

Edema

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Edema is defined as an abnormal collection of body fluid. In most instances the edema accumulates in intercellular tissue spaces because of an alteration in the forces that control the transcapillary transfer of fluid. Edema may be generalized when these forces are abnormal in all capillary beds, as may be seen in cardiac failure, liver cirrhosis, and the nephrotic syndrome. By contrast, edema may develop within a circumscribed area of the body owing to localized venous, lymphatic, or inflammatory disease. Common to all edematous conditions is the accumulation of excess total body sodium chloride and water.

The best way to remove edema is to reverse whatever disease process initiated the sequence of events that led to the excessive renal retention of salt and water. Several other supportive measures can be used to improve edema mobilization. These include bed rest, elevation of the lower extremities, elastic stockings and other pneumatic devices applied to edematous extremities, water immersion, and dietary restriction of salt and water intake. In the nephrotic syndrome, dietary supplementation of protein and calories will maximize the hepatic production of albumin; most foods that contain protein, however, also contain NaCl. Sodium intake must be monitored and restricted.

Diuretics are chemical substances that promote increased urine flow. With the exception of life-threatening pulmonary edema, diuretic drugs should not be used first in the treatment of edematous states. Diuretics should neither be used for the treatment of localized edema. These drugs should also be used with caution in states of generalized edema accumulation, since diuretics inhibit salt and water reabsorption by the kidney tubules, as a result, they decrease plasma volume. Despite the foregoing admonitions, diuretics can be used safely and judiciously to the comfort of the edematous patient. In fact, the use of diuretics may be the only means to mobilize edema in certain patients.