Rising life expectancy has led to an increase in the number of elderly people in Israel. As known, the prevalence of renal disorders increases with age. The effects of aging on human body composition includes TBW (Total Body Water), which decreases by 50% in older adults, and a decrease in body and fat mass. Therefore, elderly adults are more affected by water, salt, and mineral changes than a young person. Renal function will significantly decrease in two thirds of elderly adults, as indicated by a lower GFR value. Only one third will present with stable, or even improved, renal function.

There are two main causes of declining renal function:

1. Structural changes, such as processes of glomerulosclerosis and interstitial fibrosis, which lead to protein secretions in the urine, as well as water, salt, and mineral imbalances. Changes in the vascular system, alongside background illnesses, such as diabetes, high blood pressure, and arteriosclerosis, also contribute to the development of structural changes and structural degeneration.
2. Functional changes include decrease in blood circulation and GFR, increase in vascular resistance, and inability to respond to physiological and pathological stimuli that would lead to increased blood flow. Changes in the tubular function usually appear on the background of multiple illnesses and medications. In addition, the changes are related to disruptions in neuro-hormonal processes that regulate renal activity. ADH increases in elderly individuals, although its affect on urine concentration is lower than in young individuals. The reason for this lies in the fact that there is a decrease in the activity and responsiveness of the renin-angiotensin-aldosterone axis related to age and morbidity, which impair the kidney.

As known, the kidney is the main organ responsible for maintaining the salt, water, and mineral equilibrium. Proper renal function allows diverse food and liquid intake in varying amounts. Water comprises 50% of body weight in females and 60% in males. The greatest quantity of water (55%-75%) is found in the intracellular fluid and the remainder in the extracellular fluid, with a 1 to 3 ratio between the intravascular portion and the interstitial portion in the latter.