

PLAGUES IN MAN

VACCINES

- I. INTRODUCTION AND HISTORY
 - A. SMALLPOX (VARIOLA) - SMALLPOX VIRUS (VARIOLA VIRUS)
 - 1. VARIOLATION
 - a. CHINESE - FROM THE 1st CENTURY
 - b. EUROPE - MARY MONTAGU (*circa* 1720)
 - c. USA - REV. COTTON MATHER (1710-1725)
 - 2. VACCINATION & JENNER - 1798
 - a. MILKMAIDS AND RESISTANCE
 - b. COWPOX VIRUS ---> NOW VACCINIA VIRUS
 - c. DRIED POWDER & BIFURCATED NEEDLE
 - B. DIPHTHERIA
 - 1. ROUX AND BEHRING (MICROBES HUNTERS)
 - a. THE BACTERIUM - *CORYNEBACTERIUM DIPHTHERIAE*
 - b. THE TOXIN
 - c. ANTISERUM OR ANTITOXIN
 - 2. VACCINE DEVELOPMENT - A TOXOID
 - a. ISOLATION & PURIFICATION OF TOXIN
 - b. INACTIVATION OF TOXIN & TESTING
 - C. POLIO VACCINE - POLIOVIRUS (A, B, C)
 - 1. THE MARCH OF DIMES - FDR AND FRIENDS
 - 2. DEVELOPMENT OF CELL CULTURE - ENDERS ET AL
 - 3. THE VACCINES - SALK AND SABIN
 - D. HERD IMMUNITY
 - E. CHARACTERISTICS OF VACCINES
 - 1. INACTIVATED OR ATTENUATED
 - 2. BACTERIAL OR VIRAL
 - 3. TYPES: TOXOIDS, EXTRACTS, CARBOHYDRATES, ETC.
- II. BACTERIAL VACCINES
 - 1. EXTRACT VACCINES—OLD PERTUSSIS
 - 2. CARBOHYDRATE VACCINES—MENINGOCOCCUS, Hib & PNEUMOCOCCUS
 - 3. TOXOID VACCINES--TETANUS & DIPHTHERIA
 - 4. ATTENUATED VACCINES--BCG STRAIN FOR TB
 - 5. ACELLULAR (SUBUNIT)--NEW PERTUSSIS
- III. VIRAL VACCINES
 - 1. INACTIVATED VIRUSES--INFLUENZA & SALK POLIO
 - 2. ATTENUATED VACCINES--SABIN POLIO & MMR
 - 3. SUBUNIT VACCINE--HEPATITIS B
- IV. PEDIATRIC VACCINES
 - 1. BACTERIAL:
 - a. TOXOIDS: DIPHTHERIA, TETANUS (DTaP)
 - b. CARBOHYDRATE: Hib & PNEUMOCOCCUS
 - c. ACELLULAR: PERTUSSIS (DTaP)
 - 2. INACTIVATED VIRAL: POLIO (SALK)
 - 3. ATTENUATED VIRAL: MMR, VARICELLA
 - 4. SUBUNIT VIRAL: HEPATITIS B, [HEPATITIS A]
- V. VACCINE DEVELOPMENT