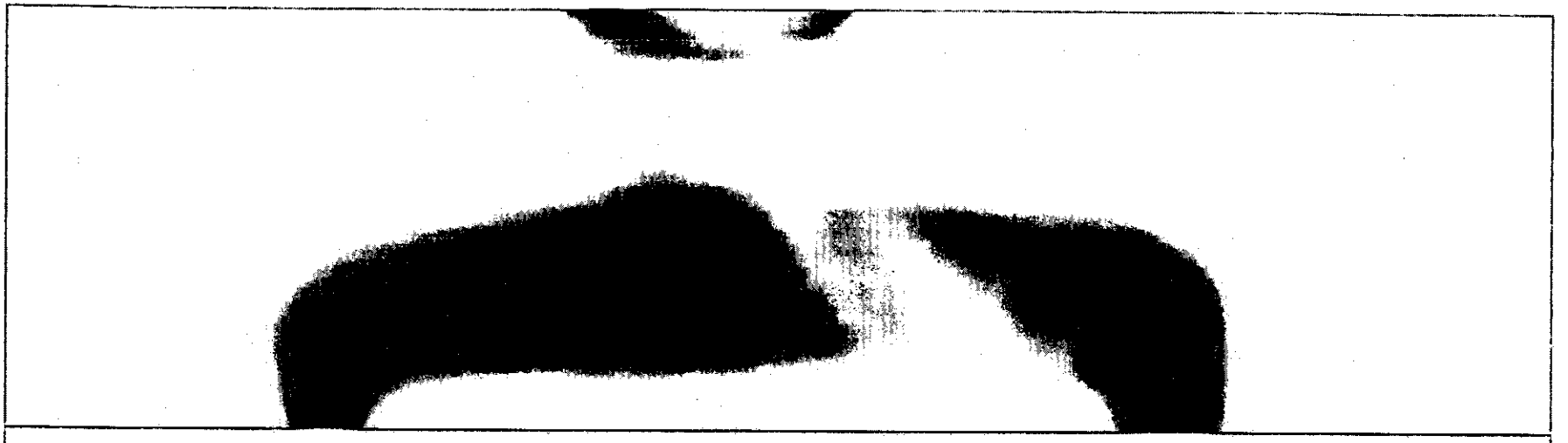
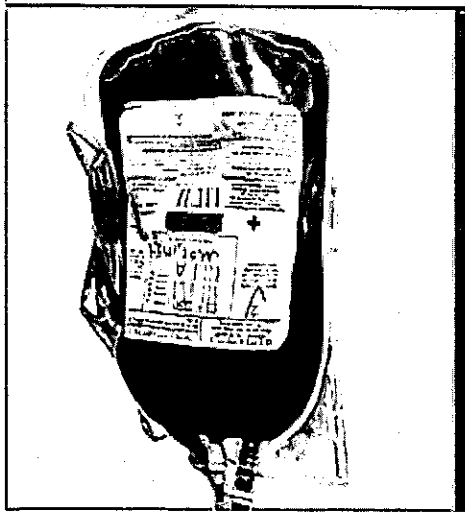
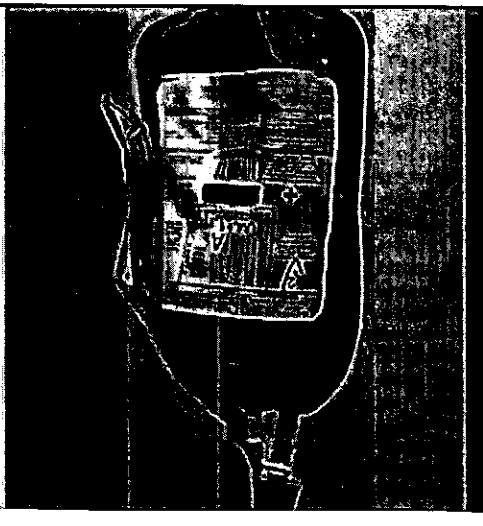


Bloodborne Pathogens





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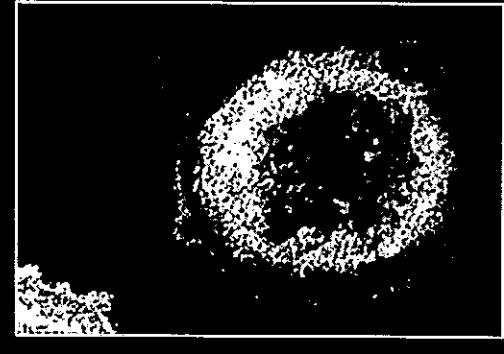
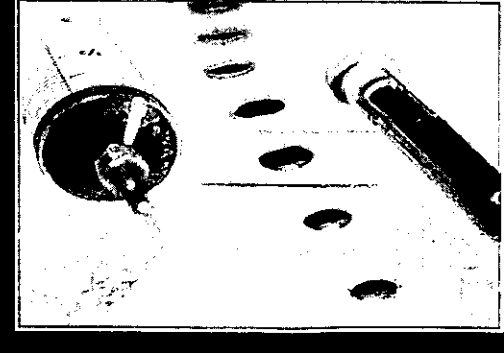
Bloodborne Pathogens

- Pathogenic microorganisms that are present in human blood and can cause disease in humans.

- Examples of bloodborne diseases:
  - Human Immunodeficiency Virus (HIV)
  - Hepatitis B
  - Hepatitis C
  - Malaria
  - Syphilis





Potentially Infectious Bodily Fluids

Blood

Semen
Vaginal secretions

- Cerebrospinal fluid
- Synovial fluid
- Pleural fluid

- Peritoneal fluid
- Pericardial fluid
- Amniotic fluid

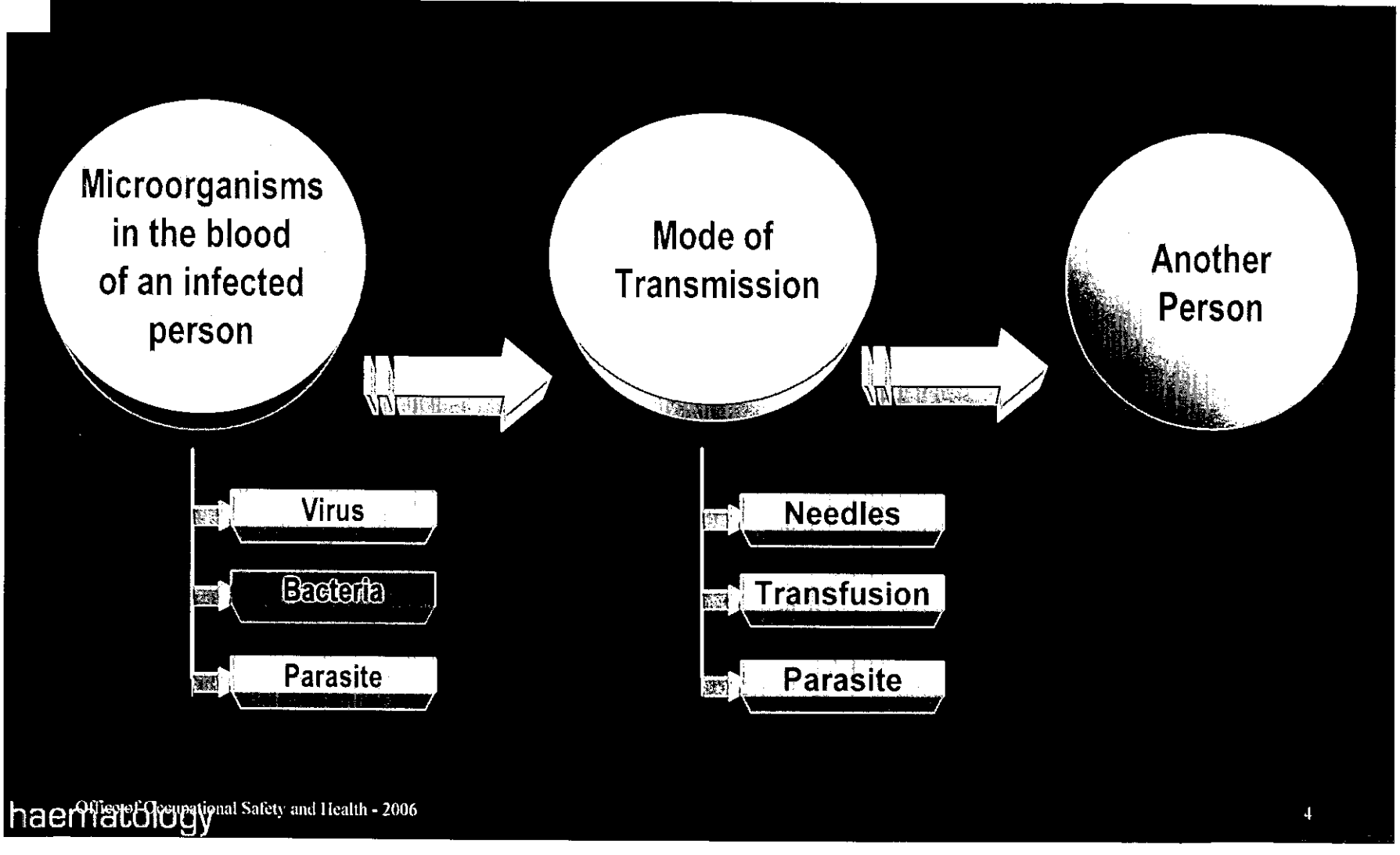
Any body fluid that is visibly contaminated with blood

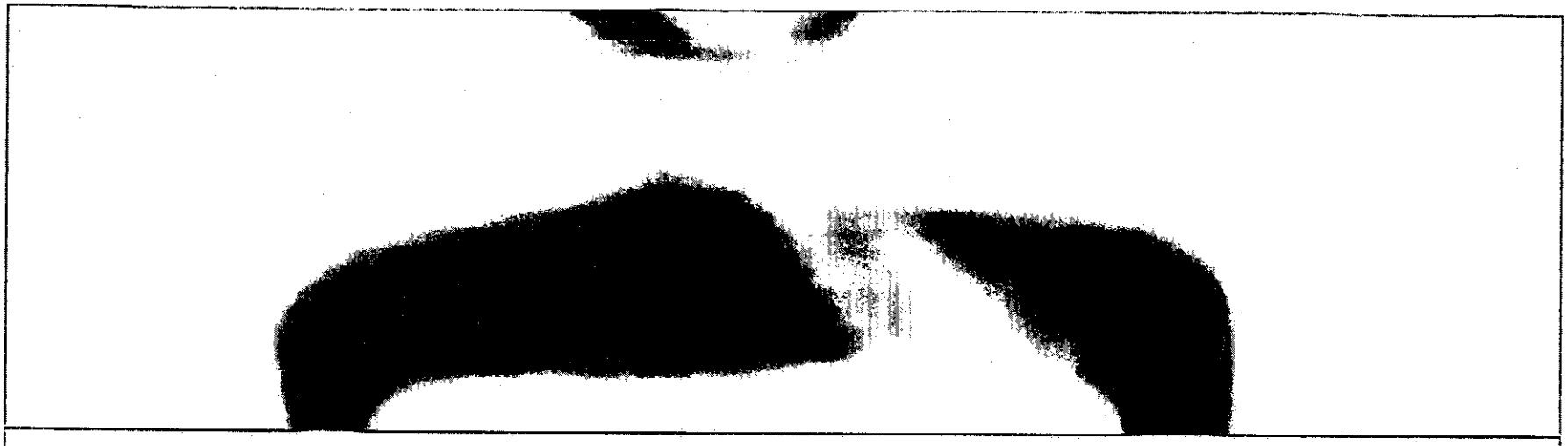
Saliva from dental procedures

Skin, tissue Cell cultures

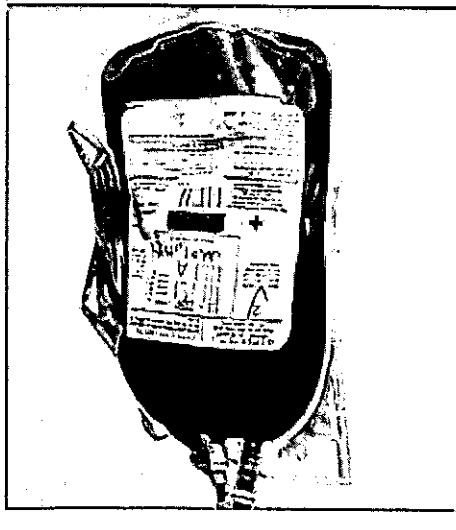
Saliva, vomit, urine laced with blood

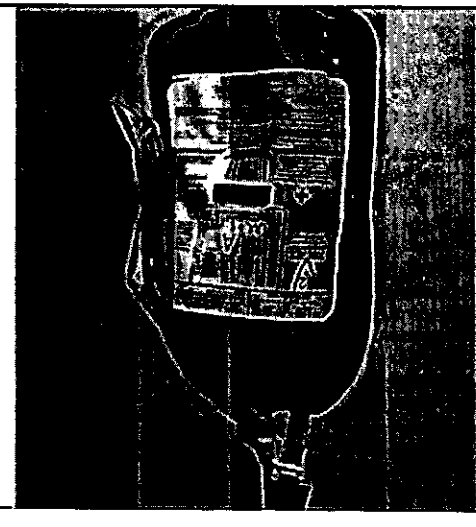
How does exposure occur?





Bloodborne Pathogens Diseases





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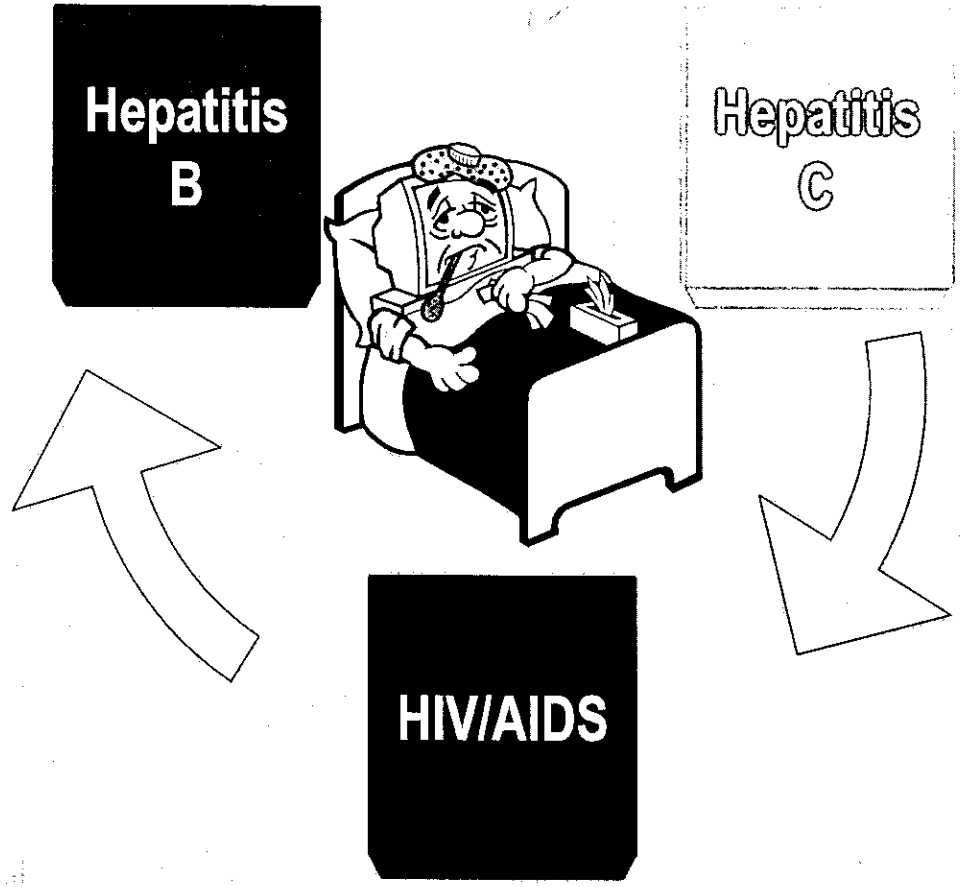
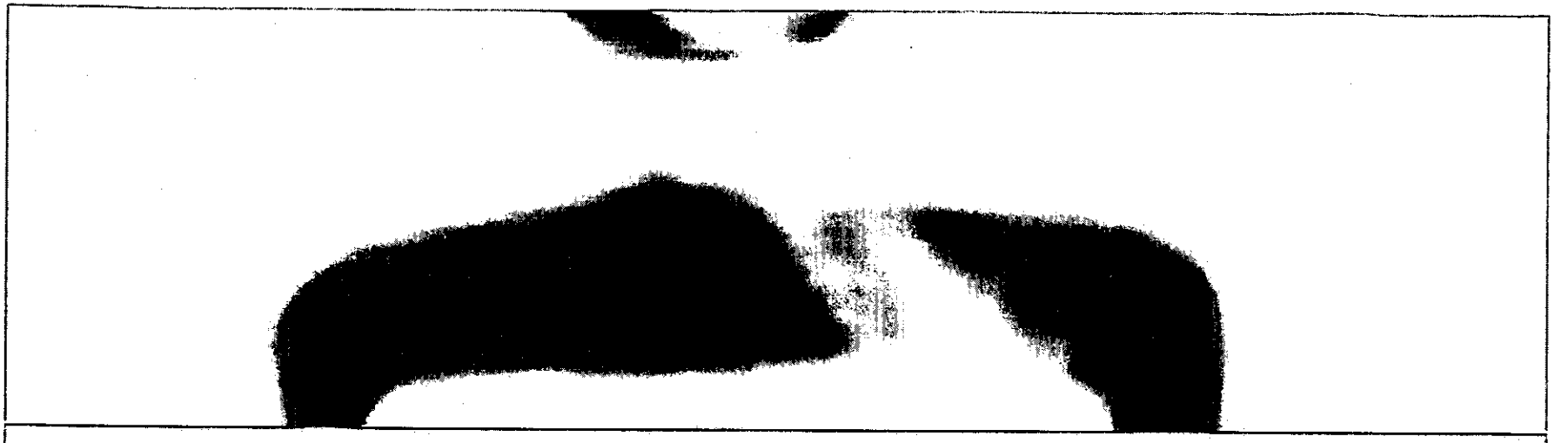
The Big Three



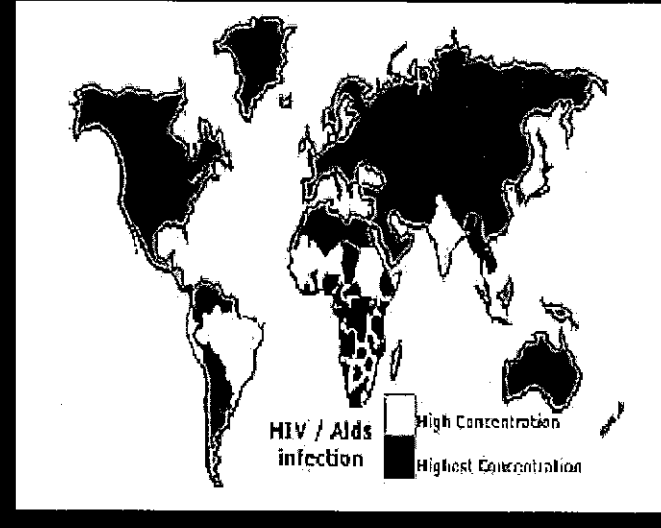


HIV/AIDS

haematology

Some of the alarming facts of the HIV/AIDS tragedy worldwide:

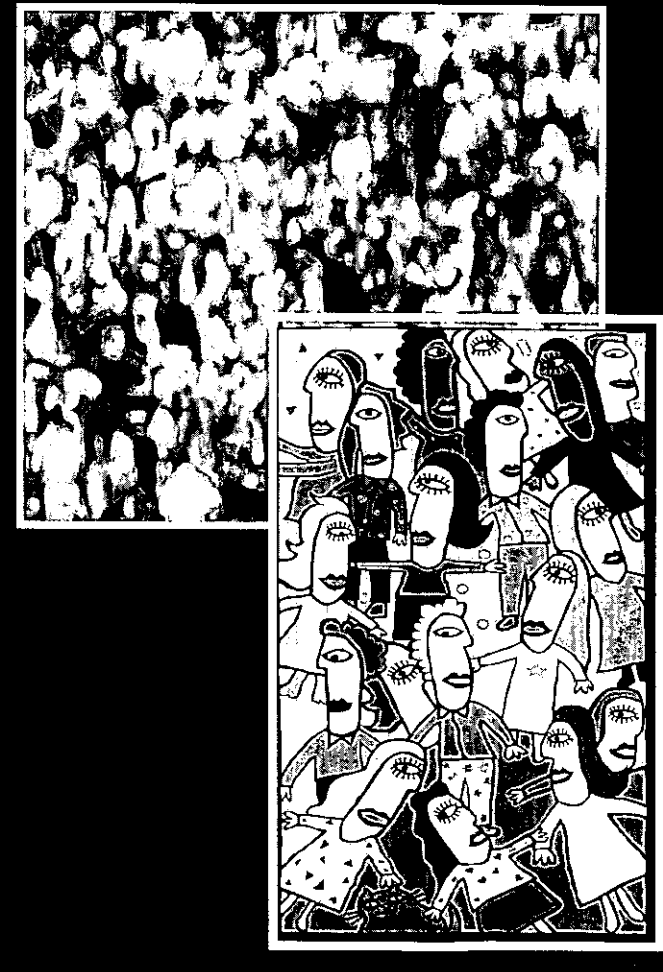
- Over 27 million AIDS-related deaths since 1980
- 42 million people are living with HIV/AIDS
- 3 million annual AIDS-related deaths
- Sub-Saharan Africa most affected
  - Fast growing rates in China, India, Indonesia, Russia, Western Europe and Central Asia
- 25 million children will be orphans by 2010 because of AIDS



National Library of Medicine. 2005

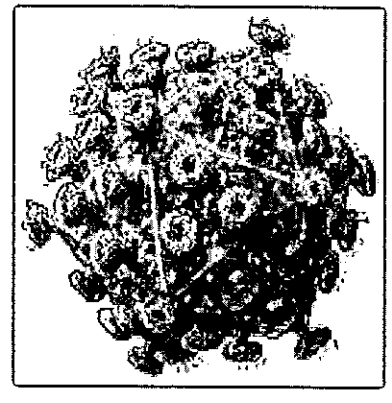
Some alarming facts of the HIV/AIDS tragedy in the USA

- 1 million people in USA have HIV/AIDS
- Approximately 11 of every 1,000 adults (ages 15 to 49) are HIV infected
- 24-27% undiagnosed and unaware of their HIV infection
- Women are the fastest growing group to be infected with HIV



Human Immunodeficiency Virus (HIV)

- HIV is the virus that leads to AIDS
- HIV depletes the immune system
- HIV does not survive well outside the body
- There is still no vaccine available



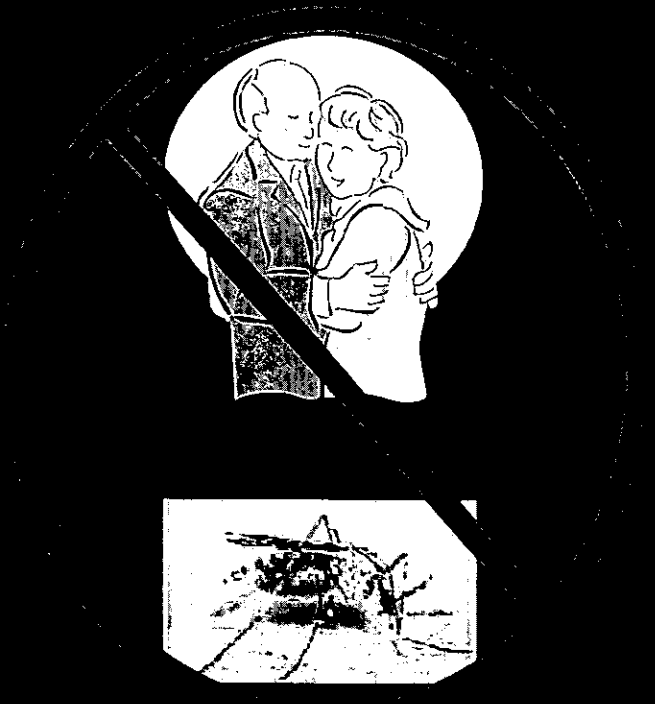
HIV Virus

Transmission of HIV

- HIV is spread when infected blood, semen, vaginal fluids, or breast milk gets into the bloodstream of another person:
  - Sexual contact
  - Sharing needles
  - Pregnancy, childbirth and breastfeeding
  - Workplace exposure to blood and/or body fluids

Transmission of HIV

- HIV is not spread through:
  - Casual contact
  - Saliva
  - Sweat
  - Spit
  - Tears
  - Air
  - Insects

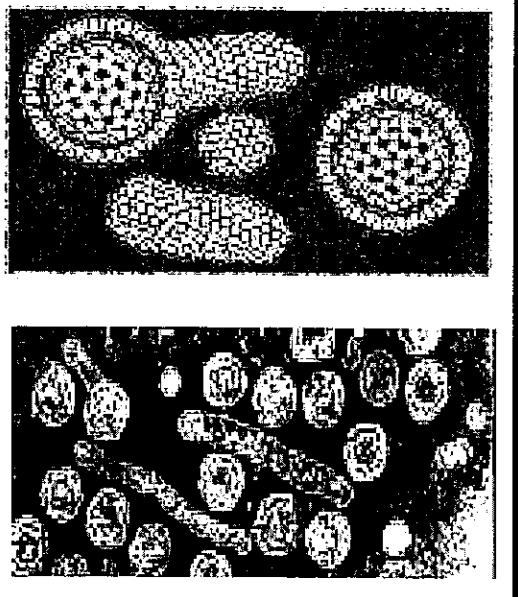


Symptoms of HIV Infection

- May have some "flu-like" symptoms within a month after exposure
  - Fevers, chills, night sweats and rashes, sore muscles and joints, swollen lymph glands
- 7 – 10 years later symptoms appear
  - Skin rashes, fatigue, slight weight loss, night sweats, chronic diarrhea, thrush in the mouth
  - Symptoms last more than a few days and may continue for several weeks

Hepatitis B (HBV)

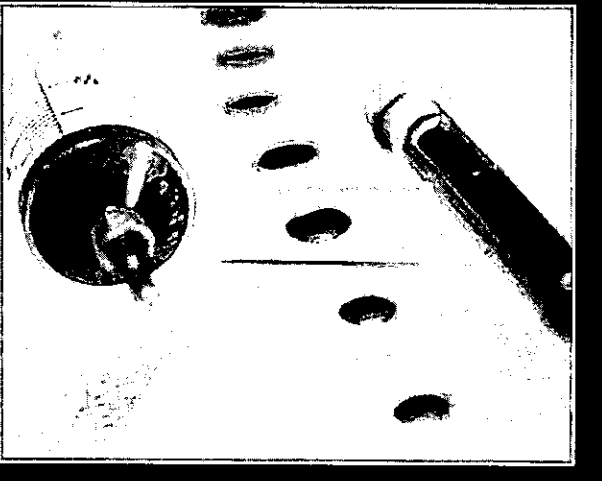
- A virus that infects the liver
- HBV can survive outside the body at room temperature for over 7 days
- HVB is more easily spread than HIV
- 90% of adults contracting the disease recover fully and develop immunity
- Up to 10% of adults contracting the disease become carriers



Courtesy, Linda Stannard, of the Department of Medical Microbiology, University of Cape Town

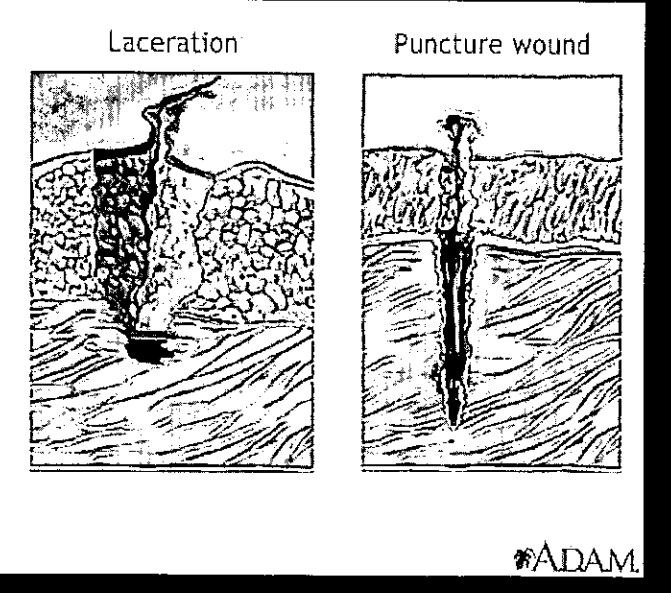
HBV Transmission

- Infected blood and body fluids
- In infected persons, HBV can be found in:
  - Blood
  - Body tissue
  - Saliva
  - Semen
  - Vaginal secretions
  - Urine
  - Breast milk



HBV Transmission in the Workplace

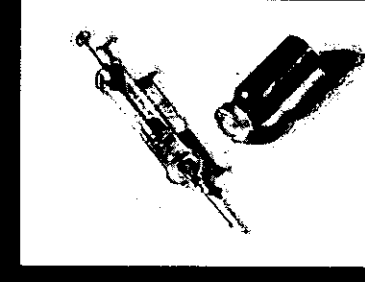
- Puncture wounds from sharps
- Contaminated body fluids entering:
  - An opening or break in the skin
  - Splashing into mucous membranes – eyes, nose, mouth



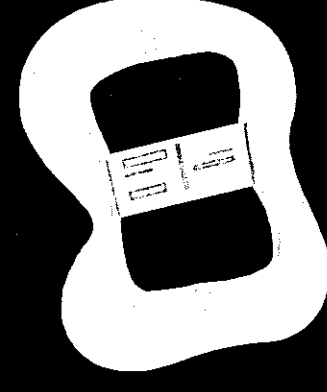
HBV Transmission Outside the Workplace

- Unprotected sex

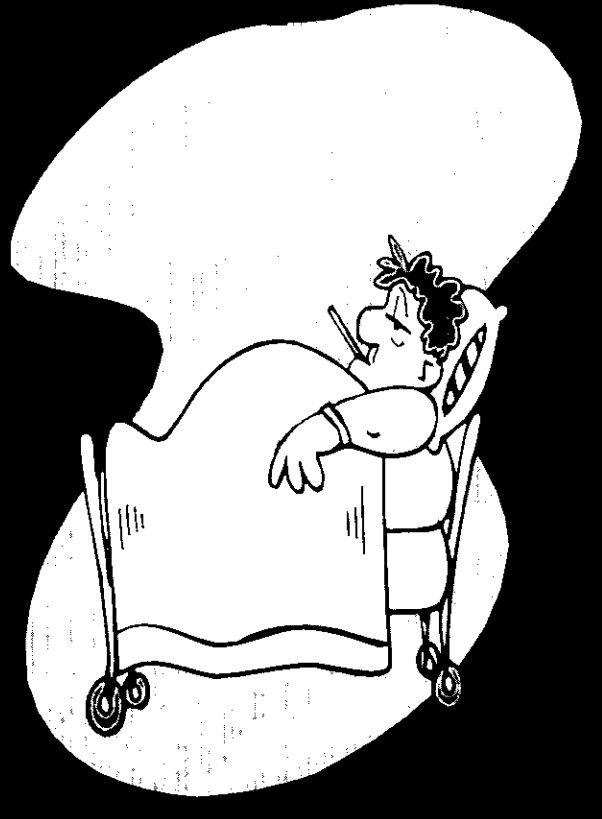
- Intravenous drug use



- Blood transfusions



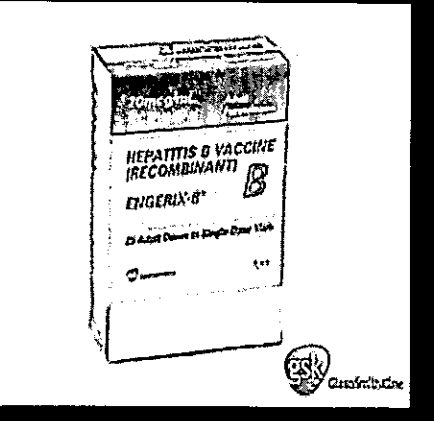
Symptoms of HBV Infection



- Flu-like illness
- Aches
- Fatigue
- Nausea
- Vomiting
- Loss of appetite
- Abdominal pain
- Occasional diarrhea
- Jaundice

Hepatitis B Vaccine

- A non-infectious, yeast-based vaccine
- Prepared from recombinant yeast cultures, not from human blood products
- No risk of developing HBV disease from the vaccine
- The vaccine has been proven to be 90%+ effective

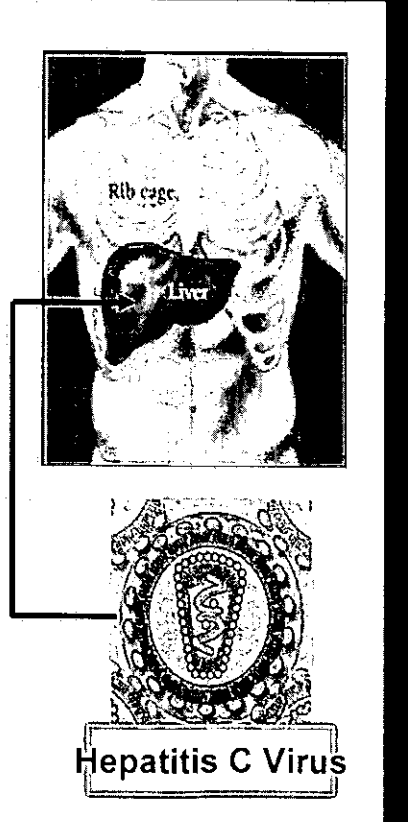


ENGERIX-B
Hepatitis B Vaccine

Manufactured by:
GlaxoSmithKline

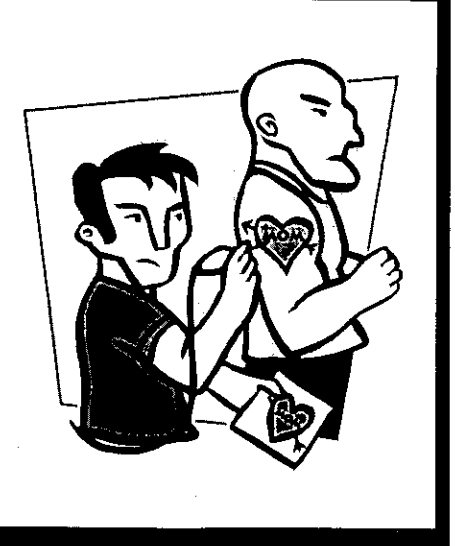
General Facts About Hepatitis C

- HCV was identified in 1989
- One of the most common causes of chronic liver disease, cirrhosis and cancer
- ~ four million people affected in USA – with 180,000 new infections annually
- 8,000-10,000 HCV annual deaths in USA
- Globally ~ 170 million chronic infections



Hepatitis C (HCV)

- Most commonly occurs in people who have:
  - received blood transfusions before 1992
  - shared needles
  - had tattoos
  - had body piercing
- Risk of sexual transmission appears to be small
- No evidence that it can be transmitted by casual contact, through foods, or by coughing or sneezing
- Transmission from mother to child appears to be uncommon



Hepatitis C (HCV)

- The virus is very robust.
- The virus can remain undetected in the body for years
- HCV may be identified after 5 - 8 weeks from exposure in approximately 60% of infected persons
- Most Hepatitis C infections (80-90%) become chronic and lead to liver disease and liver failure
- There is no vaccine for Hepatitis C