Using NANDA, NIC, and NOC
Chart 22–1 shows links between NANDA nursing diagnoses, NIC, and NOC when caring for a client with cholelithiasis or cholecystitis.

Home Care
Teaching varies, depending on the choice of treatment options for cholelithiasis and cholecystitis. If surgery is not an option, teach about medications that dissolve stones, their use and adverse effects (diarrhea is a common side effect), and maintaining a low-fat, low-carbohydrate diet if indicated. Include an explanation about the role of bile and the function of the gallbladder in terms that the client and family can understand.

Provide appropriate preoperative teaching for the planned procedure. Discuss the possibility of open cholecystectomy even when a laparoscopic procedure is planned. Teach postoperative self-care measures to manage pain and prevent complications. If the client will be discharged with a T-tube, provide instructions about its care (see Box 22–4). Discuss manifestations of complications to report to the physician. Stress the importance of follow-up appointments.

Following cholecystectomy, a low-fat diet may be initially recommended. Refer the client and food preparer to a dietitian to review low-fat foods. Higher fat foods may be gradually added to the diet as tolerated.

Nursing Care Plan
A Client with Cholelithiasis

Joyce Red Wing is a 44-year-old married mother of three children. A member of the Chickasaw tribe, she is active in tribal activities and works part time as a cook at a community kitchen. Recently Mrs. Red Wing has noticed a dull pain in her upper abdomen that gets worse after eating fatty foods; nausea and sometimes vomiting accompany the pain. She had a similar pain after the birth of her last child. She is diagnosed with cholelithiasis, and is admitted for a laparoscopic cholecystectomy.

ASSESSMENT
David Corbin, RN, takes Mrs. Red Wing’s admission history. It includes intolerance to fatty foods and intermittent “stabbing” abdominal pain that radiates to her back. Her usual diet includes tacos or fried bread and biscuits with gravy for breakfast. She reports “not wanting to eat much of anything lately.” She states she has never had surgery before and hopes “everything goes well.”

Physical assessment includes T 100° F (37.7° C), P 88, R 20, and BP 130/84. She has had a recent 5 lb weight loss, currently weighing 130 lb (59 kg). She is 63 inches (160 cm) tall. Abdominal examination elicits tenderness in the right upper abdominal quadrant. She has no jaundice, chills, or evidence of complications.

DIAGNOSES
Mr. Corbin identifies the following nursing diagnoses:
- **Imbalanced nutrition: Less than body requirements**, related to anorexia and recent weight loss
- **Pain**, related to inflamed gallbladder and surgical incisions
- **Risk for infection**, related to potential bacterial contamination of abdominal cavity
- **Anxiety**, related to lack of information about perioperative experience

EXPECTED OUTCOMES
The expected outcomes specify that Mrs. Red Wing will:
- Maintain present weight within 5 lb (2.3 kg) over the next 3 weeks.
- Resume regular diet, decreasing intake of foods high in fat.
- Verbalize adequate pain control after surgery and with activity resumption.
- Remain free of infection.
- Verbalize a decrease in anxiety before surgery.
Gallbladder cancer is rare, primarily affecting people over age 65. Women are more likely to develop the disorder. Manifestations of gallbladder cancer include intense pain and a palpable mass in the RUQ of the abdomen. Jaundice and weight loss are common. Gallbladder cancers spread by direct extension to the liver, and metastasize via the blood and lymph system.

At the time of diagnosis, the cancer usually is too advanced to treat surgically. Ninety-five percent of clients with primary cancer of the gallbladder die within 1 year. Radical and extensive surgical interventions may be performed, but the prognosis is poor regardless of treatment (Tierney et al., 2001). Nursing care is palliative, focusing on maintaining comfort and independence to the extent possible.

The liver is a complex organ with multiple metabolic and regulatory functions. Optimal liver function is essential to health. Because of the significant amount of blood in the liver at all times, it is exposed to the effects of pathogens, drugs, toxins, and possibly malignant cells. As a result, liver cells may become inflamed or damaged, or cancerous tumors may develop.

**THE CLIENT WITH HEPATITIS**

**Hepatitis** is inflammation of the liver. It is usually caused by a virus, although it may result from exposure to alcohol, drugs and toxins, or other pathogens. Hepatitis may be acute or chronic in nature. Cirrhosis, discussed in the next section, is a potential consequence of severe hepatocellular damage.

**PATHOPHYSIOLOGY AND MANIFESTATIONS**

The essential functions of the liver are multiple. One of its primary functions is the metabolism and elimination of bilirubin. Bilirubin is a breakdown product of hemoglobin, released when RBCs are broken down and destroyed. This insoluble form of bilirubin (unconjugated bilirubin) is metabolized by the liver into a soluble form (conjugated bilirubin), which is then eliminated in bile. The liver also metabolizes carbohydrates, proteins, and fats. Most drugs are metabolized in the liver, and substances such as alcohol and many toxins are detoxified. It is these metabolic functions and bile elimination that are disrupted by the inflammation of hepatitis. See Chapter 19 for more information about the liver.

**Viral Hepatitis**

At least five viruses are known to cause hepatitis: hepatitis A virus (HAV), hepatitis B virus (HBV), hepatitis C virus (HCV), the hepatitis B-associated delta virus (HDV), and hepatitis E virus (HEV). These viruses differ from one another in mode of transmission, incubation period, the severity and type of liver damage they cause, and their ability to become chronic or develop a carrier (asymptomatic) state. Table 22–2 identifies unique features of the primary hepatitis viruses. Two additional