

Emergency Triage Assessment and Treatment

The World Health Organisation (WHO) has produced some useful guidelines about how to improve the care of our patients and their survival in hospital. This is a summary of the guidelines, to help all health care workers at Kilimatinde. Also included is a short summary concerning newborn life support, as this is different from treating adults.

Many deaths in hospital occur in the first 24 hours after the patient is admitted. Some of these deaths can be avoided by identifying seriously ill patients with treatable diseases and giving treatment quickly. Doing a standard assessment of each patient as they arrive at OPD helps to achieve this. No special equipment is needed, and the assessment can be done quickly and easily by any health care worker.

The assessment helps decide if the patient is an 'emergency', 'priority' or 'non-urgent' case.

- **Emergency** cases need immediate action, started by any nurse or doctor.
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- **Priority** cases need to go to the front of the queue, or seen as soon as possible on the ward; a doctor needs to be told about them.
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- **Non-urgent** cases can wait their turn in the queue.
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Putting the patients into order like this is called triage. We use the 'ABCD' sequence to guide our assessment. We can save lives by remembering to use this simple guide, which is used all over the world.

The ABCD assessment

Any patient with a problem relating to ABCD is an **emergency** case. Something needs to be done immediately to help the problem.

Airway

- Is the patient breathing? If they are talking/crying, they have an airway
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- Is there an obstruction? (noisy breathing/stridor/unconscious patient/trauma)
-

If the patient is not breathing, is unconscious or there is an obstruction, the airway needs urgent attention:

- Clear obstructions (back slaps if the patient is choking; suction if there is blood, vomit etc in the airway)
-
- **Open** the airway with a chin lift (or jaw thrust if spinal injury is suspected)
-
- **Ventilate** with a bag and mask if the patient is not breathing

Picture 1: Bag and mask ventilation

Breathing

- Is the patient breathing?
-
- Is the patient blue? (cyanosis – tongue, mucous membranes)
-
- Are there signs of respiratory distress? (difficulty talking/feeding, fast breathing, getting tired, chest wall indrawing – children)

If the patient is not breathing, ventilate them with a bag and mask.

Give oxygen, if possible. (In Kilimatinde, this is kept in theatres)

Circulation

Move on to assess the circulation if the airway and breathing are normal, or when treatment for any problems with A and B has been started. When we assess the circulation, we are looking for signs of shock.

- Cold hands?
-
- Capillary refill time longer than 3 seconds? (press nail bed for 3 seconds)
-
- Pulse weak and fast?
-
- Blood pressure (adults)

If any of these signs are positive, the circulation needs support:

- Stop any bleeding (apply pressure)
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- Insert IV line and give fluids quickly
- - For children, 20ml/Kg Ringer's or normal saline; repeat if no improvement
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 - For children with severe malnutrition, give rehydration fluid orally/via NG tube, and half-normal saline with 5% glucose 15ml/Kg IV. Monitor closely.
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 - For adults, start with a litre, any fluid
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- Take bloods for emergency lab tests (malaria, FBC, U and C, glucose)

At the 'C' stage, also assess for:

- Coma
-
- Convulsions
-

Coma (or level of consciousness) can be assessed by using the AVPU scale:

A – the patient is Alert (no problem with consciousness)

V – the patient is responding to Voice (call their name)

P – the patient is not responding to voice, but will respond to Pain (press nail bed/sternal rub)

U – the patient is Unresponsive (unconscious)

Unconscious patients need to be positioned so that their airway is safe. Place them on their side in the recovery position (if there has been no neck injury), and make sure the airway is open.

Always check the blood GLUCOSE in an unconscious patient and correct it if necessary.

Convulsions

- If the patient is having a convulsion (seizure/fit), place them on their side and do not restrain them
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- Use suction to clear vomit/blood from the airway if necessary
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- If the patient is still convulsing, give an anti-convulsant (Diazepam – rectally or IV if a cannula is in place)
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- In children – if there is a fever, cool them down by undressing and sponging with tepid water
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- Always check the blood glucose and correct if necessary (if lower than 3)
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- Give IV glucose without waiting for the blood glucose result if there is a delay
-
- Keep monitoring the airway and breathing

Picture 2: the recovery position. Remember to open the airway.

Dehydration

This step is for assessing CHILDREN with DIARRHOEA and/or VOMITING

You will have already assessed for problems with circulation in step 'C', but now have a closer look for signs of dehydration if there is a history of diarrhoea/vomiting:

- Sunken eyes
-
- Lethargy (not showing interest/not noticing what is going on around them)
-
- Skin pinch takes longer than 2 seconds to go back
-

If 2 or more of the above signs are present in a child with diarrhoea/vomiting, they have severe dehydration.

In children without severe malnutrition, give IV fluid (Ringer's), or oral rehydration solution (ORS) orally/via NG tube if IV access cannot be gained.

As soon as the child is able to drink, give ORS as well as the IV fluid. Keep re-assessing the child each hour to see if they are improving.

In children with severe malnutrition, avoid IV fluids and give ORS via NG tube slowly.

Remember to check the BLOOD GLUCOSE and treat with IV glucose if necessary.

Summary of ABCD assessment

Check the Airway. If there is a problem, TAKE ACTION and call for help from a doctor/senior nurse

Check the Breathing. If there is a problem, TAKE ACTION (ventilate/give O₂) and call for help

Check the Circulation. If there is a problem, TAKE ACTION and call for help. Start management for convulsions/coma if present

If the patient is child with diarrhoea, check for signs of Dehydration

Go back to the beginning and reassess ABCD if you found a problem and started treating it. If no problems were found, the patient is not an emergency case

Priority Signs

Once you have completed the emergency assessment (ABCD), and if no emergency signs have been found, you can look quickly for 'priority signs'. These are features that suggest the patient should be seen as a PRIORITY (that is, go to the front of the queue, or seen quickly on the ward), but their condition is not immediately life-threatening, like an emergency case:

- Tiny baby (any sick child less than 2 months of age)
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- High temperature in a child
-
- Severe trauma/urgent surgical condition
-
- Severe pallor
-
- Poisoning
-
- Severe pain
-
- Respiratory distress
-
- Severe malnutrition (in children – visible wasting, oedema of both feet)
-
- Burns
-

It should take a few seconds to look at the patient and decide if any of these signs are present. If they are, take action – make sure they get treated as soon as possible. If not, move on to the next patient. Patients without any emergency or priority signs can wait their turn.

Summary of the complete triage process

- Look for emergency signs
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- Treat any emergency signs you find
-
- Call a senior health worker to see any emergency
-
- Look for priority signs
-
- Place priority patients at the front of the queue
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- Move on to the next patient
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Newborn life support.

- Newborn babies are different from adults and children in their anatomy and physiology
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- Most babies clear their own airways and start breathing normally after delivery
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- A few will need help with the first few breaths; the technique is different from giving breaths to an adult or bigger child.
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Assess the situation

- After the baby is born, look at it to see if it has good tone, or if it is floppy.
-
- Heart rate – should be 100 beats/minute shortly after delivery.
-
- Is the baby breathing? Usually starts on its own within a minute of birth. If not:
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Airway

- Ensure it is open: the baby's head must be in a neutral position
-
- It may be necessary to support the chin with a finger or perform a jaw thrust.

Breathing

- Usually, up to 5 inflation breaths (with inflation time of 2-3 seconds) is all that is required. Watch to ensure that the chest is moving with inflation. Reassess after giving these to see if the baby has responded (heart rate increasing, making respiratory effort). If not:
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- Ventilate at rate of 30 breaths/minute, ensuring the chest is rising and falling until the baby starts to breathe. The heart rate should remain above 100 beats/minute if the ventilation technique is adequate.
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Although the interventions described here are very simple, it really is enough to save people's lives, even when hospital resources are limited. Each one of us who works in hospital has the ability to help save lives, and a duty to our patients to try the best with what we have. May God bless our work and help us to do it with diligence and compassion.

References

The World Health Organization's Emergency Triage Assessment and Treatment Manual was used to prepare this summary. It can be found in full on the WHO website.

Appendices

1. Diazepam and Paraldehyde dosages for children with convulsions
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.

Age/weight

Diazepam given rectally (10mg/2ml solution), 0.1mg/Kg

Paraldehyde given rectally, 0.3-0.4ml/Kg

2 weeks – 2 months (<4kg)

2 – <4 months (4 - <6kg)

Teaching While You Are There 2

4 - <12 months (6 - <10kg)

1 - <3 years (10-<14kg)

3 - <5 years (14 - <19kg)

0.3ml (1.5mg)

0.5ml (2.5mg)

1.0ml (5.5mg)

1.25ml (6.25mg)

1.5ml (7.5mg)

1.0ml

1.6ml

2.4ml

4ml

5ml

1. IV fluids for children less than 12 months old with severe dehydration
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.

Weight

Total volume (ml)

Per hour (ml)

Teaching While You Are There 2

<4kg

4 - <6kg

6 - <10kg

10 <14kg

14 - <19kg

200

350

550

850

1200

40

70

110

170

240

1. IV fluids for children aged 1 to 5 years with severe dehydration

2.

3.

4.

5.

Weight

Total volume (ml)

Per hour (ml)

6 - <10kg

10 - <14kg

14 - <19kg

550

850

1200

220

340

480

1. ORS volumes for the management of severe dehydration in children who are able to drink
- 2.
- 3.
- 4.
- 5.

Weight

Volume ORS per hour

<4kg

4 - <6kg

6 - <10kg

10 - <14kg

14 - <19kg

15ml

25ml

40ml

60ml

85ml