

Hepatitis B Phases: Learnings from the Alaska Native Hepatitis B Cohort

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The Alaska Native Hepatitis B Population-Based Cohort

- 53,000 persons screened in the 1980s
- 40,000 vaccinated
- 1650 HBsAg+ > 1 year; 1350 consented to prospective f/u study
 - 1350 consented: average f/u 33 years
 - 30,000 stored sera plus fixed and frozen tissue
 - Five HBV genotypes found: A2, B6, C2, D2,3,F1b
 - FibroScans since 2015 every 2-years
 - Audit C scores each visit
 - Adjusted for presence or absence of MASLD

Phases of Chronic HBV

Phase	HBeAg	HBV DNA	ALT	Liver Biopsy	Treatment
Immune Tolerant	Positive	Very high >200,000 IU/ml	Normal	No/mild inflammation/Fibrosis	Not Recommended
Immune Active	Positive or Negative	>2,000 IU/ml Usually >20,000	Elevated	Inflammation and Fibrosis; Degree Varies	Treatment Candidates
Inactive	Negative	<2,000 IU/ml	Normal	Normal or mild	Not Recommended
Grey Zone Phase	Negative	Fluctuating <2,000 to >2,000	Fluctuating Normal to Abnormal	Fibrosis/Inflammation Fluctuates	?
Partial Cure	Negative but HBsAg positive	<100	Normal	HBsAg gene integrated hepatocyte	Not Indicated
HBsAg Clearance Functional Cure	Negative	Not detected or <100 IU/ml	Normal	No inflammation variable fibrosis	Not Indicated

Grey Zone and Partial Cure Phases Definition

- Grey Zone definition we use: 2 or more episodes over a 5-year period non-concurrent of HBV DNA $<2,000$ and $>2,000$ IU/ml and ALT above and below normal
 - **38% of our cohort has fit this description**
- Partial cure Phase
 - Persistent HBsAg+ for past 5-years
 - HBV DNA < 100 IU/ml: Never been treated with antiviral therapy
 - **143 Persons**
 - **54 persons repeatedly HBV DNA <10 or negative**
 - **89 persons persistently between 10 and 100 IU/ml**