

# HEPATITIS

*Hepatitis* is a widespread inflammation of the liver that results in degeneration and necrosis of liver cells. Inflammation of the liver can be due to bacterial invasion, injury by physical or toxic chemical agents (e.g., drugs, alcohol, industrial chemicals), viral infections (hepatitis A, B, C, D, E, G), or autoimmune response. Although most hepatitis is self-limiting, approximately 20% of acute hepatitis B and 50% of hepatitis C cases progress to a chronic state or cirrhosis and can be fatal.

## CARE SETTING

Usually at the community level. In toxic states, brief inpatient acute care on a medical unit may be required.

## RELATED CONCERNS

Alcohol: acute withdrawal  
Cirrhosis of the liver  
Psychosocial aspects of care  
Renal dialysis  
Substance dependence/abuse rehabilitation  
Total nutritional support: parenteral/enteral feeding

## Patient Assessment Database

Data depend on the cause and severity of liver involvement/damage.

### ACTIVITY/REST

**May report:** Fatigue, weakness, general malaise

### CIRCULATION

**May exhibit:** Bradycardia (severe hyperbilirubinemia)  
Jaundiced sclera, skin, mucous membranes

### ELIMINATION

**May report:** Dark urine  
Diarrhea/constipation; clay-colored stools  
Current/recent hemodialysis

### FOOD/FLUID

**May report:** Loss of appetite (anorexia), weight loss or gain (edema)  
Nausea/vomiting

**May exhibit:** Ascites

### NEUROSENSORY

**May exhibit:** Irritability, drowsiness, lethargy, asterixis

### PAIN/DISCOMFORT

**May report:** Abdominal cramping, right upper quadrant (RUQ) tenderness  
Myalgias, arthralgias; headache  
Itching (pruritus)

**May exhibit:** Muscle guarding, restlessness

### RESPIRATION

**May report:** Distaste for/aversion to cigarettes (smokers)  
Recent flulike URI

### SAFETY

**May report:** Transfusion of blood/blood products in the past  
**May exhibit:** Fever  
Urticaria, maculopapular lesions, irregular patches of erythema  
Exacerbation of acne  
Spider angiomas, palmar erythema, gynecomastia in men (sometimes present in alcoholic hepatitis)  
Splenomegaly, posterior cervical node enlargement

## SEXUALITY

**May report:** Lifestyle/behaviors increasing risk of exposure (e.g., sexual promiscuity, sexually active homosexual/bisexual male)

## TEACHING/LEARNING

**May report:** History of known/possible exposure to virus, bacteria, or toxins (contaminated food, water, needles, surgical equipment or blood); carriers (symptomatic or asymptomatic); recent surgical procedure with halothane anesthesia; exposure to toxic chemicals (e.g., carbon tetrachloride, vinyl chloride); prescription drug use (e.g., sulfonamides, phenothiazines, isoniazid)  
Travel to/immigration from China, Africa, Southeast Asia, Middle East (hepatitis B [HB] is endemic in these areas)  
Street injection drug or alcohol use  
Concurrent diabetes, HF, malignancy, or renal disease

**Discharge plan considerations:** **DRG projected mean length of inpatient stay: 6.1 days**  
May require assistance with homemaker/maintenance tasks  
**Refer to section at end of plan for postdischarge considerations.**

## DIAGNOSTIC STUDIES

**Liver enzymes/isoenzymes:** Abnormal (4–10 times normal values). *Note:* Of limited value in differentiating viral from nonviral hepatitis.

**AST/ALT:** Initially elevated. May rise 1–2 wk before jaundice is apparent, then decline.

**Alkaline phosphatase (ALP):** Slight elevation (unless severe cholestasis present).

**Hepatitis A, B, C, D, E panels (antibody/antigen tests):** Specify type and stage of disease and determine possible carriers.

**CBC:** Red blood cells (RBCs) decreased because of shortened life of RBCs (liver enzyme alterations) or hemorrhage.

**WBC count and differential:** Leukopenia, leukocytosis, monocytosis, atypical lymphocytes, and plasma cells may be present.

**Serum albumin:** Decreased.

**Blood glucose:** Transient hyperglycemia/hypoglycemia (altered liver function).

**Prothrombin time:** May be prolonged (liver dysfunction).

**Serum bilirubin:** Above 2.5 mg/100 mL. (If above 200 mg/100 mL, poor prognosis is probable because of increased cellular necrosis.)

**Stools:** Clay-colored, steatorrhea (decreased hepatic function).

**Bromsulphalein (BSP) excretion test:** Blood level elevated.

**Liver biopsy:** Usually not needed, but should be considered if diagnosis is uncertain, or if clinical course is atypical or unduly prolonged.

**Liver scan:** Aids in estimation of severity of parenchymal damage.

**Urinalysis:** Elevated bilirubin levels; protein/hematuria may occur.

## NURSING PRIORITIES

1. Reduce demands on liver while promoting physical well-being.
2. Prevent complications.
3. Enhance self-concept, acceptance of situation.
4. Provide information about disease process, prognosis, and treatment needs.

## DISCHARGE GOALS

1. Meeting basic self-care needs.
2. Complications prevented/minimized.
3. Dealing with reality of current situation.

4. Disease process, prognosis, and therapeutic regimen understood.
5. Plan in place to meet needs after discharge.

<p><b>NURSING DIAGNOSIS: Fatigue</b></p> <p><b>May be related to</b>  Decreased metabolic energy production  States of discomfort  Altered body chemistry (e.g., changes in liver function, effect on target organs)</p> <p><b>Possibly evidenced by</b>  Reports of lack of energy/inability to maintain usual routines.  Decreased performance  Increase in physical complaints</p> <p><b>DESIRED OUTCOMES/EVALUATION CRITERIA—PATIENT WILL:</b></p> <p><b>Endurance (NOC)</b>  Report improved sense of energy.  Perform ADLs and participate in desired activities at level of ability.</p>
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ACTIONS/INTERVENTIONS	RATIONALE
<p><b>Energy Management (NIC)</b></p> <p><b>Independent</b></p> <p>Promote bedrest/chair (recliner) rest during toxic state.  Provide quiet environment; limit visitors as needed.</p> <p>Recommend changing position frequently.  Provide/instruct caregiver in good skin care.</p> <p>Do necessary tasks quickly and at one time as tolerated.</p> <p>Determine and prioritize role responsibilities and alternative providers/possible community resources available, e.g., Meals and Wheels, homemaker/housekeeper services.</p> <p>Identify energy-conserving techniques, e.g., sitting to shower and brush teeth, planning steps of activity so that all needed materials are at hand, scheduling rest periods.</p> <p>Increase activity as tolerated, demonstrate passive/active ROM exercises.</p> <p>Encourage use of stress management techniques, e.g., progressive relaxation, visualization, guided imagery.  Discuss appropriate diversional activities, e.g., radio, TV, reading.</p>	<p>Promotes rest and relaxation. Available energy is used for healing. Activity and an upright position are believed to decrease hepatic blood flow, which prevents optimal circulation to the liver cells.</p> <p>Promotes optimal respiratory function and minimizes pressure areas to reduce risk of tissue breakdown.</p> <p>Allows for extended periods of uninterrupted rest.</p> <p>Promotes problem solving of most pressing needs of individual/family.</p> <p>Helps minimize fatigue, allowing patient to accomplish more and feel better about self.</p> <p>Prolonged bedrest can be debilitating. This can be offset by limited activity alternating with rest periods.</p> <p>Promotes relaxation and conserves energy, redirects attention, and may enhance coping.</p>

ACTIONS/INTERVENTIONS	RATIONALE
<p><b>Energy Management (NIC)</b></p> <p><b>Independent</b></p> <p>Monitor for recurrence of anorexia and liver tenderness/enlargement.</p> <p><b>Collaborative</b></p> <p>Administer medications as indicated: sedatives, antianxiety agents, e.g., diazepam (Valium), lorazepam (Ativan).</p> <p>Monitor serial liver enzyme levels.</p> <p>Administer antidote or assist with inpatient procedures as indicated (e.g., lavage, catharsis, hyperventilation) depending on route of exposure.</p>	<p>Indicates lack of resolution/exacerbation of the disease, requiring further rest, change in therapeutic regimen.</p> <p>Assists in managing required rest. <i>Note:</i> Use of barbiturates and antianxiety agents, such as prochlorperazine (Compazine) and chlorpromazine (Thorazine), is contraindicated because of hepatotoxic effects.</p> <p>Aids in determining appropriate levels of activity because premature increase in activity potentiates risk of relapse.</p> <p>Removal of causative agent in toxic hepatitis may limit degree of tissue involvement/damage.</p>

<p><b>NURSING DIAGNOSIS: Nutrition: imbalanced, less than body requirements</b></p> <p><b>May be related to</b></p> <p>Insufficient intake to meet metabolic demands: anorexia, nausea/vomiting  Altered absorption and metabolism of ingested foods: reduced peristalsis (visceral reflexes), bile stasis  Increased calorie needs/hypermetabolic state</p> <p><b>Possibly evidenced by</b></p> <p>Aversion to eating/lack of interest in food; altered taste sensation  Abdominal pain/cramping  Loss of weight; poor muscle tone</p> <p><b>DESIRED OUTCOMES/EVALUATION CRITERIA—PATIENT WILL:</b></p> <p><b>Treatment Behavior: Illness or Injury (NOC)</b>  Initiate behaviors, lifestyle changes to regain/maintain appropriate weight.</p> <p><b>Nutritional Status (NOC)</b>  Demonstrate progressive weight gain toward goal with normalization of laboratory values and no signs of malnutrition.</p>
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ACTIONS/INTERVENTIONS	RATIONALE
<p><b>Weight Gain Assistance (NIC)</b></p> <p><b>Independent</b></p> <p>Monitor dietary intake/calorie count. Suggest several small feedings and offer “largest” meal at breakfast.</p>	<p>Large meals are difficult to manage when patient is anorexic. Anorexia may also worsen during the day, making intake of food difficult later in the day.</p>

ACTIONS/INTERVENTIONS	RATIONALE
<p><b>Weight Gain Assistance (NIC)</b></p> <p><b>Independent</b></p> <p>Encourage mouth care before meals.</p> <p>Recommend eating in upright position.</p> <p>Encourage intake of fruit juices, carbonated beverages, and hard candy throughout the day.</p> <p><b>Collaborative</b></p> <p>Consult with dietician, nutritional support team to provide diet according to patient's needs, with fat and protein intake as tolerated.</p> <p>Monitor serum glucose as indicated.</p> <p>Administer medications as indicated:  Antiemetics, e.g., metoclopramide (Reglan), trimethobenzamide (Tigan);</p> <p>Antacids, e.g., Mylanta, Titralac;</p> <p>Vitamins, e.g., B complex, C, other dietary supplements as indicated;</p> <p>Steroid therapy, e.g., prednisone (Deltasone), alone or in combination with azathioprine (Imuran).</p> <p>Provide supplemental feedings/TPN if needed.</p>	<p>Eliminating unpleasant taste may enhance appetite.</p> <p>Reduces sensation of abdominal fullness and may enhance intake.</p> <p>These supply extra calories and may be more easily digested/tolerated than other foods.</p> <p>Useful in formulating dietary program to meet individual needs. Fat metabolism varies according to bile production and excretion and may necessitate restriction of fat intake if diarrhea develops. If tolerated, a normal or increased protein intake helps with liver regeneration. Protein restriction may be indicated in severe disease (e.g., fulminating hepatitis) because the accumulation of the end products of protein metabolism can potentiate hepatic encephalopathy.</p> <p>Hyperglycemia/hypoglycemia may develop, necessitating dietary changes/insulin administration. Fingerstick monitoring may be done by patient on a regular schedule to determine therapy needs.</p> <p>Given 1/2 hr before meals, may reduce nausea and increase food tolerance. <i>Note:</i> Prochlorperazine (Compazine) is contraindicated in hepatic disease.</p> <p>Counteracts gastric acidity, reducing irritation/risk of bleeding.</p> <p>Corrects deficiencies and aids in the healing process.</p> <p>Steroids may be contraindicated because they can increase risk of relapse/development of chronic hepatitis in patients with viral hepatitis; however, anti-inflammatory effect may be useful in chronic active hepatitis (especially idiopathic) to reduce nausea/vomiting and enable patient to retain food and fluids. Steroids may decrease serum aminotransferase and bilirubin levels, but they do not affect liver necrosis or regeneration. Combination therapy has fewer steroid-related side effects.</p> <p>May be necessary to meet caloric requirements if marked deficits are present/symptoms are prolonged.</p>

**NURSING DIAGNOSIS: Fluid Volume, risk for deficient**

**Risk factors may include**

Excessive losses through vomiting and diarrhea, third-space shift  
Altered clotting process

**Possibly evidenced by**

[Not applicable; presence of signs and symptoms establishes an *actual* diagnosis.]

**DESIRED OUTCOMES/EVALUATION CRITERIA—PATIENT WILL:**

**Hydration (NOC)**

Maintain adequate hydration, as evidenced by stable vital signs, good skin turgor, capillary refill, strong peripheral pulses, and individually appropriate urinary output.

**Coagulation Status (NOC)**

Be free of signs of hemorrhage with clotting times WNL.

ACTIONS/INTERVENTIONS	RATIONALE
<p><b>Fluid/Electrolyte Management (NIC)</b></p> <p><b>Independent</b></p> <p>Monitor I&amp;O, compare with periodic weight. Note enteric losses, e.g., vomiting and diarrhea.</p> <p>Assess vital signs, peripheral pulses, capillary refill, skin turgor, and mucous membranes.</p> <p><b>Bleeding Precautions (NIC)</b></p> <p>Check for ascites for edema formation. Measure abdominal girth as indicated.</p> <p>Use small-gauge needles for injections, applying pressure for longer than usual after venipuncture.</p> <p>Have patient use cotton/sponge swabs and mouthwash instead of toothbrush.</p> <p>Observe for signs of bleeding, e.g., hematuria/melena, ecchymosis, oozing from gums/puncture sites.</p>	<p>Provides information about replacement needs/effects of therapy. <i>Note:</i> Diarrhea may be due to transient flulike response to viral infection or may represent a more serious problem of obstructed portal blood flow with vascular congestion in the GI tract, or it may be the intended result of medication use (neomycin, lactulose) to decrease serum ammonia levels in the presence of hepatic encephalopathy.</p> <p>Indicators of circulating volume/perfusion.</p> <p>Useful in monitoring progression/resolution of fluid shifts (edema/ascites).</p> <p>Reduces possibility of bleeding into tissues.</p> <p>Avoids trauma and bleeding of the gums.</p> <p>Prothrombin levels are reduced and coagulation times prolonged when vitamin K absorption is altered in GI tract and synthesis of prothrombin is decreased in affected liver.</p>

ACTIONS/INTERVENTIONS	RATIONALE
<p><b>Fluid/Electrolyte Management (NIC)</b></p> <p><b>Collaborative</b></p> <p>Monitor periodic laboratory values, e.g., Hb/Hct, Na, albumin, and clothing times.</p> <p>Administer antidiarrheal agents, e.g., diphenoxylate with atropine (Lomotil).</p> <p>Provide IV fluids (usually glucose), electrolytes.</p> <p>Protein hydrolysates.</p> <p><b>Bleeding Precautions (NIC)</b></p> <p>Administer medications as indicated, e.g.:</p> <p>Vitamin K;</p> <p>Antacids or H<sub>2</sub>-receptor antagonists, e.g., cimetidine (Tagamet).</p> <p>Infuse fresh frozen plasma, as indicated.</p>	<p>Reflects hydration and identifies sodium retention/protein deficits, which may lead to edema formation. Deficits in clotting potentiate risk of bleeding/hemorrhage.</p> <p>Reduces fluid/electrolyte loss from GI tract.</p> <p>Provides fluid and electrolyte replacement in acute toxic state.</p> <p>Correction of albumin/protein deficits can aid in return of fluid from tissues to the circulatory system.</p> <p>Because absorption is altered, supplementation may prevent coagulation problems, which may occur if clotting factors/prothrombin time (PT) is depressed.</p> <p>Neutralize/reduce gastric secretions to lower risk of gastric irritation/bleeding.</p> <p>May be required to replace clotting factors in the presence of coagulation defects.</p>

<p><b>NURSING DIAGNOSIS: Self-Esteem, situational low</b></p> <p><b>May be related to</b></p> <p>Annoying/debilitating symptoms, confinement/isolation, length of illness/recovery period</p> <p><b>Possibly evidenced by</b></p> <p>Verbalization of change in lifestyle; fear of rejection/reaction of others, negative feelings about body; feelings of helplessness</p> <p>Depression, lack of follow-through, self-destructive behavior</p> <p><b>DESIRED OUTCOMES/EVALUATION CRITERIA—PATIENT WILL:</b></p> <p><b>Self-Esteem (NOC)</b></p> <p>Verbalize feelings.</p> <p>Identify feelings and methods for coping with negative perception of self.</p> <p>Verbalize acceptance of self in situation, including length of recovery/need for isolation.</p> <p>Acknowledge self as worthwhile; be responsible for self.</p>
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ACTIONS/INTERVENTIONS	RATIONALE
<p><b>Self-Esteem Enhancement (NIC)</b></p> <p><b>Independent</b></p> <p>Contract with patient regarding time for listening. Encourage discussion of feelings/concerns.</p> <p>Avoid making moral judgments regarding lifestyle (e.g., alcohol use/sexual practices).</p> <p>Discuss recovery expectations.</p> <p>Assess effect of illness on economic factors of patient/SO.</p> <p>Offer diversional activities based on energy level.</p> <p>Suggest patient wear bright reds or blues/blacks instead of yellows or greens.</p> <p><b>Collaborative</b></p> <p>Make appropriate referrals for help as needed, e.g., case manager/discharge planner, social services, and/or other community agencies.</p>	<p>Establishing time enhances trusting relationship. Providing opportunity to express feelings allows patient to feel more in control of the situation. Verbalization can decrease anxiety and depression and facilitate positive coping behaviors. Patient may need to express feelings about being ill, length and cost of illness, possibility of infecting others, and (in severe illness) fear of death. May have concerns regarding the stigma of the disease.</p> <p>Patient may already feel upset/angry and condemn self; judgments from others will further damage self-esteem.</p> <p>Recovery period may be prolonged (up to 6 mo), potentiating family/situational stress and necessitating need for planning, support, and follow-up.</p> <p>Financial problems may exist because of loss of patient's role functioning in the family/prolonged recovery.</p> <p>Enables patient to use time and energy in constructive ways that enhance self-esteem and minimize anxiety and depression.</p> <p>Enhances appearance, because yellow skin tones are intensified by yellow/green colors. <i>Note:</i> Jaundice usually peaks within 1–2 wk, then gradually resolves over 2–4 wk.</p> <p>Can facilitate problem solving and help involved individuals cope more effectively with situation.</p>

<p><b>NURSING DIAGNOSIS: Infection, risk for</b></p> <p><b>Risk factors may include</b></p> <p>Inadequate secondary defenses (e.g., leukopenia, suppressed inflammatory response) and immunosuppression</p> <p>Malnutrition</p> <p>Insufficient knowledge to avoid exposure to pathogens</p> <p><b>Possibly evidenced by</b></p> <p>[Not applicable; presence of signs and symptoms establishes an <i>actual</i> diagnosis.]</p> <p><b>DESIRED OUTCOMES/EVALUATION CRITERIA—PATIENT WILL:</b></p> <p><b>Risk Control (NOC)</b></p> <p>Verbalize understanding of individual causative/risk factor(s).</p> <p>Demonstrate techniques; initiate lifestyle changes to avoid reinfection/transmission to others.</p>
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ACTIONS/INTERVENTIONS	RATIONALE
<p><b>Infection Control (NIC)</b></p> <p><b>Independent</b></p> <p>Establish isolation techniques for enteric and respiratory infections according to infection guidelines/policy. Encourage/model effective handwashing.</p> <p>Stress need to monitor/restrict visitors as indicated.</p> <p>Explain isolation procedures to patient/SO.</p> <p>Give information regarding availability of gamma globulin, ISG, H-BIG, HB vaccine (Recombivax HB, Engerix-B) through health department or family physician.</p> <p><b>Collaborative</b></p> <p>Administer medications as indicated:</p> <ul style="list-style-type: none"> <li>Antiviral drugs: vidarabine (Vira-A), acyclovir (Zovirax);</li> <li>Interferon alfa-2b (Intron A);</li> <li>Ribavirin;</li> <li>Antibiotics appropriate to causative agents (e.g., Gram-negative, anaerobic bacteria) or secondary process.</li> </ul>	<p>Prevents transmission of viral disease to others. Thorough handwashing is effective in preventing virus transmission. Types A and E are transmitted by oral-fecal route, contaminated water, milk, and food (especially inadequately cooked shellfish). Types A, B, C, and D are transmitted by contaminated blood/blood products; needle punctures; open wounds; and contact with saliva, urine, stool, and semen. Incidence of both hepatitis B virus (HBV) and hepatitis C virus (HCV) has increased among healthcare providers and high-risk patients. <i>Note:</i> Toxic and alcoholic hepatitis are not communicable and do not require special measures/isolation.</p> <p>Patient exposure to infectious processes (especially respiratory) potentiates risk of secondary complications.</p> <p>Understanding reasons for safeguarding themselves and others can lessen feelings of isolation and stigmatization. Isolation may last 2–3 wk from onset of illness, depending on type/duration of symptoms.</p> <p>Immune globulins may be effective in preventing viral hepatitis in those who have been exposed, depending on type of hepatitis and period of incubation.</p> <p>Useful in treating chronic active hepatitis.</p> <p>Treats the symptoms of hepatitis C and may lead to temporary improvement in liver function.</p> <p>Used in conjunction with interferon to improve the effectiveness of that drug. <i>Note:</i> These treatments lead to improvement, not cure of the disease.</p> <p>Used to treat bacterial hepatitis or to prevent/limit secondary infections.</p>

**NURSING DIAGNOSIS: Skin/Tissue Integrity, risk for impaired**

**Risk factors may include**

Chemical substance: bile salt accumulation in the tissues

**Possibly evidenced by**

[Not applicable; presence of signs and symptoms establishes an *actual* diagnosis.]

**DESIRED OUTCOMES/EVALUATION CRITERIA—PATIENT WILL:**

**Tissue Integrity: Skin and Mucous Membranes (NOC)**

Display intact skin/tissues, free of excoriation.

Report absence/decrease of pruritus/scratching.

ACTIONS/INTERVENTIONS	RATIONALE
<p><b>Skin Surveillance (NIC)</b></p> <p><b>Independent</b></p> <p>Encourage use of cool showers and baking soda or starch baths. Avoid use of alkaline soaps. Apply calamine lotion as indicated.</p> <p>Provide diversional activities.</p> <p>Suggest use of knuckles if desire to scratch is uncontrollable. Keep fingernails cut short, apply gloves on comatose patient or during hours of sleep. Recommend loose-fitting clothing. Provide soft cotton linens.</p> <p>Provide a soothing massage at bedtime.</p> <p>Observe skin for areas of redness, breakdown.</p> <p>Avoid comments regarding patient's appearance.</p>	<p>Prevents excessive dryness of skin. Provides relief from itching.</p> <p>Aids in refocusing attention, reducing tendency to scratch.</p> <p>Reduces potential for dermal injury.</p> <p>May be helpful in promoting sleep by reducing skin irritation.</p> <p>Early detection of problem areas allows for additional intervention to prevent complications/promote healing.</p> <p>Minimizes psychological stress associated with skin changes.</p>
<p><b>Collaborative</b></p> <p>Administer medications as indicated:</p> <ul style="list-style-type: none"><li>Antihistamines, e.g., diphenhydramine (Benadryl), azatadine (optimine);</li><li>Antilipemics, e.g., cholestyramine (Questran).</li></ul>	<p>Relieves itching. <i>Note:</i> Use cautiously in severe hepatic disease.</p> <p>May be used to bind bile acids in the intestine and prevent their absorption. Note side effects of nausea and constipation.</p>

**NURSING DIAGNOSIS: Knowledge, deficient [Learning Need] regarding condition, prognosis, treatment, self-care, and discharge needs**

**May be related to**

Lack of exposure/recall; information misinterpretation  
Unfamiliarity with resources

**Possibly evidenced by**

Questions or statements of misconception; request for information  
Inaccurate follow-through of instructions; development of preventable complications

**DESIRED OUTCOMES/EVALUATION CRITERIA—PATIENT WILL:**

**Knowledge: Illness Care (NOC)**

Verbalize understanding of disease process, prognosis, and potential complications.  
Identify relationship of signs/symptoms to the disease and correlate symptoms with causative factors.  
Verbalize understanding of therapeutic needs.  
Initiate necessary lifestyle changes and participate in treatment regimen.

ACTIONS/INTERVENTIONS	RATIONALE
<p><b>Teaching: Disease Process (NIC)</b></p> <p><b>Independent</b></p> <p>Assess level of understanding of the disease process, expectations/prognosis, possible treatment options.</p> <p>Provide specific information regarding prevention/transmission of disease, e.g., contacts may require gamma-globulin; personal items should not be shared; observe strict handwashing and sanitizing of clothes, dishes, and toilet facilities while liver enzymes are elevated. Avoid intimate contact, such as kissing and sexual contact, and exposure to infections, especially URI.</p> <p>Plan resumption of activity as tolerated with adequate periods of rest. Discuss restriction of heavy lifting, strenuous exercise/contact sports.</p> <p>Help patient identify appropriate diversional activities.</p> <p>Encourage continuation of balanced diet.</p>	<p>Identifies areas of lack of knowledge/misinformation and provides opportunity to give additional information as necessary. <i>Note:</i> Liver transplantation may be needed in the presence of fulminating disease with liver failure.</p> <p>Needs/recommendations vary with type of hepatitis (causative agent) and individual situation.</p> <p>It is not necessary to wait until serum bilirubin levels return to normal to resume activity (may take as long as 2 mo), but strenuous activity needs to be limited until the liver returns to normal size. When patient begins to feel better, he or she needs to understand the importance of continued adequate rest in preventing relapse or recurrence. (Relapse occurs in 5%–25% of adults.) <i>Note:</i> Energy level may take up to 3–6 mo to return to normal.</p> <p>Enjoyable activities promote rest and help patient avoid focusing on prolonged convalescence.</p> <p>Promotes general well-being and enhances energy for healing process/tissue regeneration.</p>

ACTIONS/INTERVENTIONS	RATIONALE
<p><b>Teaching: Disease Process (NIC)</b></p> <p><b>Independent</b></p> <p>Identify ways to maintain usual bowel function, e.g., adequate intake of fluids/dietary roughage, moderate activity/exercise to tolerance.</p> <p>Discuss the side effects and dangers of taking OTC/prescribed drugs (e.g., acetaminophen, aspirin, sulfonamides, some anesthetics) and necessity of notifying future healthcare providers of diagnosis.</p> <p>Discuss restrictions on donating blood.</p> <p>Emphasize importance of follow-up physical examination and laboratory evaluation.</p> <p>Review necessity of avoidance of alcohol for a minimum of 6–12 mo or longer based on individual tolerance.</p> <p>Refer to community resources, drug/alcohol treatment program as indicated.</p>	<p>Decreased level of activity, changes in food/fluid intake, and slowed bowel motility may result in constipation.</p> <p>Some drugs are toxic to the liver; many others are metabolized by the liver and should be avoided in severe liver diseases because they may cause cumulative toxic effects/chronic hepatitis.</p> <p>Prevents spread of infectious disease. Most state laws prevent accepting as donors those who have a history of any type of hepatitis.</p> <p>Disease process may take several months to resolve. If symptoms persist longer than 6 mo, liver biopsy may be required to verify presence of chronic hepatitis.</p> <p>Increases hepatic irritation and may interfere with recovery.</p> <p>May need additional assistance to withdraw from substance and maintain abstinence to avoid further liver damage.</p>

**POTENTIAL CONSIDERATIONS following acute hospitalization (dependent on patient's age, physical condition/presence of complications, personal resources, and life responsibilities)**

Fatigue—generalized weakness, decreased strength/endurance, pain, imposed activity restrictions, depression.

Home Maintenance, impaired—prolonged recovery/chronic condition, insufficient finances, inadequate support systems, unfamiliarity with neighborhood resources.

Nutrition: imbalanced, less than body requirements—insufficient intake to meet metabolic demands: anorexia, nausea/vomiting; altered absorption and metabolism of ingested foods; increased calorie needs/hypermetabolic state.

Infection, risk for—inadequate secondary defenses; malnutrition; insufficient knowledge to avoid exposure to pathogens.