

Hepatitis

Dr. Fatima Makee AL-Hakak

University of kerbala
College of nursing

Hepatitis



See text re:

- What are the most common types
- Why are health care professionals at risk?
- What can be done to reduce incidence?
- How may nurses protect themselves & their clients?
- Know assessment data & rationale

Hepatitis

- Is an inflammation of the liver and may be caused by viruses, bacteria, toxins, chemicals (including drugs).
- Most common types are:
 - Hepatitis A
 - Hepatitis B
 - Hepatitis C
 - Hepatitis D
 - Hepatitis E
 - Hepatitis G

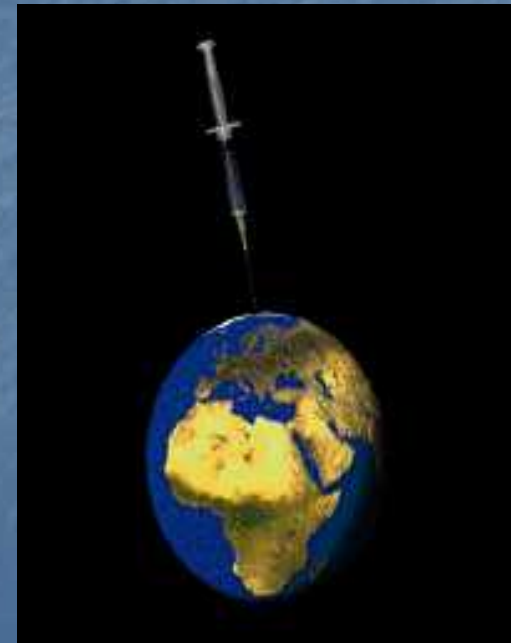


Table 39-4 • Comparison of Major Forms of Viral Hepatitis

	Hepatitis A	Hepatitis B	Hepatitis C	Hepatitis D	Hepatitis E
<i>Previous names</i>	Infectious hepatitis	Serum hepatitis	Non-A, non-B hepatitis		
<i>Epidemiology</i>					
<i>Cause</i>	Hepatitis A virus (HAV)	Hepatitis B virus (HBV)	Hepatitis C virus (HCV)	Hepatitis D virus (HDV)	Hepatitis E virus (HEV)
<i>Mode of transmission</i>	Fecal–oral route; poor sanitation. Person-to-person contact. Waterborne; foodborne. Transmission possible with oral–anal contact during sex.	Parenterally; by intimate contact with carriers or those with acute disease; sexual and oral–oral contact. Perinatal transmission from mothers to infants. An important occupational hazard for health care personnel.	Transfusion of blood and blood products; exposure to contaminated blood through equipment or drug paraphernalia. Transmission possible with sex with infected partner; risk increased with STD.	Same as HBV. HBV surface antigen necessary for replication; pattern similar to that of hepatitis B.	Fecal–oral route; person to person contact may be possible, although risk appears low
<i>Incubation (days)</i>	15–50 days	28–160 days	15–160 days	21–140 days	15–65 days

Table 39-4 • Comparison of Major Forms of Viral Hepatitis

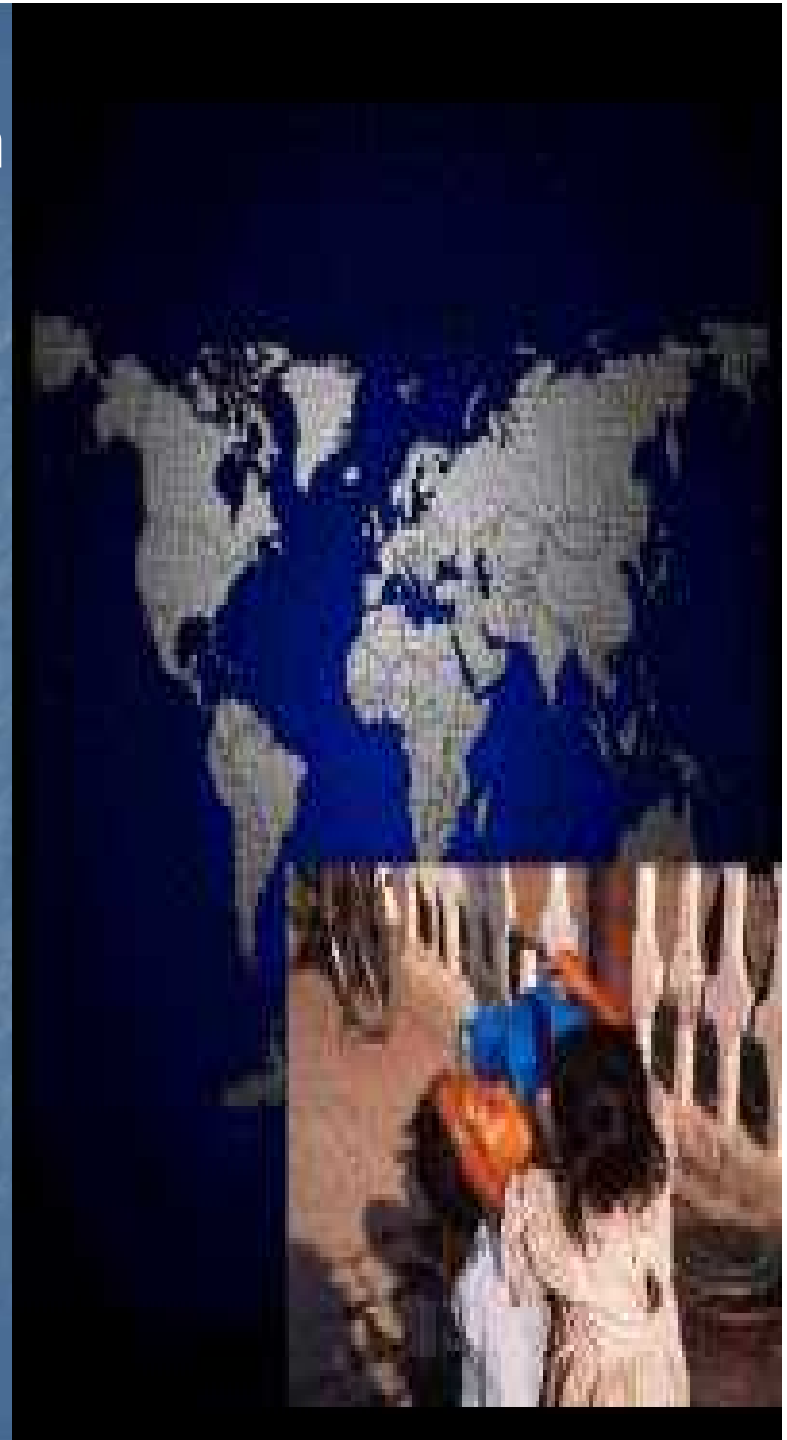
	Hepatitis A	Hepatitis B	Hepatitis C	Hepatitis D	Hepatitis E
<i>Immunity</i>	Average: 30 days	Average: 70–80 days	Average: 50 days	Average: 35 days	Average: 42 days
	Homologous	Homologous	Second attack may indicate weak immunity or infection with another agent.	Homologous	Unknown
<i>Nature of Illness</i>					
<i>Signs and symptoms</i>	May occur with or without symptoms; flulike illness <i>Preicteric phase:</i> Headache, malaise, fatigue, anorexia, fever <i>Icteric phase:</i> Dark urine, jaundice of sclera and skin, tender liver	May occur without symptoms May develop arthralgias, rash	Similar to HBV; less severe and anicteric	Similar to HBV	Similar to HAV. Very severe in pregnant women.
<i>Outcome</i>	Usually mild with recovery. Fatality rate: <1%. No carrier state or increased risk of chronic hepatitis, cirrhosis, or hepatic cancer.	May be severe. Fatality rate: 1%–10%. Carrier state possible. Increased risk of chronic hepatitis, cirrhosis, and hepatic cancer.	Frequent occurrence of chronic carrier state and chronic liver disease. Increased risk of hepatic cancer.	Similar to HBV ut greater likelihood of carrier state, chronic active hepatitis, and cirrhosis	Similar to HAV except very severe in pregnant women

- **Hepatitis A** virus (HAV) lives in feces in the intestinal tract. Transmission is through fecal oral route.
- **Hepatitis B** virus (HBV) lives in blood and other body fluids. HBV is transmitted from person to person through unprotected sexual contact, the sharing of infected needles or other sharp instruments that break the skin (such as tattooing & body piercing).
 - High risk populations include morticians, homosexual males, IV drug users, hemodialysis clients, people undergoing body tattooing & body piercing.

- The hepatitis C virus (HCV), called the 'silent epidemic'
- Risk factors same as for HBV (illicit IV drug use, occupational exposure to blood, perinatal exposure, blood transfusion or organ transplant, exposure to contaminated equipment (including toothbrushes and razors), unprotected sexual contact.



- **Hepatitis D** is always found with HBV since it is a virus of HBV. (same risk factors as HBV)
- **Hepatitis E** is a water borne virus (transmission through oral-fecal route) that is endemic in many parts of the world.
- Epidemics occur in countries such as India, Mexico, Africa Nepal.
- **Hepatitis G** (HGV) is not well understood but is spread through contaminated blood, body fluids, needles.



Pathophysiology

- Hepatocytes undergo pathological changes as a result of the body's immune response to the virus.
- There is generalized inflammation with areas of necrosis
- This leads to functional impairment of the liver cells.
- There is Kupffer cell hyperplasia (increase in number of phagocytes)
- Disruption of structure and function leads to obstruction of portal & hepatic blood flow.

Viral Illness That May Result in Hepatitis

- Cytomegalovirus
- Epstein Barr virus
- Herpes simplex
- Varicella zoster causes multi system disease & liver disease in immunosuppressed people
- Measles, Yellow fever (mosquito) Marbug & Ebola viruses

Manifestations

- Preicteric stage (before jaundice): malaise, fever, nausea, vomiting, diarrhea, anorexia, enlarged liver and lymph nodes, electrolyte imbalance, abdominal tenderness, painful joints, fever.
- Icteric stage (jaundice): Jaundice, pruritus, light-colored stools, brown urine, malaise.
- Post-icteric phase: decrease in fatigue, appetite returns to normal, lab work normalizes, pain subsides

Diagnostic Tests

- LFTs – elevated
- Electrolytes – abnormal
- Virus/antibodies – serum
- Bilirubin – elevated
- Urinalysis - bilirubinuria

Nursing Management

- Medications include: Vit K if prolonged PT, antihistamines for relief of pruritis, antiemetics.
- Bile acid sequestrants (Clestid, Questran) bind with bile acids in the GI tract and is excreted in feces, relieving pruritis.
- Skin care: emollients and lipid cream (Eucerin)
- Reduce fatigue
- Diet of low fat, high carb is better tolerated. Na restriction may be necessary.

Prevention



- **Immune globulin** (IG): prophylaxis for family and friends exposed to HAV
- Hepatitis B immune globulin (HBIG); individuals exposed to B virus contaminated material.
- **Vaccines**: available for HAV & HBV – recommended for people with potential for exposure (HCPs and people who travel to endemic areas)

Prevention Cont'd

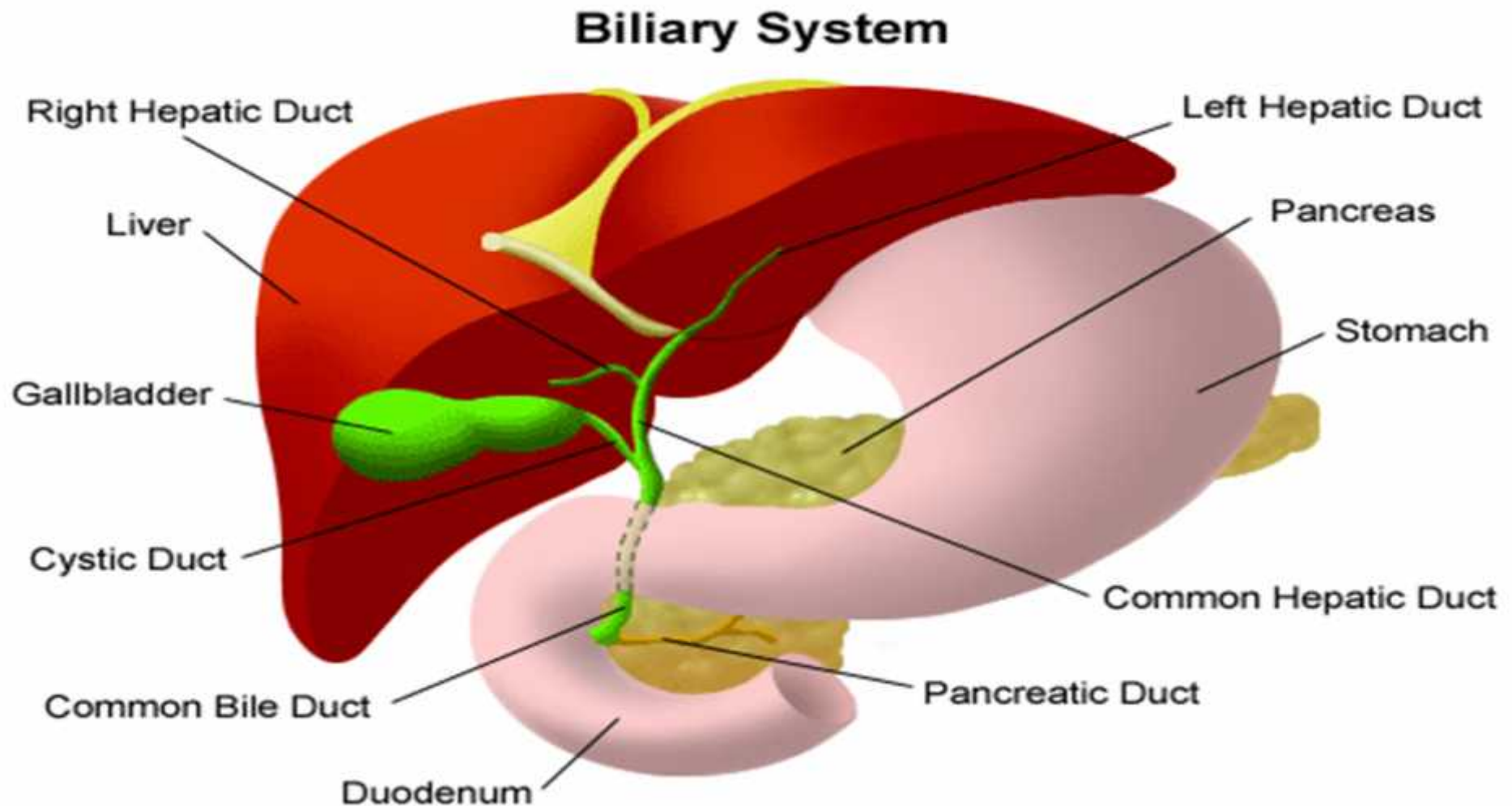
- **HAV & HAE** : Good hand washing & personal hygiene.
- **HBV, HCV, HDV**: careful handling of needles/sharps, proper sterilization of non-disposable instruments, use of condoms/refrain from multiple partners, needle exchange programs.



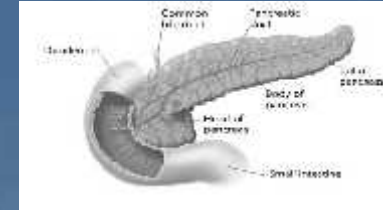
- FYI: According to the Children's Hunger Relief Fund, A child dies every eight seconds from drinking contaminated water.



Disorders of the Pancreas and Biliary Tract



What is the Pancreas?

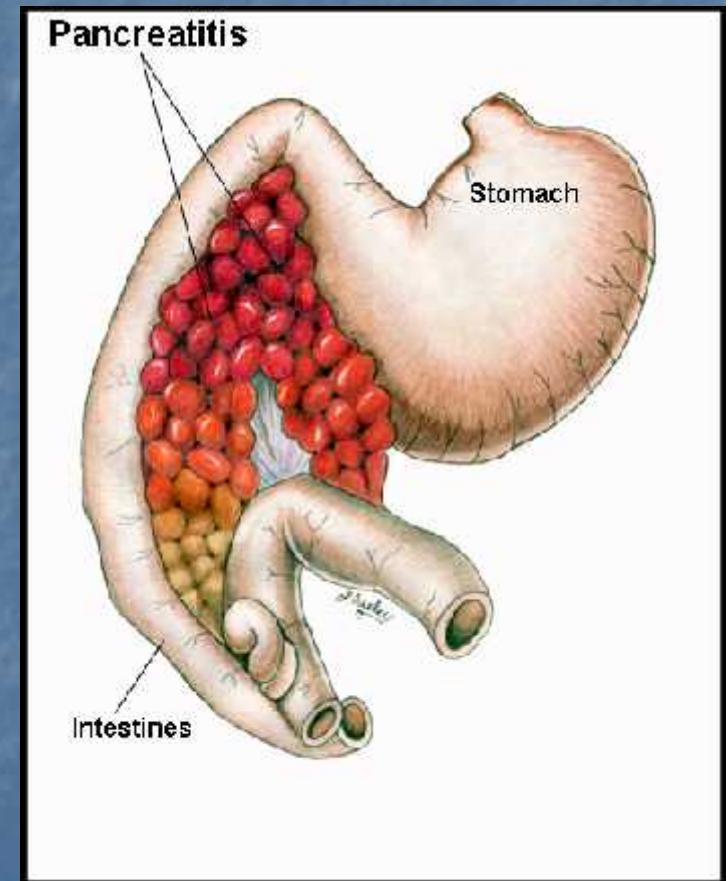


The pancreas is a 6" organ located in the upper abdomen, and connected to the small intestine. It is posterior in the body, against the spine, and it is this deep location that at times makes diagnosis of the disease difficult. The pancreas is essential:

- Pancreatic enzymes that help digest protein, fat and carbohydrates before they can be absorbed through the intestine
- Pancreatic endocrine cells produce insulin which regulate the use and storage of the body's main energy source, glucose or sugar.

Acute Pancreatitis

- It is thought that enzymes normally secreted by the pancreas leak into the pancreatic tissue and initiate autodigestion the pancreatic tissue.
- This process results in edema, vascular damage, hemorrhage, necrosis, and finally, fibrous changes.
- An acute attack may last for 48 hours.



PANCREATITIS: COMMON CAUSES

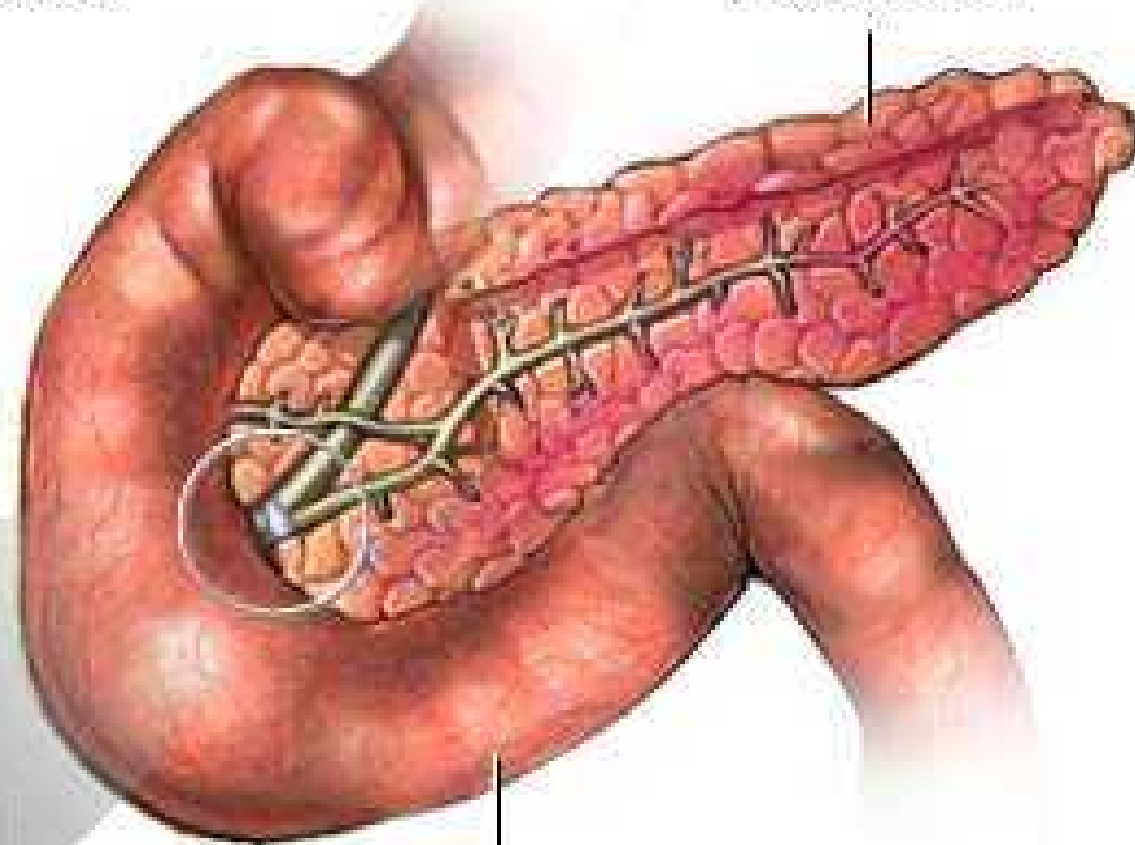
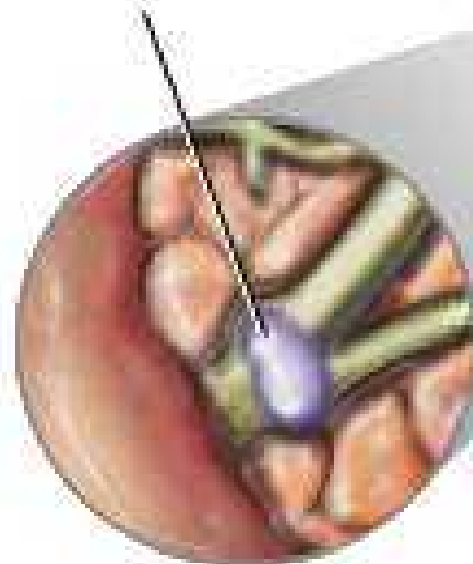
- Biliary disease (Gallstones, obstruction of pancreatic duct)
- Alcohol use
- Viral infection (mumps), pneumonia
- Injury
- Pancreatic or common bile duct surgical procedures
- Certain medications (especially estrogens, corticosteroids, thiazide, diuretics, acetaminophen, tetracycline)

Gallstone lodges in duct
blocking lumen and
aggravating
pancreas

Inflamed
pancreas

Gallstone
in duct

Duodenum



adam.com

Signs and Symptoms

- ❖ Abdominal pain
- ❖ nausea./vomiting
- ❖ Fatty stools
- ❖ Anxiety, chills, fever
- ❖ Weakness
- ❖ Weight loss
- ❖ Jaundice
- ❖ Plural effusion
- ❖ Multi system failure
- ❖ Coagulation defects
- ❖ Shock

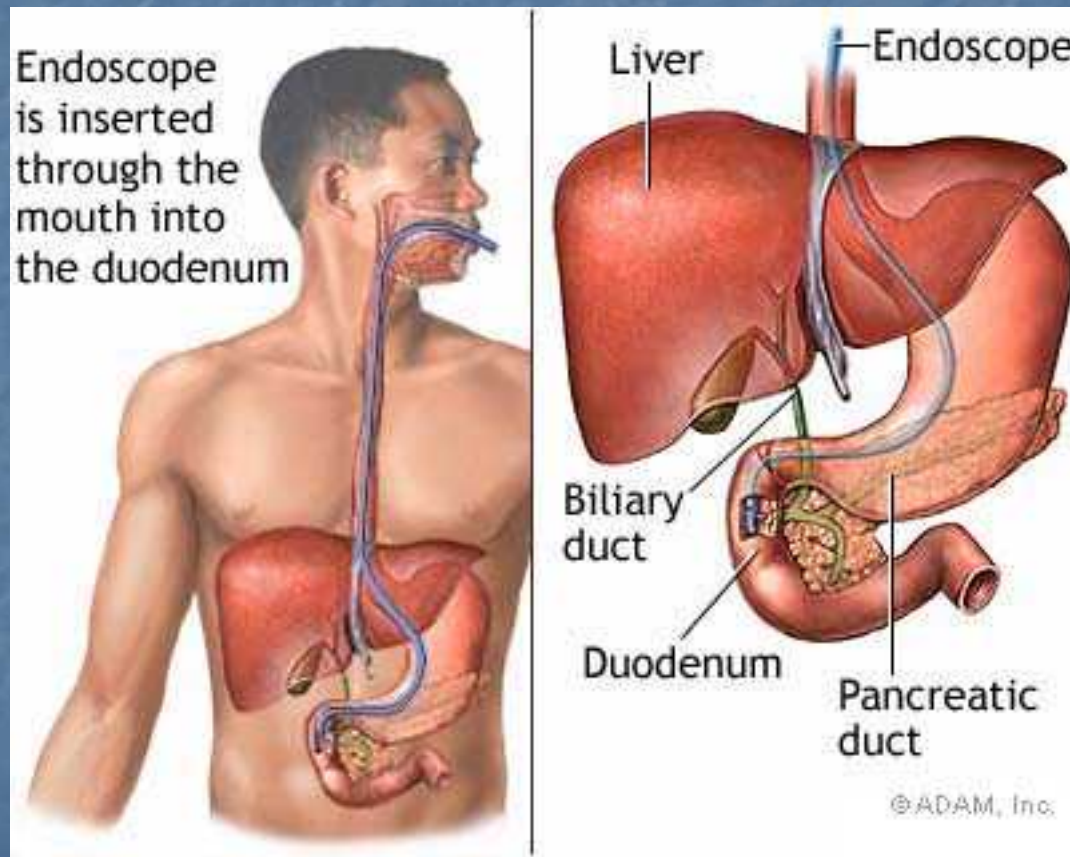


Decreased serum calcium

Elevated: serum amylase, lipase, glucose & urine amylase, bilirubin, WBC



Endoscopic Retrograde Cholangiopancreatography (ERCP)



Pain & Drugs: Biliary Tract

- **Morphine** used to be contraindicated. It is now known that all opiates create spasm of the Sphincter of Oddi
- Since the metabolite of Demerol has such negative side effects (CNS stimulant, seizures) it is no longer the drug of choice.
- **Antacids**: reduce gastric acid & associated pain.
- **Histamine blockers**: reduce gastric acid secretion, which stimulates pancreatic enzymes.
- **Anticholinergics**: reduce spasm of sphincter of ODDI

Gardner, A (2002) Meperidine: Time for a change. The Disatlite, 27 (4)

NURSING CARE & PANCREATIC DISEASE

- Keen Assessment
- Strategies to deal with S/S especially pain, itch, body image, anxiety, behavioral changes if alcohol related
- Education

Pancreatic Cancer

Pancreatic cancer is the fifth leading cause of cancer death around the world. Its incidence cuts across all racial and socio-economic barriers and is nearly always fatal.

90% die within the 1st yr of diagnosis



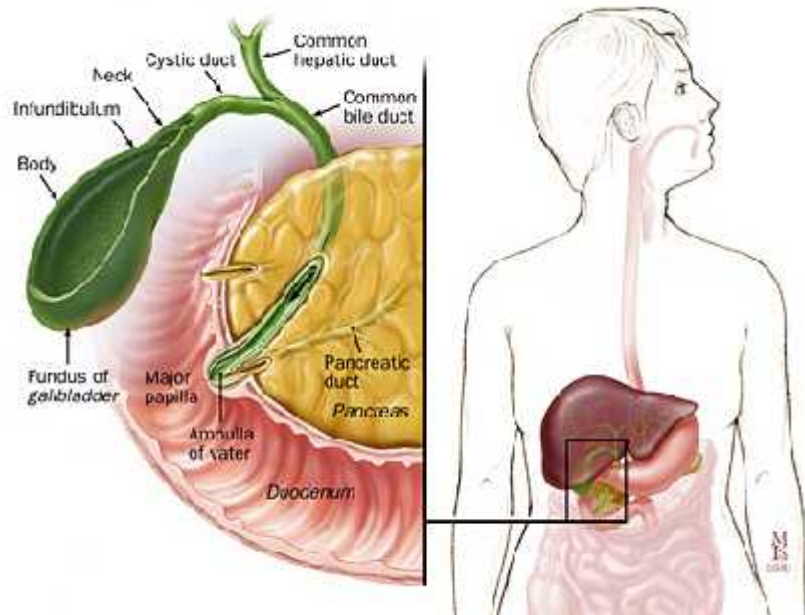
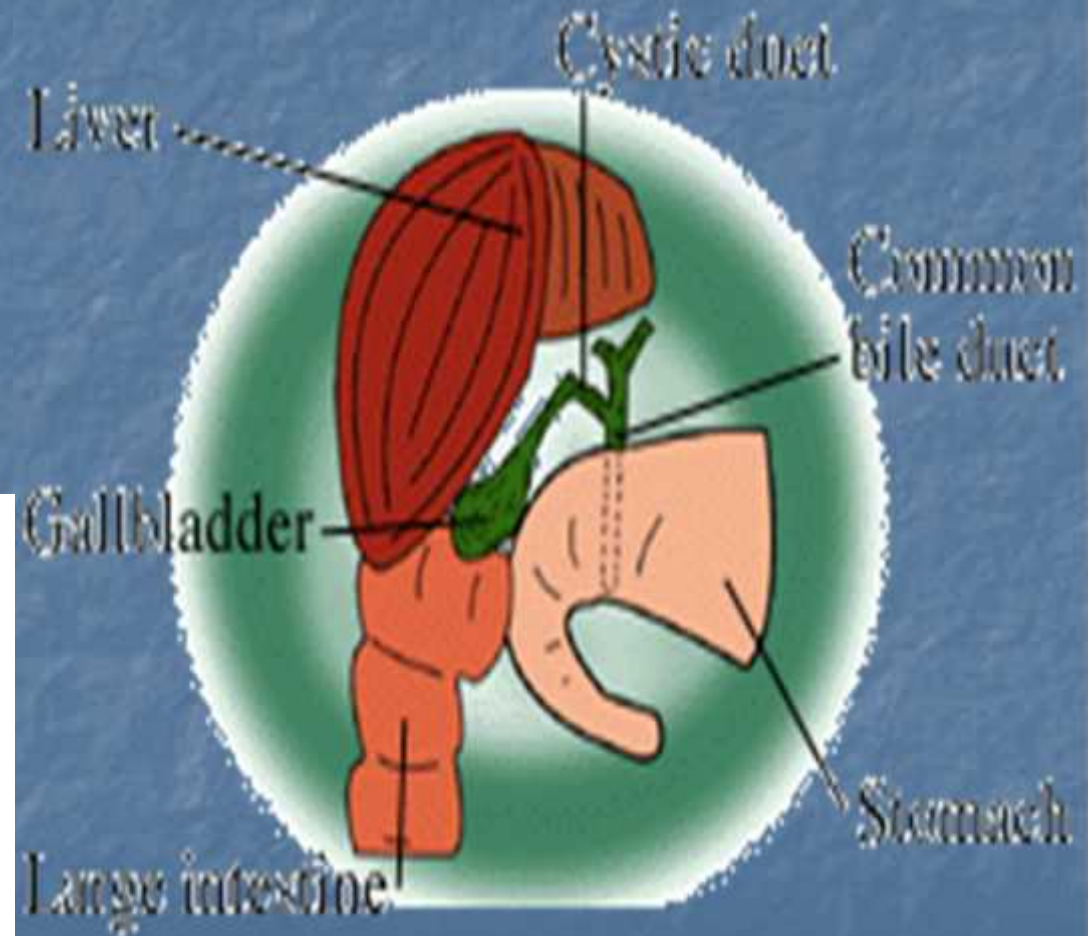
SYMPTOMS DEPEND ON THE LOCATION AND SIZE OF THE Pancreatic TUMOR

- Severe abdominal pain
- Pressure in the abdomen
- If the tumor blocks **the common bile duct** so that bile cannot pass into the intestines,
- the skin and whites of the eyes may become **jaundiced**,
- urine may become **dark**
- pain often develops in the upper abdomen and back
- nausea
- loss of appetite
- loss and weakness may occur
- **Cullen's sign** (bruising around umbilicus)

Usually very ill!!

Gall Bladder Disease

- Manifestations
- Common Tests
- Medical Treatment
- Nursing Management
- Impact on Pancreas



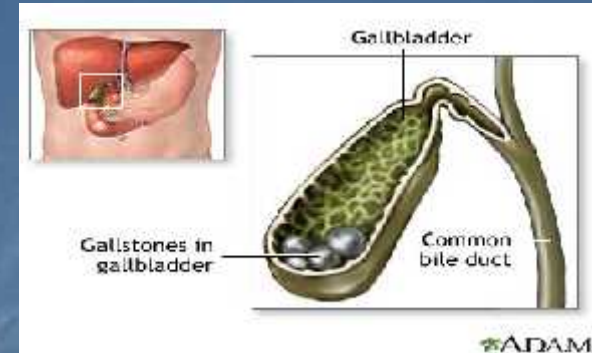
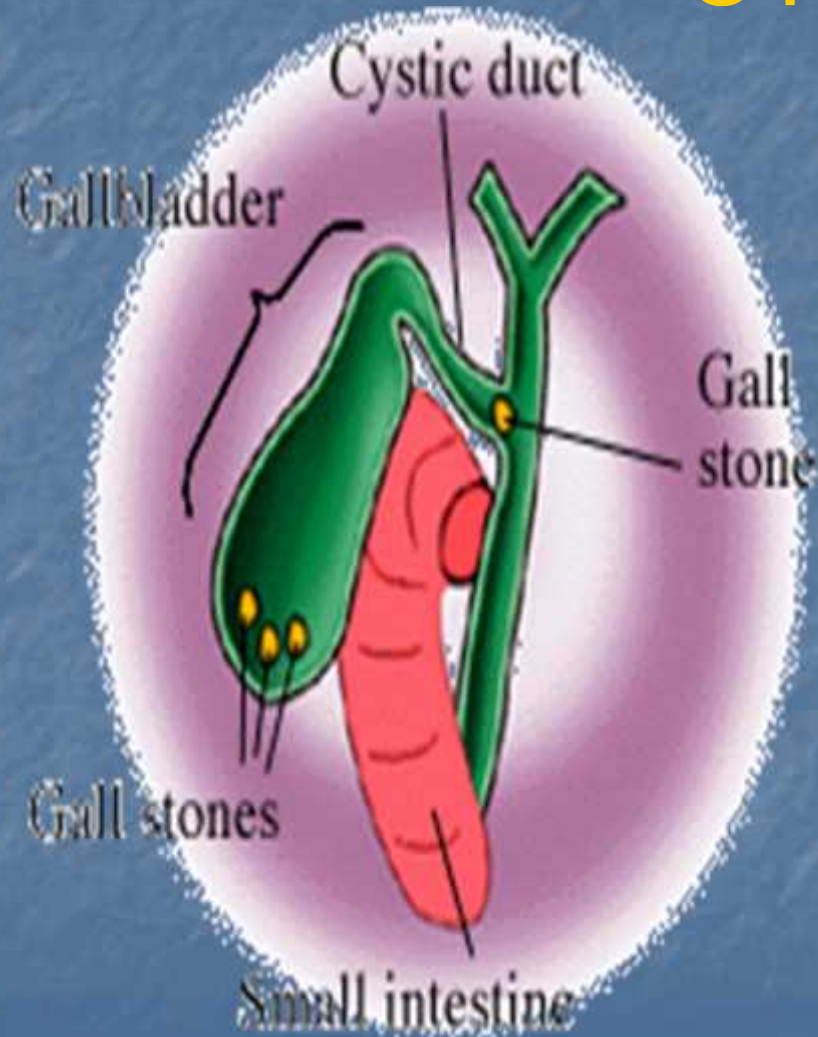
RESEARCH NEWS!! PHYSICAL ACTIVITY AND GALLSTONES

Gallstones affect 10-15% of adults in Canada. The majority of cases produce no symptoms, but there are still a half million operations to remove gallbladders each year because of gallstones. Three of four stones are made of cholesterol, which have many contributing factors including over secretion of cholesterol by the liver, obesity, high fat diet, and rapid weight loss. A recent prospective study of over 60,000 women found that physical inactivity is related to higher incidence of gallstones.

Common Symptoms of Gallbladder Disease

- Severe and intermittent pain in the right upper abdomen. This pain can also spread to the chest, shoulders or back.
- Sometimes this pain may be mistaken for a heart attack.
- Chronic indigestion and nausea.

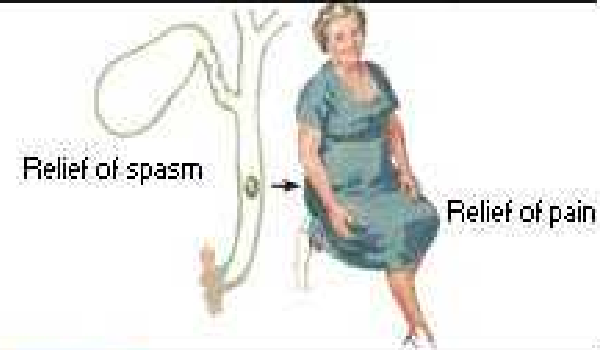
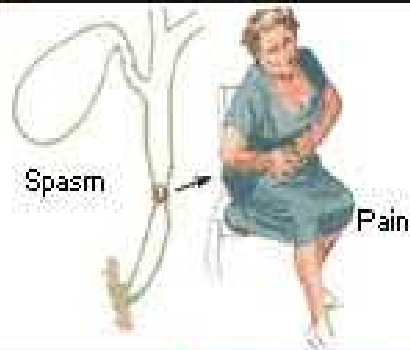
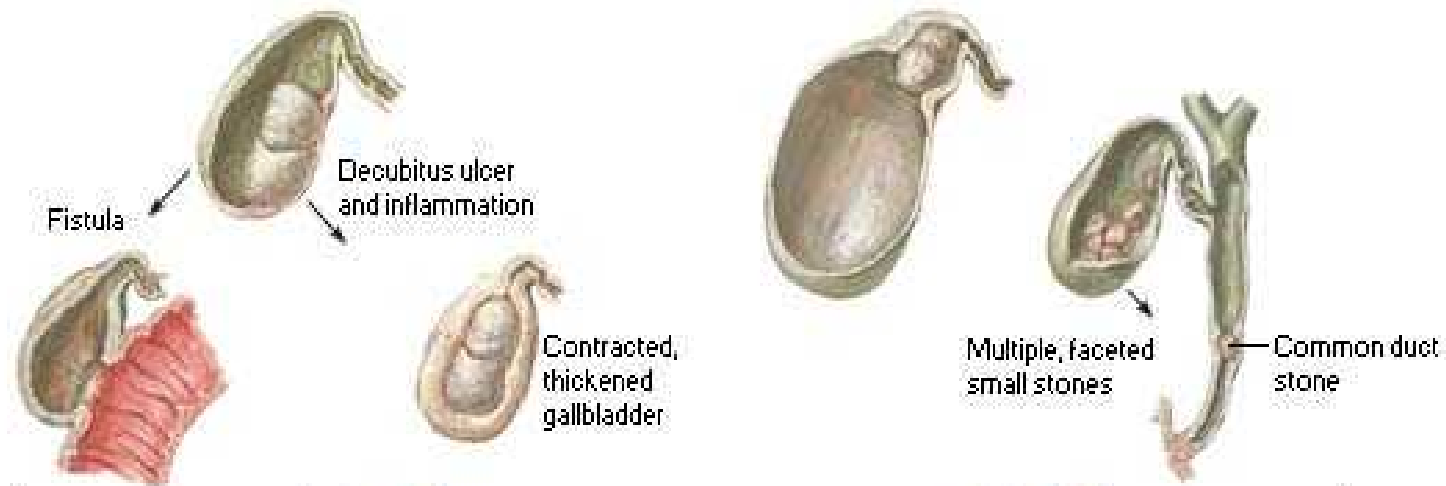
STONES



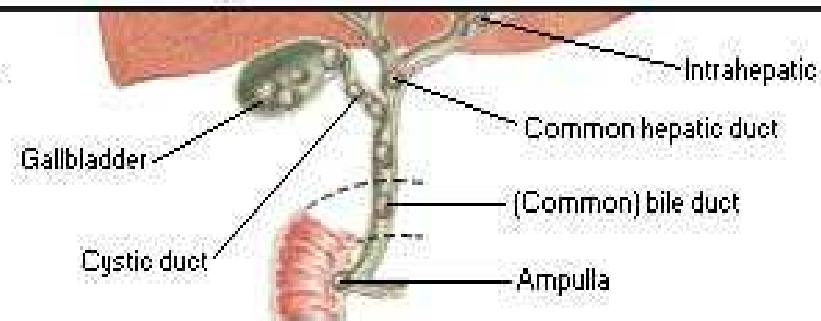
- ❖ Block
- ❖ Traumatize
- ❖ Cause Pain
- ❖ May be symptomatic
- ❖ Usually made of cholesterol (80%)
- ❖ or Calcium (20%)

Single large stone or "barrel stones"

Large stone obstructing cystic duct;
distended gallbladder



Sites of gallstones



RISK FACTORS

The three most important risk factors for developing gallstone disease are

- ❖ Body weight (recent loss)
- ❖ Increasing age
- ❖ Being female

Medical Management

- An oral medication such as ursodiol, dissolves cholesterol gallstones
- Surgery 1) Open & 2) Lap
- Shock wave lithotripsy



Cholecystectomy

- Gallbladder is removed through an abdominal incision
- Performed for acute and chronic cholecystitis
- Bile duct injury is a serious complication of this procedure
- Once one of the most common surgical procedures in Canada, this procedure has largely been replaced by laparoscopic cholecystectomy.

OPEN CHOLECYSTECTOMY

- Performed when:
 - Patient's condition prevents more extensive surgery or when an acute inflammatory reaction is severe
- Gallbladder is surgically opened, the stones and the bile or the purulent drainage are removed, and a drainage tube is secured with a purse-string suture
- Location of incision / breathing
- Wound care & care of "T" tube if used
- Pre & post op teaching
- Dietary management

OPEN CHOLECYSTECTOMY

- Location of incision / breathing
- Wound care & care of "T" tube if used
- Pre & post op teaching
- Dietary management

What is a "T" Tube?

- Comes right out of bile duct
- Sutured in place on skin
- 1st 24-48 hours
 - 200-500 ml of drainage
- Potential Complications:
 - Dislodgement
 - Infection

Nursing Implications???

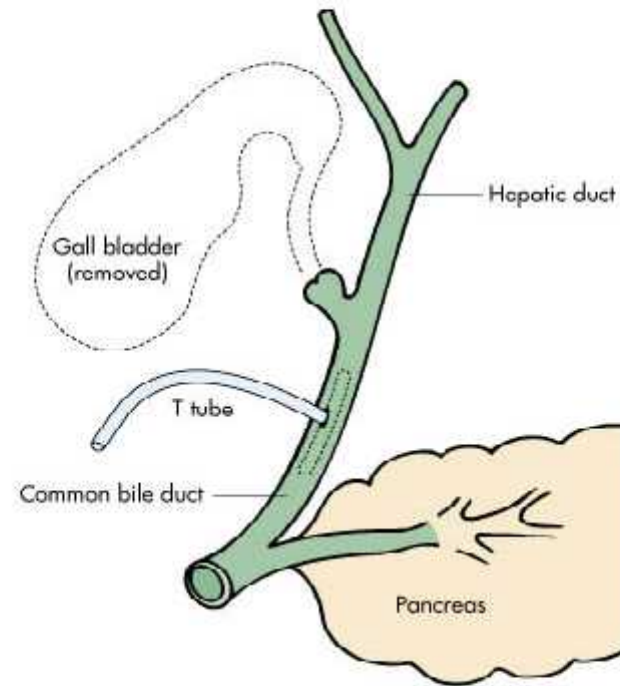


Figure 41-18 Placement of the T tube. Dotted lines indicate parts removed.

Copyright © 2000 by Mosby, Inc.

Figure 46-4a: Standard Sites of Laparoscopic Cholecystectomy

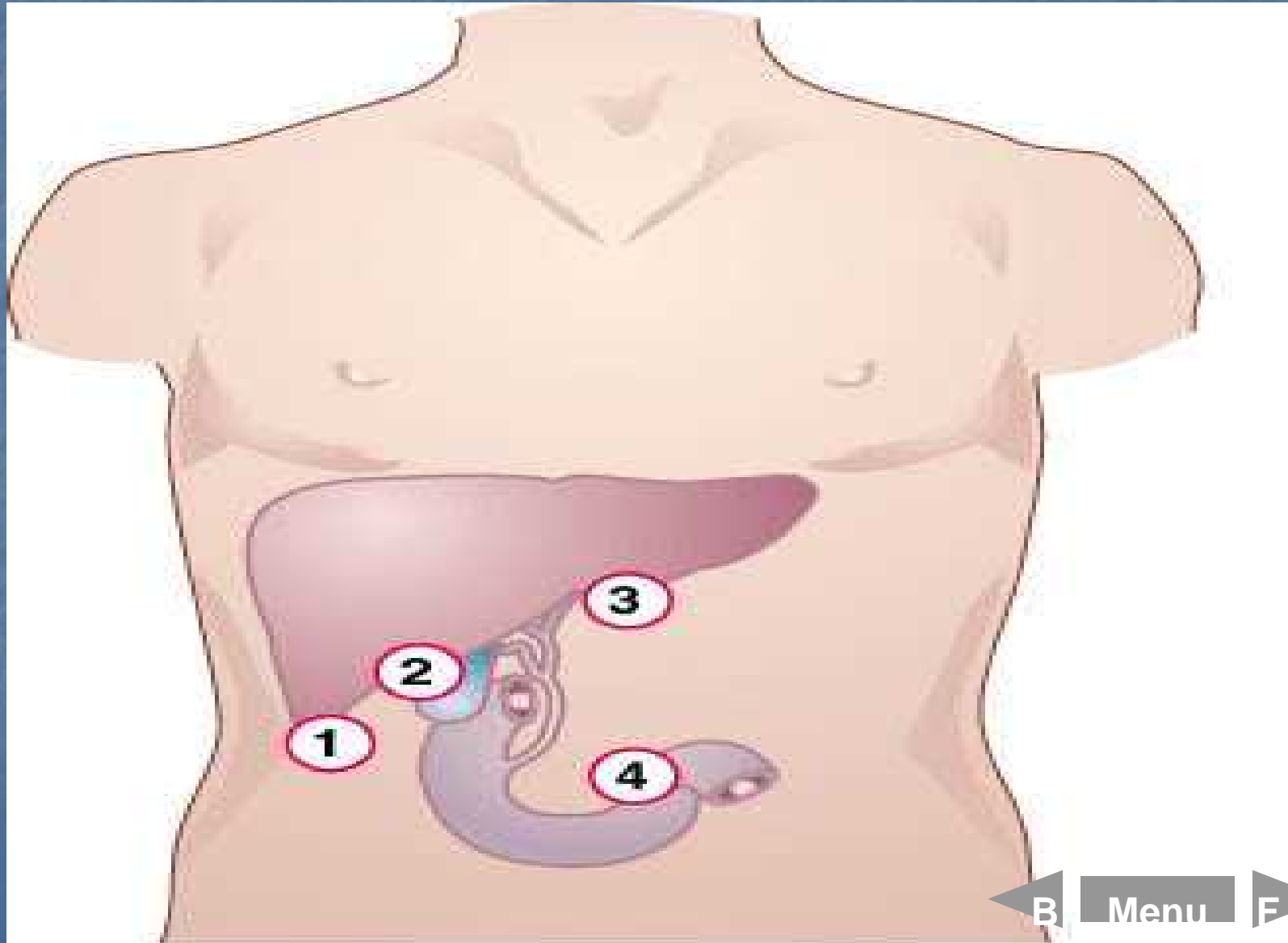
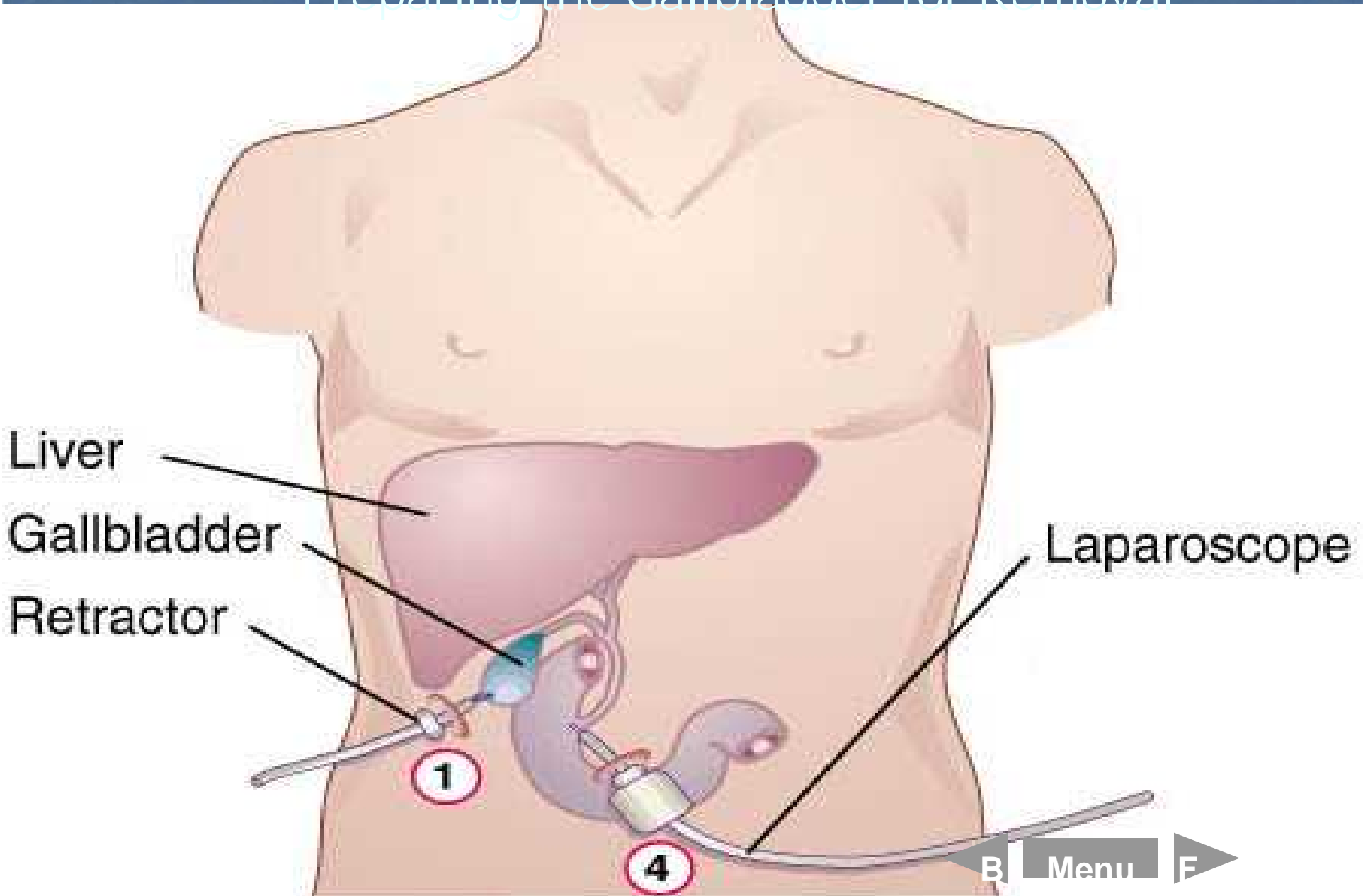
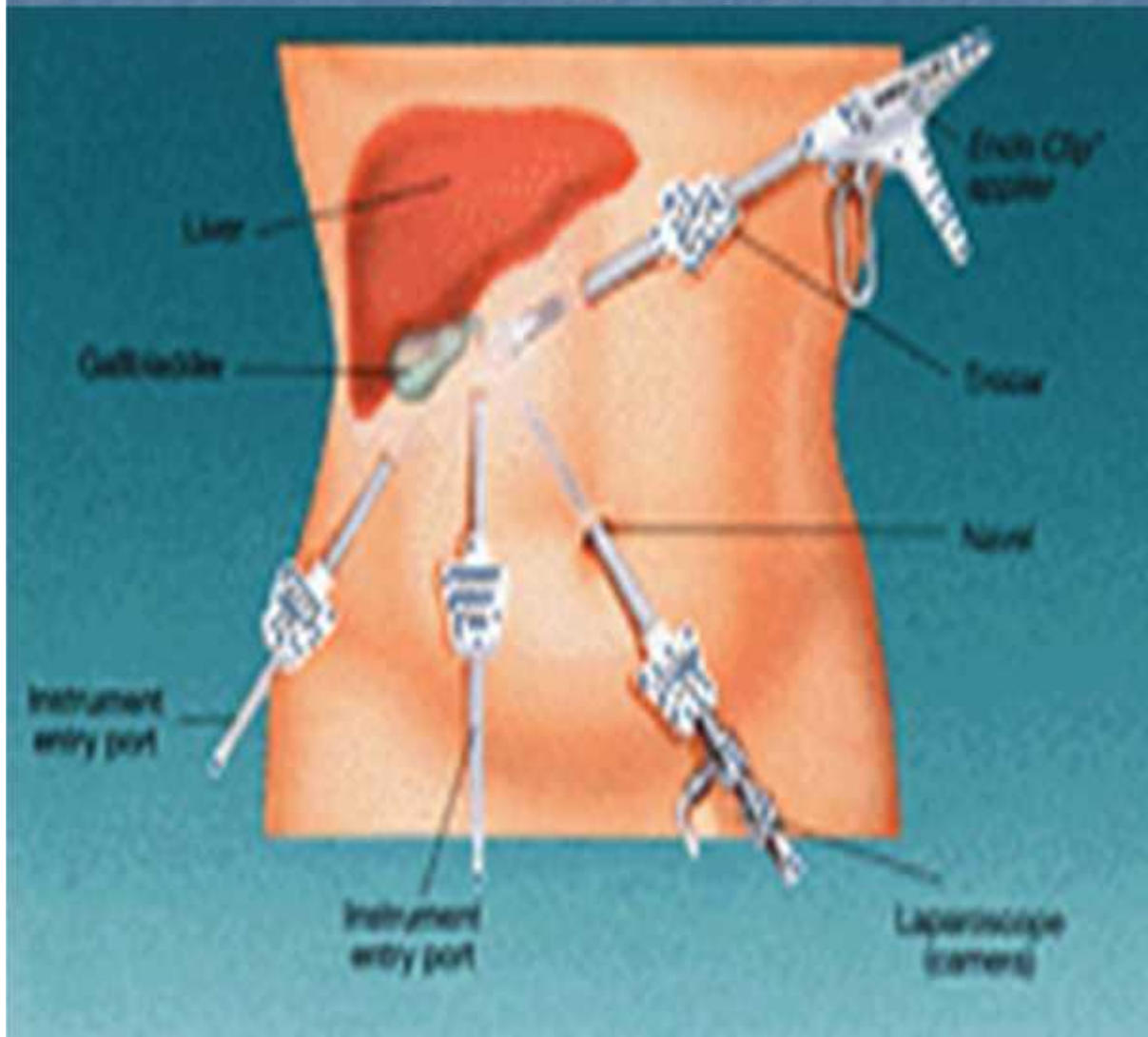


Figure 46-4b: Laparoscopic Cholecystectomy:
Preparing the Gallbladder for Removal



Lap Cholecystectomy



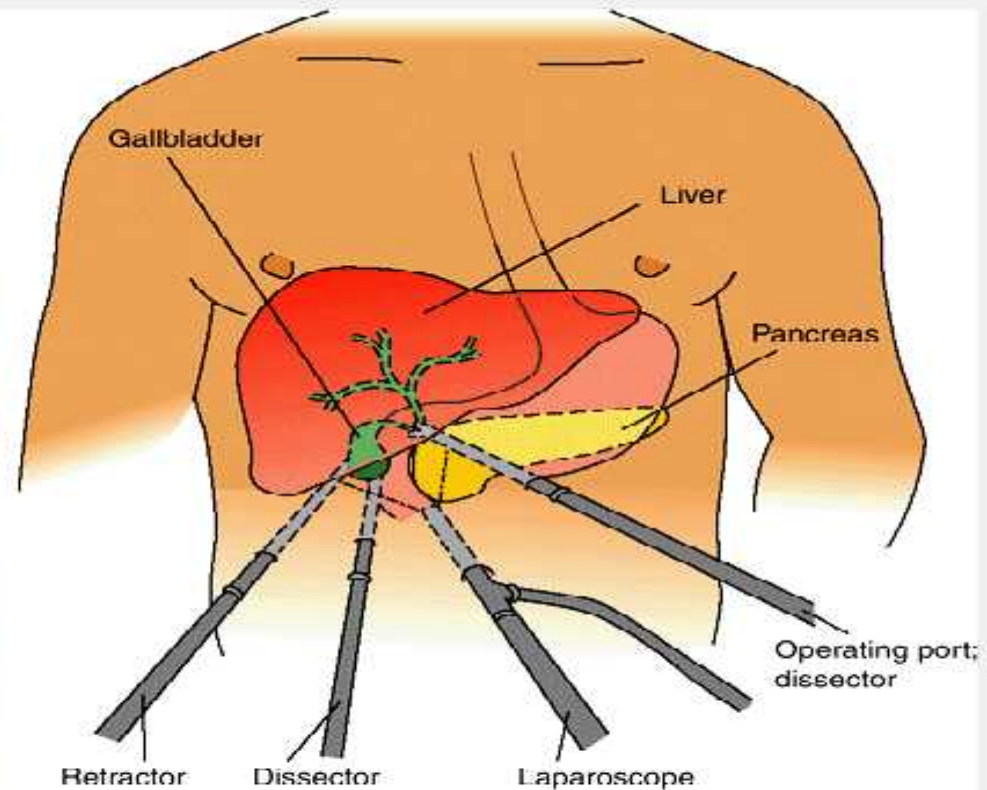
Watch for indications of:

- Infection
- Hemorrhage
- Damage to adjacent organs

Lap Cholecystectomy



A



B

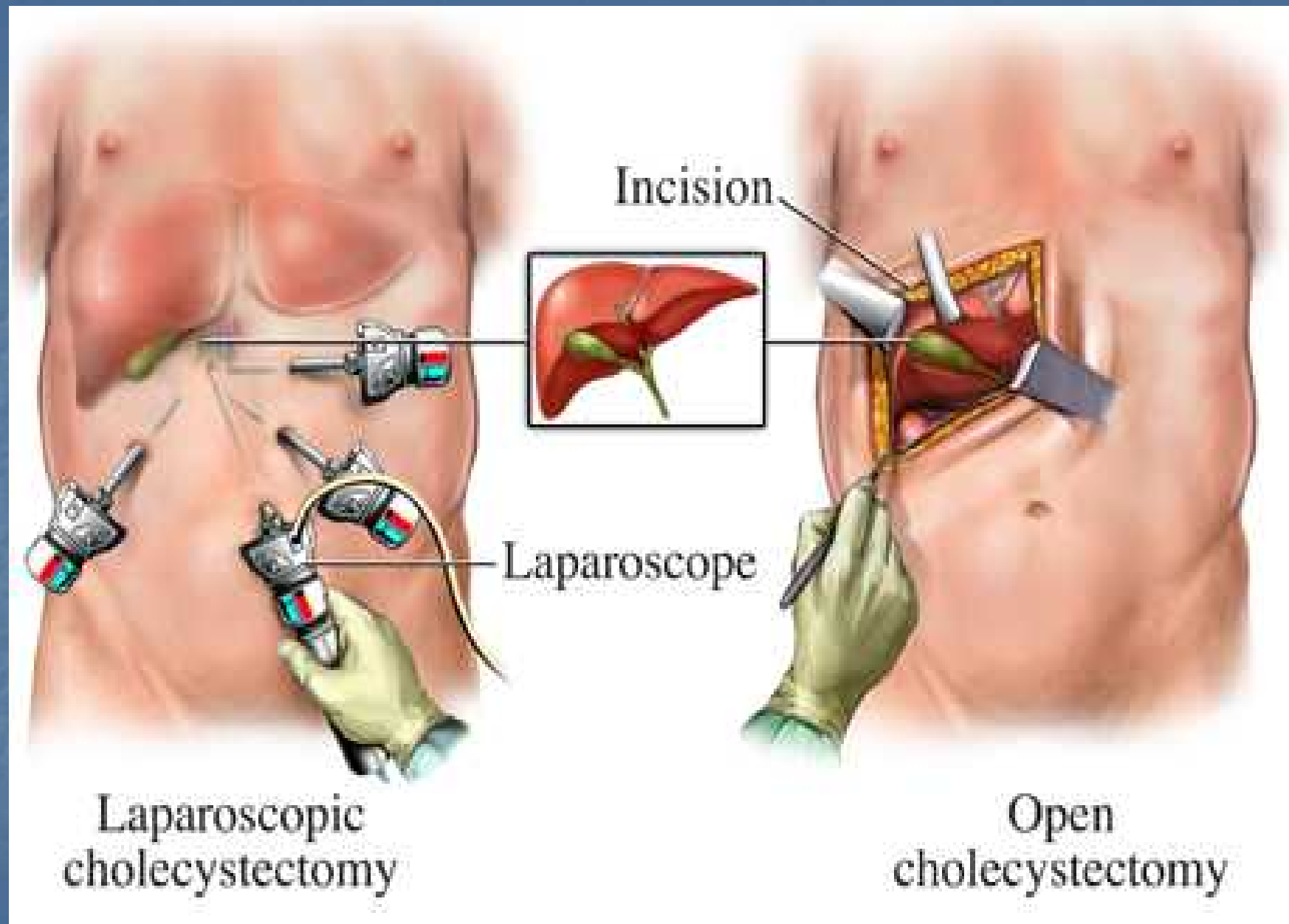
Figure 40 5 In (A) laparoscopic cholecystectomy, (B) the surgeon makes four small incisions (less than 1.12 cm each) in the abdomen and inserts a laparoscope with a miniature camera through the umbilical incision. The camera apparatus displays the gallbladder and adjacent tissues on a screen, allowing the surgeon to visualize the sections of the organ for removal.

Open procedure incision



Laparoscopic incisions





Recovery Time Open Incision Gall Bladder Surgery

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

Recovery Time Laparoscopic Gall Bladder Surgery

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

Which One Would You Choose?

Figure 46-2: Cholendoscopic Removal of Gallstones

