

decreased heart rate, decreased BP, and vasodilation. It has been shown to decrease morbidity and mortality in some adults with HF and is being used selectively in children. Side effects included dizziness, headache, and hypotension.

Cardiac resynchronization therapy (CRT) using biventricular pacing is an effective treatment in adult patients with HF and is beginning to be applied in the pediatric population. With pharmacologic therapies described earlier, CRT has the potential to improve cardiac function in this group of patients, including those with a single ventricle (Cecchin, Frangini, Brown, et al, 2009; Dubin, Janousek, Rhee, et al, 2005).

Nursing Alert

Because ACE inhibitors also block the action of aldosterone, the addition of potassium supplements or spironolactone (Aldactone) to the drug regimen of patients taking diuretics is usually not needed and may cause hyperkalemia.

Remove Accumulated Fluid and Sodium

Treatment consists of diuretics, possible fluid restriction, and possible sodium restriction. Diuretics are the mainstay of therapy to eliminate excess water and salt to prevent reaccumulation. The most frequently used agents are listed in Table 23-3. Because furosemide and the thiazides are potassium-losing diuretics, potassium supplements may be prescribed, and rich dietary sources of the electrolyte are encouraged.

Nursing Alert

A fall in the serum potassium level enhances the effects of digitalis, increasing the risk of digoxin toxicity. Increased serum potassium levels diminish digoxin's effect. Therefore, serum potassium levels must be carefully monitored.

TABLE 23-3

Diuretics Used in Heart Failure

Actions	Comments	Nursing Care Management
Furosemide (Lasix): Blocks	Drug of choice in	Begin to record output as soon