

We start today's session on  
**Hepatitis Awareness**

by

The name of Allah the most  
beneficent the most merciful -  
Amen

# Hepatitis

## A Public Health Problem

### What you need to know

Dr. Fuad Hameed Rai

Chief Medical Advisor

Maroof International Hospital,

Islamabad

And

Health Ambassador

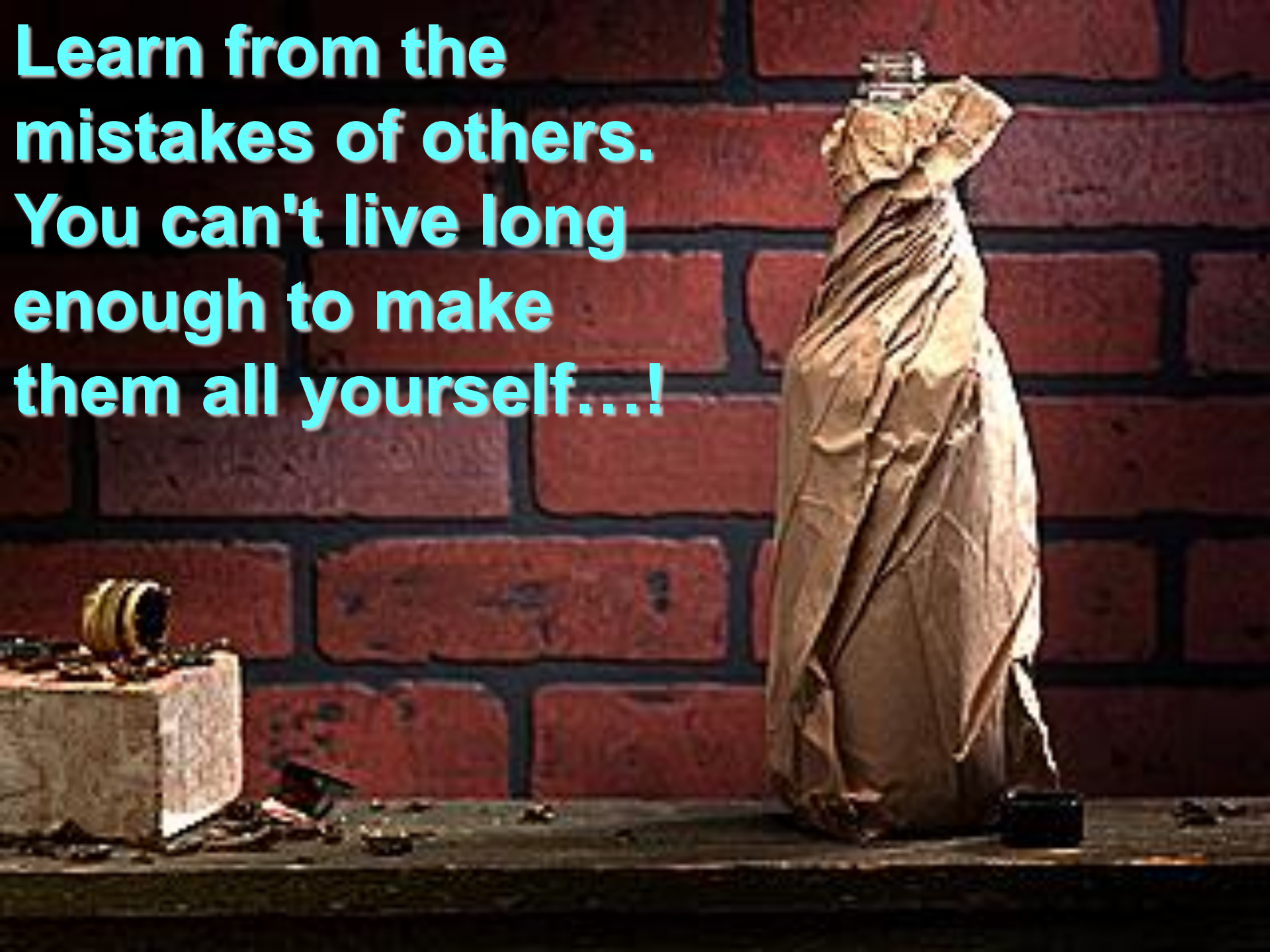
National Centre For Sexual And Reproductive Health

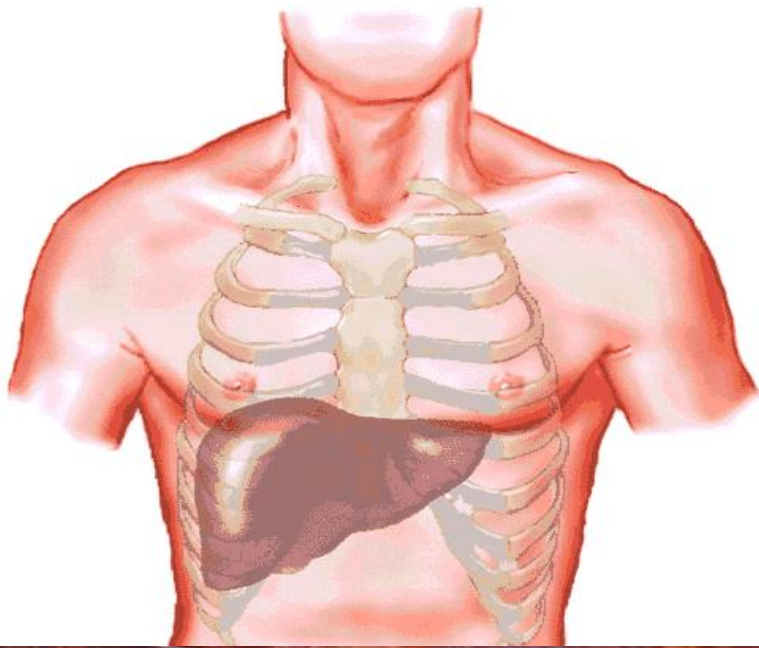
[drfuadrai@yahoo.co.uk](mailto:drfuadrai@yahoo.co.uk)

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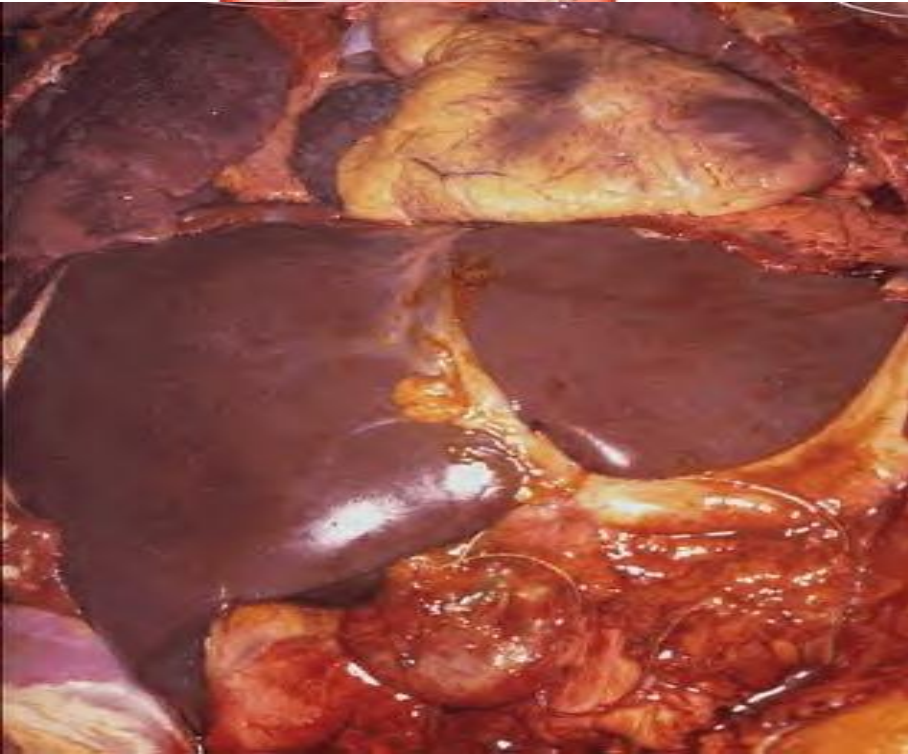
**Learn from the  
mistakes of others.  
You can't live long  
enough to make  
them all yourself...!**





# THE LIVER

- 1.5 kg, wedge shape
- 4 lobes, Right, left, Caudate, Quadrate.
- Double blood supply
- Hepatic arteries
- Portal – Venous blood
- Acini / Portal triad.
- Lobules – central. V



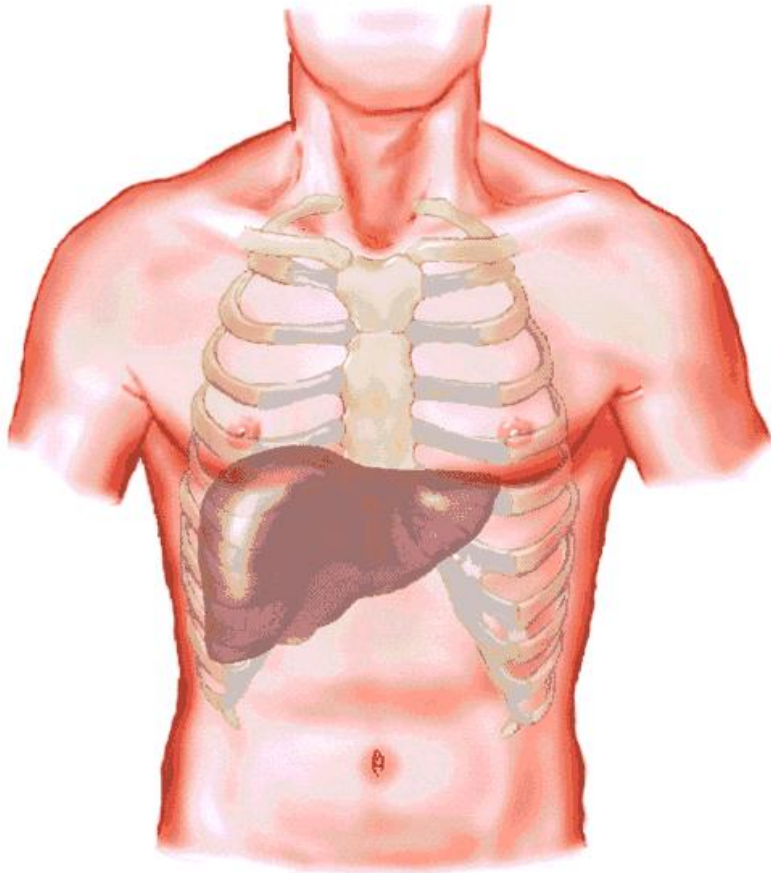


**LIVER REMOVED FROM ABDOMINAL  
CAVITY**



Liver Cirrhosis

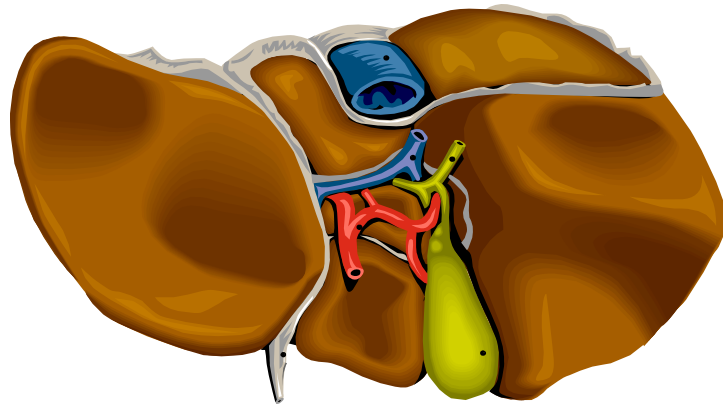
# THE LIVER



- FUNCTIONS :
  - MAKES BLOOD CLOTTING Factors
  - STORES VITAMINS, IRON AND GLYCOGEN
  - METABOLIZES SUGAR, PROTEIN AND FAT TO PRODUCE ENERGY
  - REMOVES WASTE PRODUCTS AND FILTERS TOXIC SUBSTANCES FROM BLOOD

# What are hepatitis A, B, C & E ?

- ◆ Viruses that infect the liver
- ◆ Cause inflammation of the liver
- ◆ Can lead to major liver damage and even death





# How is hepatitis A & E virus spread?

Through close person to person contact or swallowing of contaminated food or water

- ◆ Using street drugs
- ◆ Having sex with an infected person
- ◆ Living with someone who is Infected with the virus
- ◆ Eating in dirty utensils
- ◆ Poor hygiene

# Hepatitis A & E

## Pathogenesis

**Enters through the mouth (ingestion)**



**Multiplies in oropharynx and intestinal epithelial cells**



**Bloodstream**



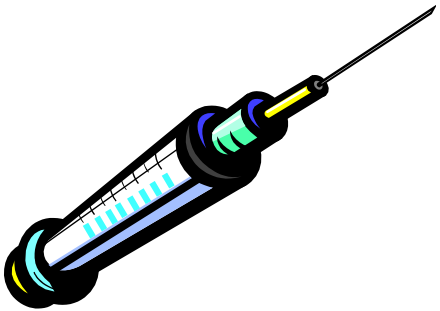
**Liver**

# Is hepatitis A & E serious?

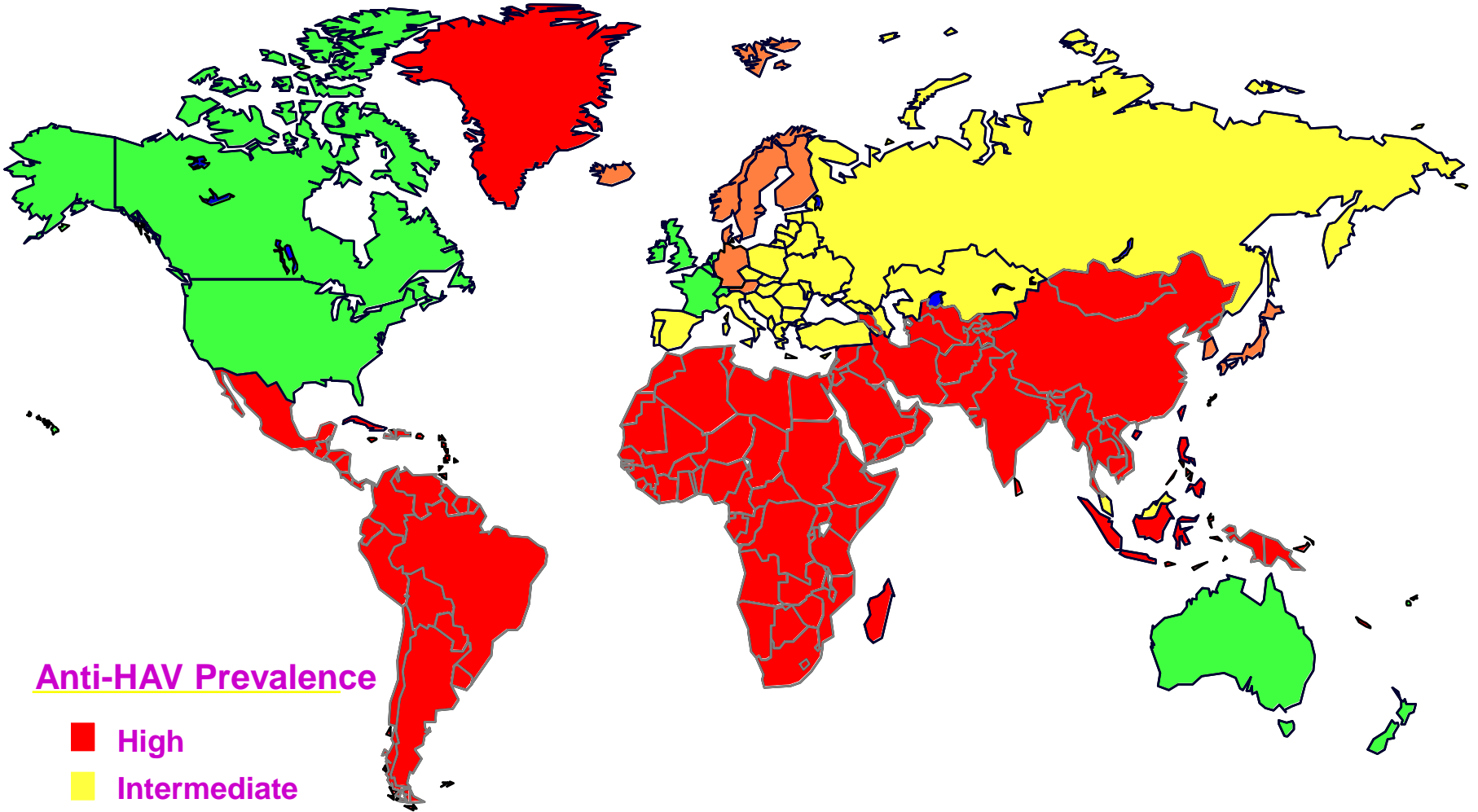
**YES!**

- ◆ Can cause serious illness for several months
- ◆ Can cause death in people with liver damage

**Very common among injection drug users**  
**Hepatitis A can be prevented!**



# Geographic Distribution of HAV Infection



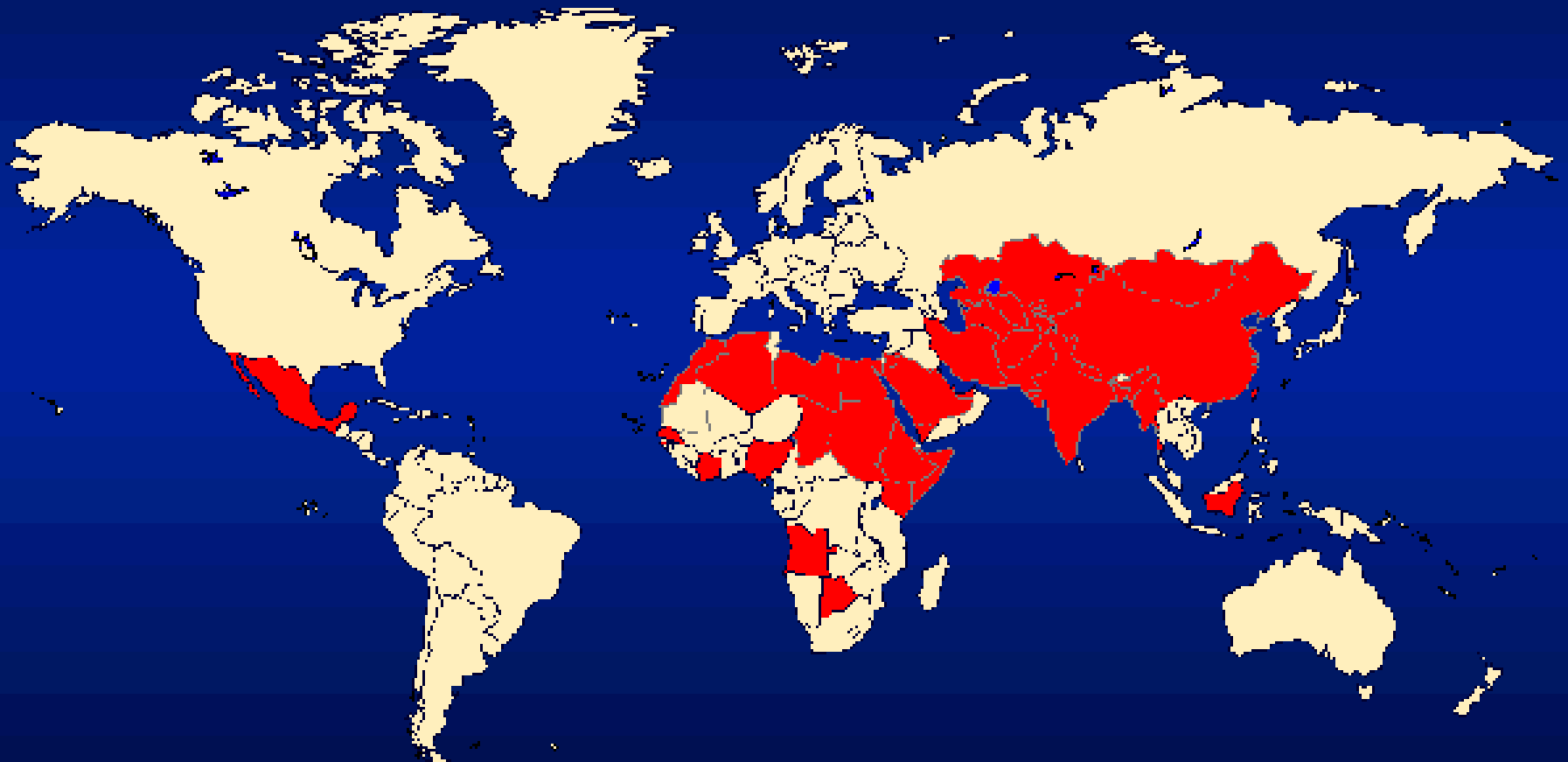
## Anti-HAV Prevalence

- High
- Intermediate
- Low
- Very Low

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# Geographic Distribution of Hepatitis E

Outbreaks or Confirmed Infection in >25% of Sporadic Non-ABC Hepatitis



# Prevention of Hepatitis A

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- **Vaccination (pre-exposure)**
- **Immune globulin**
- **Good hygiene**
- **Clean water systems; avoidance of food contamination**

# What should I do?

- ◆ Get the vaccine (shots) against hepatitis A
  - ✓ **Dose 1**, get today
  - ✓ **Dose 2**, get 6 months from now



# How is hepatitis A & E virus spread and how can we protect ourselves?

## Avoid

Close person to person contact or swallowing of contaminated food or water

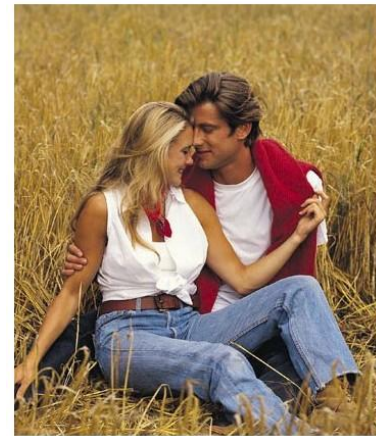
- ◆ Do not use street drugs
- ◆ Be careful in having sex with an infected person
- ◆ Take proper preventive measures while living with someone who is Infected
- ◆ Avoid Eating in dirty utensils
- ◆ Improve hygiene



# How is hepatitis B & C virus spread?

Through contact with infected blood or having sex with an infected person

- ◆ Having multiple sex partners
- ◆ Having unprotected sex with an infected person
- ◆ Sharing needles or works when shooting drugs or getting tattoos/piercing
- ◆ Using used syringe
- ◆ Using used razor



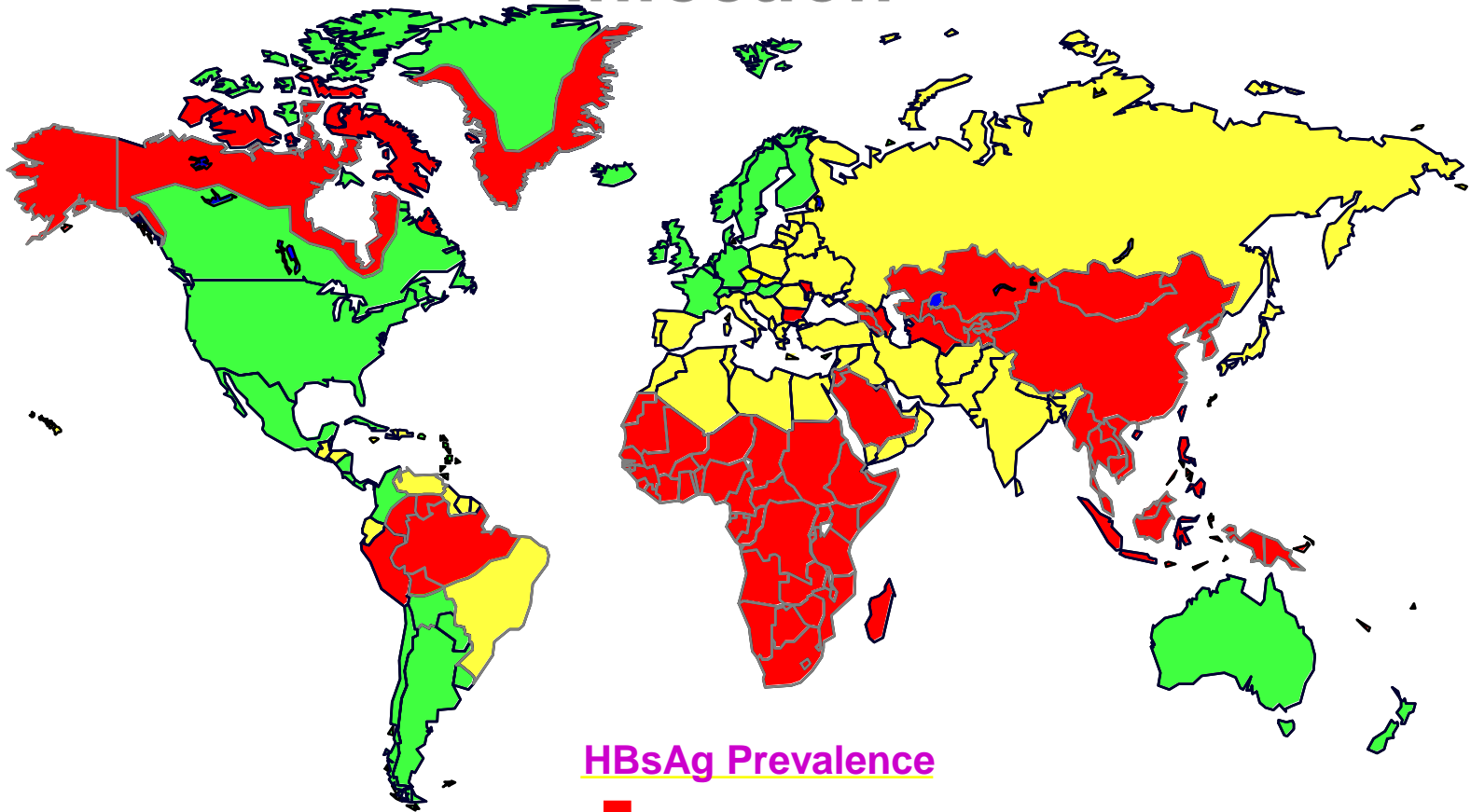
# How is hepatitis B & C virus spread ?

Through contact with blood of an infected person

- ◆ Receiving a blood transfusion from an infected person
- ◆ From mother to newborn (In certain cases)
- ◆ Sharing needles or works when shooting drugs or getting tattoos
- ◆ Ear or nose piercing



# Geographic Distribution of Chronic HBV Infection

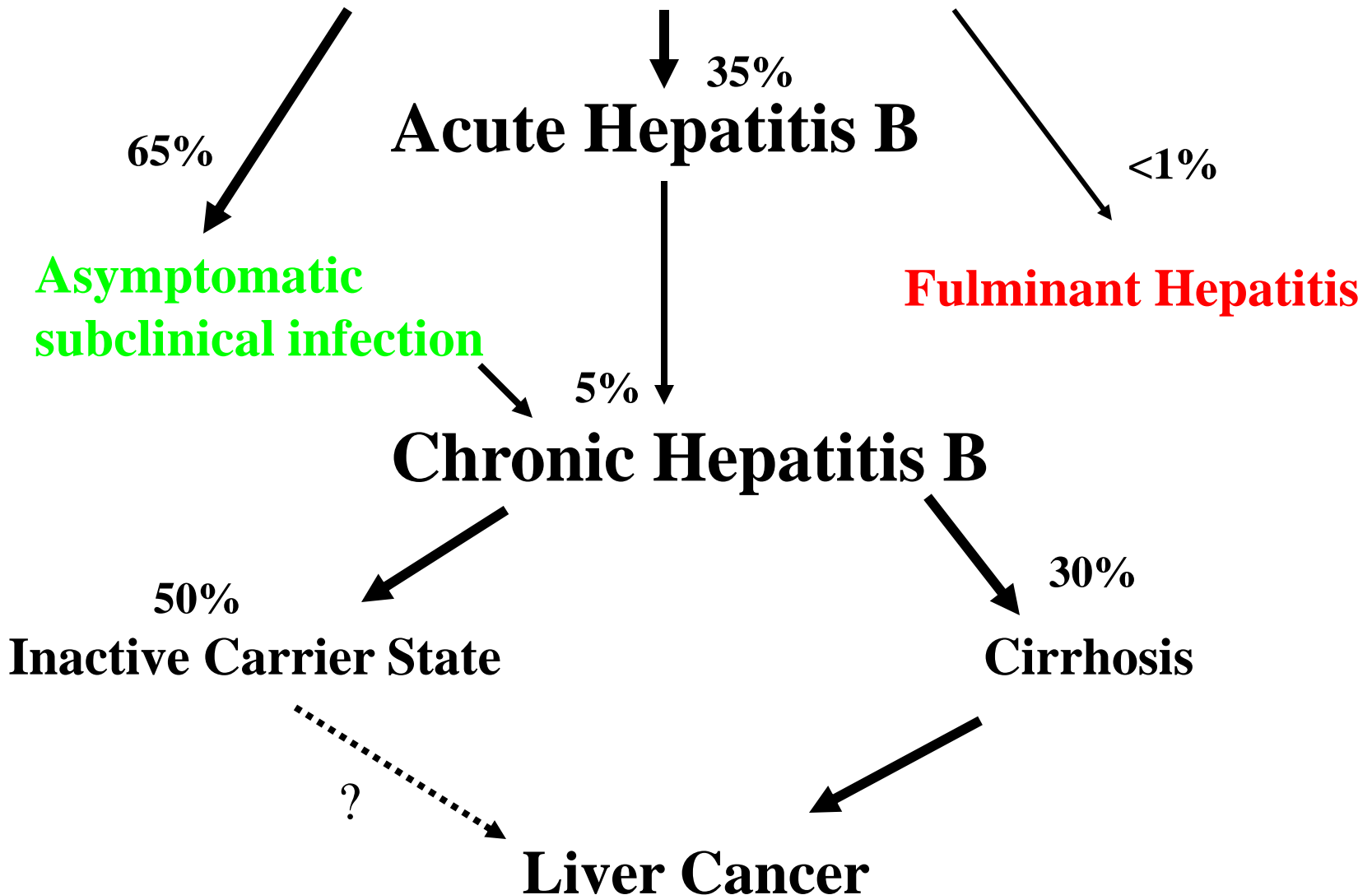


## HBsAg Prevalence

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

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# Outcome of Hepatitis B Virus Infection



# Are hepatitis B & C serious?

**YES!**

- Both can cause serious liver damage
  - ✓ Cirrhosis (scarring of the liver)
  - ✓ Liver cancer
- Both can result in the need for a liver transplant or in death



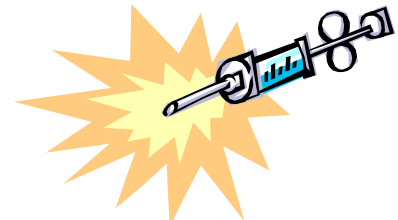
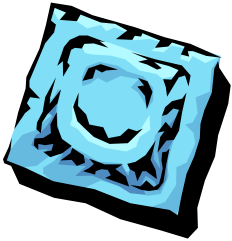
# What should I do?

- ◆ Get the vaccine (shots) against hepatitis B
  - ✓ **Dose 1**, get today
  - ✓ **Dose 2**, in one month
  - ✓ **Dose 3**, three months later



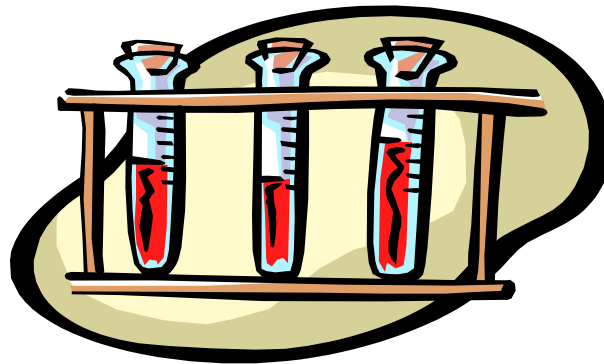
# How do I keep myself safe?

- ◆ Don't share needles, syringes, & works
- ◆ Wash your hands before and after injecting drugs
  - ◆ Always get a blood transfusion after it is screened for Hepatitis B & C
  - ◆ Practice safer sex (Only with spouse)
  - ◆ Use latex condoms if partner is infected
  - ◆ Do not share razors for shaving
  - ◆ Always use a new syringe for a drug shot
- ◆ Make sure needles used for tattooing or piercing are clean and not reused



# What should I do?

- ◆ Get vaccinated against hepatitis B
- ◆ Get tested for hepatitis C





# What if my test is positive?

- ◆ Contact the health care provider

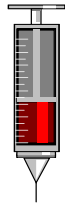


# Baby Shots for Hepatitis B

if the mother has Hepatitis B

**Birth**

**Hepatitis B  
Vaccine**



**+**

**H-BIG**



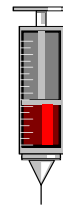
**1 - 2 months old**

**Hepatitis B  
Vaccine**



**6 months old**

**Hepatitis B  
Vaccine**



# Summary

**TABLE 66-1.** Comparative Features of Hepatitis Viruses

Feature	Hepatitis A	Hepatitis B	Hepatitis C	Hepatitis D	Hepatitis E
Common name	"Infectious"	"Serum"	"Non-A, non-B-post-transfusion"	"Delta agent"	"Enteric non-A, non-B" hepe
Virus structure	Picornavirus; capsid, RNA	Hepadnavirus; envelope, DNA	Flavivirus; envelope, RNA	Viroidlike; envelope, circular RNA	Norovirus; capsid, RNA
Transmission	Fecal-oral	Parenteral, sexual	Parenteral, sexual	Parenteral, sexual	Fecal-oral
Onset	Abrupt	Insidious	Insidious	Abrupt	Abrupt
Incubation period (days)	15-50	45-160	14-180	15-64	15-50
Severity	Mild	Occasionally severe	Usually subclinical; 70% chronicity	<i>Coinfection</i> with HBV occasionally severe; <i>superinfection</i> with HBV often severe	Normal patients, mild; pregnant women, severe
Mortality	<0.5%	1%-2%	~4%	High to very high	Normal patients, 1%-2%; pregnant women, 20%
Chronicity/ carrier state	No	Yes	Yes	Yes	No
Other disease associations	None	Primary hepatocellular carcinoma, cirrhosis	Primary hepatocellular carcinoma, cirrhosis	Cirrhosis, fulminant hepatitis	None
Laboratory diagnosis	Symptoms and anti-HAV IgM	Symptoms and serum levels of HBsAg, HBeAg, and anti-HBc IgM	Symptoms and anti-HCV ELISA	Anti-HDV ELISA	—

ELISA, Enzyme-linked immunosorbent assay; HAV, hepatitis A virus; HCV, hepatitis C virus; HDV, hepatitis D virus; IgM, immunoglobulin M.

# THANK YOU

Please visit the following web link of the

**Geneva Foundation for Medical Education and Research**

[http://www.gfmer.ch/GFMER\\_members/Fuad\\_Rai.htm](http://www.gfmer.ch/GFMER_members/Fuad_Rai.htm)

and see the Newsletter of the

**National Centre For Sexual And Reproductive Health**

And join us in our various projects as a volunteer or ambassador