



- **History:**

- **Vomiting:** color? what does it contain? frequency? projectile or not?
- **Diarrhea:** frequency? blood or mucus? color? association with abdominal pain?
- **Fever:** present or not? if present: grade? duration?
- **Don't forget to ask about other features of dehydration such as:** urine output changes, lethargy, activity, dry mouth or skin.

- **Physical examination:**

- **Vital signs:**
 - ✓ **Temperature:** to check for fever.
 - ✓ **Pulse:** if there is tachycardia → this indicates moderate-severe dehydration.
 - ✓ **Respiratory Rate (RR):** Metabolic acidosis leads to kussmaul breathing (rapid and deep).
 - ✓ **Blood Pressure (BP):** hypotension which indicates severe dehydration.
- **Growth chart:** check for weight (and how much the patient has lost).
- **General inspection:** is the patient sick-looking? jaundice? anemia? signs of dehydration (dry mucous membranes, depressed anterior fontanel, sunken eyes, capillary refill and skin turgor). Notice that severe dehydration can result in sagittal sinus thrombosis due to hemoconcentration.
- **Systemic examination:**
 - ✓ **Abdominal examination (GI system):**
 - ❖ *Inspection:* abdomen is usually scaphoid.
 - ❖ *Auscultation:* abdominal sounds (should be increased)?
 - ❖ *Superficial palpation:* tenderness?
 - ❖ *Deep palpation:* organomegaly?
 - ✓ **Cardiac and respiratory examination.**
 - ✓ **CNS examination:**
 - ❖ Drowsiness and decreased activity indicates presence of dehydration (which is difficult to be assessed through signs of dehydration in obese patients).
 - ❖ If electrolyte imbalance result in hypokalemia → this will lead to hypotonia and abdominal distention.

- **Investigations:**

- **CBC:**
 - ✓ ↓RBCs with gastroenteritis caused by Shigella or E.coli but usually it is normal.
 - ✓ ↓Hb (indicates anemia that might occur with bloody diarrhea) but usually it is normal.
 - ✓ Hct: usually it is increased due to severe dehydration that will cause hemoconcentration. Therefore, the higher the Hct the more severe is the dehydration.
 - ✓ WBCs leukocytosis with neutrophilia (bacterial infection) or lymphocytosis (viral infection). Notice that band cells particularly increase in Shigella infection.
- **Electrolytes:**
 - ✓ **Sodium:** to know what type of dehydration is present (hypotonic, isotonic or hypertonic):
 - ❖ *Hypotonic dehydration:* 0.45% saline with rapid correction within 6 hours.
 - ❖ *Isotonic dehydration:* 0.45% saline.



❖ *Hypertonic dehydration*: 0.9% saline with slow correction over 48 hours to avoid rapid shifting.

- ✓ Potassium: to check for hypokalemia.
- ✓ HCO₃⁻: to check for the presence of metabolic acidosis. If present, sodium bicarbonate can be given.
- ✓ Urea and creatinine.

- **Stool culture and antibiotic sensitivity testing.**

- **Management:**

- Correction of dehydration by fluid replacement (most important!).
- No food by mouth (for 6 hours) to stop the vomiting. If vomiting doesn't stop → zofran (anti-emetic drug).
- Antibiotics (3rd generation cephalosporins).