permeability of the capillary membrane. Increased pulmonary hydrostatic pressure or increased permeability of the vascular membrane results in movement of fluid into the alveoli and interstitium of the lung. The pulmonary lymph system normally drains away any fluid from the alveoli, but when the amount of fluid present in the alveoli exceeds lymph drainage, PE occurs.

Symptoms include extreme shortness of breath, cyanosis, tachypnea, diminished breath sounds, anxiety, agitation, confusion, diaphoresis, orthopnea, respiratory crackles, expiratory wheezing (in young infants), heart murmur, S_3 gallop, cool peripheries, jugular venous distension, nocturnal dyspnea, cough, pink frothy sputum (if severe), tachycardia, hypertension, and hypotension (if caused by left ventricle dysfunction).

Therapeutic Management

Management of PE depends on the cause but can include oxygen therapy, positive end-expiratory pressure (PEEP) via CPAP, and intubation with ventilatory support if respiratory failure occurs. If ventricular failure is the cause, medications such as diuretics, digoxin, positive inotropes, and vasodilators (nitroglycerin) may be started, and the child may be placed on a fluid and sodium restriction. Morphine may be prescribed to relieve dyspnea. The primary goal of management is to determine why PE occurred and treat the underlying condition.

Nursing Care Management

Nursing care of the child with PE is similar to that for any other acute respiratory condition. Pulse oximetry is monitored, and vital signs are observed closely for any deterioration. The nurse should note changes in SaO_2, end-tidal carbon dioxide ($ETCO_2$), and arterial blood gas (ABG) values. An ongoing assessment of the child's cardiopulmonary status is needed by checking lung sounds and observing respiratory rate, rhythm, depth, and effort. Oxygen, medications, and other respiratory treatments are administered as prescribed. Close monitoring of intake and output, electrolytes, and comfort are important. The child should be monitored for restlessness, anxiety, and air hunger. Placing the child in a high Fowler position may help with lung expansion. Because this