

| | Hydration LOW | Hydration OK | Hydration HIGH |
|--|---|---|---|
| Electrolytes HIGH | Hypertnatremia with dehydration | Hypertnatremia | Hypertnatremia with over-hydration |
| | Likelihood: Moderate | Likelihood: Rare, transitory if water available | Likelihood: Very Rare |
| | Weight is down a few pounds or more | Weight is normal Thirst is high, and salty foods taste bad. | Weight is up a few pounds or more |
| | Thirst is high, and salty foods taste bad. Mouth and skin are dry | Mouth is not very dry | |
| | Food acceptance is poor | | Thirst is high, and salty foods taste bad. Possible mental confusion Hands may be puffy Shortness of breath, rapid heart rate Food acceptance is poor |
| | Absence of urination | | |
| | Causes: No access to water or voluntary restriction of water intake, body electrolytes concentrated by loss of water | Causes: No access to water, or voluntary restriction of water intake, body electrolytes concentrated by loss of water | Causes: Over-consumption of salt, probably from a combination of sources |
| | What to do: Get access to water and drink. Restrict electrolytes until weight is near normal. | What to do: Drink to satisfy thirst, so that excess electrolytes are removed by sweating and urination. Restrict salt intake until excess is urinated and sweated out. | What to do: Stop electrolyte intake, drink only to wet mouth until weight is normal. |
| Electrolytes OK | Dehydration | Proper hydration and electrolyte balance | Over-hydrated |
| | Likelihood: common | Likelihood: common | Likelihood: Moderate |
| | Weight is down a few pounds or more | Weight is stable or slightly down | Weight is up a few pounds or more |
| | Thirst is high, and salty foods taste normal. Mouth is dry, food acceptance is poor | Stomach is fine, food acceptance is normal Mouth is moist (can spit) and skin is normal | Wrists and hands are probably puffy |
| | Skin is dry and may tent if pinched | Cramps: none Urination is normal | Stomach is queasy |
| | May have dizziness on standing up | | Thirst is low, and salty foods taste normal. |
| | May have cramping Mental performance may be affected | | Mouth is moist; can spit. |
| | Causes: Insufficient fluid intake | Causes: proper water and electrolyte intake | Causes: Fluid intake in excess of needs |
| What to do: Drink sports drink with electrolytes, or water | What to do: Continue with hydration and electrolyte practice unless conditions change | What to do: Drink only to wet mouth until weight is near normal | |
| Electrolytes LOW | Hyponatremia with dehydration | Hyponatremia | Hyponatremia with over-hydration Dangerous! |
| | Likelihood: Rare | Likelihood: mild form is common | Likelihood: Moderate |
| | Weight is down a few pounds or more | Weight is normal | Weight is up a few pounds or more |
| | Thirst is high, and salty foods taste good | Stomach is queasy, with poor food acceptance | Wrists and hands are puffy. |
| | Mouth is dry, can't spit | Wrists may be puffy | Nausea, stomach sloshing, possible vomiting. Thirst is low, and salty foods taste very good. Athlete may show mental confusion, odd behavior |
| | May have cramping | Salty foods taste good | Mouth is moist - can spit |
| | Skin is dry and may tent if pinched | Thirst is normal | Urination may be voluminous and crystal clear |
| | May have dizziness on standing up | Mouth is moist - can spit | |
| | | May have cramping | |
| | Causes: Insufficient drinking, no electrolyte intake | Causes: Insufficient electrolyte intake | Causes: Over-hydration, insufficient sodium intake |
| What to do: Take electrolytes and drink sports drink or water | What to do: Increase electrolyte intake until stomach feels ok. | What to do: Drink only to wet mouth until weight is normal, then correct any sodium deficit | |

| Problem | Cause | Solution |
|-------------------------|---|---|
| Vomiting | Too much fluids, Hyponatremia | Stop drinking H2O, eat carbs with electrolytes (salt), vomit |
| Heartburn | Esophageal Reflux, Spicy foods | Eat earlier, less seasoned food, don't bend over |
| Nausea | Too much fluids, too much food (and late eating), antibiotics | Wait to refuel, refuel with smaller portions more often, eat salt, ginger |
| Gas/Bloating | Beans, broccoli, sorbitol, air ingestion | Food avoidance, stop to drink from bottle, burp |
| Gastric Distress | Dehydration, anti-inflammatories | Drink electrolyte solution, decrease size of meal, avoid insoluble fiber |
| Stomach Cramps | antacids, fiber, lactose, "impact exercise" | Eat while walking up hills |
| Dehydration | Heat, excessive sweating, caffeine, alcohol | Drink electrolyte solution, slow down, eat salt foods |
| Fatigue | Hypoglycemia, low blood sugar | Ingest carbs; decrease galactose, fructose, glucose |
| Diarrhea | Fructose, fruit, table sugar, dairy, fiber, antibiotics, sorbitol, decreased blood flow to GI | Stick with maltodextrins, replace lost fluids with salty solution/foods, reduce intensity |