



# The Kidney

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What is a human but an ingenious machine designed to turn, with "infinite artfulness, the red wine of Shiraz into urine?" So said the storyteller in Isak Dinesen's *Seven Gothic Tales*. More accurately but less poetically, human kidneys serve to convert more than 1700 L of blood per day into about 1 L of a highly concentrated fluid called *urine*.

In so doing, the kidney excretes the waste products of metabolism, precisely regulates the body's concentration of water, salt, calcium, phosphorus, and other anions and cations, and maintains the appropriate acid balance of plasma. The kidney also serves as an endocrine organ, secreting such hormones as erythropoietin, renin, and