

**Table 18.6**  
**Stages of Acute Kidney Injury**

<b>Stage</b>	<b>Creatinine Criteria</b>	<b>Urine Output Criteria</b>
1	Increase in serum creatinine of more than or equal to 0.3 mg/dL or increase to more than or equal to 150% to 200%.	Less than 0.5 ml/kg per hour for more than 6 hours.
2	Increase in serum creatinine to more than 200% to 300%.	Less than 0.5 ml/kg per hour for more than 12 hours.
3	Increase in serum creatinine to more than 300% or serum creatinine of more than or equal to 4.0 mg/dL with an acute increase of at least 0.5 mg/dL.	Less than 0.3 ml/kg per hour for 24 hours or anuria for 12 hours.

### *Etiology*

The etiologies of acute kidney injury and chronic renal disease differ. Uncontrolled hypertension and diabetes are common etiologies of chronic renal failure. Chronic renal failure is also more likely associated with normal urine output, small kidneys, anemia, and hypocalcemia.

The etiologies of acute kidney injury differ between in-hospital and out-of-hospital acquisition. The most common causes of acute kidney injury outside the hospital are:

- ◆ Glomerulonephritis.
- ◆ Vasculitis.
- ◆ Obstructive uropathy.

The most common causes of acute kidney injury in the hospital setting are:

- ◆ Renal hypoperfusion.
- ◆ Drug toxicity.
- ◆ Combination of hypoperfusion and drug effect.

Although oliguria is diagnostic of acute kidney injury, acute kidney injury can also occur in the presence of normal urine output. Non-oliguric kidney injury is as common as oliguric kidney injury (Shapiro, 2003). The outcome is worse with oliguric acute kidney injury than with non-oliguric acute kidney injury.

### *Signs and Symptoms*

- ◆ Fatigue.
- ◆ Confusion.
- ◆ Twitching or weakness related to metabolic acidosis.
- ◆ Dry skin.
- ◆ Edema.
- ◆ Pallor.
- ◆ Uremic frost/pruritis.
- ◆ Flank pain.
- ◆ Infection.

(Stark, 2006)