FINALE SIMULATIE 2

Simulatie focus Ziek kind/trauma: Aspecifieke NAI presentatie

Verwachte resultaten

Teamleider - Voert de eerste ABCDE-beoordeling uit, geeft leiding aan het team en leidt de behandeling - neemt waar nodig vaardigheden over.

Team/Meer ervaren kandidaat – Herkennen mogelijk hersenletsel en leidt onderzoek hiernaar en behandeling ervan. Vermoedt NAI (non-accidental injury) en verwijst naar juiste professionals.

Voor de kandidaat die een herbeoordeling nodig heeft

Deze simulatie kan gebruikt worden om een kandidaat te herbeoordelen die een ziek kind simulatie moet herdoen. In dat geval verbetert het kind na correcte ABCDE beoordeling en aanpak volgens het sepsis algoritme (het kind evolueert dan niet naar verhoogde ICP). Alle parameters zijn dan beter bij de herbeoordeling, inclusief SpO2, hartritme en bewustzijn. De aanpak van NAI en verhoogde ICP kunnen dan besproken worden in de debriefing.

Geschiedenis

Personeel op spoed

Kai is a 6-week-old baby brought by parent. They were found unresponsive, in their moses basket. They last fed 3 hours previously and took the feed ok.

Personeel op de afdeling

Kai is a 6-week-old baby who has been admitted 2 days ago for poor weight gain and crying with feeds. Their parent found them unresponsive in their cot. They last fed 3 hours previously and took the feed ok. Observations at that time were normal.

Bij aankomst

Zorg ervoor dat het kaartje met aanwijzingen op de oefenpop ligt voor de start van de simulatie.

Als je dichterbij komt, zie je een erg stile n slap kind.

Klinisch verloop *(te geven tijdens de simulatie)*

Beoordeel	Kenmerken	Actie	Sleutelpunten
A	Maintaining own airway. Some secretions in airway.	Assess, Suction	
B	**AH 40/min** with irregular breaths. Equal air entry, no additional noises. **SpO_2 94%** (poor trace).	Assess including auscultation and SpO_2	**High flow oxygen via non-rebreathing face mask** **Call for Medical Emergency Team**
C	**HR 180/min, CRT 4sec, BP 90/40mmHg** Pale with cool peripheries	Assess and recognise compensated shock.	**Immediate IV/IO** **Bloods** **Fluid bolus 10ml/kg** **Give broad-spectrum antibiotic**
D	Responds to pain, **GCS 9** (E2V3M4). Pupils 3mm, reflexes brisk. **BM 144mg/L, (8mmol/l)**	Recognise lowered level of consciousness and escalate concern	
E	Full fontanelle		

Reassessment or weaker candidate or group Use the guidance in blue box below

Strong confident group or candidate Use the guidance in yellow box below

Reassessment candidate
This simulation can be used to reassess a candidate who needs to lead an illness simulation. In this case the candidate is expected to direct an ABCDE primary survey, identify sepsis as the diagnosis and manage IV fluids and antibiotics. The patient will then stabilise.

Team learning scenario
Once the team have successfully managed the sepsis, the child becomes increasingly unwell. The team should recognise raised ICP and discuss/commence treatments and potential diagnoses before the scenario is stopped.

Herbeoordeling (alleen voor de zeer competente groep - cursief gedrukte acties)

Bij het begin van de herbeoordeling gaat het kind achteruit met apnoe, desaturatie en bradycardie.

Beoordeel	Kenmerken	Acties	Sleutelpunten
A	Patent	Assess	
B	**AH 24/min** with frequent apnoeas requiring stimulation Equal air entry, no additional noises **SpO_2 88-94%** (drops with desaturations)	Assess including auscultation and SpO_2	***BMV ventilation***
C	**HR 90/min, CRT 3sec, BD 100/30mmHg** (widened pulse pressure)	Reassess after fluid bolus	
D	Floppy. Unresponsive. **GCS 6** (E1V2M3) Pupils size 2 reacting and size 4 slowly reacting. **BM 144mg/dl (8mmol/l)**	Assess Blood sugar Consideration of raised ICP	***Hypertonic saline 5 ml/kg*** ***Arrange urgent CT head*** ***Start neuroprotective management***
E	**Temp 36.5**, pale, no rashes.		

NB	
	• **Baby initially appears shocked and should be managed as if septic with fluid bolus and antibiotics.** • **There are no external signs of injury but as scenario progresses assessment of pupils, full fontanelle and circulation changes (bradycardia and hypertension with widened pulse pressure) should alert to potential for traumatic brain injury.** • **Baby requires management of raised ICP and intubation for CT scan with transfer to intensive care.**

Debriefing

Bespreek aan de hand van de learning conversation de technische en niet-technische elementen van de simulatie.

Beoordeling

Dit station maakt deel uit van het continu beoordelingsproces, daarom moeten kandidaten weten of ze aan de norm voldoen.
Geef de kandidaten aan het eind de gelegenheid om vragen te stellen, deze te beantwoorden en vervolgens de belangrijkste punten samen te vatten.

Algoritme:

toegenomen ICP

6.4 Management of raised intracranial pressure

Management of raised ICP is a time-critical emergency. A full paediatric emergency team should be assembled, and the following actions taken immediately. These actions are collectively referred to as 'neuroprotection'.

- Intubate and ventilate. Initially target normal oxygen saturations and maintain end-tidal carbon dioxide (CO_2) at 3.5–4 kPa (26–30 mmHg), equivalent to *P*aCO_2 4–4.5 kPa (30–34 mmHg)
- Deeply sedate and fully muscle relax to reduce ICP and cerebral oxygen demand
- Treat seizures to reduce cerebral oxygen demand
- Manage 20° head up
- Give 3% sodium chloride in 3–5 ml/kg boluses IV/IO over 10 minutes
- Mannitol may be used as an alternative if sodium chloride is not available (0.25–0.5 g/kg; i.e. 1.25–2.5 ml/kg of 20% solution IV over 15 minutes)
- Maintain blood pressure at a level to ensure CPP of 40–60 mmHg
- Arrange an urgent computed tomography (CT) scan of the head and contact the neurosurgical centre and the paediatric critical care unit (PCCU)

Sepsis

SEPSIS SCREENING TOOL - THE SEPSIS SIX | **AGE <16**

PATIENT DETAILS:

DATE: TIME:
NAME:
DESIGNATION:
SIGNATURE:

COMPLETE ALL ACTIONS WITHIN ONE HOUR

01 ENSURE SENIOR CLINICIAN ATTENDS — TIME □□:□□

NOT ALL PATIENTS WITH RED FLAGS WILL NEED THE 'SEPSIS 6' URGENTLY. A SENIOR DECISION MAKER MAY SEEK ALTERNATIVE DIAGNOSES/ DE-ESCALATE CARE. RECORD DECISIONS BELOW

02 OXYGEN IF REQUIRED — TIME □□:□□

START IF 02 SATURATIONS LESS THAN 92% OR THERE IS EVIDENCE OF SHOCK

03 OBTAIN IV/IO ACCESS, TAKE BLOODS — TIME □□:□□

BLOOD CULTURES (FULLY FILL AEROBIC BOTTLE FIRST!), BLOOD GLUCOSE, LACTATE, FBC, U&E'S, CRP AND CLOTTING LUMBAR PUNCTURE IF INDICATED

04 GIVE IV ANTIBIOTICS, THINK SOURCE CONTROL — TIME □□:□□

MAXIMUM DOSE BROAD SPECTRUM THERAPY
CONSIDER: LOCAL POLICY / ALLERGY STATUS / ANTIVIRALS
EVALUATE NEED FOR IMAGING/ SPECIALIST REVIEW
IF SOURCE AMENABLE TO DRAINAGE ENSURE ACHIEVED AS SOON AS POSSIBLE BUT ALWAYS WITHIN 12H

05 GIVE IV FLUIDS — TIME □□:□□

IF LACTATE 2-4 mmol/L GIVE FLUID BOLUS 10 ml/kg WITHOUT DELAY IF LACTATE →4 mmol/L CALL PICU. (REPEAT FLUID BOLUS IF REQUIRED)

06 CONSIDER INOTROPIC SUPPORT — TIME □□:□□

CONSIDER INOTROPIC SUPPORT IF NORMAL PHYSIOLOGY IS NOT RESTORED AFTER ≥20 ml/kg FLUID (10 ml/kg IN NEONATES), AND CALL PICU OR A REGIONAL CENTRE URGENTLY

RED FLAGS AFTER ONE HOUR – ESCALATE TO CONSULTANT NOW

RECORD ADDITIONAL NOTES HERE:

e.g. allergy status, arrival of specialist teams, de-escalation of care, delayed antimicrobial decision making, variance from Sepsis Six

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Figure 5.2 *(Continued)*

Hulpmiddelen om af te drukken en te lamineren

Finaal 2 - Globaal overzicht (opoefenpop plaatsen)

Het kind is erg stil en slap.

Finaal 2 - Resultaten:

Veneus/Capillair Bloedgas

	Initeel	Herbeoordeling
pH	7.3	7.2
pO_2	68 mmHg (9.1kPa)	74mmHg (9.8kPa)
pCO_2	53mmHg (7.0kPa)	45mmHg (6.0kPa)
$HCO3^-$	20 mmol/L	20 mmmol/L
BE	2mmol/L	3 mmol/L
Lactate	3.8mmol/L	4.5 mmol/L
Na	132mmol/L	132 mmol/L
K	5.2mmol/L	5.2 mmol/L
Ca (geïoniseerd)	1.2mmol/L	1.1 mmol/L

Glycemie 144mg/dl (8mmol/L)

Faculty helper information – Final 2

When candidate requests information regarding observations please give the following in "real-time" (e.g., wait for blood pressure to cycle, saturation trace to be achieved). If key treatment points are not undertaken, consider a "prompt" that would be visible in a child.

Assess	Observation	Example prompt
A	Maintaining own airway. Some secretions in airway.	"Sounds a bit gurgly"
B	**AH 40/min** with irregular breaths. Equal air entry, no additional noises. **SpO_2 94%** (poor trace)	"Breaths are a bit shallow and irregular"
C	**HR 180/min, CRT 4sec, BD 90/40mmHg** Pale with cool peripheries	"What do you think of that blood pressure?" If "bloods" requested prompt and ask which ones
D	Responds to pain, **GCS 9** (E2V3M4). Pupils 3mm, reflexes brisk. **BM 144 mg/dl (8mmol/l)**	"The baby's very quiet" Do you want a glucose?
E	Full fontanelle	To give as information if not asked for

Reassessment

Assess	Observation	Example prompt
A	Patent	
B	**AH 24/min** with frequent apnoeas requiring stimulation Equal air entry, no additional noises **SpO_2 88-94%** (drops with desaturations)	"I'm not sure how good the breathing is, seems to be some long pauses" "The sats just keep dropping and then coming back up slowly"
C	**HR 90/mion, CRT 3sec, BD 100/30mmHg** (widened pulse pressure)	"Just redone the obs and they've changed a lot. What does that mean?"
D	Floppy. Unresponsive. **GCS 6** (E1V2M3) Pupils size 2 reacting and size 4 slowly reacting. **BM 144 mg/dl (8mmol/l)**	"Do you want me to call a senior?" "Do we need more help?"
E	**Temp 36.5**, pale, no rashes.	