NGN NCLEX 2026 ▪ GASTROINTESTINAL / INFECTIOUS DISEASE

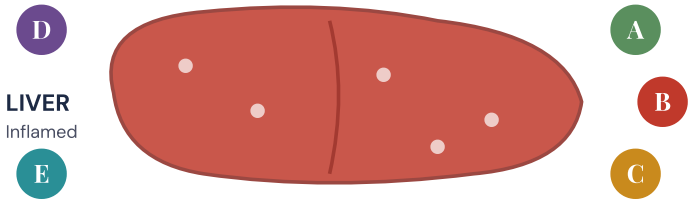
Hepatitis A · B · C · D · E

Inflammation of the liver caused by 5 distinct viruses — each with different transmission, chronicity, vaccine status, and management. Knowing the differences between them is core to NCLEX prioritization, infection control, and patient teaching.

HAV ▪ Fecal-Oral | HBV ▪ Blood/Sex | HCV ▪ Blood | HDV ▪ Needs HBV | HEV ▪ Fecal-Oral

QUICK COMPARE

At-a-Glance: All 5 Hepatitis Viruses



Feature	HEP A	HEP B	HEP C	HEP D	HEP E
Transmission	Fecal-oral (food/water)	Blood, sex, perinatal	Blood (IV drug use #1)	Blood/body fluids (only with HBV)	Fecal-oral (water)
Incubation	15–50 days	45–160 days	14–180 days	2–8 weeks	15–60 days
Chronic?	**NO** — acute only	**YES** (5–10% adults)	**YES** (75–85%)	**YES** w/ HBV	**NO** (rarely)
Vaccine	**YES ✓**	**YES ✓**	**NO ✕**	HBV vaccine prevents	**NO ✕** (US)
Severity	Mild, self-limiting	Moderate–severe	Often silent → cirrhosis	**Most severe**	Mild — except **deadly in pregnancy**
Precautions	Contact + Standard	Standard	Standard	Standard	Contact + Standard

SECTION 1

Definition / Overview by Virus

A

HEPATITIS A

SPREAD
Fecal-oral: contaminated food/water, raw shellfish, daycare, poor hand hygiene

COURSE
Acute only — never becomes chronic. Self-limiting in 2–6 weeks.

KEY RISK
Travelers, food handlers, daycare workers

B

HEPATITIS B

SPREAD
Blood, semen, vaginal fluid, perinatal (mother → baby)

COURSE
5–10% of adults become chronic; up to 90% of infected infants

KEY RISK
Cirrhosis, liver cancer (hepatocellular carcinoma)

C

HEPATITIS C

SPREAD
Blood — IV drug use is #1; pre-1992 transfusions, tattoos w/ unsterile needles

COURSE
75–85% become chronic — often silent for years

KEY RISK
#1 cause of liver transplant in U.S. — but now CURABLE with DAAs

D

HEPATITIS D (DELTA)

SPREAD
Blood/body fluids — but ONLY infects those who already have HBV

COURSE
Co-infection (with new HBV) or super-infection (in chronic HBV carrier)

KEY RISK
Most severe form — accelerates liver damage

E

HEPATITIS E

SPREAD
Fecal-oral: contaminated water — common in developing countries

COURSE
Self-limiting in healthy adults

KEY RISK
PREGNANT WOMEN: 20% MORTALITY
in 3rd trimester

SECTION 2

Pathophysiology (Simplified)

1

Virus Enters

Via GI tract (A, E) or bloodstream/body fluids (B, C, D)

2

Hepatocyte Invasion

Virus replicates inside liver cells (hepatocytes)

3

Immune Response

Body attacks infected cells → inflammation + cell death

4

Liver Dysfunction

↓ bile excretion → jaundice; ↓ detox → toxin buildup

5

Outcome

Resolution (A, E) *OR* chronic infection → cirrhosis, cancer (B, C, D)

FULMINANT HEPATIC FAILURE

A rare but life-threatening complication — sudden, massive liver cell death. Watch for: **hepatic encephalopathy (confusion, asterixis), coagulopathy (bleeding), severe jaundice, hypoglycemia.** Highest risk in HEV during pregnancy and HBV+HDV super-infection.

SECTION 3

Signs & Symptoms — 3 Phases

1. Pre-Icteric (Prodromal)

WEEKS 1–2 ▪ MOST CONTAGIOUS

- Flu-like: fatigue, malaise, low-grade fever
- Anorexia, nausea, vomiting
- RUQ pain / hepatomegaly
- Headache, joint/muscle aches
- Distaste for cigarettes (HAV)

2. Icteric (Jaundice)

WEEKS 2–6 ▪ LESS CONTAGIOUS

- **Jaundice** — yellow skin/sclera
- **Dark urine** (tea/cola colored)
- **Clay/Light-colored stools**
- Pruritus (itching from bile salts)
- ↑ ALT, ↑ AST, ↑ bilirubin, ↑ ALP

3. Post-Icteric (Convalescent)

WEEKS 6+ ▪ RECOVERY

- Jaundice fades
- Energy gradually returns
- Liver enzymes normalize
- Full recovery: 4–6 months (HAV)
- HBV/HCV may progress to chronic

RED FLAG FINDINGS — NOTIFY HCP IMMEDIATELY

Confusion, asterixis (flapping tremor), bruising/bleeding, fruity-musty breath (fetor hepaticus), severe RUQ pain, hematemesis, melena, oliguria, sudden weight gain (ascites) → these point to liver failure or hepatic encephalopathy.

SECTION 4

Priority Nursing Interventions

🔴 TOP PRIORITY — INFECTION CONTROL

- **Standard precautions** for ALL hepatitis types
- **Contact precautions** for HAV & HEV (fecal-oral)
- Strict **hand hygiene** — single most effective intervention
- Private room if patient is incontinent
- Dispose of stool, urine, body fluids per policy

💊 LIVER SUPPORT

- ✓ **Avoid hepatotoxic drugs**: acetaminophen, alcohol, sedatives
- ✓ Monitor LFTs: ALT, AST, bilirubin, albumin, PT/INR
- ✓ Assess for bleeding (↓ clotting factors)
- ✓ Vitamin K may be ordered for ↑ PT/INR

🍽 NUTRITION & REST

- ✓ Small, frequent **high-carb, moderate-protein, low-fat** meals
- ✓ Largest meal in the morning (less nausea)
- ✓ Encourage **rest** to reduce liver workload
- ✓ Push **fluids 2,500–3,000 mL/day** unless contraindicated
- ✓ Restrict protein only if encephalopathy develops

🩹 SYMPTOM MANAGEMENT

- ✓ Skin care for pruritus: cool compress, oatmeal baths, antihistamines
- ✓ Trim nails short to prevent skin breakdown from scratching
- ✓ Antiemetics PRN for nausea
- ✓ Monitor for signs of **encephalopathy** (LOC, asterixis)
- ✓ Daily weights & abdominal girth (ascites)

SECTION 5

Pharmacology — Vaccines & Antivirals

Drug / Class	Used For	Mechanism	Nursing Considerations
Hep A Vaccine INACTIVATED VIRUS	HAV prevention	Stimulates antibody production against HAV	Routine at 12–23 mo. Travelers, food handlers, daycare. 2-dose series 6+ months apart.
Hep B Vaccine RECOMBINANT	HBV (and HDV) prevention	Triggers anti-HBs antibodies; **also prevents HDV**	3-dose series at 0, 1, 6 months. Newborns get 1st dose at birth. Healthcare workers required.
HBIG (Hep B Immune Globulin) PASSIVE IMMUNITY	Post-exposure HBV (needle stick, infant of HBV+ mom)	Provides ready-made antibodies (immediate, short-term protection)	Give within 24 hr of exposure. Often given WITH HBV vaccine in opposite arm.
Tenofovir, Entecavir NUCLEOSIDE ANALOGS (CHRONIC HBV)	Chronic HBV	Block viral DNA replication — suppresses virus, doesn't cure	Long-term therapy. Monitor renal function (tenofovir). Don't stop abruptly — flare risk.
Ledipasvir/Sofosbuvir (Harvoni) **Glecaprevir/Pibrentasvir (Mavyret)** DIRECT-ACTING ANTIVIRALS (DAAS)	Chronic HCV	Block viral replication enzymes — **cures > 95%** in 8–12 weeks	PO daily. Monitor for drug interactions (esp. amiodarone — bradycardia). Adherence essential.
Pegylated Interferon alfa IMMUNOMODULATOR	Chronic HBV (some HCV)	Boosts immune response against virus	SubQ injection. Side effects: flu-like sx, depression (suicide risk), bone marrow suppression.
No specific antiviral SUPPORTIVE CARE ONLY	HAV, HEV (acute)	Self-limiting; treatment is symptomatic	Rest, hydration, antiemetics. Avoid hepatotoxic drugs. No alcohol.

SECTION 6

NCLEX Test Traps

Trap #1: Confusing Transmission Routes

A daycare worker tested positive — what type is most likely?

✕ WRONG THINKING

"Hep B — they could be exposed to blood." Daycare = body fluids ≠ blood.

✓ RIGHT THINKING

Hep A. Daycare = diaper changes = fecal-oral. Vowels (A, E) = poop.

Trap #2: Forgetting HDV Needs HBV

Patient tests positive for HDV — what's the next assessment?

✕ WRONG THINKING

"Treat HDV with antivirals." HDV cannot exist alone.

✓ RIGHT THINKING

Confirm HBV status first. HDV REQUIRES HBV to replicate. No HBV = no HDV.

Trap #3: Pregnancy + Hepatitis E

A pregnant traveler returns from a developing country with hepatitis sx.

✕ WRONG THINKING

"Hep A — fecal-oral, mild." Underestimating severity.

✓ RIGHT THINKING

Hep E — life-threatening in pregnancy. Up to 20% maternal mortality in 3rd trimester. Priority assessment.

Trap #4: Acetaminophen with Hepatitis

Patient with hepatitis asks for Tylenol for headache. Best response?

✕ WRONG THINKING

"Tylenol is safer than ibuprofen — give it." Ignoring liver toxicity.

✓ RIGHT THINKING

Hold and notify HCP. Acetaminophen is hepatotoxic. Inflamed liver cannot metabolize it safely.

Trap #5: Vaccinated ≠ Immune

A nurse received the HBV vaccine series — are they protected?

✕ WRONG THINKING

"All 3 doses received = full immunity." Some people don't seroconvert.

✓ RIGHT THINKING

Check anti-HBs titer. Confirms protective antibody response. ≥10 mIU/mL = immune.

Trap #6: HCV "Cure" Mindset

Patient cured of HCV with DAAs asks if they can stop precautions.

✕ WRONG THINKING

"Yes, you're cured — no risk." Doesn't account for re-infection.

✓ RIGHT THINKING

No immunity after cure. Re-infection is possible. Continue safe needle/blood practices. No vaccine exists.

SECTION 7 ▪ NCJMM

Clinical Judgment Scenario

Case: *A 42-year-old male presents to the ED with 1 week of fatigue, anorexia, and yellow eyes. He reports IV drug use 8 years ago and a tattoo at age 19 from a "friend with a kit." Vital signs: T 38.1°C, HR 96, BP 128/78, RR 18, SpO_2 98%. Skin and sclera are jaundiced. RUQ tenderness. Labs: ALT 1,420 U/L, AST 980 U/L, total bilirubin 8.2 mg/dL, INR 1.4, anti-HCV positive, HCV RNA 4.2 million IU/mL, HBsAg negative, anti-HAV IgM negative.*

STEP 1

Recognize Cues

Jaundice, RUQ pain, fatigue, ↑↑ ALT/AST (10× normal), ↑ bilirubin, ↑ INR, anti-HCV+ with detectable HCV RNA. History: IV drug use, unsterile tattoo. No HAV or HBV markers.

STEP 2

Analyze Cues

Pattern fits **Hepatitis C** — likely chronic with reactivation or new acute presentation. ↑ INR signals impaired liver synthetic function — early concern for hepatic decompensation.

STEP 3

Prioritize

1) Standard precautions; 2) Hold all hepatotoxic meds (acetaminophen, alcohol); 3) Monitor for bleeding/encephalopathy (↑ INR); 4) Refer to hepatology for DAA therapy; 5) Educate on transmission.

STEP 4

Evaluate

Effective if: LFTs trending down, INR < 1.3, no bleeding or LOC change, patient verbalizes transmission risk, and engages with DAA treatment plan (cure rate > 95% with 8–12 wk course).

SECTION 8

Patient & Family Education

Hepatitis A & E (Fecal-Oral)

- Wash hands thoroughly after toilet & before food prep
- Don't share food, drinks, utensils until cleared
- Avoid raw shellfish and unwashed produce when traveling
- Drink only bottled/boiled water in endemic areas
- HAV vaccine before international travel
- Pregnant women: avoid travel to HEV-endemic regions

Hepatitis B, C, D (Blood/Body Fluids)

- Never share razors, toothbrushes, nail clippers, needles
- Use barrier protection during sex; disclose status to partners
- Don't donate blood, plasma, organs, sperm, or breast milk if infected
- Cover open cuts/sores; clean spills with bleach (1:10)
- HBV vaccination protects against both HBV AND HDV
- HCV: complete the full DAA course — adherence matters for cure

Liver Care (All Types)

- **Avoid alcohol completely** — adds direct liver injury
- **Avoid acetaminophen (Tylenol)** — hepatotoxic
- Check ALL OTC meds and supplements with HCP first
- Eat small, frequent, balanced meals
- Get adequate rest — fatigue is normal during recovery
- Follow up for serial LFTs and viral load

When to Call the Provider

- Worsening jaundice or itching
- Confusion, drowsiness, or personality changes
- Unusual bruising, nosebleeds, or blood in stool/urine
- Vomiting blood or coffee-ground emesis

- Severe abdominal pain or sudden weight gain (ascites)
- Any new fever or signs of infection

SECTION 9

Memory Boosters & Mnemonics

VOWELS VS. CONSONANTS

A & E = Eat

The vowels (A, E) are spread by what you **EAT** or **EXCRETE** — fecal-oral route. **The consonants** (B, C, D) travel through **Blood, Bodily fluids, Birth**.

CHRONIC VS. ACUTE

B, C, D Stay

B, C, D can become **chronic** (think "stay forever"). **A and E** are **acute** only — they come and go ("Always Exit").

D NEEDS B

D = Dependent

Hep D needs B to survive (D is "**D**ependent" on HBsAg). Vaccinating against B prevents D. No B = No D.

VACCINES

Vaccines for AB

Only A and B have vaccines (the alphabet starts with vaccines). C, D, E do not — though HBV vaccine indirectly prevents D.

PREGNANCY + E

E = Emergency in Pregnancy

Hepatitis **E** is "**E**specially dangerous" during pregnancy — up to **20% maternal mortality** in the 3rd trimester.

LAB PATTERN

ALT > AST

In viral hepatitis, **ALT is more specific to liver** and rises higher than AST. Reverse pattern (AST > ALT) suggests **alcoholic** liver disease ("AST = A Scotch & Tonic").

JAUNDICE TRIAD

Yellow + Dark + Light

Yellow skin + **Dark urine** + **Light/clay stools** = classic obstructive/hepatic jaundice from any hepatitis virus.

PRE-ICTERIC CLUE

Smokers Stop

A unique HAV finding: smokers suddenly develop a **distaste for cigarettes** in the prodromal phase. Quirky NCLEX detail.

HCV TREATMENT ERA

DAAs Cure C

Direct-Acting Antivirals (Harvoni, Mavyret) **cure >95%** of HCV in 8–12 weeks. NCLEX may still test old regimens (interferon) — know both.