

Hepatitis B Nurse Education Series

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Hepatitis B:

- What is Hepatitis B?
- Tests we use to determine Hep B status
- Ongoing Hepatitis B Surveillance
- Hepatitis B Vaccination



Hepatitis B

Hepatitis B Virus (HBV)



- (VERY infectious)
 - Virus can live on surfaces up to 7-10 days
 - Spread by contact with blood/body fluids, sharing needles and from mother to newborn
 - If exposed, risk = 6% to 30% that you will be infected
 - Hemodialysis patients & healthcare workers at high risk of becoming infected with HBV
 - Approximately 800,000 to 1.4 million people in US have chronic HBV infection
 - Preventable with vaccination
 - **HBV positive patients require isolation**

HBV Tests Terminology



Viral Hepatitis B Marker and Their Significance			
Hepatitis B Virus (HBV)			
	Definition	Common Terminology	Meaning of a Positive Test
HBsAg	Hepatitis B surface antigen	Surface antigen	HBV infection (additional tests needed to determine chronic or acute status)
Anti-HBs	Antibody to hepatitis B surface antigen	Surface antibody	Immunity to HBV (due to natural infection or HBV vaccination)
Anti-HBc	Antibody to hepatitis B core antigen	Core antibody	Natural infection (acute, resolved, or chronic); not present after vaccination
Anti-HBc IgM	Antibody to hepatitis B core, IgM fraction	Core IgM	Current or recent HBV infection (within 6 months); presence of anti-HBc IgM without HBsAg denotes "window" phase late in some acute HBV infections where HBsAg has dropped below detectable levels; can persist in some chronic HBV infections

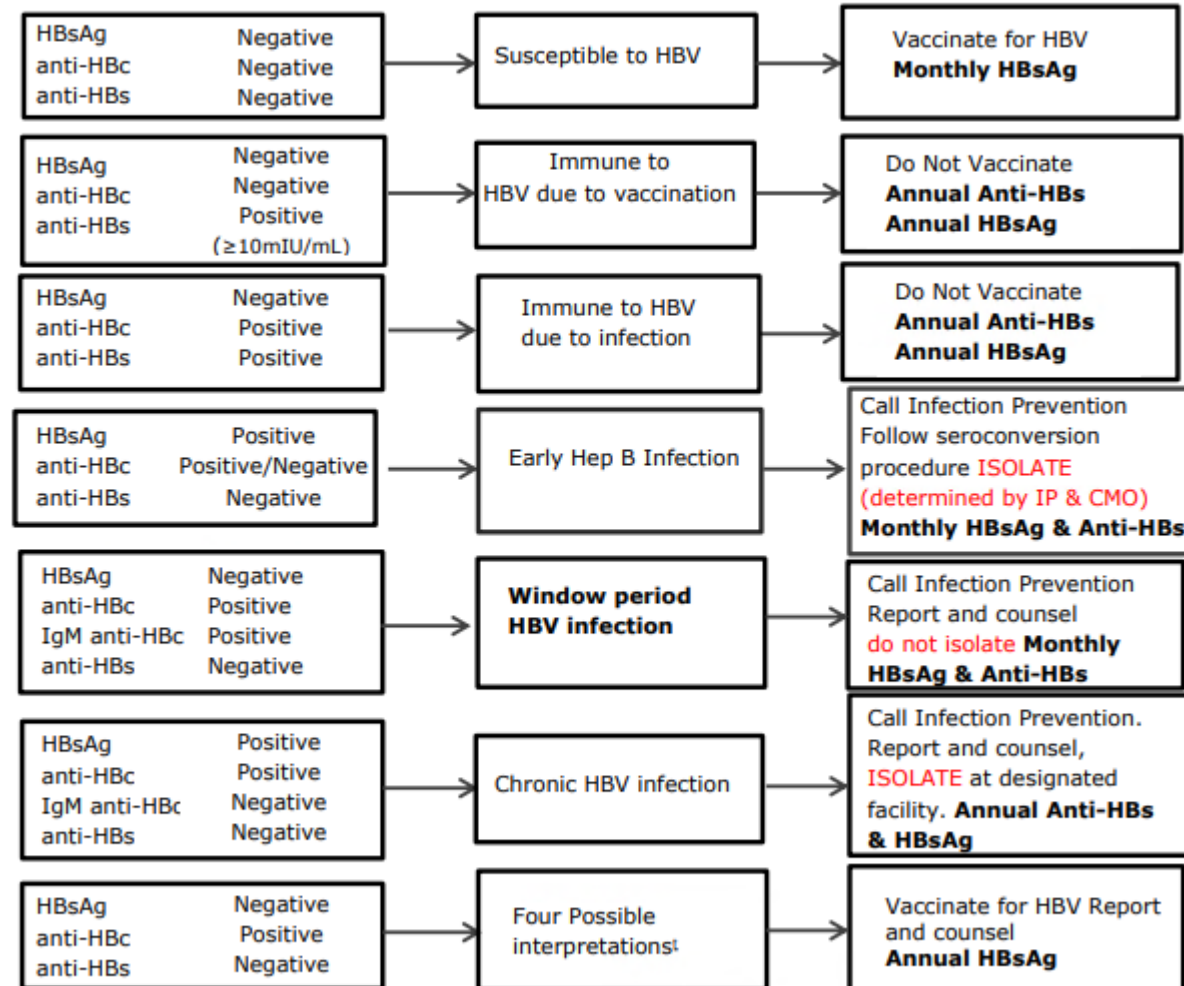
Adapted from materials by the Hennepin County Community Health Department and the Minnesota Department of Health

HBV Results Interpretation



Policy # IC-H6003 & CDC Interpretation Guidelines

Interpretation of Hepatitis B Laboratory Results, Vaccination and Follow Up Lab Protocol (Attachment B)



¹ Additional testing may be needed for diagnosis

² Possible interpretations 1) recovering from acute HBV infection, 2) distantly immune, test not sensitive enough to detect very low levels of anti-HBs in serum, 3) susceptible with a false-positive anti-HBc, or 4) chronically infected with an undetectable level of HBsAg in serum.

HBV Surveillance – New Patients



All new patients will have recent results (30 days prior to admit)

- ✓ **HBsAg** (surface antigen) **reactive** = **positive** for HBV
- ✓ **HBsAb** (surface antibody)
- ✓ **HBcAb** (Core Antibody)

If a patient has a negative HBsAg and negative HBsAb with a positive HBcAb, then an IgM anti-HBc must be ordered.

If a patient is diagnosed with chronic HBV infection, the patient will be dialyzed in isolation at **Burien** or **SeaTac**

****Always consult with Infection Prevention if unsure.****

HBV Testing



All patients who are susceptible to Hep B infection (HbsAg negative and HBsAb quantity less than 10) MUST have monthly HBsAg testing EVEN if they are in their vaccine series.

Important note about Hep B blood draws:

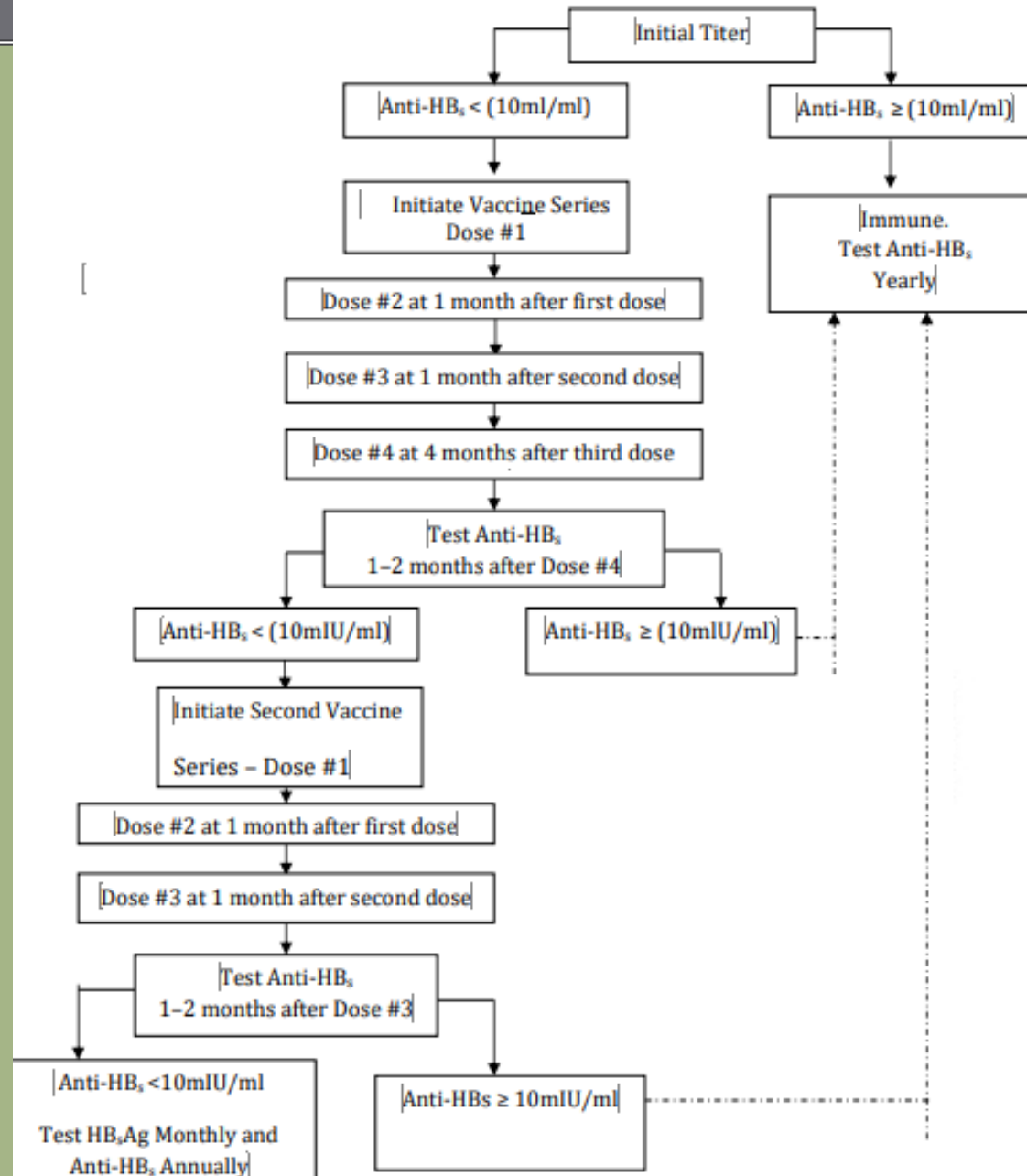
Do not draw Hep B labs if your patient has received the Hepatitis B vaccine within the last 14 days. Schedule the Hep B vaccine the same day as Hep B blood draws (monthly lab day) to avoid this.

Refer to above policy if HBsAg result is “positive” or “reactive” and patient labs drawn during the vaccination series.

Notify Infection Prevention Manager, CMO, and patient’s Nephrologist for ALL HBsAg reactive results.

NKC HEPATITIS B VACCINATION PROGRAM

Hepatitis B Vaccination Protocol



HBV Surveillance – Existing Patients

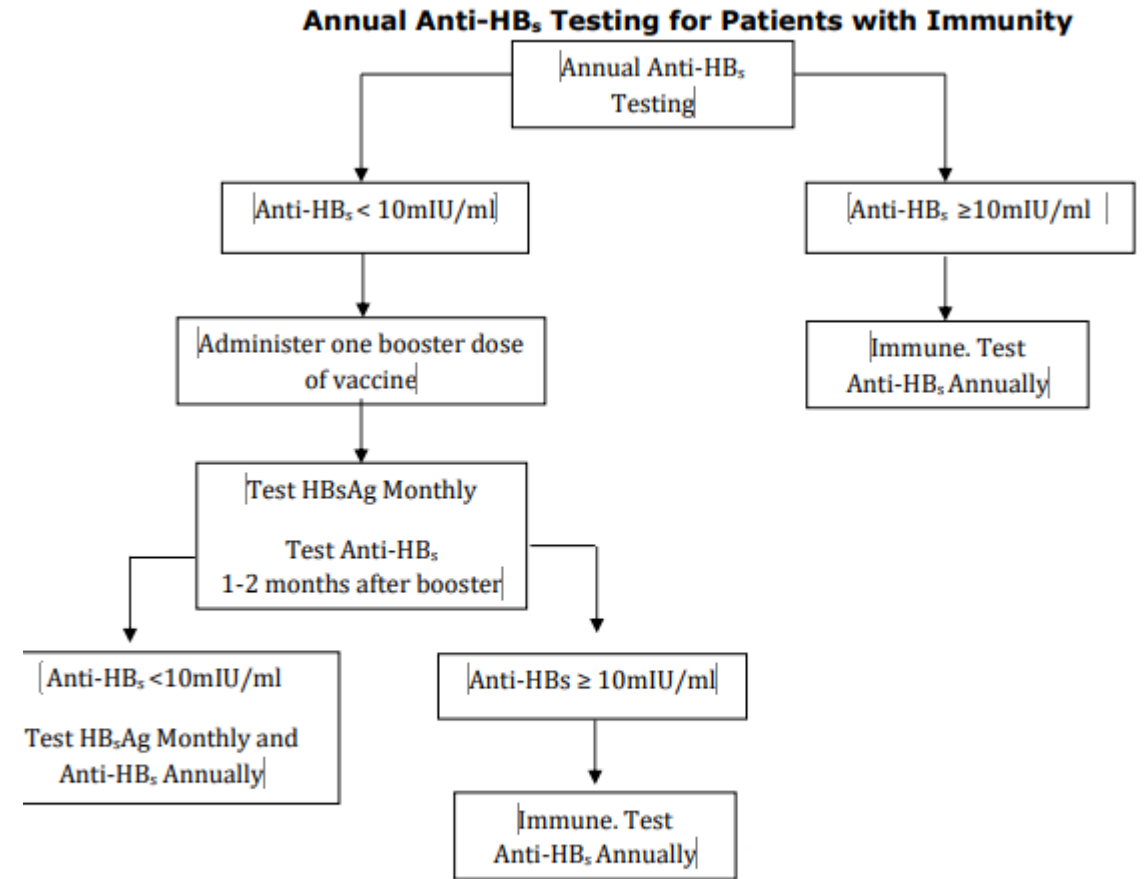


HBsAg

- ✓ Monthly if patient is **HBsAG negative** AND **Anti HBs negative**
- ✓ Annually (January) on **ALL PATIENTS**

Anti-HBs

- ✓ Annually (January) on **ALL PATIENTS**



***Note:** Only administer one booster if needed annually. Do not administer another booster dose if the patient does not reach an Anti-HBs of $\geq 10\text{mIU/ml}$. Continue monthly HBsAg monitoring and recheck Anti-HBs at next annual labs.

What if Hep B Surface Ag is +?



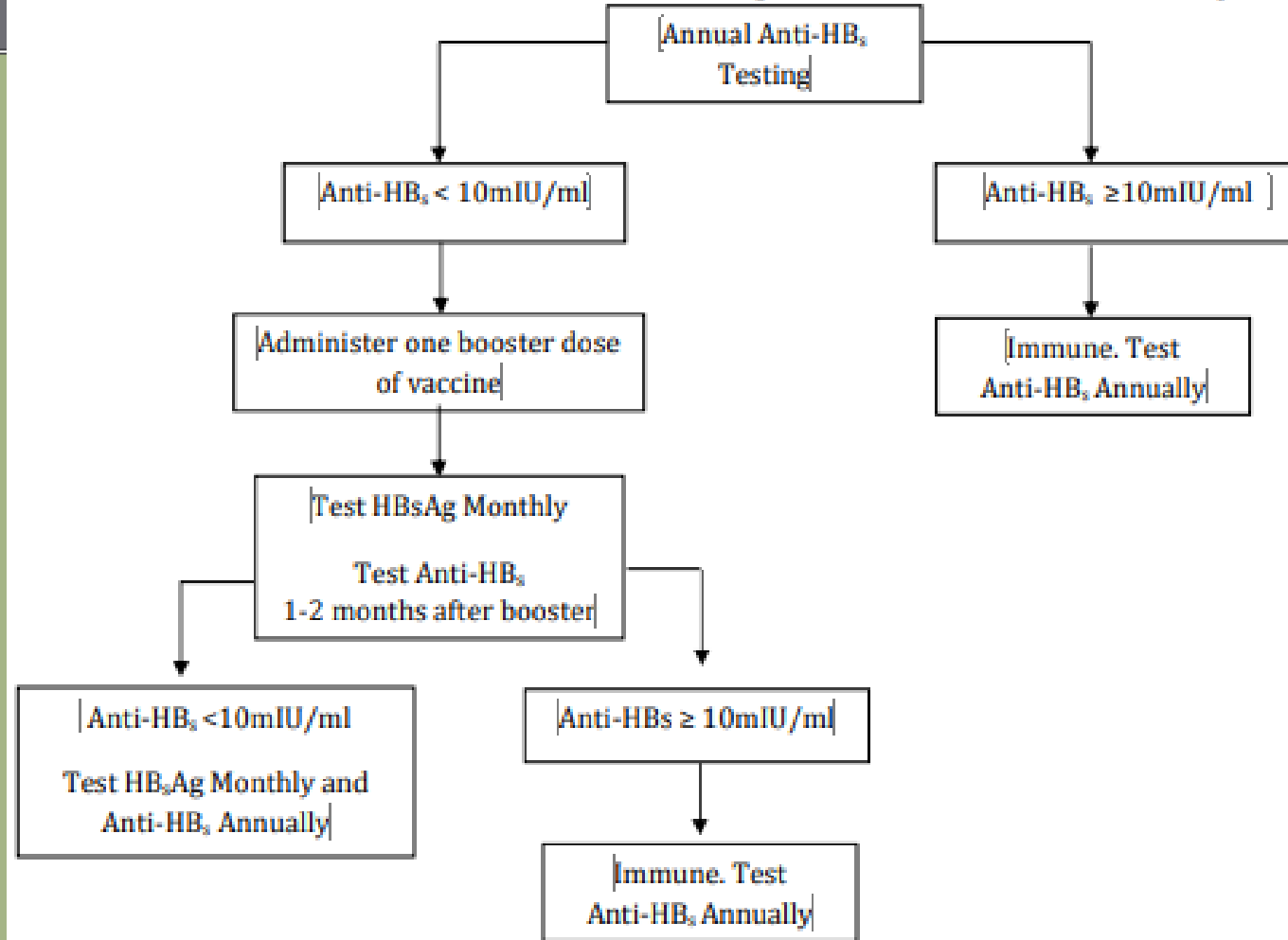
Think Sero-conversion

For Hep B (see **Policy IC-H6003** page 5)

1. Determine if the labs were drawn during the vaccination series
2. Notify Infection Prevention Manager, CMO, & patient's Nephrologist
3. Isolate patient & initiate contact precautions:
4. If possible, dialyze patient in a private room or dedicate a dialysis station at the end of the row - at least 6 feet away from next station
5. Dedicate all equipment to that one patient
6. Additional blood draws will be done to confirm
7. Staff assigned should be immune to Hep B (has antibodies). Verify this in K-Health.



Annual Anti-HB_s Testing for Patients with Immunity



***Note:** Only administer one booster if needed annually. Do not administer another booster dose if the patient does not reach an Anti-HBs of ≥ 10 mIU/ml. Continue monthly HB_sAg monitoring and recheck Anti-HBs at next annual labs.



Yearly Antibody Testing Patients with Immunity

< 10mIU/ml

Booster



> 10mIU/ml

Protected

Annual testing

It is more common for our patient's titers to drop than ours due to their immune status



Thank you!