Ovarian cancer is the leading cause of death from gynecologic malignancies. The American Cancer Society (2005) estimated more than 22,000 new cases of ovarian cancer and 16,000 deaths from ovarian cancer in the United States in 2005. The five-year relative survival rate for all stages combined is 53%. Patients with advanced disease (stage III or IV) have a 31% five-year relative survival rate, and the five-year relative survival rate for early-stage or localized disease (stage I or II) is as high as 95%. Unfortunately, only 29% of ovarian cancers are detected during early stages (American Cancer Society). Women dying from ovarian cancer lose an average of 18 years of life, perhaps the most alarming statistic of all (Duffy, 2001).

The data suggest that an effective screening test resulting in earlier diagnosis would decrease the fatality rate. However, screening for ovarian cancer is a difficult problem (see Figure 1) because of the location of the ovaries deep in the pelvis among the viscera. Unlike the circumstances in screening for cervical, vaginal, and vulvar cancers, no direct visualization or tissue sampling is possible in ovarian cancer without invasive procedures. Additionally, symptoms of ovarian cancer are vague and nonspecific, and they often do not occur until late in the course of the disease (Wenham, Lancaster, & Berchuck, 2002). Early signs and symptoms of ovarian cancer include early satiety; mild abdominal discomfort lasting more than four to five days; changes in bowel habits, including diarrhea and constipation;