

parents to allow them to visit at the most advantageous times, such as after a rest period when no special treatments are anticipated.

A progressive schedule of ambulation and activity is planned, based on the child's preoperative activity patterns and postoperative cardiovascular and pulmonary function. Ambulation is initiated early, usually by the second postoperative day, when chest tubes, arterial lines, and assisted ventilatory equipment have been removed. Activity progresses from sitting on the edge of the bed and dangling the legs to standing up and sitting in a chair. Heart rate and respirations are carefully monitored to assess the degree of cardiac demand imposed by each activity. Tachycardia, dyspnea, cyanosis, desaturation, progressive fatigue, and dysrhythmias indicate the need to limit further energy expenditure.

Provide Comfort and Emotional Support

Heart surgery is both painful and frightening for children, and comfort is a primary nursing concern. Several types of incisions are used by the cardiac surgeon. A median sternotomy is most common, following the sternum down the center of the chest. A ministernotomy opens the lower sternum. A thoracotomy incision is most uncomfortable because it goes through muscle tissue. It allows access to the side of the chest through an incision from under the arm around the back to the scapula.

Most patients need IV analgesics for pain control during the immediate postoperative period. Patient-controlled analgesia may be used with children old enough to understand the concept. Nonsteroidal antiinflammatory drugs (NSAIDs) such as ketorolac (Toradol) may be used intravenously. Paralyzing agents may also be used with the analgesics for children who are hemodynamically unstable.

After extubation and removal of lines and tubes, pain can be satisfactorily controlled with oral medications such as ibuprofen, codeine with acetaminophen (Tylenol No. 3), or oxycodone and acetaminophen. Acetaminophen alone provides adequate pain relief for most children at discharge. Sternotomy incisions are usually well tolerated, with some discomfort when walking and coughing. Thoracotomy incisions are usually more painful because the incision is through muscle; a more aggressive pain management plan with around-the-clock medications for several days is often