

STANDARD OPERATING PROCEDURES (SOP) Measles Protection Program

1. SCOPE

Measles or rubeola infects human and old and new world non-human primates including macaques, chimpanzees, and owl monkeys. Symptoms of measles include a fever, rash and upper respiratory symptoms. The virus can also cause immunosuppression that can lead to pneumonia, otitis media, conjunctivitis, hepatitis, meningitis and encephalitis. In non-human primates measles has also been associated with endometritis and spontaneous abortion. Macaque to human transmission of measles has been documented. This SOP was designed to establish a system of information and safeguards to be utilized to control the spread of measles infection at the University of Pittsburgh research environments.

2. PROCEDURE

2.1 **Agent**- Measles or rubeola, genus Morbillivirus

2.2 **Employees at risk**- Naturally or experimentally infected laboratory animals are a potential source of infection to exposed unvaccinated laboratory personnel. An additional potential risk to laboratory personnel and animal users is also through the direct contact with material from infected animals or infected human volunteers.

2.3 **Animal populations at risk** – Old and new world non-human primates including macaques, chimpanzees and owl monkeys are susceptible to measles. Distressed animals, infants and juveniles are most susceptible.

2.4 **Laboratory Hazards** - Measles is spread by airborne droplets or fomites. It is highly contagious to children, unvaccinated individuals and non-human primates.

2.5 **Required Procedures**

2.5.1 All Principle Investigators (PI's) using virus of the genus Morbillivirus must register their research with the Biosafety Officer/EH&S. A registration document may be obtained from the web site www.ehs.pitt.edu or by calling the Biosafety Officer at 624-8919.

2.5.2 University of Pittsburgh requires measles immunization for all individuals, faculty, staff, and students, who directly contact or manipulate non-human primates, or who utilize measles virus in research.

2.5.2.1 The PI or department director/ supervisor must arrange for all individuals with responsibility for direct handling of non-human primates or the measles virus to be medically evaluated for measles immune status by Work Partners.

2.5.2.2 Following this counsel all such individuals must sign a measles immunization acceptance/declination form prior to continued work with non-human primates or measles virus at the University of Pittsburgh. The original form will be maintained by Work Partners and a copy submitted to Environmental Health and Safety, B-50 Benedum Hall to be filed with the PI registration if applicable.

2.5.2.3 Individuals refusing vaccination or having medical contra-indication may be prohibited from handling non-human primates or measles virus. This determination is made by an ad hoc group which always includes the University Employee Medical Director, University Environmental Health and Safety Director, Human Resources, PI and if animals are involved the Director of DLAR (Division of Laboratory Animal Resources).

2.5.3 **Implementation-** MMR (measles, mumps, rubella) vaccine will be used to vaccinate individuals identified as having insufficient immunity.

2.5.3.1 Anyone having a 0 titer as demonstrated by an ELISA test performed by a qualified diagnostic laboratory will receive two vaccines given 4 weeks apart.

2.5.3.2 Individuals with a titer greater than 0, but less than 1:10 will receive one vaccine booster.

2.5.3.3 Anyone who has never been vaccinated and who is not known to have had measles will receive two vaccines given 4 weeks apart.

2.5.3.4 Even though it is believed that life long immunity results from infection, all employees in the measles protection program will have their titers re-evaluated 10 years after enrollment.

3. APPROVAL

The University of Pittsburgh's Biohazards Committee and EH&S have reviewed and approved this SOP as attested by the signatures of the Committee Chairperson and the Biosafety Officer.

Committee Chairperson

Date

Biosafety Officer

Date

University of Pittsburgh

Measles Protection Program

Measles Titer Consent Form

Name: _____ Social Security/Pitt ID# _____

ACCEPT

The risks of acquiring measles from a work exposure have been explained to me. I understand this information and have had all of my questions answered. I voluntarily give my consent to provide a serum sample to be analyzed for measles antibody titer.

Signature

Date

DECLINE

I understand that due to my occupational exposure to non-human primates and/or the measles virus I may be at risk of acquiring measles. I have been given the opportunity to be tested for immunity to measles at no charge to myself. However, I decline the measles testing at this time. I understand that by declining this test, I continue to be at risk of measles and my direct contact with non-human primates at the University of Pittsburgh may be denied.

Signature

Date

University of Pittsburgh

Measles Protection Program

1. Introduction

(i) Measles or Rubeola infects humans, old and new world nonhuman primates including macaques, chimpanzees and owl monkeys. Measles is spread by airborne droplets or fomites and is highly contagious to children and unvaccinated individuals. It causes a fever and upper respiratory signs including cough and runny nose. Then a progressive rash spreads down the body. The fever subsides after the rash appears and the rash fades after 3 to 4 days. The virus can cause immunosuppression that can lead to pneumonia, otitis media, conjunctivitis, hepatitis, meningitis and encephalitis. Macaque to human transmission of measles has been documented.

In nonhuman primates measles causes the same symptoms along with possible endometritis and spontaneous abortion. Stressed animals, infants and juveniles are most susceptible.

(ii) The University of Pittsburgh requires measles immunization for all individuals who come into direct contact with the monkeys or the measles virus (e.g. hands-on manipulation).

2. Goals

The goal of the Measles Protection Program is to have all applicable employees adequately immunized against measles (rubeola) in September of 2002 and implement a pre-placement program to immunize or validate immunity for all new hires after September 1, 2002.

3. Implementation

MMR (measles, mumps, rubella) vaccine will be used to vaccinate individuals identified as having insufficient immunity. Previously vaccinated individuals or anyone alleging to have had measles will have titers checked. Anyone having a 0 titer will receive two vaccines given 4 weeks apart. Individuals with a titer greater than 0, but less than 1:10 will receive one booster.

Individuals refusing vaccination or having a medical contra-indication may be prohibited from use of or direct contact with non-human primates at the University of Pittsburgh. Contra-indication to vaccination:

- Anyone who has had a previous allergic reaction to an MMR vaccine or any of the components of the vaccine (human albumin, neomycin, sorbitol and hydrolyzed gelatin).
- Women who are pregnant or considering becoming pregnant within three months.
- Women breast feeding infants.
- Immunosuppressed or immunocompromised individuals.
- Anyone who is experiencing mild, moderate or severe illnesses or fever.
- Anyone who has received antibody containing blood products should wait 3 months until vaccination as seroconservation may be compromised.
- Women who have received Rho immunoglobulin should be serologically tested 6 to 8 weeks after vaccination to insure seroconservation.

occupational health service provider (Work Partners). Adverse reactions to the vaccination

The MMR vaccine has been shown to be exceptionally safe, but side effects do occur. As with many viral vaccines, MMR will cause a fever in 5-15 % of people. Up to 5% of vaccinates experience a mild and transient rash. As many as 25% of vaccinates experience a temporary arthralgia or arthritis. Rare side effects that have been attributed to the MMR vaccine include seizure, neuritis, thrombocytopenia, deafness and encephalopathy.

If immunity is not validated, serum samples will be collected and as necessary vaccines will be given at Work Partners (3708 Fifth Avenue, Fifth Floor, Medical Arts Building, Monday to Friday 7:30am – 4:00pm).

Results of titers must be obtained directly from the must be reported immediately to Work Partners.

University of Pittsburgh

Measles Protection Program

Measles Vaccine Consent Form

Name: _____ Social Security/Pitt ID# _____

I have been offered at no charge MMR Vaccine, administered by Work Partners, Employee Health Services, to protect myself and laboratory animals from measles.

ACCEPT

The risks and benefits of receiving the vaccine and the risks of acquiring measles from a work exposure have been explained to me. I acknowledge that no guarantees have been made to me regarding the effectiveness of the vaccine or the absence of adverse reactions to the vaccine. I understand this information and have had all of my questions answered. I voluntarily give my consent to receive measles vaccine.

Signature

Date

DECLINE

I understand that due to my occupational exposure to non-human primates and/or the measles virus I may be at risk of acquiring measles. I have been given the opportunity to be vaccinated at no charge to myself. However, I decline the measles vaccination at this time. I understand that by declining this vaccine, I continue to be at risk of measles and my direct contact with non-human primates at the University of Pittsburgh may be denied.

Signature

Date