MARBURG VIRUS  
[African Hemorrhagic Fever, Green or Vervet Monkey Disease]

**SPECIES:** Nonhuman primates, especially african green monkeys & macaques

**AGENT:** Agent is classified as a Filovirus. It is an RNA virus, superficially resembling rhabdoviruses but has bizarre branching and filamentous or tubular forms shared with no other known virus group on EM. The only other member of this class of viruses is ebola virus.

**RESERVOIR AND INCIDENCE:** An acute highly fatal disease first described in Marburg, Germany in 1967. Brought to Marburg in a shipment of infected African Green Monkeys from Uganda. 31 people were affected and 7 died in 1967. Exposure to tissue and blood from African Green monkeys (Cercopithecus aethiops) or secondary contact with infected humans led to the disease. No disease occurred in people who handled only intact animals or those who wore gloves and protective clothing when handling tissues. A second outbreak was reported in Africa in 1975 involving three people with no verified contact with monkeys. Third and fourth outbreaks in Kenya 1980 and 1987. Natural reservoir is unknown. Monkeys thought to be accidental hosts along with man. Antibodies have been found in African Green monkeys, baboons, and chimpanzees. 100% fatal in experimentally infected African Green Monkeys, Rhesus, squirrel monkeys, guinea pigs, and hamsters.

**TRANSMISSION:** Direct contact with infected blood or tissues or close contact with infected patients. Virus has also been found in semen, saliva, and urine.

**DISEASE IN NONHUMAN PRIMATES:** No clinical signs occur in green monkeys, but the disease is usually fatal after experimental infection of other primate species. Leukopenia and petechial hemorrhages throughout the body of experimentally infected monkeys, sometimes with GI hemorrhages.

**DISEASE IN MAN:** 5-7 day incubation period. Headache, fever, muscle pain, vomiting, diarrhea, hemorrhagic diathesis, Conjunctivitis, photophobia, skin rash, and jaundice. Leukopenia, thrombocytopenia, proteinuria. Shock and death in 25% of cases. Hemorrhages throughout the body on post mortem examination.

**DIAGNOSIS:** IFA, ELISA, Western blot, EM, or virus isolation.

**TREATMENT:** Supportive Possibly immune serum

**PREVENTION/CONTROL:** Strict quarantine on newly imported, wild-caught primates. Naturally infected monkeys should become ill or die within several weeks. Hygiene, sanitation, and protective clothing Isolation of human patients with prevention of sexual intercourse until semen is free of virus.
BIOSAFETY LEVEL: BL-4