

ECF is the fluid outside the cells. The ECF is further broken down into several components: intravascular (contained within the blood vessels), interstitial (surrounding the cell; the location of most ECF), and transcellular (contained within specialized body cavities, such as cerebrospinal, synovial, and pleural fluid). In the newborn about 50% of the body fluid is contained within the ECF, whereas 30% of a toddler's body fluid is contained within the ECF.

Under normal conditions, the amount of water ingested closely approximates the amount of urine excreted in a 24-hour period. Maintenance water requirement is the volume of water needed to replace obligatory fluid loss such as that from insensible water loss (IWL; through the skin and respiratory tract), evaporative water loss, and losses through urine and stool formation. The amount and type of these losses may be altered by disease states such as fever (with increased sweating), diarrhea, gastric suction, and pooling of body fluids in a body space (often referred to as *third spacing*).

Nurses should be alert for altered fluid requirements in various conditions:

**Increased requirements:**

- Fever (add 12% per rise of 1° C)
- Vomiting, diarrhea
- High-output kidney failure
- Diabetes insipidus
- Diabetic ketoacidosis
- Burns
- Shock
- Tachypnea