

# Hepatitis B & C: Natural History Transmission Health Maintenance

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Delta AETC  
Ryan White All-Grantees Meeting, DC  
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## Natural History – Hepatitis B

- **Acute infection**
  - Chance of symptoms related to age at exposure
  - Appear 1-4 months after exposure
  - Jaundice, malaise, fatigue, joint pain, nausea, emesis, diarrhea, rash, anorexia, RUQ pain
  - Can lead to fulminant liver failure



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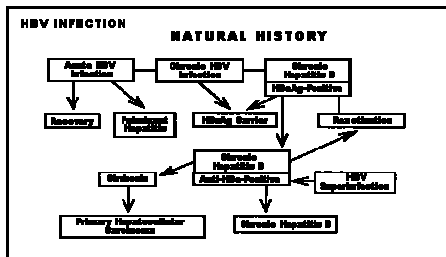
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## Natural History of Hepatitis B



Source: American Gastroenterological Association



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## Natural History – Hepatitis B

- **Chance of chronicity**
  - Inversely related to age at exposure
  - 90% infants
  - 5% adolescents and adults
- **Symptoms with chronicity**
  - Three forms: chronic active, chronic persistent, carrier
  - Many asymptomatic
  - May have swelling of abdomen or legs, jaundice, fatigue, mental confusion, bleeding, abdominal pain
  - Outside the liver: renal disease, vascular inflammation



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## Ascites and Caput Medusae



Borrowed from [http://www.immune.org.nz/site\\_resources/Professionals/Diseases/Hepatitis\\_B/Hepatitis-B.jpg](http://www.immune.org.nz/site_resources/Professionals/Diseases/Hepatitis_B/Hepatitis-B.jpg)



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## Spider Angioma



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## Jaundice and Edema



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Borrowed from <http://www.pathology.vcu.edu/education/dental2/images/case3-3.jpg>



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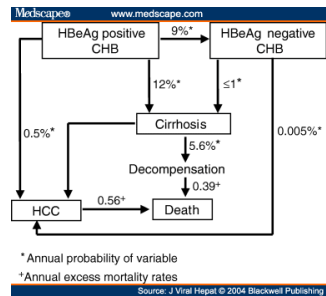
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## Natural History of Hepatitis B



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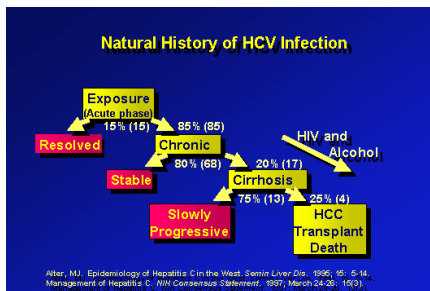
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## Natural History of Hepatitis C



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## Natural History – Hepatitis C

- **Wilcox's Rules of Twenty:**
  - 15-20% - chronicity
  - 20% of those with chronic disease develop cirrhosis
  - Development of cirrhosis occurs in 20-40 years
  - Of those with cirrhosis, about 5% (1 in 20) develop hepatocellular carcinoma
  - Chance of perinatal transmission – 1 in 20 (5%)



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## Transmission – Hepatitis B

- **Most common: Sexual**
- **Perinatal transmission**
  - During or shortly after delivery
  - No effect of c-section
  - Breast feeding not linked to passage
  - Infants given HBIg and hepatitis B vaccine soon after birth
- **Needles:**
  - Tattooing
  - Sharing
  - Acupuncture
  - Ear piercing
- **Close contact**
- **Blood transfusion**
- **Organ transplantation**
- **Hospital setting**



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## Transmission – Hepatitis C

- **Exposure to blood**
  - IVDU
  - Blood transfusion
  - Sharing of razors
  - Sharing of toothbrushes
  - Sharing of straw with intranasal cocaine use
  - Sharing of nail clippers
- **Sexual transmission**
  - Higher in MSM
  - Long-term partner – no need to start using condoms
  - New partner – recommend condom use
  - Higher risk in patients co-infected with HIV
- **Perinatal transmission**



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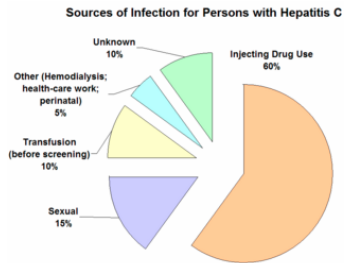
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## Hepatitis C Transmission



Borrowed from [http://content.answers.com/main/content/wp/en-commons/thumb/9/98/350px-Sources\\_of\\_Infection\\_for\\_Persons\\_with\\_Hepatitis\\_C\\_\(CDC\)\\_US.png](http://content.answers.com/main/content/wp/en-commons/thumb/9/98/350px-Sources_of_Infection_for_Persons_with_Hepatitis_C_(CDC)_US.png)



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## Transmission Comparison

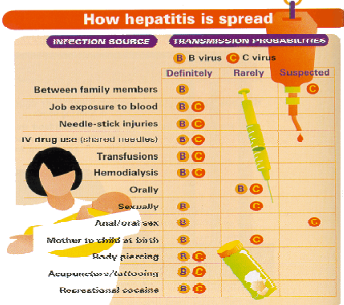


Image borrowed from <http://www.hivandhepatitis.com/images2007/pg28-1rg.gif>



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## Things to Avoid

- **Acetaminophen**
  - Should limit to less than 2000 mg po daily
- **If has esophageal varices**
  - Ibuprofen
  - Aspirin



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## Things to Avoid

- **Saltwater Exposure**
  - Especially when from the Gulf
  - Gloves when handling raw seafood



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## Health Maintenance

- **Diet**
  - Avoid alcohol
  - Varied, balanced diet is best
  - Avoid raw seafood



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## Hepatitis B Vaccination

### BOX 7. Settings in which hepatitis B vaccination is recommended for all adults

- Sexually transmitted disease treatment facilities
- Human immunodeficiency virus testing and treatment facilities
- Facilities providing drug-abuse treatment and prevention services
- Health-care settings targeting services to injection-drug users
- Correctional facilities
- Health-care settings targeting services to men who have sex with men
- Chronic-hemodialysis facilities and end-stage renal disease programs
- Institutions and nonresidential day care facilities for developmentally disabled persons

Borrowed from <http://www.cdc.gov/MMWR/preview/mmwrhtml/figures/i516a1b7.gif>



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## Hepatitis B Vaccination

- Series of 3 shots – 0, 1, and 6 months
- Poor response in those co-infected with HIV if have a low CD4 count or uncontrolled HIV viral load
- Screen for need for vaccination by checking the:
  - Hepatitis B surface antibody
  - Hepatitis B core antibody



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## Hepatitis A Vaccination



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## Summation

- Hepatitis B frequently causes illness early on but rarely is chronic in adolescents and adults
- Hepatitis C rarely causes infections early on but has about a 80-85% chance of becoming chronic
- Transmission for hepatitis B is usually sexual but may also be passed by exposure to blood or other bodily fluids or by close contact
- Transmission of Hepatitis C is usually by blood/needle exposure and rarely sexually
- Health maintenance for patients with chronic liver disease includes limiting the amount of acetaminophen ingested, avoiding raw seafood and alcohol, and getting hepatitis A and B vaccinations if not immune.



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