



IP Update and Interpretation of Pertinent Laboratory Tests in Employee Health

MARIE KASSAI, RN, BSN, MPH, CIC, FAPIC



Goal

- Upon completion of presentation, the attendee will be able to:
 - State the current changes in IP
 - Define the components of laboratory tests used in Employee Health
 - Interpret the lab tests – Hepatitis B and C
 - Recommend follow up testing based on the lab results

Blood Work New Employees

- Required MMR – Varicella not required but is recommended because of the potential for outbreaks
- Results need only to state that the results indicate immunity. You do not need a rate of immunity

Measles and Communicable Disease Exposures

- Have a policy – New Employees
 - Evidence of immunity – include varicella
 - Results - Need to only state “ Immune” – do not need numbers
 - What to do if employee is non-immune
 - Vaccination or what to do if exposed
- Pre-admission Evaluation – especially if treating pediatric patients
 - Include question of exposure in the community
 - Was it a direct exposure – siblings, school friends, etc
 - If you think is a possible risk to other patients, cancel

Testing for TB – New Hires

- 2 step TST for all new employees with previous negative test
- T Spot or Quantiferon can replace the TST to screen for Latent MTB
- IGRA s **cannot distinguish** between latent infection and active tuberculosis disease, and **should not be used as a sole method for diagnosis of active TB**, which is a microbiological diagnosis.
- A **positive IGRA** result may not necessarily indicate TB infection, but can also be caused by infection with non-tuberculous mycobacteria.
- A **negative IGRA** does not rule out active TB disease; a number of studies have shown that up to a quarter of patients with active TB have negative IGRA results. **Refer to CDC Guideline**

TB Screening

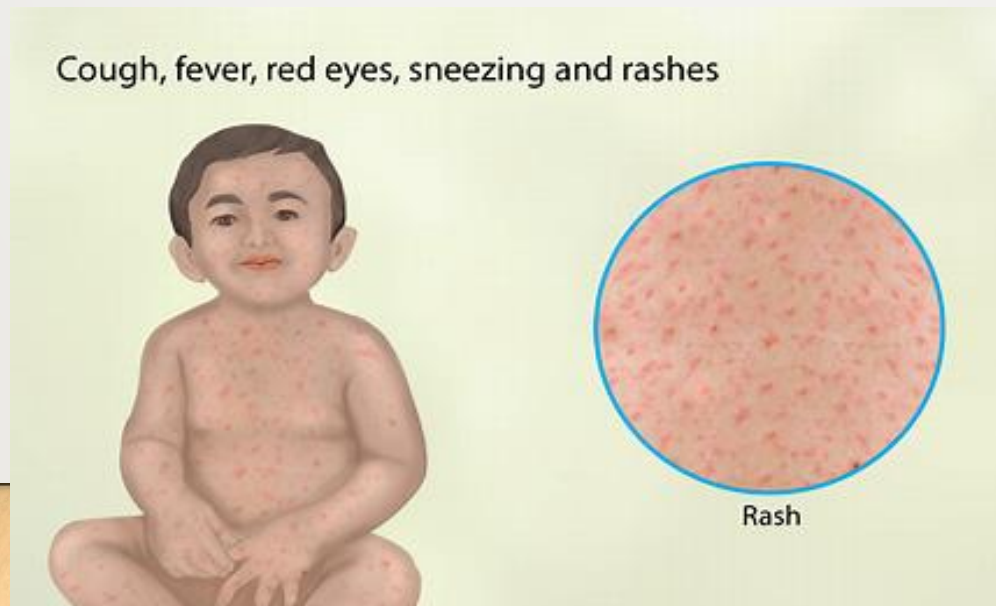
- 2 step TST for all new employees with previous negative test
- If positive, do a chest xray
- Annually, have positive employee complete a medical screening.

Measles Outbreak

- Report possible cases or exposures to local Board of Health
- Board of Health will confirm the case, evaluate potential for transmission and make recommendations.
- You will need to follow the Board of Health guidance to identify lists of possible exposures, vaccinations recommended, quarantine and absence from work

Other Issues to Consider

- If you do surgery for LTC facilities or residences – question any outbreaks
- Question outbreaks in local communities or schools



Update – AORN

- Revised Surgical Attire Guideline – To be available July 2019
- Statement that Chloroprep and alcohol used in the OR has to be locked – not required per AORN AND TJC
- All changes in AORN Guidelines to be located in Guideline Essentials on AORN site
- One Guideline now available is the **Sterile Technique**

New Info in Sterile Technique – SAMPLE

- Cover portion of sterile field that will not be immediately used
- An interdisciplinary team should develop and implement interventions to decrease door openings - traffic
- Info on Laminar Flow
- Heater Cooler devices should be positioned away from the sterile field
- When using intraoperative debridement devices – develop interventions to minimize exposure to employees and the sterile field



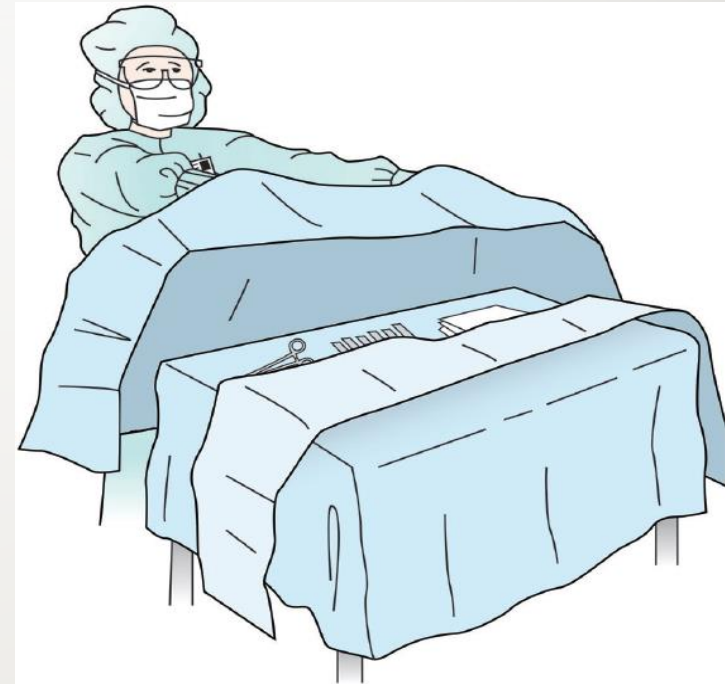
Other Information Available on Guidelines Page

- Powerpoints – previous slide an example
- Gap Analysis
- P&P
- Case Studies
- FAQs
- Other

Monitoring of Covered Sterile Tables

- Measures for preventing contamination to covered sterile fields include:

- A communication process for notifying personnel where a covered sterile table is located
- Limiting traffic in locations with covered sterile tables
- Direct observation



Two-“Cuffed”-Drape Method of Table Covering

Other Issues

- Information temperature and humidity – on website
- Infection Prevention Meetings to be held according to bylaws – some quarterly /some twice a year
- Issues related to the fluids on the Tower in the Endo referred to the State
- St79 – 2017
- IFU – Keep current
- Know what the expiration dates mean – Tips for sharp instruments

The Basic Terminology – Microbial Immunology

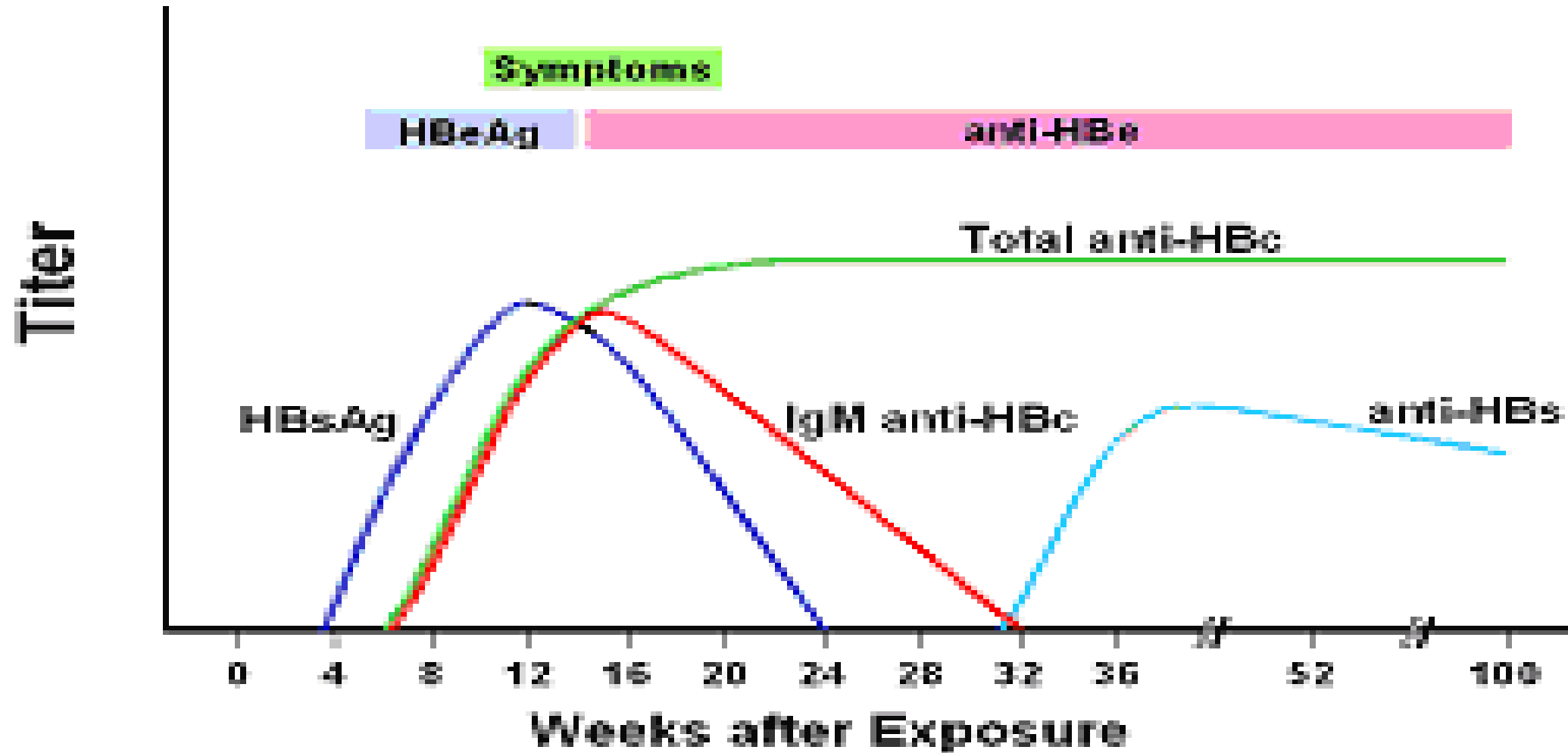
- Serologic tests for immune responses
- Specific immunoglobulin - IG
 - Used to determine whether antibodies are present due to acute disease or the patient is in the convalescent stage
 - IgM – indicates a primary immune response
 - Wane over time
 - Become undetectable over time – as IgG antibody titer rises
 - IgG – is the quantitative measure of the antibody
 - Occurs a few weeks after the IgM
 - Indicates evidence of immunity – possible long term
- Note: sometimes after a second exposure (ex: vaccine) initial response will be boosted.

Viral Hepatitis Overview

Types of Viral Hepatitis

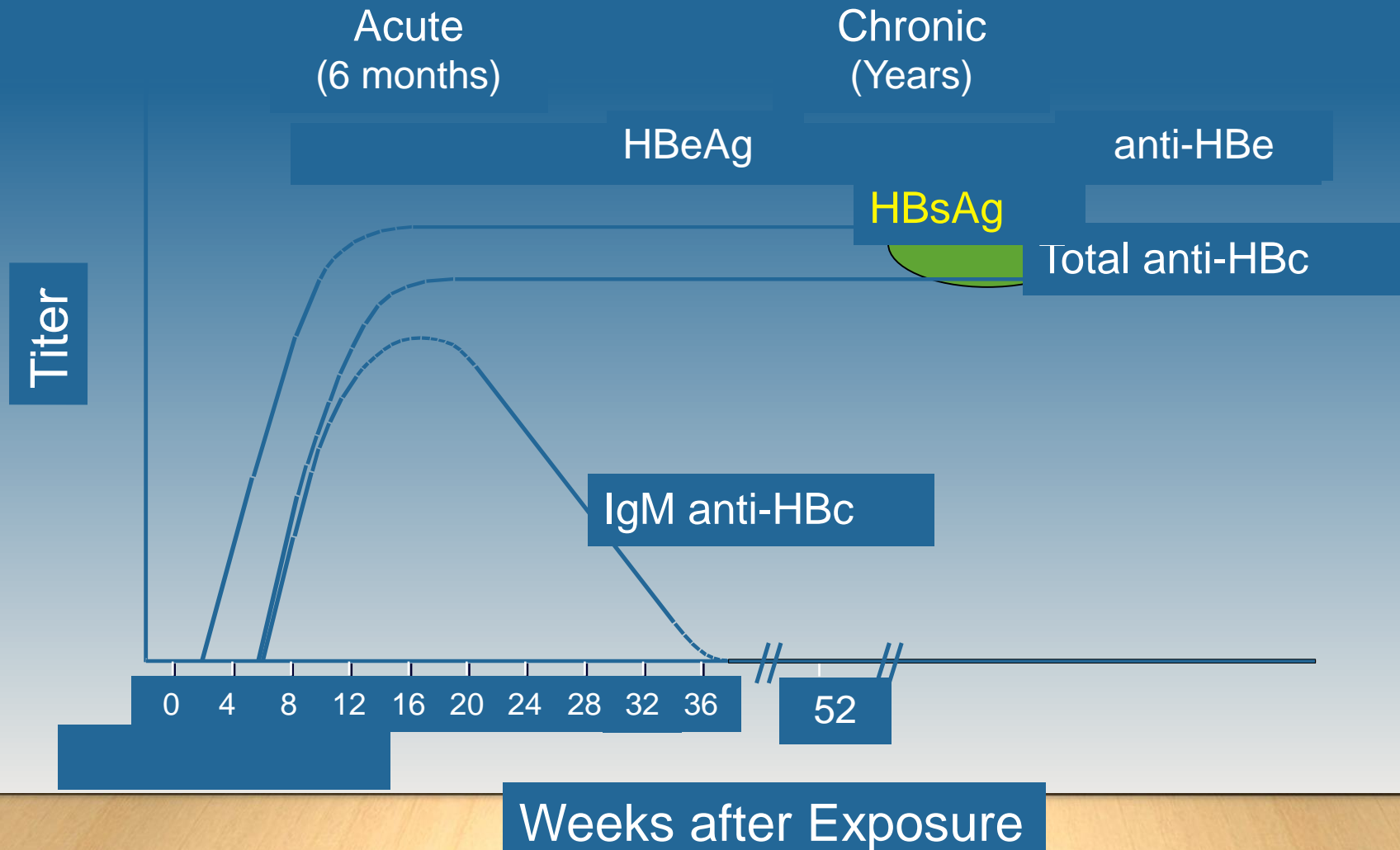
	A	B	C	D	E
Source of virus	feces	blood/ blood-derived body fluids	blood/ blood-derived body fluids	blood/ blood-derived body fluids	feces
Route of transmission	fecal-oral	percutaneous permucosal	percutaneous permucosal	percutaneous permucosal	fecal-oral
Chronic infection	no	yes	yes	yes	no
Prevention	pre- exposure immunization	pre/post- exposure immunization	blood donor screening; risk behavior modification	pre/post- exposure immunization; risk behavior modification	ensure safe drinking water

Acute Hepatitis B Virus Infection with Recovery Typical Serologic Course



Progression to Chronic Hepatitis B Virus Infection

Typical Serologic Course




Interpretation of Hepatitis B Serologic Test Results

Interpretation & Recommendation	Test 1	Test 2	Test 3
	HBsAg	HBsAb (anti-Hbs)	HBcAb (anti-Hbc)
<p>Not Immune Has not been infected, but is still at risk for possible future infection. Needs protection. Get the Vaccine</p>	—	—	—
<p>Immune Controlled-Protected* Surface antibodies present due to natural infection. You have recovered from a prior hepatitis B infection. You cannot infect others. The Vaccine is Not Needed</p>	—	+	+
<p>Immune You may have already been vaccinated. You cannot infect others. The Vaccine is Not Needed</p>	—	+	—
<p>Hepatitis B Infection Positive surface antigen, which means hepatitis B virus is present. You can spread the virus to others. Find a doctor who is knowledgeable about hepatitis B for further evaluation.</p>	+	—	+
<p>**Unclear Several different interpretations are possible. You may need to have these tests repeated. See * below. The vaccine may or may not be needed. Find a doctor who is knowledgeable about hepatitis B for further evaluation.</p>	—	—	+

*Inform doctors about a prior hepatitis B infection and include this as part of your health history.

**Positive Hepatitis B Core-Antibody Test Result (HBcAb+)

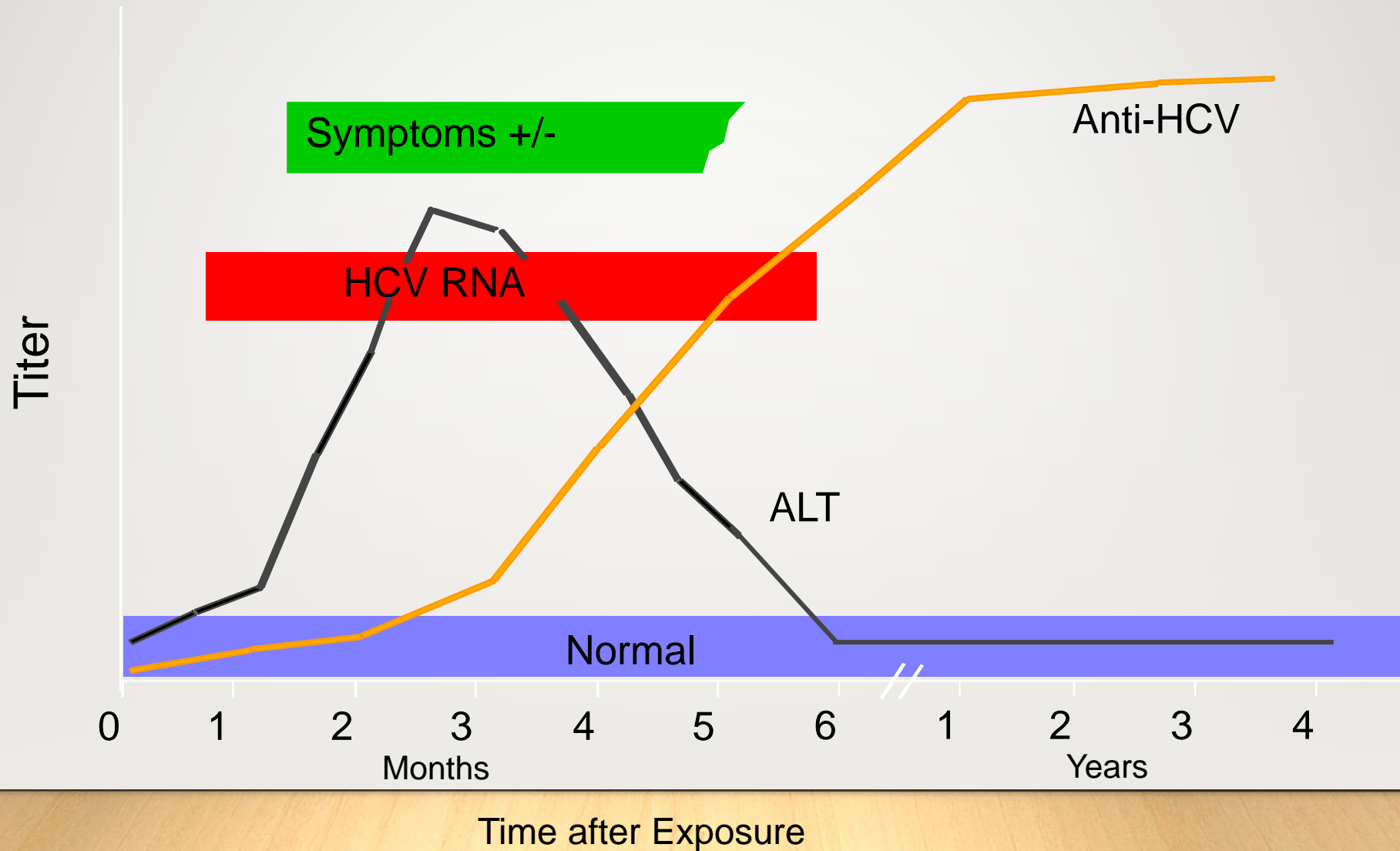
1. May be recovering from acute hepatitis B infection
2. May be distantly immune and test is not sensitive enough to detect low level of HBsAb (or anti-HBs) in serum
3. May be susceptible with a false positive HBcAb or anti-HBc
4. May be undetectable level of HBsAg present in the serum and the person is actually chronically infected



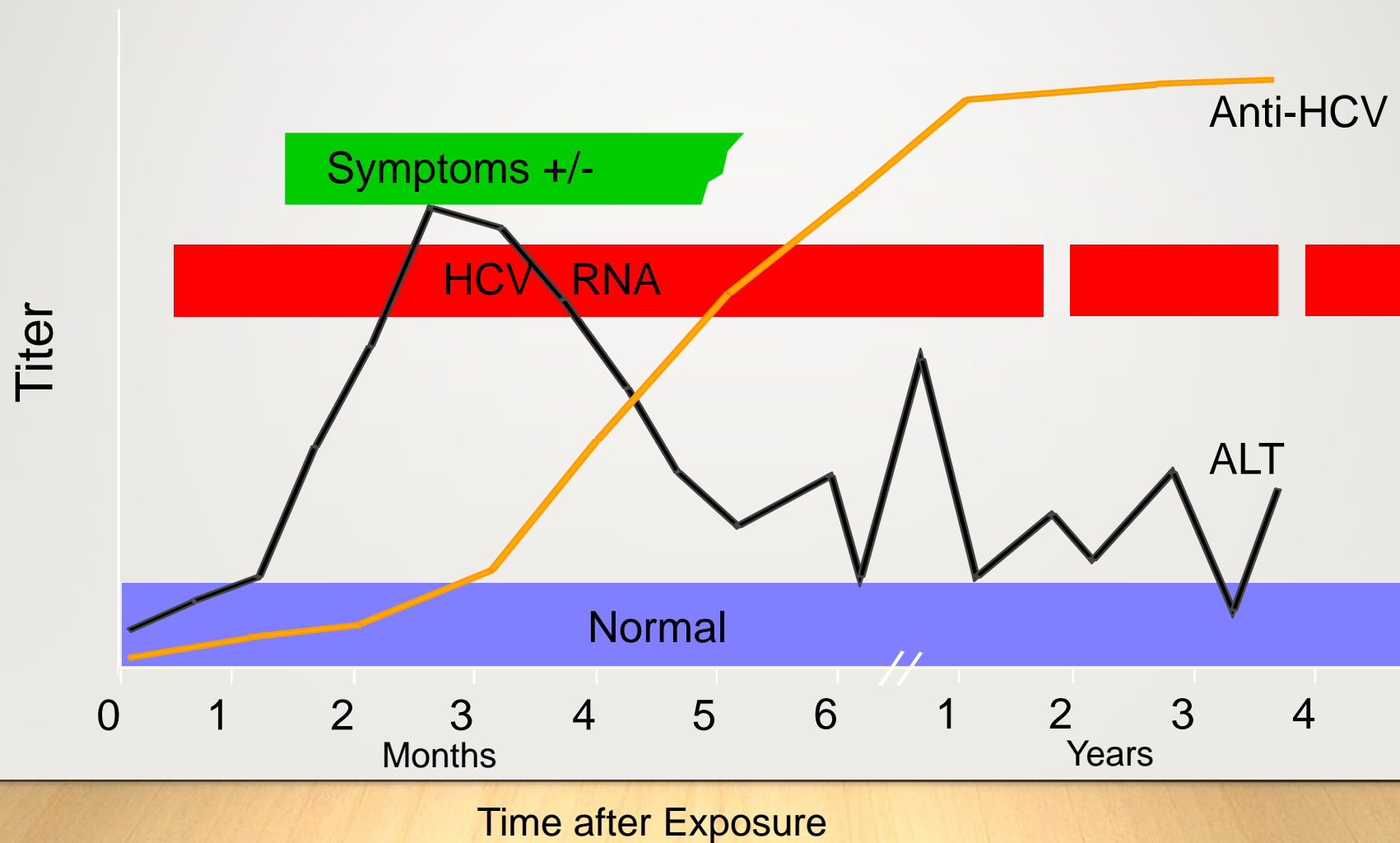
Hepatitis B – What's New

- Heplisav B (HepB-CpG)) - a NEW Vaccine – 11/2017
 - Is a yeast-derived vaccine with a novel adjuvant
 - Two Doses required
 - Not recommended for pregnant women
 - Should not be given with other types of Hepatitis B Vaccine

Pattern of Acute HCV Infection with Recovery



Serologic Pattern of Acute HCV Infection With Progression to Chronic Infection



Interpretation of Results of Tests for Hepatitis C Virus (HCV) Infection and Further Actions



U.S. Department of
Health and Human Services
Centers for Disease
Control and Prevention

TEST OUTCOME	INTERPRETATION	FURTHER ACTIONS
HCV antibody nonreactive	No HCV antibody detected	Sample can be reported as nonreactive for HCV antibody. No further action required. If recent exposure in person tested is suspected, test for HCV RNA.*
HCV antibody reactive	Presumptive HCV infection	A repeatedly reactive result is consistent with current HCV infection, or past HCV infection that has resolved, or biologic false positivity for HCV antibody. Test for HCV RNA to identify current infection.
HCV antibody reactive, HCV RNA detected	Current HCV infection	Provide person tested with appropriate counseling and link person tested to care and treatment.†
HCV antibody reactive, HCV RNA not detected	No current HCV infection	No further action required in most cases. If distinction between true positivity and biologic false positivity for HCV antibody is desired, and if sample is repeatedly reactive in the initial test, test with another HCV antibody assay. In certain situations,‡ follow up with HCV RNA testing and appropriate counseling.

* If HCV RNA testing is not feasible and person tested is not immunocompromised, do follow-up testing for HCV antibody to demonstrate seroconversion. If the person tested is immunocompromised, consider testing for HCV RNA.

† It is recommended before initiating antiviral therapy to retest for HCV RNA in a subsequent blood sample to confirm HCV RNA positivity.

‡ If the person tested is suspected of having HCV exposure within the past 6 months, or has clinical evidence of HCV disease, or if there is concern regarding the handling or storage of the test specimen.



Review the Handouts

Questions ???