

# NORMAL AGING OF THE RENAL SYSTEM



Older adults can maintain fluid balance under normal or baseline conditions. However, as the body ages, it becomes harder to maintain fluid balance with any adverse conditions. This sensitive fluid balance leads to higher risk of dehydration or fluid overload in this population.

## 1. Decline in Mass of Kidneys

Loss of renal mass is primarily cortical, with relative sparing of the medulla.



Birth 50 g



Up to age 40 400 g



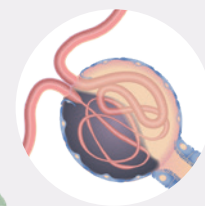
Age 90 300 g

## 2. Loss of Functional Glomeruli & Tubules

The incidence of glomerular sclerosis increases with advancing age.



Under age 40



By age 80

Sclerotic glomeruli comprise less than 5% of the total glomeruli.

Sclerotic glomeruli increase with age and comprise as much as 30% of the total glomeruli.

## 3. Reduction in Renal Blood Flow (RBF)

RBF is well maintained at about 600 mL/min.



At age 40

RBF starts to decline by about 10% per decade.



By age 80

The decrease in RBF is most profound in the renal cortex.

## NOTES

