Facilitator instructions for case scenarios: ETAT module 5, severe dehydration (dehydration vs. shock with and without SAM)

1. Preparation
   a. Review learning objectives and case scenarios
   b. Review ETAT content that is illustrated in the scenarios
   c. Review process for using case scenarios
      i. Participants may work alone or as a group.
      ii. Participants may be asked to review each other’s performance at the end of the scenario.

2. Equipment (list all of the equipment that is required for this scenario)
   a. Manikin for demonstration and practice of nasogastric tube placement
   b. Nasogastric tubes, syringes, lubricant
   c. Job aids for IV and oral fluid calculation

3. General principles
   a. Begin by reviewing the learning objectives for Module 5:
      ● Identify causes of severe dehydration.
      ● Understand the importance of recognizing children with severe acute malnutrition.
      ● Recognize clinical signs of severe dehydration.
      ● Determine the amount and type of intravenous fluids required to treat for well-nourished children with severe dehydration.
      ● Determine the amount of ORS required for well-nourished children with severe dehydration.
      ● Determine the amount, type, and preferred route of fluid therapy for children with severe malnutrition and severe dehydration.
      ● Demonstrate how to accurately calculate drip rates.
   b. All of these objectives will be covered in this station, using case scenarios. The specific objectives illustrated in each scenario will be described at the beginning of the case.
   c. Describe how the case scenarios will be presented
      i. The idea is to present the case as it would unfold in a real clinical situation. The facilitator will provide clinical information and may ask questions that will prompt the participant to give the appropriate response.
      ii. The participant should respond as s/he would in a real clinical situation. The participant may ask for additional clinical information.
      iii. The facilitator may ask the participant to demonstrate interventions.
      iv. Learning objectives will be reviewed again at the end of the case.

4. Record keeping: complete participant evaluation forms

Case Scenarios: ETAT Module 5, Severe Dehydration

Case # 1  Severe dehydration, well-nourished
Learning objectives for Case Scenario #1

• Identify causes of severe dehydration
• Understand the importance of recognizing children with severe acute malnutrition
• Recognize clinical signs of severe dehydration
• Determine the amount and type of IV fluid required to treat well-nourished children with severe dehydration

Facilitator says: A 9 month old girl is brought to clinic because she has had diarrhea (many large watery stools) for two days and she won’t drink.

Facilitator says: What should you do?

Participant says: Assess airway and breathing.

Facilitator says: She is quiet and breathing rapidly, but without cyanosis or chest indrawing.

Facilitator says: What should you do next?

Participant says: Assess circulation.

Facilitator says: Capillary refill is <2 seconds. Her radial pulse is palpable.

Facilitator says: What should you do next?

Participant says: Assess for consciousness.

Facilitator says: She is quiet but interactive.

Facilitator says: What should you do next?

Participant says: Assess for diarrhea and/or dehydration.
Facilitator says: She has had 5 loose stools today. Skin pinch is 3 seconds. Eyes are sunken and she does not have tears.

Facilitator says: What should you do next?

Participant says: Assess for severe malnutrition.

Facilitator says: She has no wasting and no oedema.

Facilitator says: What is her hydration and nutritional status?

Participant says: She is severely dehydrated, but well-nourished.

Facilitator says: What should you do next?

Participant says: Begin IV rehydration as per Plan C.

Teaching points
- Identify severe hydration, as distinguished from shock
- Evaluate for nutritional status
- Review plan C

Case # 2 Some dehydration, severe malnutrition

Learning Objectives for Case Scenario #2:
- Understand the importance of recognizing children with severe acute malnutrition
- Recognize clinical signs of dehydration
- Determine the amount, type, preferred route of fluid therapy for children with severe malnutrition and dehydration
Facilitator says: A 20 month old boy is being seen for a scheduled follow up visit. His mother tells you that he has had some diarrhea for the past 3 days.

Facilitator says: What should you do?

Participant says: Assess airway and breathing.

Facilitator says: He is crying (airway patent). Respiratory rate is normal and there is no increased work of breathing.

Facilitator says: What should you do next?

Participant says: Assess circulation.

Facilitator says: Capillary refill is <2 second. His radial pulse is palpable.

Facilitator says: What should you do next?

Participant says: Assess for consciousness.

Facilitator says: He is appropriately fearful.

Facilitator says: What should you do next?

Participant says: Assess for diarrhea and/or dehydration.

Facilitator says: He has had 3 loose stools today. Skin pinch is 3 seconds. Eyes are sunken.
Facilitator says: What should you do next?

Participant says: Assess for severe malnutrition.

Facilitator says: He has wasting but no oedema.

Facilitator says: What is his nutritional status? What else do you need to know to assess hydration?

Participant says: He is severely malnourished. How has his appearance changed since he began having diarrhea?

Facilitator says: He looks essentially the same. His eyes are no more sunken than usual. His skin is not different.

Facilitator says: Describe his clinical condition? What should you do next?

Participant says: He has severe malnutrition but is only mildly dehydrated. He is not in shock.

Teaching points

- Identify clinical characteristics of children with SAM who are not in shock.
- Evaluate hydration in children with SAM.

Case # 3 Severe dehydration, severe malnutrition

Learning Objectives for Case Scenario #3:

- Understand the importance of recognizing children with severe acute malnutrition
- Recognize the signs of severe dehydration
- Determine the amount, type and preferred route of fluid therapy for children with severe malnutrition and severe dehydration

Facilitator says: This 8 month old boy developed diarrhea several days ago. He is brought to the clinic because he is lethargic.
**Facilitator says:** What should you do?

**Participant says:** Assess airway and breathing.

**Facilitator says:** He is moaning (airway patent). He is breathing rapidly but there is no increased work of breathing. His color is pale.

**Facilitator says:** What should you do next?

**Participant says:** Assess circulation.

**Facilitator says:** His hands and feet are cool. Capillary refill is 2 seconds. His radial pulse is palpable.

**Facilitator says:** What should you do next?

**Participant says:** Assess for consciousness.

**Facilitator says:** He responds appropriately to voice (V on AVPU scale).

**Facilitator says:** Is he in shock?

**Participant says:** No. Although his extremities are cool, his capillary refill, pulses are good, and his mental status is only mildly impaired.

**Facilitator says:** What should you do next?

**Participant says:** Assess for diarrhea and/or dehydration.

**Facilitator says:** He has had many loose stools today. Skin pinch is 3 seconds. Eyes are sunken.
Facilitator says: What should you do next?

Participant says: Assess for severe malnutrition.

Facilitator says: He has wasting but no oedema.

Facilitator says: What is his nutritional status? What is his hydration status?

Participant says: He is severely malnourished. He is severely dehydrated (history of acute volume loss, cool extremities, and altered mental status).

Facilitator says: What else could account for his altered mental status?

Participant says: Low blood sugar.

Facilitator says: What should you do next?

Participant says: Begin oral rehydration with ReSoMal if he will drink or can tolerate an NG tube.

Teaching points
- Identify clinical characteristics of severe dehydration (in comparison to shock) for children with SAM.
- Review oral rehydration plan for children with SAM.

Case # 4 Shock, well-nourished

Learning Objectives for Case Scenario #4:
- Identify shock.
- Review the importance of evaluating nutritional status for patients in shock.
- Describe management of shock in well-nourished patients.
Facilitator says: A 4 year old girl is carried into the reception area by her father. She is limp and poorly responsive.

Facilitator says: What should you do?

Participant says: Call for help. Bring her into the treatment room. Assess airway and breathing.

Facilitator says: She does not respond as you lay her on the examining table. Her chest rises with inspirations. Respiratory rate is regular and slow. There is no chest indrawing.

Facilitator says: What should you do next?

Participant says: Assess circulation.

Facilitator says: Her hands and feet are cool. Capillary refill is 4 seconds. The radial pulse is not palpable.

Facilitator says: What should you do next?

Participant says: Assess for consciousness.

Facilitator says: She moans as you apply a tourniquet to her arm (P on AVPU scale).

Facilitator says: Is she in shock?

Participant says: Yes. Her extremities are cool, capillary refill is >3 seconds, peripheral pulses are not palpable, and her mental status is impaired.
Facilitator says:  What should you do next?

Participant says: Assess for severe malnutrition.

Facilitator says: She has no wasting or oedema.

Facilitator says:  What should you do next?

Participant says: She is in shock and is well-nourished. She should receive isotonic IV fluids with an initial bolus of 20 mL/kg.

Teaching points
- Identify shock.
- Review the importance of evaluating nutritional status for patients in shock.
- Describe management of shock in well-nourished patients.

Case #5 Shock, malnourished

Learning Objectives for Case Scenario #5:
- Identify shock for a child with SAM.
- Review the importance of evaluating nutritional status for patients in shock.
- Describe management of shock for severely malnourished patients.

Facilitator says: This 2 ½ year old girl is carried into the clinic by her father. Her parents are concerned because they have not been able to wake her up. She has had diarrhea for 2 days.

Facilitator says: What should you do?

Participant says: Call for help. Bring her into the treatment room. Assess airway and breathing.

Facilitator says: She does not respond as you lay her on the examining table. Her chest rises with inspirations. Respiratory rate is regular and slow. There is no chest indrawing.
Facilitator says:  What should you do next?

Participant says:  Assess circulation.

Facilitator says:  Her hands and feet are cool. Capillary refill is 4 seconds. The radial pulse is not palpable.

Facilitator says:  What should you do next?

Participant says:  Assess for consciousness.

Facilitator says:  She does not respond as you apply a tourniquet to her arm (U on AVPU scale).

Facilitator says:  Is she in shock?

Participant says:  Yes. There is a history of acute volume loss. Her extremities are cool, capillary refill is >3 seconds, peripheral pulses are not palpable, and her mental status is impaired.

Facilitator says:  What should you do next?

Participant says:  Assess for severe malnutrition.

Facilitator says:  She has wasting and bipedal oedema.

Facilitator says:  What should you do next?

Participant says:  She is in shock and is severely malnourished. She should receive D5 lactated ringers or D5 ½ normal saline solution, 15 mL/kg over one hour.
Teaching points

- Identify shock for a child with SAM.
- Review the importance of evaluating nutritional status for patients in shock.
- Describe management of shock for severely malnourished patients.