Use of the Pleurx® Pleural Catheter for the Management of Malignant Pleural Effusions

**Sara Brubacher, RN, MSN, and Barbara Holmes Gobel, RN, MS, AOCN®**

**Physiology of Malignant Pleural Effusion**

Malignant pleural effusion (MPE), the accumulation of excess fluid in the pleural space secondary to cancer, is a complex problem experienced by many patients with cancer. Lung cancer, breast cancer, and lymphoma are the cancers most commonly associated with MPE. Lung and breast cancer account for about 75% of pleural effusions (Camp-Sorrell, 1999). The presence of MPE often is indicative of advanced disease and poor prognosis, but MPE also can be the presenting symptom that leads to a diagnosis of cancer (Lawler, 1999).

Many patients with cancer, especially those with lung and breast cancer, experience malignant pleural effusions. Several treatment options exist, and most require hospitalization. The Pleurx® Pleural Catheter (Denver Biomedical, Golden, CO) is a new treatment option that allows patients to be treated on an outpatient basis for weeks or months. With a catheter in place, pleural effusions can be drained intermittently at home by trained family members or caregivers. Nurses play a critical role in educating patients about the use of the Pleurx catheter, as well as teaching patients and family members how to drain the catheter. The purpose of this article is to familiarize nurses with the proper care of Pleurx catheters and provide a basis for patient education.

**Key Words:** pleural effusion, malignant; chest tubes

**Treatment of Malignant Pleural Effusion**

Sometimes MPE responds to systemic treatment with chemotherapy given to treat the underlying disease, but if dyspnea persists, palliative treatment of MPE is necessary. Relief of the symptoms of MPE is the short-term goal, but if the disease is not controlled, fluid almost always will reaccumulate (Works & Maxwell, 2000). Treatment must be individualized and must take into account patients’ functional status and expected survival probability.

Treatment options for MPE include pleurectomy, thoracentesis, pleuropertitoneal shunt, chest tube insertion (with or without the instillation of a sclerosing agent), external beam radiation, and insertion of an indwelling pleural catheter (Pleurx®, Denver Biomedical, Golden, CO). Table 1 reviews MPE treatment methods.

**The Pleurx Catheter**

The Pleurx catheter is a 66-cm, 15.5 French flexible silicone catheter that is surgically inserted into the pleural space for intermittent drainage of pleural effusions. Numerous openings are found on the distal 25 cm of the catheter, which is placed in the pleural space to drain excess pleural fluid (Denver Biomedical, 2000) (see Figure 1). The catheter is intended for long-term placement. It is held in place by a polyester cuff...