STANDARD OPERATING PROCEDURES (SOP)
Research Using Vaccinia Viruses

1. SCOPE and PURPOSE
1.1 Wayne State University (WSU) personnel handling; a) cell cultures or b) animals contaminated or infected with non-highly attenuated strains of vaccinia are at risk. Personnel working in laboratories during manipulation of non-highly attenuated vaccinia viruses are at risk. Also at risk are researcher’s personal contacts with medical conditions, e.g., immune-compromised, that preclude exposure to vaccinia.

1.2 This SOP is designed to ensure researchers who either handle strains of vaccinia viruses or work in laboratories during manipulation of vaccinia viruses are officially registered with WSU Biosafety Officer, enrolled in the Animal Contact Occupational Health Program (AniCon), receive education, read ‘Vaccinia SOP’, are offered vaccinia vaccine, and are provided a medical referral. These safeguards aim to promote safe practice and mitigate potential exposure to vaccinia.

2. AGENTS
2.1 Non-highly attenuated strains of vaccinia, e.g., WR strain, NYCBOH, and non-highly attenuated strains of recombinant vaccinia are of concern.

3. LABORATORY HAZARD
3.1 Laboratory hazards are likely to occur while manipulating cell cultures of vaccinia viruses. Exposure to broken skin and splashes to mucous membranes with infectious vaccinia cells or fluids pose a risk. The virus can also be present in lesion fluids or crusts, secretions, or tissues of an infected host. Laboratory associated infections due to exposure to vaccinia viruses have occurred. Inadvertent exposure to vaccinia can range from minor infection to severe infection. Fatalities have also occurred due to vaccinia exposure.

3.2 WSU Institutional Biosafety Committee (IBC) and AniCon strongly recommend personnel handling cultures or animals infected with non-highly attenuated strains of vaccinia or non-highly attenuated strains of recombinant vaccinia receive vaccinia vaccination.

4 PROCEDURES
4.1 Principal Investigators (PI) using non-highly attenuated strains of vaccinia must register with OEHS Biosafety Officer. Registration documents can be obtained at: www.oehs.wayne.edu or by calling the Biosafety Officer: 313-577-1200.

4.2 Research involving use or manipulation of non-highly attenuated strains of vaccinia requires biosafety level-2 (BSL-2) practices, containment equipment, and facility.
4.3 Laboratory personnel must wear personal protective equipment (PPE) when handling these agents. Required PPE include: a laboratory coat or gown, liquid barrier gloves, i.e., nitrile or latex gloves, and safety glasses or goggles.

4.4 Personnel who directly handle cultures or animals infected with non-highly attenuated strains of vaccinia that can infect humans must attend mandatory education on safe practice techniques and the efficacy of vaccinia vaccine. Researchers will be offered vaccinia vaccination and medical referral. Researchers are required to sign WSU form: ‘Vaccinia Vaccination Consent/Declination Form’ indicating acceptance or declination of vaccinia vaccine.

4.5 Personnel with medical contraindication to receiving vaccinia vaccine, (e.g. pregnant, history of eczema, immune deficiency) may be prohibited from working with vaccinia viruses. Personnel with contraindication to receiving vaccinia vaccine due to personal contacts, (e.g. immune-compromised family member) may be required to adhere to additional safety procedures (i.e. BSL-3 practice in a BSL-2 facility). Researchers can be assigned work precautions or restrictions based on medical history and assessment as determined by a physician.

4.6 WSU non-laboratory personnel; janitors or trades workers who enter laboratories where vaccinia is manipulated are exempt from; education sessions, vaccine recommendation, and medical screen requirements. However, work areas must be disinfected and vaccinia must not be in use when non-laboratory personnel are present.

5. EXPOSURE INCIDENT
5.1 If an accident or exposure incident occurs while manipulating vaccinia, i.e., a needle stick or other route which breaks the skin, wash the site with soap and water for 5-15 minutes then cover with a bandage. If the incident involves a splash to eyes or mucous membranes, irrigate thoroughly for 15 minutes at an eye wash station or sink.

5.2 Promptly proceed to Detroit Medical Center (DMC) - Occupational Health Services-4K during business hours (Monday - Friday; 6:30 am to 5:00 pm). After hours, proceed to DMC-Detroit Receiving Hospital Emergency Department, 4201 St. Antoine. Inform your PI and WSU AniCon Occupational Health Specialist of accidents or exposure incidents that involve handling vaccinia.

6. APPROVAL
6.1 WSU Institutional Biosafety Committee reviewed and approved this SOP as attested by the signatures of the Committee Chairperson and the Biosafety Officer.

| Signature on File | ______________________________ | ______________________________ |
| WSU IBC Chairperson | Date |
| ______________________________ | ______________________________ |
| Signature on File | ______________________________ |
| WSU IBC Biosafety Officer | Date |

http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5829a1.htm