position), (4) using medication to sedate an irritable child, and (5) providing for rest and decreasing environmental stimuli.

Improve Tissue Oxygenation

The preceding measures serve to increase tissue oxygenation, either by improving myocardial function or by lessening tissue oxygen demands. In addition, supplemental cool humidified oxygen may be administered to increase the amount of available oxygen during inspiration. Oxygen administration is especially helpful in patients with pulmonary edema, intercurrent respiratory tract infections, and increased pulmonary vascular resistance (oxygen is a vasodilator that decreases pulmonary vascular resistance).

Nursing Alert

Oxygen is a drug and is administered only with an appropriate order. There are some uncommon circumstances in patients with complex hemodynamics in which oxygen can be detrimental.

An oxygen hood, nasal cannula, or face tent is used to deliver oxygen. Nasal cannulas are ideal for long-term oxygen administration because the child can be ambulatory and can easily eat and drink. Cool humidification is necessary to counteract the drying effect of oxygen. The amount of cool humidity is carefully regulated to prevent chilling.

Quality Patient Outcomes: Heart Failure

- Adequate cardiac output
- Decreased cardiac demands
- Improved respiratory function
- No evidence of fluid excess
- Adequate support and education

Nursing Care Management