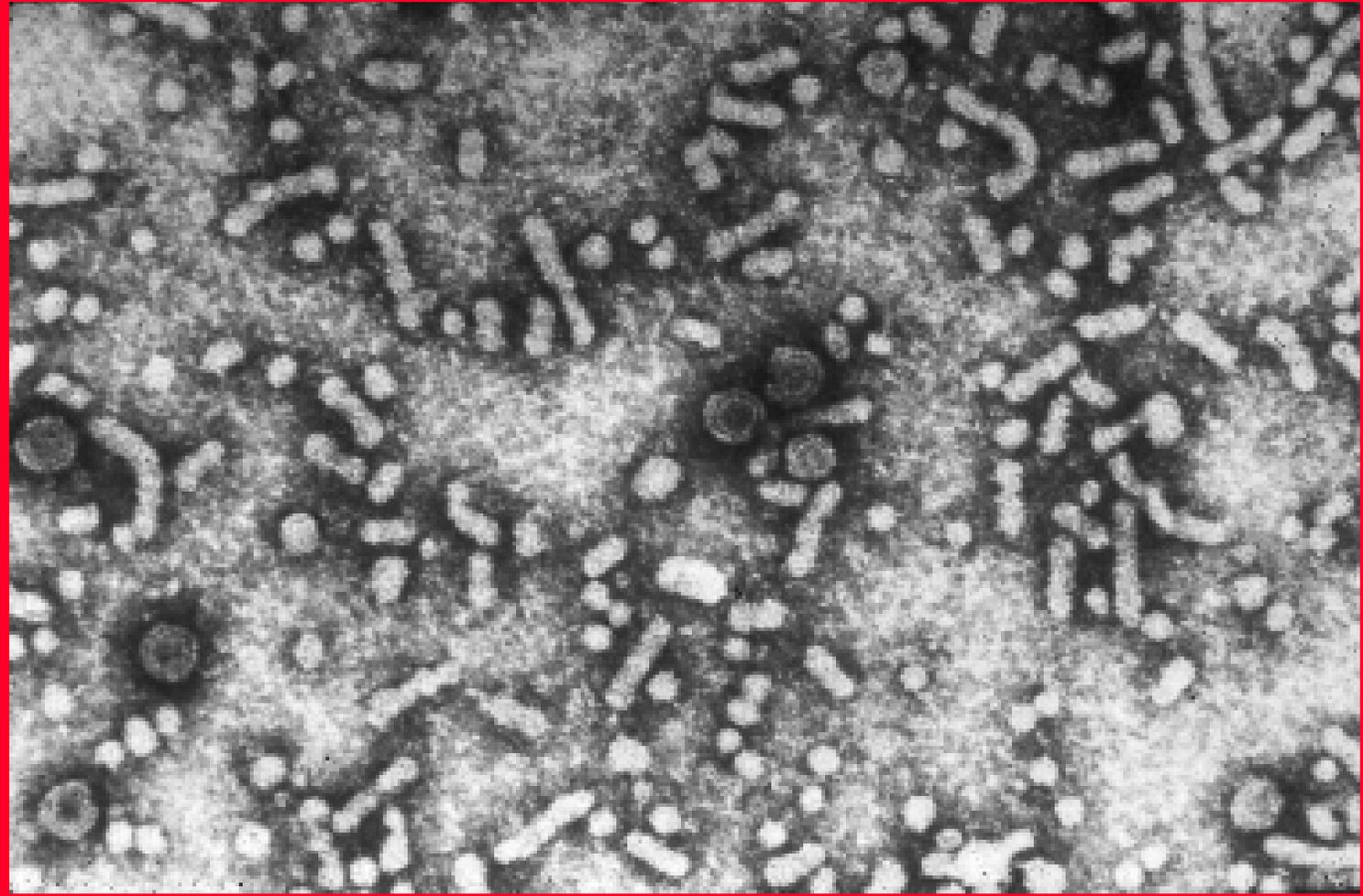


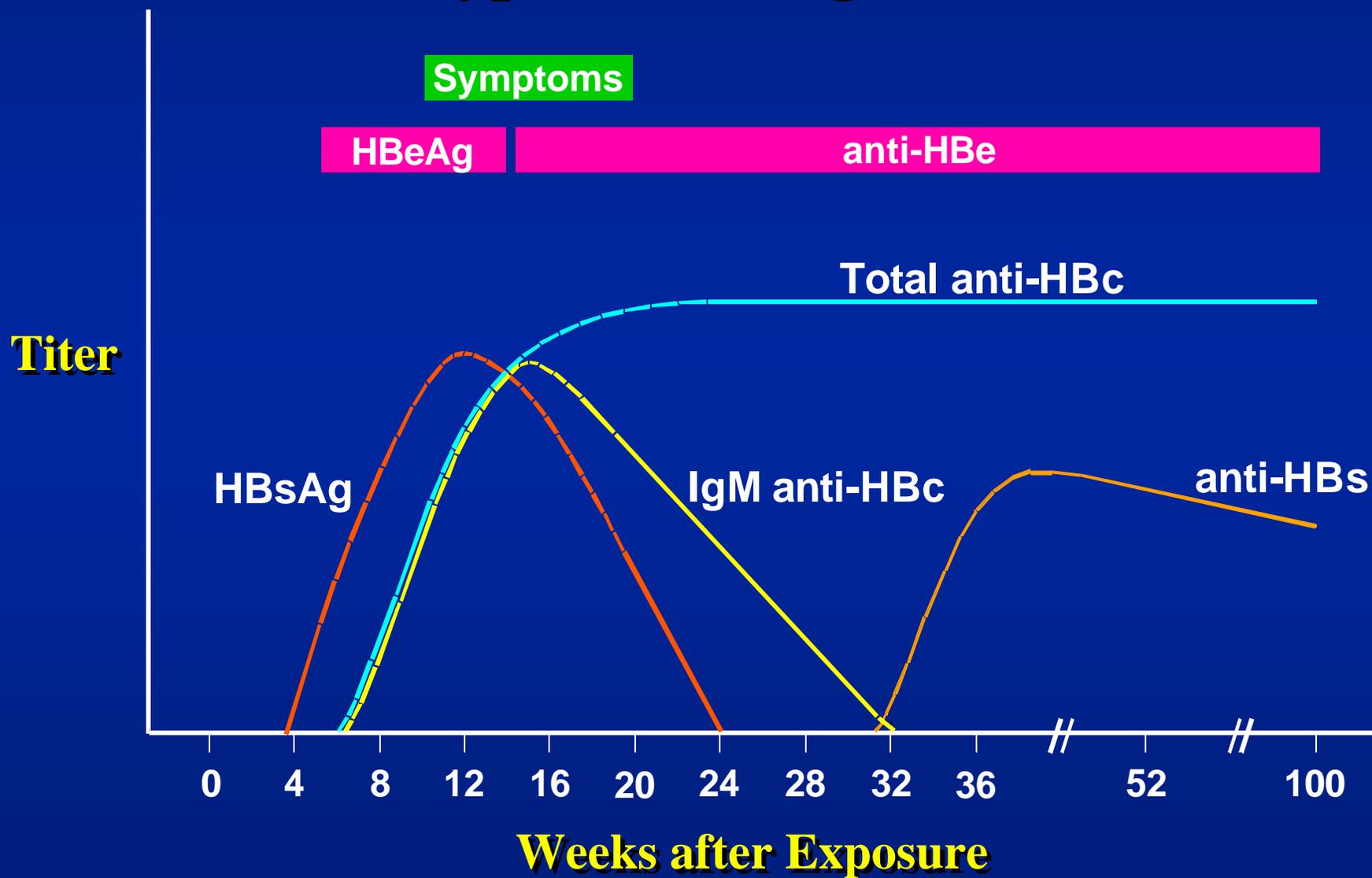
Hepatitis B Virus



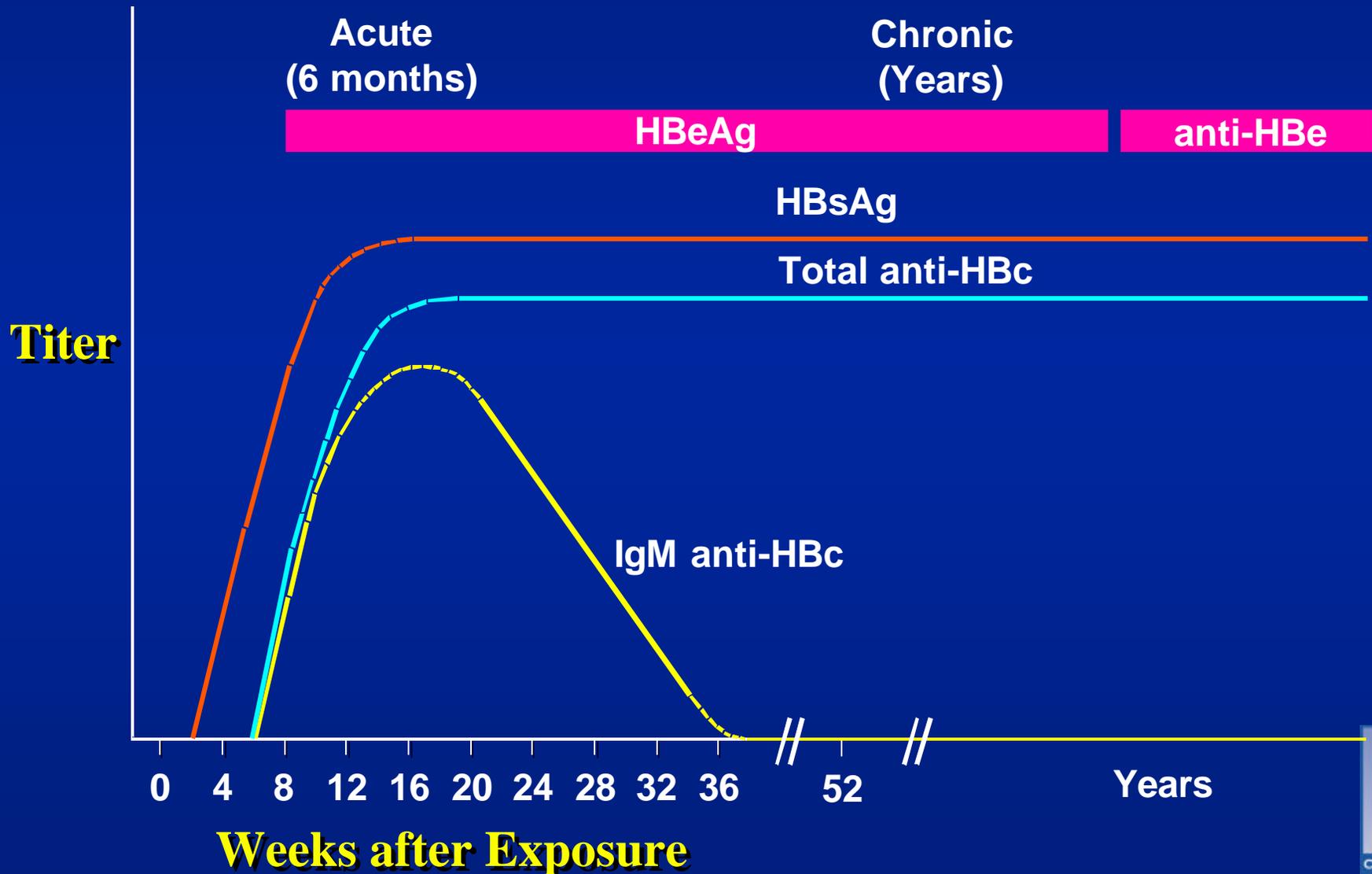
Hepatitis B - Clinical Features

- Incubation period: Average 60-90 days
Range 45-180 days
- Clinical illness (jaundice): <5 yrs, <10%
≥5 yrs, 30%-50%
- Acute case-fatality rate: 0.5%-1%
- Chronic infection: <5 yrs, 30%-90%
≥5 yrs, 2%-10%
- Premature mortality from chronic liver disease: 15%-25%

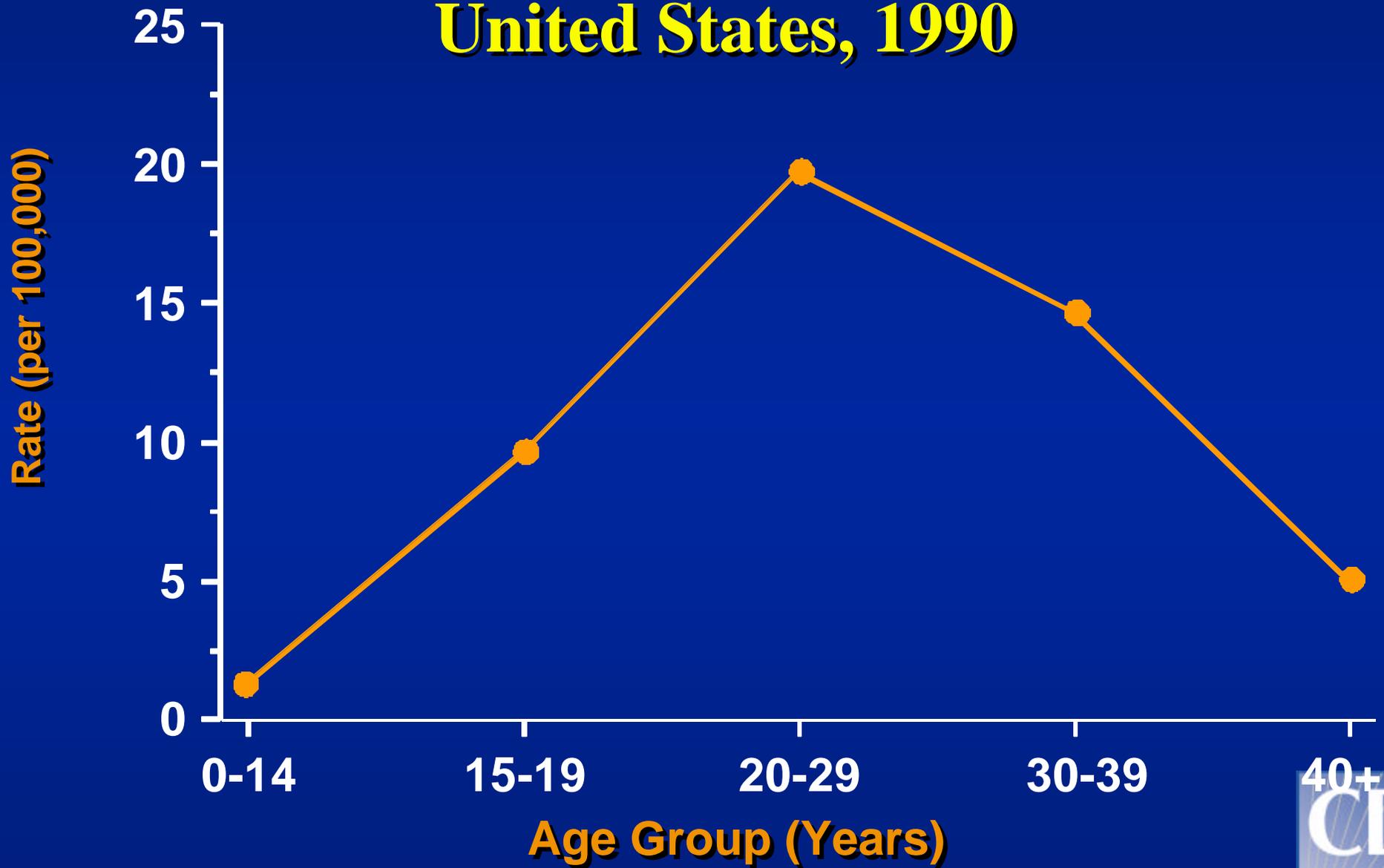
Acute Hepatitis B Virus Infection with Recovery Typical Serologic Course



Progression to Chronic Hepatitis B Virus Infection Typical Serologic Course

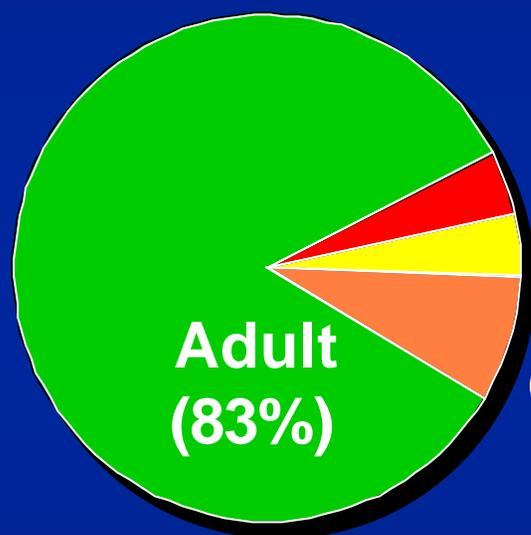


Rate of Reported Hepatitis B by Age Group United States, 1990



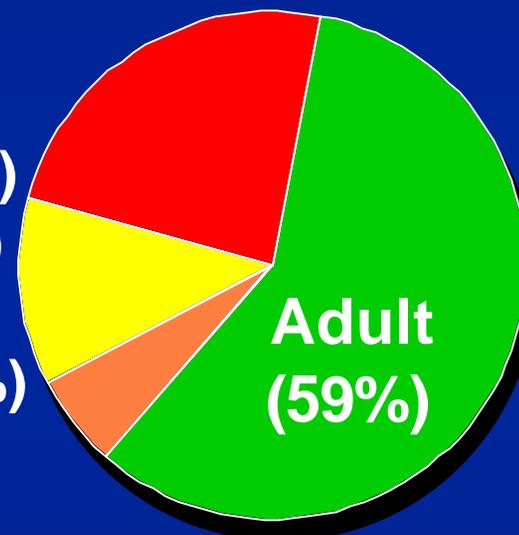
Source: CDC Viral Hepatitis Surveillance Program

Age at Acquisition of Acute and Chronic HBV Infection United States, 1989 Estimates



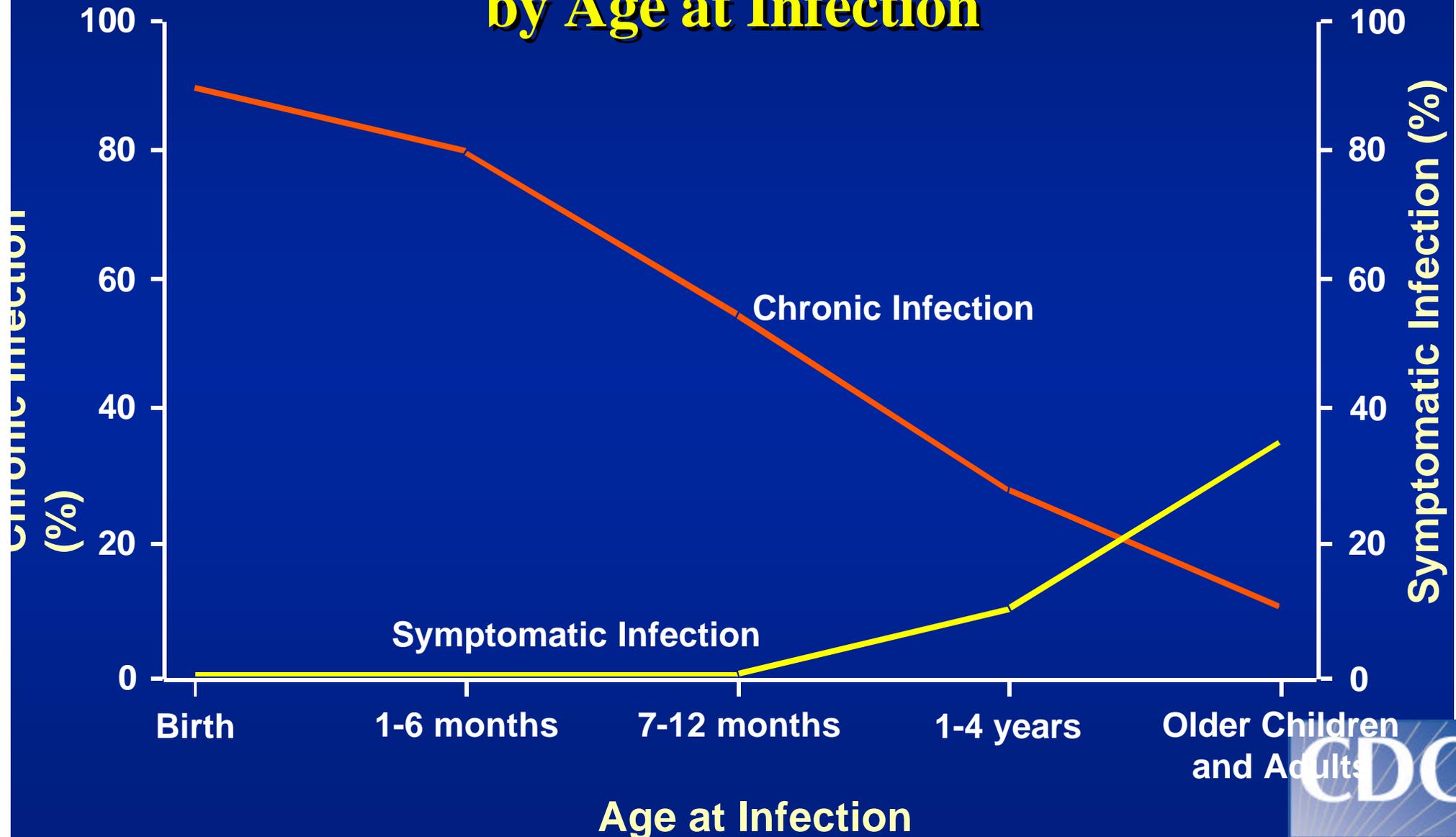
Acute HBV Infections

(4%) Perinatal (24%)
(4%) Children (12%)
(1-10 yrs)
(8%) Adolescent (6%)



Chronic HBV Infections

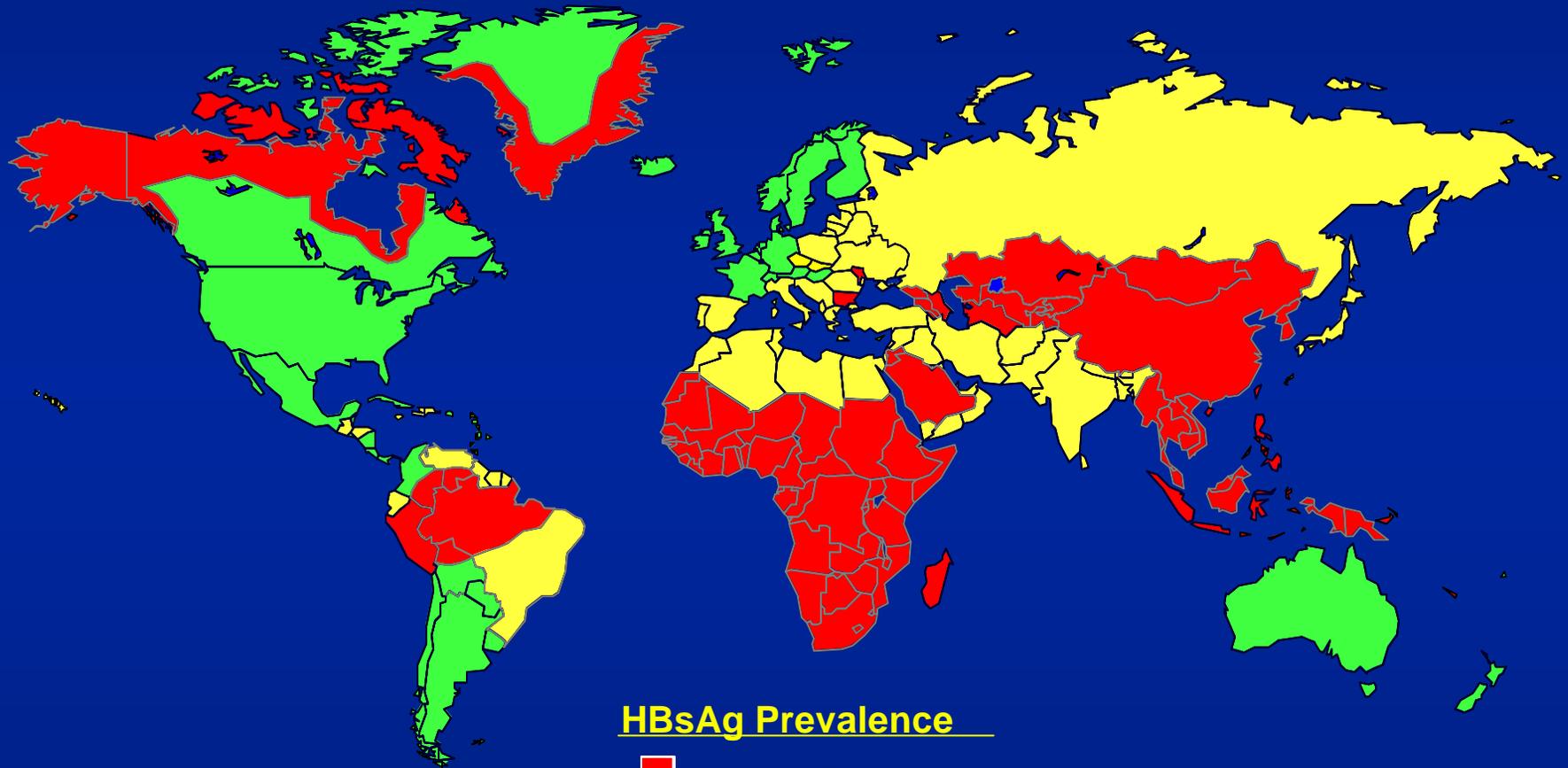
Outcome of Hepatitis B Virus Infection by Age at Infection



Global Patterns of Chronic HBV Infection

- **High ($\geq 8\%$): 45% of global population**
 - lifetime risk of infection $>60\%$
 - early childhood infections common
- **Intermediate (2%-7%): 43% of global population**
 - lifetime risk of infection 20%-60%
 - infections occur in all age groups
- **Low ($<2\%$): 12% of global population**
 - lifetime risk of infection $<20\%$
 - most infections occur in adult risk groups

Geographic Distribution of Chronic HBV Infection



HBsAg Prevalence

- $\geq 8\%$ - High
- 2-7% - Intermediate
- $< 2\%$ - Low

Concentration of Hepatitis B Virus in Various Body Fluids

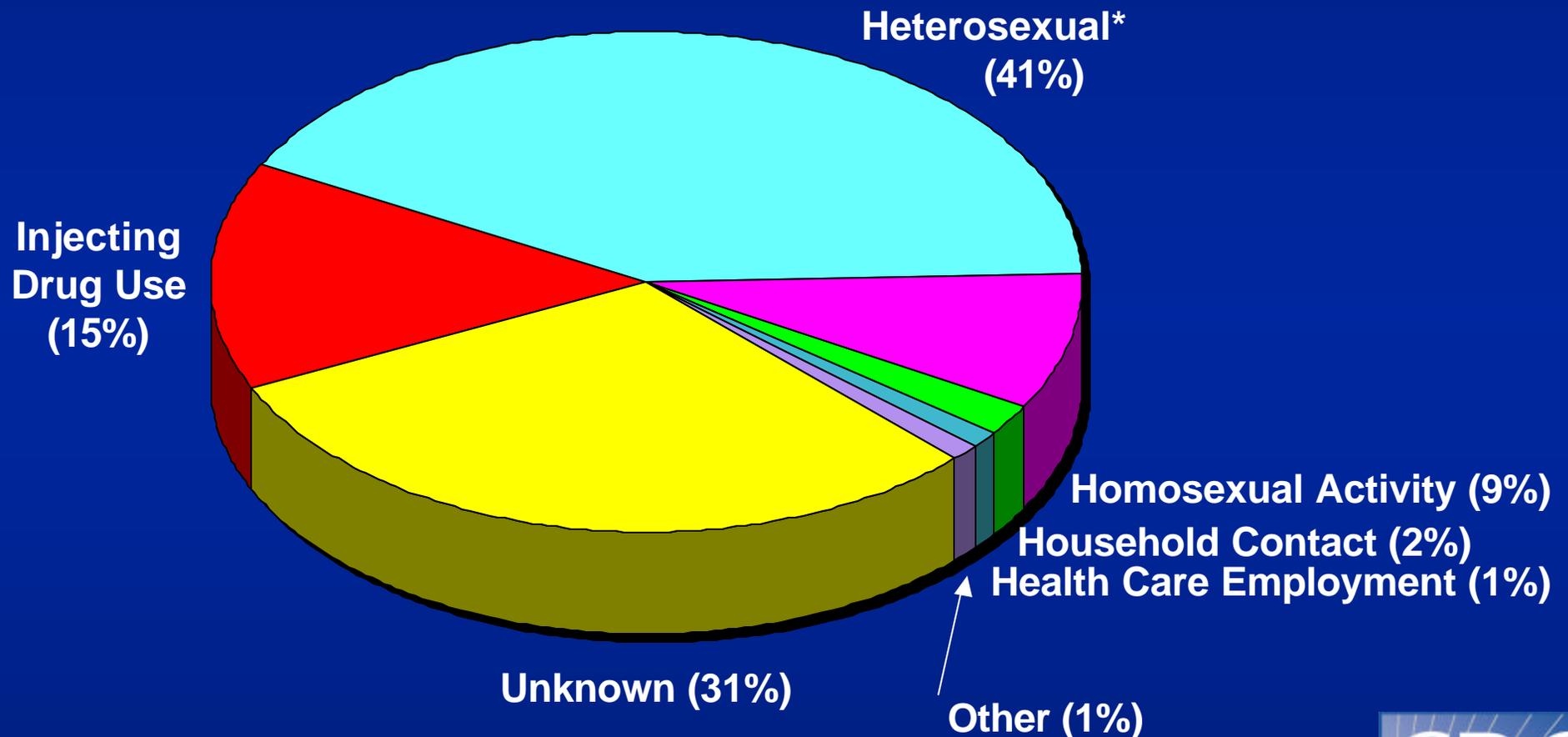
High	Moderate	Low/Not Detectable
blood	semen	urine
serum	vaginal fluid	feces
wound exudates	saliva	sweat
		tears
		breastmilk

Hepatitis B Virus

Modes of Transmission

- Sexual
- Parenteral
- Perinatal

Risk Factors for Acute Hepatitis B United States, 1992-1993



* Includes sexual contact with acute cases, carriers, and multiple partners.
Source: CDC Sentinel Counties Study of Viral Hepatitis

Elimination of Hepatitis B Virus Transmission United States

Objectives

- Prevent chronic HBV Infection
- Prevent chronic liver disease
- Prevent primary hepatocellular carcinoma
- Prevent acute symptomatic HBV infection

Elimination of Hepatitis B Virus Transmission United States

Strategy

- Prevent perinatal HBV transmission
- Routine vaccination of all infants
- Vaccination of children in high-risk groups
- Vaccination of adolescents
 - all unvaccinated children at 11-12 years of age
 - “high-risk” adolescents at all ages
- Vaccination of adults in high-risk groups

Estimated Incidence of Acute Hepatitis B United States, 1978-1995

