg	18-32 kg	33-47 kg	
Oral susp. 100 + 12.5 mg/5 ml	8 ml x 2	12 ml x 2	–	–	–	–
500/62,5 mg tab	–	–	1 tab x 2	2 tab x 2	3 tab x 2	3 tab x 2

Pneumonia (without signs of severity)

- **Amoxicillin** PO: 80 to 100 mg/kg/day in 2 divided doses for 5 days

Age	< 2 months	2-11 months	1-4 years	5-10 years	11-15 years	Adult
Weight	< 5 kg	5-9 kg	10-17 kg	18-32 kg	33-47 kg	
Oral susp. 125 mg/5 ml	1½ tsp x 2	2 to 3 tsp x 2	–	–	–	–
250 mg tab	1 tab x 2	1 to 2 tab x 2	2 to 3 tab x 2	–	–	–
500 mg tab	–	–	1 to 2 tab x 2	2 to 3 tab x 2	3 to 4 tab x 2	4 tab x 2

As a 2nd line (treatment failure after 48 hours), **amoxicillin/clavulanic acid** PO: 80 mg/kg/day in 2 divided doses for 7 days (see *Severe pneumonia*).

Acute otitis media

- **Amoxicillin** PO: 80 to 100 mg/kg/day in 2 divided doses for 5 days (see above)
- If there is discharge from the ear, keep the ear clean by wiping the external auditory canal with dry cotton wool.

Severe laryngotracheobronchitis (croup)

- **Dexamethasone** (1 ml ampoule, 4 mg/ml) IM: 0.6 mg/kg as a single dose

Age	< 2 months	2-11 months	1-2 years	3-4 years
Weight	< 5 kg	5-9 kg	10-13 kg	14-17 kg
Dose	2 mg	4 mg	8 mg	10 mg
Volume to be injected	0.5 ml	1 ml	2 ml	2.5 ml

- Nebulized **epinephrine** (1 mg ampoule, 1 mg/ml): 0.5 ml/kg/dose

Age	1 month	2 months	3 months	4-6 months	7-9 months	10-11 months	1-4 years*
Weight	4.5 kg	5 kg	6 kg	7 kg	8 kg	9 kg	10-17 kg
Epinephrine (1 mg/ml ampoule)	2 ml	2.5 ml	3 ml	3.5 ml	4 ml	4.5 ml	5 ml
0.9% NaCl to be added	2 ml	2 ml	1 ml	1 ml	–	–	–

* In children > 4 years or > 17 kg, the dose should not exceed 5 ml.

- **Oxygen** if cyanosis or O₂ saturation < 90%

OCULAR COMPLICATIONS

Corneal lesions (opacification, ulcer)

- Retinol (vitamin A) PO: one dose on Day1, Day2, Day8

Age	< 6 months	6-11 months	1 year and over
Weight	< 7.5 kg	7.5-9 kg	10 kg and over
Dose	50 000 IU	100 000 IU	200 000 IU
200 000 IU capsule (8 drops)	2 drops	4 drops	1 capsule

- Tramadol PO if ocular pain:
Child over 6 months: 1 to 2 mg/kg every 6 hours
Adult: 50 to 100 mg every 6 hours (do not exceed 400 mg/day)

Age	6-11 months	1-4 years	5-10 years	11-15 years	Adult
Weight	7.5-9 kg	10-17 kg	18-32 kg	33-47 kg	
Oral sol. 100 mg/ml*	12 mg x 4 (5 drops x 4)	20 mg x 4 (8 drops x 4)	35 mg x 4 (15 drops x 4)	–	–
50 mg capsule	–	–	–	1 cap x 4	2 cap x 4

* 1 drop = 2.5 mg

- Keep the eye clean: clean with 0.9% sterile sodium chloride and apply **tetracycline eye ointment 1%**, 2 times/day, to prevent or treat bacterial superinfection.
- Protective dressing as long there is photophobia.

Bitot's spots

- Retinol (vitamin A) PO: one dose on Day1, Day2 and Day8, as above

Purulent conjunctivitis

- Clean the eyes with clean water 2 times/day.
- **Tetracycline eye ointment 1%**: 2 applications/day for 7 days

GASTROINTESTINAL COMPLICATIONS

Oral candidiasis

- **Nystatin** PO: 1 ml of oral suspension (100 000 IU) 4 times/day for 7 days^b. If there is no improvement after 3 days, increase the dose to 200 000 IU 4 times/day.

Diarrhoea without dehydration

WHO treatment plan A

Diarrhoea with dehydration

- Rehydration:
Moderate (some) dehydration: WHO treatment plan B
Severe dehydration: WHO treatment plan C
- +
– **Zinc sulfate** (20 mg dispersible tablet):
 - Child under 6 months: 10 mg/day for 10 days (= ½ tab per day)
 - Child from 6 months to 5 years: 20 mg/day for 10 days (= 1 tab per day)
 In infants: place ½ or 1 tablet in a teaspoon and add a bit of water to dissolve it.
In children over 2 years: tablets may be chewed or dissolved.
Ask the parents not to remove the tablets from the blister-pack. Once a tablet is removed from the blister-pack, it must be administered immediately.

No zinc supplementation if the child receives therapeutic food (F100, Plumpy'nut®, BP 100®).

^b If not available, 0.25% gentian violet, applied 2 times/day for 5 days maximum.

OTHER COMPLICATIONS

Acute malnutrition

Follow the protocol for managing malnutrition (RTUF).

Seizures

Generalised seizure lasting > 3 minutes:

diazepam: 10 mg ampoule (5 mg/ml, 2 ml)

Child: 0.5 mg/kg rectally, without exceeding a total dose of 10 mg

For intrarectal administration, use a 1 ml-syringe graduated in 0.01 ml (with no needle). Introduce the tip of the syringe into the rectum (1.5 to 4 cm depending on age).

Age	< 4 months	4-11 months	1-2 years
Weight	< 7 kg	7-9 kg	10-13 kg
Dose in mg	2.5 mg	4 mg	6 mg
Volume to be administered	0.5 ml	0.8 ml	1.2 ml

If seizures persist after 5 minutes after the first dose, repeat the same dose once.

If the patient is to be transferred to a hospital

- Administer the first dose of amoxicillin PO and paracetamol.
- Severe dehydration: place a IV line and transfer the patient when stable.
- Moderate (some) dehydration: the patient should be able to drink ORS while being transferred.
- Corneal lesion: protect the eye with a dry dressing.
- Send the patient with a transfer form indicating the reason for the referral and treatments administered.