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COMPLIANCE IS MANDATORY

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Chapter 2. Occupational Medicine

2.1 Occupational Medicine, General

2.1.1 Policy

2.1.1.1 The Occupational Medicine (OM) clinics shall meet all applicable requirements of Federal and state regulations, professional standards, NASA Medical Quality Assurance (QA) Program, and other NASA program requirements.

2.1.2 Responsibilities

2.1.2.1 The Chief Health and Medical Officer (CHMO) shall establish policy requirements for the OM programs.

2.1.2.2 The Director of Occupational Health (DOH) shall ensure the oversight, advocacy of Center OM programs through regular periodic audits.

2.1.2.3 The Medical Contracting Officer Technical Representative (COTR) at each Center shall ensure appropriate funding for meeting programmatic requirements within the scope of service being provided.

2.1.2.4 The Center Medical Director shall be responsible for meeting all Federal, state, and NASA requirements.

2.1.2.5 The NASA Occupational Health (OH) personnel shall notify the CHMO when a Medical Director change occurs at their Center.

2.1.3 Process Description

2.1.3.1 Center OM clinics shall refer to the NASA OH Web site (www.ohp.nasa.gov) for recommendations on meeting program requirements. NASA OH Document, Guidelines, and Checklists are located on the policies page of the Web site.

2.1.3.2 Center OM clinics shall have emergency preparedness policies and procedures in place for emergency operation of the clinic and support of the Center Emergency Preparedness Plan. The OM clinic roles and responsibilities shall be integrated into the Center Plan.

2.1.3.3 The Designated Agency Safety and Health Officer (DASHO) shall be copied on, or otherwise informed of, all Center communication with the Occupational Safety and Health Administration (OSHA) as specified in 29 CFR 1904.39(a) and in the case of an arrival of an OSHA Inspector on Center.

2.1.3.4 The NASA CHMO and DOH shall be informed of any of the following medical incidents at NASA Centers from:

- a. Any employee death on duty;
- b. Cluster investigations;

- c. Infectious disease outbreaks;
- d. Automatic External Defibrillator (AED) use and outcome;
- e. Quality of care issues;
- f. Workplace violence; and
- g. Medical incident or evacuation of employee on international travel.

2.1.3.5 Center OM physicians and other healthcare providers (e.g., nurse practitioners, physician assistants) shall be appropriately credentialed and privileged in compliance with the requirements of the NASA Medical QA program. The OM staff shall be trained for the tasks they are required to perform and shall meet all regulatory training requirements. Other training and certification requirements can be found in the NASA Occupational Health Program Model Statements of Work (SOW) located on the policies page of the NASA OH Web site (www.ohp.nasa.gov).

2.1.3.6 Center COTRs shall be responsible for advocating adequate budget and resources for OM clinics to provide services. If a reduction in budget has a significant impact on the delivery of OM services, the Office of the Chief Health and Medical Officer (OCHMO) shall be informed.

2.2 Medical Quality Assurance

2.2.1 Policy

2.2.1.1 All NASA OM clinics shall establish a medical quality assurance program that meets all of the NASA Medical QA Program.

2.2.2 Responsibilities

2.2.2.1 The CHMO shall set medical quality assurance program policy.

2.2.2.2 The DOH shall ensure compliance with OH medical QA policy through regular periodic audits.

2.2.2.3 The COTR is responsible for advocating for sufficient resources to implement a medical quality assurance program.

2.2.2.4 The Center's medical staff is responsible for developing the Center policies and procedures and implementing a medical QA program.

2.2.3 Process Description

2.2.3.1 A comprehensive set of policies and procedures shall be developed to meet the quality of care standards. They shall meet all the requirements of the Employee-Directed Principles (Managing Employee Assessment, Employee Care Process, Coordinating Employee Care, Employee Care Rights, and Employee Healthcare Education) and Management-Directed Principles (Facility and Safety Management, Governance, Information Management Services, Infection Control Services, Performance Improvement Management, and Staff Qualifications and Competency) as found on the OH Web site at www.ohp.nasa.gov.

2.2.3.2 The OM clinics shall establish and monitor medical QA program metrics to evaluate the program effectiveness.

2.3 Disease and Injury Prevention

2.3.1 Policy

2.3.1.1 NASA OH programs shall encompass primary prevention, health promotion, and a comprehensive safety program that impacts both individual health and Agency wellness.

2.3.2 Responsibilities

2.3.2.1 Center Occupational Health Program (OHP) personnel on the Health Promotion Committee shall provide a variety of prevention services such as medical examinations, health and wellness promotions, immunizations, food sanitization services, assorted health screenings, and control of chemical and physical hazards.

2.3.3 Process Description

2.3.3.1 Health Promotion Programs shall be implemented through both Agency-directed and Center-planned activities.

2.3.3.2 The efficacy of primary prevention activities shall be documented with appropriately selected metrics for benchmarking, continuous improvement of programs, and resource allocation.

2.4 Diagnosis and Treatment of Occupational Illness or Injury

2.4.1 Policy

2.4.1.1 NASA Centers shall ensure timely diagnosis and treatment of occupational injuries and illnesses and act to minimize the recurrence of a similar problem in other coworkers and those in similar jobs.

2.4.2 Responsibilities

2.4.2.1 The CHMO shall set policy and provide oversight of clinical activities.

2.4.2.2 The DOH ensures the appropriate delivery of diagnostic and treatment service through regular periodic audits.

2.4.2.3 The Medical Director at each NASA Center is responsible for accurate diagnosis, timely treatment, and appropriate follow up of all occupational injuries and illnesses in employees and for reporting all work-related injuries and illnesses to Center personnel responsible for OSHA recordkeeping.

2.4.2.4 Any developing trends in occupational injury and illness shall be reported to the Center Director who informs the CHMO.

2.4.3 Process Description

2.4.3.1 The following steps shall be followed by all Centers in diagnosing and treating occupational illnesses and injuries.

a. The occupational health history shall be conducted for the assessment of work-related health problems and shall include total employment and general health histories, with a review of systems and determination of any preexisting conditions to achieve an accurate medical diagnosis.

b. After a health history is taken, an appropriate physical examination is performed with a detailed specific organ or system examination as related to the chief complaint. Laboratory and radiological testing may be used to complement the history and physical examination and to aid in the diagnosis and treatment of the condition.

NOTE: Pre-approval may be required for procedures not routinely performed in the clinic.

c. The Medical Director, or qualified designee when the Medical Director is unavailable, shall review the care of patients for appropriateness within published clinical practice guidelines.

d. The Medical Director shall document any inconsistencies with a work-related injury or illness and report these to a safety representative for further evaluation of the injury mechanism and circumstances.

e. An assessment of the work place shall be performed by medical and/or safety personnel to enforce injury prevention and implementation of approved reasonable accommodation.

2.4.3.2 All occupational health practitioners shall become familiar with employees' work and the environment in which they work. In order to better understand specific medical issues and cases, it may be necessary for the medical staff to visit the workplace to better understand the mechanism of injury and evaluate safety and ergonomic concerns.

2.5 Immunizations

2.5.1 Policy

2.5.1.1 Maintaining immunity shall be an integral part of NASA's disease prevention and infection control programs to reduce potential health effects related to exposure to vaccine-preventable infectious agents.

NOTE: The number and types of immunizations required per employee will vary based upon exposure risk.

2.5.2 Responsibilities

2.5.2.1 The CHMO shall establish an Agency immunization policy.

2.5.2.2 The DOH shall provide oversight and interim policy, as necessary, to ensure the equitable distribution of vaccine when supplies are limited nationally.

2.5.2.3 The Center Medical Director shall establish immunization policy and procedures and ensuring immunization services are available in such areas as international travel, medical surveillance/job certification, occupational injuries/illnesses, and preventative medicine.

2.5.2.4 The Center Medical Director shall ensure the medication management process is sound, properly documented, and meets NASA Quality Assurance (QA) Program elements and in compliance with the most current Centers for Disease Control and Prevention (CDC) recommendations.

2.5.3 Process Description

2.5.3.1 Employees with a reasonable risk of occupational exposure to vaccine-preventable diseases such as tetanus, Hepatitis A, or B shall be provided appropriate immunizations, have documented immunity, or sign a declination form declining the recommended vaccine administration.

2.5.3.2 Tetanus and diphtheria status shall be reviewed during each patient encounter and immunization given, if appropriate, for all employees with tetanus prone injuries at work and those requiring routine boosters.

2.5.3.3 The patient shall be provided an opportunity to discuss any questions about the immunization procedure prior to vaccine administration.

2.5.3.4 An immunization record shall be maintained for each employee and reviewed as part of each patient encounter. The record shall reflect documented disease and immunization histories as well as immunizations administered during employment. At each immunization encounter, the record shall be updated.

2.6 Medical Support to Emergency Preparedness Planning

2.6.1 Policy

2.6.1.1 The exact roles and responsibilities of Center OH disciplines shall be determined by the specific needs at each of the NASA Centers and Facilities. In addition to the Center-wide plan, each clinic shall address emergency preparedness as it relates to their own structure and operations.

2.6.2 Responsibilities

2.6.2.1 The CHMO shall provide technical support and policy guidance to the Center Medical and Environmental COTR to effectively negotiate and delineate the roles and responsibilities of NASA OH in relation to the Center-specific emergency preparedness plan.

2.6.2.2 The COTR shall keep the DOH current on any Center specific emergency events or any significant modifications to the plan as they relate to OH roles and responsibilities. The COTR shall serve as an advocate for OH disciplines to ensure their assigned roles and responsibilities are sound, obtain management support as needed, and to keep the lines of communication viable between the stakeholders. In essence, the COTR serves as a liaison between the Center Emergency Operations and the OH team.

2.6.2.3 The Center Medical Director, depending on the extent of medical operations engagement in the Center-wide response plan, shall ensure that the clinic staff is appropriately trained and adequate supplies are at hand.

2.6.3 Process Description

2.6.3.1 The CHMO shall provide guidance documents and contribute ideas to improve the medical response.

2.6.3.2 The COTR shall ensure the following elements are accomplished:

- a. The OH roles and responsibilities in the Center-wide plan shall be reasonable and clearly stated;
- b. OH disciplines shall be fairly and consistently represented in the planning process and in drills and simulations. Their comments and concerns are incorporated into the plan; and
- c. Management support shall be solicited for appropriate funding for supplies, staff training, and skill mix and number.

2.6.3.3 The Center Medical Director shall:

- a. Establish procedures to meet the medical expectations of the plan including, but not limited to, skill mix and number, personnel training and drills, equipment, and supplies.
- b. Establish measures to safeguard and retrieve medical records in paper or electronic format as per Privacy Act and NASA Records Management requirements.
- c. Support other OH disciplines in meeting their respective requirements in disaster management such as supporting the EAP in Critical Incident Stress Management training and debriefing.

2.7 Pandemic Planning

2.7.1 Policy

2.7.1.1 The clinic shall support the Center in formulating their Continuity of Operations Plan (COOP) Emergency Preparedness Plan.

2.7.2 Responsibilities

2.7.2.1 The CHMO is responsible for providing technical support and written policy direction to (OH) personnel in support of Center Emergency Preparedness Plans.

2.7.2.2 The Center Medical Director is authorized to provide expert consultation to the COOP manager and Center management on related public health and medical issues.

2.7.3 Process Description

2.7.3.1 To ensure appropriate action in a pandemic, each Center clinic shall support formulation of a Center-specific COOP plan which should be designed as an addendum to the Center's Emergency Preparedness Plan.

2.7.3.2 Communication with HQ Emergency Management shall be maintained throughout all phases.

2.8 Plan for a Drug-Free Workplace

2.8.1 Policy

2.8.1.1 The overall responsibility for NASA's Plan for a Drug-Free Workplace (DFWP) lies with the OHCM .

2.8.1.2 The OCHMO shall support the DFWP through its Medical Review Officer (MRO) and Employee Assistance Programs (EAP) as required.

2.8.1.3 The OCHMO oversees, administers, and evaluates the Agency-wide MRO function and the EAP, which provides the mandatory referrals when a positive test is reported.

2.8.1.4 The clinic Medical Director, or a designated alternate physician, serves as the designated MRO for each Center. Disputed findings shall be adjudicated and resolved by the Agency MRO when required.

2.8.2 Responsibilities

2.8.2.1 The OHCM shall be responsible for NASA's plan for a DFWP.

2.8.2.2 The CHMO shall support DFWP through its MRO and EAP, as required.

2.8.2.3 The CHMO shall designate an Agency MRO.

2.8.2.4 Each Center shall have a MRO.

2.8.3 Process Description

2.8.3.1 The Center MRO shall receive test results directly from the NASA Shared Services Center designated certifying drug test laboratory. Validity testing is performed by the certifying laboratory according to current regulatory requirements.

2.8.3.2 The MRO shall review the chain of custody documentation and contact the donor for all positive, substituted, adulterated, or invalid test results consistent with NPR 3792.1, Plan for a Drug-Free Workplace.

2.8.3.3 After confirming the result as negative, the MRO shall report the result to the designated Center representative.

2.8.3.4 All confirmed results other than negative shall be reviewed with the Agency MRO prior to reporting the result to the Center.

2.8.3.5 For all non-negative results, the MRO shall inform the donor of his or her right to request that the split specimen be tested. If requested, the certifying laboratory shall arrange for the "B" specimen bottle to be sent to another laboratory for confirmation testing according to split specimen protocol.

2.8.3.6 When the Center MRO is someone other than the Center Medical Director, the Agency MRO shall approve the person's credentials.

2.9 Physical Examinations

2.9.1 Policy

2.9.1.1 Medical surveillance protocols shall be used at all NASA Centers and Facilities. The Physical Examination Matrix (Appendix C) provides the examination procedure basics of the most routine and specialty examinations performed at NASA Centers and facilities.

NOTE: The six categories of physical examinations provided at NASA clinics are listed in Appendix C, Physical Examination Matrix. Due to the potential for changing requirements of an actual examination protocol, the latest content of agency-provided examinations will be maintained on the OH Web site (www.ohp.nasa.gov) to ensure currency.

2.9.2 Responsibilities

2.9.2.1 The CHMO shall be responsible for establishing policy, providing requirements and oversight, and auditing Center physical examination programs.

2.9.2.2 The DOH shall ensure oversight of Center physical examinations through regular periodic audits.

2.9.2.3 The Center Medical Director shall be responsible for the overall quality of care by all clinic providers. In all situations where the decision regarding medical qualification or certification is unclear, the Center Medical Director, or qualified designee when the Medical Director is unavailable, shall review the clinical information and make the final decision.

2.9.2.4 The evaluating physician shall be responsible for interpreting all physical examination test results and determining their significance. If the examinations are not performed onsite, the Center Medical Director, or qualified designee, when the Medical Director is unavailable, reviews the results before clearance is issued to work in a hazardous environment. The evaluating physician is responsible for the preparation of any required "Health Care Professional's Written Opinion" for the pertinent standard, within the specified timeframe.

2.9.3 Process Description

2.9.3.1 Placement of employees in the various physical examination programs is determined by job category, workplace surveys, and specific exposure events.

2.9.3.2 Special Administrative Examinations and health maintenance examinations are offered according to Agency and Center policies.

2.9.3.3 Typically, workers whose jobs are thought to be associated with exposures to hazards at or above the medical surveillance action level set by the for more than 30 days per year are placed into medical surveillance for that specific hazard.

2.9.3.4 Some programs have specific guidance for placement (e.g., asbestos, organophosphates pesticide workers, hearing conservation, and radiation workers).

2.9.3.5 If insufficient monitoring data or no data is available, individuals shall be placed in medical surveillance based on potential exposures and job title. When this occurs, individuals need to be reassessed as work site monitoring data become available.

2.9.3.6 When an employee is no longer actively exposed to a hazard, it shall be up to the physician's discretion, in consultation with industrial hygiene (IH) and safety staff, whether that employee remains in the medical surveillance program or not.

2.9.3.7 The Center clinics shall meet the protocol requirements for the following job categories:

- a. Specific Potentially Hazardous Exposures;
- b. Hazardous Environments/Workplace Examinations;
- c. Certification Examinations;
- d. Flight Activities;
- e. Special Administrative Examinations; and
- f. Voluntary Health Maintenance Examinations.

2.9.3.8 Physical examinations shall conform to the requirements delineated in the Physical Examination Matrix (Appendix C) and the pertinent Federal regulations.

2.9.3.9 The frequency of the physical examinations varies and includes:

a. Baseline Examinations:

(1) These examinations shall be ideally performed before the employee starts work in a position with a potential for hazardous exposure.

(2) These examinations provide information necessary to determine if the employee is qualified to perform the job. It also provides a baseline against which changes can be compared.

(3) Baseline examinations and certifications shall be performed prior to engaging in any activity that could be hazardous to the employee or other employees working near or adjacent to them or in contact with them.

b. Periodic Examination:

(1) This examination shall be performed periodically during the time that a worker is employed in a job requiring an

examination.

(2) The frequency and extent of periodic examinations vary depending on the work being performed, pertinent regulations, findings from previous examinations, the history of exposure, and/or the age and gender of the workers.

c. Variable or Exposure-Determined Examinations:

(1) This examination shall be conducted in response to a specific hazardous exposure incident and shall prompt the examination of all individuals with the suspected exposure, not just those already in the surveillance program.

(2) These examinations may vary significantly from routine medical surveillance protocols, are usually exposure specific, and include biological monitoring tests.

d. Exit/Reassignment Examination:

(1) This examination shall be performed when the worker terminates employment or the job position, or is permanently removed from a position which has a potential for hazardous exposure.

(2) Documentation of the worker's state of health at the termination of employment or exposure is essential for comparison purposes if the worker later develops medical problems that could be attributed to past occupational exposures.

(3) This examination is not required if a periodic examination has occurred within the prior six months.

2.9.3.11 If a physical examination has been conducted within the previous six months and has been duly recorded in the employee's health record, it may, at the discretion of the examining physician, be accepted in whole or in part as the requested medical examination.

2.9.3.12 A physical examination conducted for one purpose shall be valid for any other purpose within the prescribed validity period if that physical contains the proper data. If the examination is deficient in scope, only those tests and procedures necessary to meet the additional requirements shall be performed. The results shall be recorded and appropriate approval provided by the examining physician.

2.9.3.13 A clear determination of "Medically Qualified" (or "Medically Certified") or "Medically Disqualified" (or "Not Medically Certified") shall be made. As appropriate for the type of examination, the limiting factors or restrictions shall be noted so that reasonable accommodation may be considered as required by the Americans With Disabilities Act .

2.9.3.14 If additional tests or other actions are needed for qualification or certification (e.g., failed vision because corrective lenses are not available, additional tests are needed, or a temporary condition exists like a cold or the flu), the employee shall be placed on modified duty if the condition represents a potentially immediate hazard to the employee, fellow employees, or the success of the project/mission. A follow-up appointment shall be made to either qualify or disqualify the employee.

2.9.3.15 Where no written standard has been established for a function, the provider shall use best medical judgment to determine whether a disqualifying impairment exists. The Medical Director is responsible for review and final recommended work status in these cases.

2.9.3.16 Appeal, redress, second opinions, and challenged decisions shall be handled at the lowest level of authority at the Center.

2.9.3.17 When a Standard Written Medical Opinion is required by regulation, except for lead, bloodborne pathogens, and asbestos where the Federal Regulation (29 CFR 1910) shall be consulted, the following format shall be followed:

- a. A medical condition has [has not] been detected that would place the employee at an increased risk of material impairment of the employee's health from [Specific Hazard] _____ exposure-related disease or injury;
- b. There are no limitations on the employee or on the use of personal protective equipment, including respirators [or recommended limitations on the employee or on the use of personal protective equipment are: _____];
- c. The employee has been informed of the results of the medical examination and of any medical conditions related to [specific hazard] _____ - exposure that would require further explanation, evaluation, or treatment;
- d. The employee has been informed of the results of the medical examination and of any other medical conditions that require further evaluation or treatment; and
- e. The employee _____ is certified for work as _____ without limitations [or certified to work with the following job or Personal Protective Equipment (PPE) limitations: _____].

Health Care Provider Name: _____
Signature: _____ Date: _____

2.9.3.18 The employer shall provide a copy of the written opinion to the affected employee. Unless otherwise noted, the Standard Written Medical Opinion shall be sent within 14 days of completion of physical examination and receipt of laboratory studies.

2.10 Emergency Medical Services

2.10.1 Introduction

2.10.1.1 Initial clinic response in an emergency situation shall include the use of an Automatic External Defibrillator (AED) if indicated in order to stabilize the patient until the emergency transport to appropriate medical facilities arrives.

2.10.1.2 NASA clinics are not designated emergency facilities and do not provide emergency medical care as part of their regular scope of services. After stabilization, Emergency Medical Services (EMS) should always transport emergent patients to an appropriate emergency facility, never to a NASA clinic.

2.10.3 Responsibilities

2.10.3.1 The CHMO shall provide policy guidance and technical support to ensure that all NASA Centers and Facilities have emergency medical response capability that is consistent with published guidelines.

2.10.3.2 The DOH shall ensure appropriate occupational health response in an emergency medical situation through regular periodic audits.

2.10.3.3 The Center Medical Director shall provide oversight of all NASA and NASA-contracted EMS providers. This oversight involves administrative and medical review of all runs, provision of standing orders, and ensuring that the EMS are adequately staffed and equipped and comply with all NASA, state, and local EMS requirements.

2.10.3.4 The Center Medical Director shall collaborate with Center safety and security leadership to establish a First Responder Program to provide a first response that includes AED capability according to the Center-wide AED Policy.

2.10.4 Process Description

2.10.4.1 The EMS for each Center shall comply with the following minimal requirements:

- a. EMS shall comply with all state and regional regulations for ambulance and EMS requirements;
- b. Advanced Life Support capability shall be required with a response time within eight (8) minutes, at least 90 percent of the time;
- c. First responders with AED capability shall have a response time of four (4) minutes or less for most Center personnel; and
- d. The EMS provider at each NASA Center and Facility shall participate in the Center-wide Emergency Response Plan, under the direction of the on-scene incident commander. EMS providers also shall participate in emergency drills and exercises to enable full understanding of their responsibilities within the Emergency Response Plan.

2.11 Automated External Defibrillator (AED) Program

2.11.1 Policy

2.11.1.1 It is NASA policy that all Centers shall have an AED program with written policy.

2.11.2 Responsibilities

2.11.2.1 The CHMO shall establish the NASA AED policy and program requirements.

2.11.2.2 The CHMO shall audit the Center's AED programs.

2.11.2.3 The Center Medical Director shall provide oversight and medical direction for the Center AED program.

2.11.3 Process Description

2.11.3.1 A formal assessment of the Center shall be completed to determine an appropriate number of AEDs needed throughout the Center and their locations based on population and demographics, layout of facilities, and level of risk in the facility environment. AEDs should be in locations that allow for an optimal response time.

2.11.3.2 The Center shall have a written Center-wide AED program that includes roles and responsibilities, medical equipment and supplies, operational protocols, equipment maintenance, responder training and drill requirements, and a quality assurance plan.

2.11.3.3 The Center AED program shall be integrated with the Center Emergency Response Plan or as an appendix

to that plan.

2.11.3.4 The written Center AED program plan shall be reviewed at least annually.

2.12 Bloodborne Pathogens

2.12.1 Policy

2.12.1.1 All NASA Centers shall develop a Center-specific Bloodborne Pathogens (BBP) plan that addresses the requirements of the BBP Standard.

2.12.1.3 Center plans may differ based on additional state and local requirements.

2.12.1.4 The BBP plan must be acceptable to CHMO and contain the primary requirements of the OSHA BBP Standard, 29 CFR 1910.1030, Bloodborne Pathogens.

2.12.2 Responsibilities

2.12.2.1 The CHMO shall provide guidance and technical support for the development and implementation of the Center-wide BBP plan.

2.12.2.2 The DOH ensures Center occupational health programs have current BBP plans through regular periodic audits.

2.12.2.3 The COTR shall require medical personnel to establish a written Center-wide BBP plan that identifies at-risk workers (those with reasonable risk of exposure). The COTR shall ensure that the Center operations are in compliance with the plan's requirements and the plan addresses the following issues:

- a. A culture of open communication among Directorates and disciplines such as medical, IH, facilities operations, training coordinators, supervisors, and safety personnel;
- b. Active participation in both the development and implementation phases is essential;
- c. Consistent documentation and record keeping of all the requirements such as training, medical surveillance and immunization, biohazardous waste, and post exposure prophylaxis; and
- d. Enforcement of medical confidentiality and security of health information as per Privacy Act requirements.

2.12.2.4 The Center Medical Director shall establish policies and procedures to ensure compliance with the plan and that treatment is available for all employees in the event of an actual exposure in compliance with the OSHA BBP Standard. This may include but is not limited to:

- a. Providing oversight for the content and/or delivery of related training classes;
- b. Provision and documentation of Hepatitis B vaccine to the at-risk employees free of charge;
- c. Documentation of declination of offer to vaccinate and the process by which the employee can obtain the vaccine at a later date;
- d. Post exposure prophylaxis plan;
- e. Medical confidentiality; and
- f. Issuing the medical opinion letter in compliance with the BBP Standard.

2.12.2.5 The Medical Director and the COTR shall jointly establish a process by which they can address any deviations from the Center Plan and review the plan annually in collaboration with the affected Directorates and disciplines.

2.12.2.6 Center OH personnel shall be a resource and assist in writing the Center BBP plan.

2.12.3 Process Description

2.12.3.1 The CHMO shall communicate guidance documents via the NASA OH Web site and provide oversight and evaluation of the BBP plan during the review process.

2.12.3.2 The COTR shall actively participate in the development and implementation of the written Center-wide Bloodborne Pathogen/Exposure Control Plan(s) and ensure collaboration between the disciplines, especially when more than one contractor or tenant organization is involved. The COTR shall also advocate for a work environment conducive to the success and consistent application of the plan.

2.12.3.3 The plan must address methods of compliance in universal precautions, engineering and work practice controls, PPE, housekeeping, and biohazardous waste processing.

2.12.3.4 Medical surveillance and evaluation shall include hepatitis B immunization and declination, post exposure evaluation and treatment, necessary followup, and issuance of the written medical opinion letter.

2.12.3.5 The Center Medical Director shall specify in the plan the means to protect and train the at-risk employees.

2.12.3.6 The plan must be made accessible to the employees and should be in line with their respective employer's plan.

2.13 Infection Control

2.13.1 Policy

2.13.1.1 A systematic, coordinated, and continuous infection control program shall be instituted at all NASA Centers that focus on surveillance, prevention, and control of infections.

2.13.1.2 Center programs shall encompass activities at the direct patient care level and at the patient care support level to reduce risks of nosocomial/clinic-acquired infections in patients.

2.13.1.3 Activities shall also be designed to reduce risks of transmission of infections among civil service personnel, contractors, health care personnel, students, and visitors.

2.13.1.4 Particular focus for infection control shall be placed on direct patient care practices, ancillary services, such as laboratory, radiology, and rehabilitation, support services, such as linen supply, and fitness centers.

2.13.1.5 OH personnel shall use the checklist from the OHP Web site to facilitate implementation and assessment of infection control. The checklist is on the Policies page of the NASA OH Web site (www.ohp.nasa.gov) under Documents, Guidelines, and Checklists.

2.13.2 Responsibilities

2.13.2.1 CHMO shall establish infection control program policy and oversight and evaluation of OH infection control programs.

2.13.2.2 The DOH ensures Center has current infection control plans through regular, periodic audits.

2.13.2.3 Center Chief Medical Officers/Medical Directors shall ensure that an infection control program is established and maintained at their Centers. These officials are responsible for ensuring that adequate resources, including time and training, are available to support the program.

2.13.2.4 The infection control program shall be the responsibility of at least one person designated by the Center Chief Medical Officer/Medical Director. That individual is known as the Infection Control Officer (ICO) and is responsible for overseeing the program. Specific knowledge and training relevant to infection control will enable the designated person to keep up to date on regulatory changes.

2.13.3 Process Description

2.13.3.1 The designated ICO shall establish, maintain, and oversee an Infection Control Plan and an Infection Control Committee (ICC) consisting of a physician, a nurse, and any additional staff necessary to manage the program effectively. The ICC should coordinate all activities related to the surveillance, prevention, and control of nosocomial infections.

2.13.3.2 The Center ICO and/or ICC shall develop, implement, and maintain a plan that includes program goals, surveillance activities, infection control guidelines, infection control training, nosocomial/clinic-acquired infections reporting process, program assessment, performance improvement procedures, and program documentation.

2.13.3.3 The plan shall be reviewed based on the proceeding year's infection control data by the ICO/ICC. The review should include infectious waste disposal, shelf life of all stored sterile items, reprocessing of non-disposable items, housekeeping contract, linen services, radiology, and laboratory services.

2.13.3.4 The infection control guidelines and practices address patient care issues such as hand-washing practices, approved antiseptics and disinfectants, sterilization of equipment and disinfecting the clinic, laundry, housekeeping, ventilation, and environmental sampling. There shall be a medical surveillance program for the health care personnel, including immunizations, post-exposure protocols and work restrictions/accommodations. The Center Bloodborne Exposure Control Plan and a tuberculosis prevention and control plan are also included as part of the guidelines and practices. The infection control guidelines and practices must be reviewed and updated every three (3) years by the ICO/ICC.

2.13.3.5 Infection control issues and data, including infections and communicable diseases, immunization status of health care personnel and tuberculosis skin testing conversion data, shall be reviewed and summarized on a regular basis by the ICO or ICC to determine if trends are being formed. Appropriate action must be taken on all infection control issues or problems and a process for follow-up established to ensure effectiveness of the corrective action.

2.13.3.6 To ensure compliance with infection control standards, the ICO and/or the ICC shall conduct facility inspections at least annually.

2.13.3.7 The ICO shall ensure that all health care personnel and facilities comply with applicable Federal, state, and local regulations, including notification of the public health agency when patients or health care personnel are treated for infectious or communicable disease.

2.13.3.8 The training of health care personnel is required by Federal (OSHA) regulations. For infection control, the training shall include the following:

- a. Newly assigned health care personnel shall receive infection control training within ten days of placement in clinical environment;
- b. Health care personnel shall receive infection control training, including OSHA BBP, universal precautions and PPE, annually;
- c. Health care personnel shall receive training when significant regulatory changes occur; and
- d. Health care personnel providing direct care to patients shall receive continuing education on patient care practices to minimize the risk of nosocomial-acquired infections.

2.13.3.9 Personnel shall have copies of training materials, general, and infection control reference materials available to them. All training and continuing education records must be kept in the health care personnel records in accordance with NASA records management guidelines.

2.14 Medical Record Management

2.14.1 Policy

2.14.1.1 All NASA Centers shall adhere to the requirements for Medical Record Management established in this section.

2.14.2 Responsibilities

2.14.2.1 The CHMO shall establish medical information management policy and evaluate the Centers medical information management policy and procedures.

2.14.2.2 The DOH shall periodically, through the regular audit process, conduct an audit of Center's medical records management policies and procedures, ensuring the Electronic Health Record System (EHRS) meets Privacy Act and NASA records management requirements.

2.14.2.3 The OH COTR is responsible for ensuring that the clinic has proper resources and systems in place to meet the Agency's requirement for management of medical information and record retention.

2.14.2.4 The Center Medical Director shall ensure the clinic has a medical information management policy that specifically addresses medical recordkeeping documentation, access, release of records, retention, privacy, confidentiality, and data integrity.

2.14.2.5 Center clinical personnel shall maintain accurate and complete patient medical records and ensuring the security and confidentiality of those records.

2.14.3 Process Description

2.14.3.1 Each Center shall use the designated Agency EHRS, once it is implemented at their Center in accordance with NASA records management requirements.

2.14.3.2 An individual medical record shall be established and maintained beginning with the first patient encounter.

2.14.3.3 The medical record documentation shall include sufficient information to identify the patient, patient medical history, reason for visit, subjective and objective findings, assessment, and plan written in the Subjective Objective Assessment Plan format. In addition, the medical record may include:

- a. Patient demographics;
- b. History and medical questionnaires;
- c. Work-related injury and illness reports;
- d. Environmental hazards or conditions;
- e. Occupational exposures and incidents;
- f. Summary Sheet;

- g. Consultation reports;
- h. Signed informed consent;
- i. Laboratory test and x-ray results;
- j. Immunizations;
- k. Medication(s) provided or prescribed;
- l. Allergies; and
- m. Referrals to community healthcare providers.

2.14.3.4 Medical records shall be maintained in accordance with all Federal and state laws or regulations and the NASA requirements as applicable, including, but not limited to:

- a. The Privacy Act of 1974;
- b. Health Information Portability and Accountability Act ;
- c. Occupational Safety and Health Administration (OSHA);
- d. NPR 1441.1, NASA Record Retention Schedules; and
- e. NASA Medical Quality Assurance Program.

2.14.3.5 The Center shall have medical record policy and procedures addressing access to medical records, release of records, copying of records, and privacy and confidentiality in compliance with Federal and state laws and regulations.

2.14.3.6 The Center shall have a policy on managing sensitive health information per Privacy Act requirements. The policy shall address the separate storage of those records and/or coding to preclude direct identification of the patient. Sensitive health information includes mental health, chemical dependency, sexually transmitted diseases, and drug and alcohol test results.

2.15 Shift Work and Balancing Work-Rest Cycles

2.15.1 Policy

2.15.1.1 It is NASA policy that consideration of the potentially detrimental impacts of unusual shifts and prolonged work-times be given a high priority to prevent worker psychological and physiological stress and undesirable outcomes. Safe work practices that minimize human error factors, especially fatigue, require safe work-rest cycles and shift scheduling. Work-rest cycles shall take into consideration and make proper allowances for the work environment, including temperature extremes. The processes presented below are provided to ensure safe work practices and mission success.

2.15.1.2 The criteria are provided for Critical and Non-Critical positions as follows:

a. A Critical Position is one in which the worker's job performance can directly impact ground safety, flight safety, or mission success. This may include, but is not limited to, workers who:

- (1) Deal directly with flight hardware, software, or ground support equipment;
- (2) Have authority to make decisions regarding flight hardware or software processing;
- (3) Are involved in launch and landing activities;
- (4) Work in ground systems with physical or functional interface with flight systems;
- (5) Work with hazardous sequences or procedures; and
- (6) Work on systems with minimal or no check and balance related to employee decisions or actions.

NOTE: Personnel who are in Critical roles on a part-time basis will be considered to be in a Critical Position on a full-time basis for purposes of work-rest cycle limitations.

b. All other positions are considered to be Non-Critical.

2.15.2 Responsibilities

2.15.2.1 Center Directors and Senior Managers shall ensure that policies regarding work-rest cycles, implementation of work-rest cycles, maximum work limits, and shift schedules as required for routine and extended or emergency work scenarios are adhered to. These policies shall also establish those positions designated as Critical for each Center or Facility.

2.15.2.2 The CHMO shall issue relevant policy and directives and provides supporting advocacy and resources.

2.15.2.3 Center OH staff shall provide assistance in policy development and professional consultation to work managers and supervisors regarding requirements for standard and prolonged work schedules and work excesses.

2.15.2.4 Managers and supervisors shall ensure that all duty hours are recorded and counted toward the maximum work periods identified below. They shall also report any work-rest cycles that are not within the established policies to the designated management level for risk assessment and approval of deviations, given the current work requirements. Work time data must be available for review.

2.15.2.5 Center EH Managers assure that potential exposures are appropriately evaluated and that Occupational Exposure Limits (OEL) are adjusted as necessary from the 8-hour time-weighted average to reflect actual conditions and work shifts.

2.15.3 Process Description

2.15.3.1 For Non-Critical Positions, employees shall not work in excess of the following maximum work times:

- a. 12 consecutive hours (16 consecutive hours in emergency situations with approval);
- b. 60 hours during a seven (7) day work week;
- c. Seven (7) consecutive days without at least one (1) full day off;
- d. 240 hours during a four (4) week period; and
- e. 2500 hours during a rolling 12 month period.

2.15.3.2 Deviations from these maximum work times require approval by a designated supervisor.

2.15.3.3 For Critical Positions, employees shall not work in excess of the following MWTs:

- a. 12 consecutive hours (16 consecutive hours in emergency situations with approval by a supervisor capable of evaluating the human factors risk level for the Critical role. Only during a Center or Program Declared Emergency may 16 consecutive hours be exceeded with high level of designated approval);
- b. 60 hours during a 7 day work week*;
- c. Seven (7) consecutive days without at least 1 full day off*(deviations may be pre-approved at a high level for up to 18 consecutive days with 2 full days off required after the extension period);
- d. 240 hours during a 4 week period*; and
- e. 2500 hours during a rolling 12 month period*.

NOTE: The asterisks (*) denotes pre-approval is required for deviations by a designated supervisor after consideration of human factors safety issues for the Critical Position.

2.15.3.4 Overtime may be required because of a problem during operation or because of an extended work process. In either case, overtime shall not exceed the stated guidelines.

2.15.3.5 For Center or Program Declared Emergencies, maximum work times shall only be exceeded with approval at the Deputy Center Director level or equivalent designee. Each Center should have the capability to cover unexpected absences satisfactorily without having individuals work more than 12 hours per day.

2.15.3.6 Emergency or extremely unusual circumstances can require work performance essentially at endurance capacity. This shall be invoked only for life-threatening emergencies, natural disasters, mass casualty accidents, or war.

2.15.3.7 The general safety record of the Center or Facility should be satisfactory, without significant incidents related to prolonged work shifts, rotating shifts, or insufficient off duty time.

2.15.3.8 Workers performing prolonged routine shifts shall receive training related to adequate sleep times between shifts.

2.15.3.9 The calendar year, the week, and the calendar day (which changes at midnight) shall be used for work time evaluation and maintenance of accurate time records.

2.15.3.10 Under no circumstances shall an employee be required to work such that there is not at least eight (8) hours off duty between shifts. A minimum of ten (10) hours off duty is preferred and 12 hours or more is optimal to accommodate employee commute time and domestic and sleep needs.

2.15.3.11 When the 8-hour period is shifted within the 24-hour day-night cycle (shift work), compensatory time must be allowed for circadian rhythms to adapt. Forward rotating shifts, from day to evening to night, rather than counter

to it are easier for human adaption.

2.15.3.12 The traditional "standard" 5-day, 8-hour shift is becoming frequently replaced with consecutive 10 or 12-hour shifts, compensated to the worker by more time/days off.

The basic 12 hour/day schedule shall be "2-on, 2-off," "3-on, 3 off," or "4-on, 4-off." Three consecutive 12-hour shifts are optimal. Working more than 4 consecutive 12-hour shifts is associated with excessive fatigue and may result in significant impact on performance of duties, mission, and safety.

2.15.3.13 Time zone changes alter or shift natural bodily rhythms and require considerable time to reach new equilibriums as evidenced in the well-known "jet lag" syndrome. Consideration shall be given to allowing for adaptation times to avoid critical decisions in a chronobiologically impaired state. Circadian rhythms affect physical ability, mental alertness, decisionmaking, and overall well-being that can predispose to injury and adversely impact work capacity, quality, and safety.

2.15.3.14 To minimize worker stress and fatigue related to time factors, the following procedures shall be followed:

- a. Define the "standard" work period for all operations and tasks, including method of shift rotation if required, as well as breaks and required rest cycles;
- b. Clarify responsibilities, work expectations, and desired outcomes for any process or decision;
- c. Minimize negative consequences of shifting work times by doing the following:
 - (1) Having an employee select preferred shifts consistent with mission needs.
 - (2) Considering individual circadian rhythms to insure adequate work and sleep-rest cycles.
 - (3) Allowing adequate time for adaptation and recovery from old to new shift or time zone.
 - (4) Knowing the "criticality" of the work to evaluate risk of physiological and psychological consequences of chronobiological stress.
- d. Define "critical job categories" and assure that employees assigned to these categories understand the full implications of the work schedule and rest cycles. Educate employees about the importance of adequate rest for safe job performance;
- e. Define "extended" work periods for job categories;
- f. Allow "deviations" from standard maximum work requirements by the following criteria:
 - (1) Need, urgency, and benefit.
 - (2) Risk assessment.
 - (3) Prior anticipation of extended work schedules or deviations from guidelines shall be noted in position descriptions; and
- g. Provide an impartial council (e.g., Center Health and Medical Technical Authority (HMTA) or the Agency DASHO) to hear and resolve disagreements related to work schedules, shift work, and rest cycles.

2.15.3.15 Maintain accurate records of work schedules and hours actually worked.

2.15.3.16 Adjustment and application of OEL's to unusual shifts shall be determined by a qualified industrial hygienist using the Brief and Scala model or other acceptable models as described in Patty's Industrial Hygiene and Toxicology.

2.16 International Travel or Assignment

2.16.1 Policy

2.16.1.1 Health services shall be offered to NASA employees on international travel or assignment in order to reduce the risk of illness or injury, prevent loss of productivity, and safeguard the health of NASA employees.

2.16.1.2 It is the traveler's responsibility to contact the NASA clinics four to six (4-6) weeks prior to scheduled travel departure to allow adequate time for vaccines if needed.

2.16.2 Responsibilities

2.16.2.1 The CHMO shall establish international travel health policy.

2.16.2.2 The DOH ensures proper execution of clinic travel policy through regular, periodic audits.

2.16.2.3 The CHMO shall maintain a contract to provide international medical evacuation to NASA civil service

employee traveling internationally on official NASA-related business.

2.16.2.4 International travel services provided by occupational medical clinics shall be consistent with the current CDC Health Information for International Travel "Yellow Book."

2.16.2.5 Civil service international travelers are responsible for seeking travel medicine services and destination-specific travel information prior to going on foreign travel. They are responsible for securing compensation claims information and personal access travel cards.

2.16.2.6 Contractors are responsible for establishing their medical clearance policies and providing employees' emergency medical services and evacuation while on international travel in accordance with their contract as prescribed in NASA FAR Supplement, Clause 1852.242-78.

2.16.3 Process Description

2.16.3.1 NASA OM clinic shall establish policy and procedures for providing travel medicine services for personnel on international travel or assignment.

2.16.3.2 NASA Occupational Medicine clinics shall have the CDC publications and information, including Health Information for International Travel (Yellow Book), Morbidity and Mortality Weekly Report, Weekly Summary of Countries with Areas Infected with Disease Requiring Quarantine, Advisory Memoranda, and Biweekly Summary of Health Information for International Travel (Blue Sheet) available for their healthcare providers.

2.16.3.3 International travel services to be offered shall include the following elements:

- a. General pre-travel briefing and information;
- b. General health risk assessment (An assessment of the employee's potential risk for illness considers any underlying medical problems, immunization history, allergies, current medications, previous travel, and travel destination.);
- c. Immunizations;
- d. Traveler's diarrhea information and advice;
- e. Malaria risk assessment and advice, if appropriate;
- f. Air travel and health information (including "jet lag" advice);
- g. Destination safety information (e.g., protective and preventative health advice, as appropriate to the destination risks);
- h. Travel kits, in accordance with NASA Center policy;
- i. Pre-travel evaluation of any environmental health issues/concerns, identification of PPE or training needs;
- j. Medical surveillance or job-certification examinations; and
- k. Other sources of health-related information including:
 - (1) U.S. Embassy or consulate location and telephone numbers.
 - (2) Hospital/clinic locations and telephone numbers.
 - (3) Procedures to access emergency assistance.
 - (4) Insurance advice.
 - (5) International personal access travel cards and information.
 - (6) Post travel followup scheduling and advice as required.

2.16.3.4 Centers are authorized to discuss and offer international travelers the CDC required and recommended immunizations for the country of destination.

2.16.3.5 Depending on the destination, pre-travel confirmation of the Tuberculosis (TB) intra-dermal skin test status with Purified Protein Derivative may be required. Centers shall follow the CDC guidance on followup for positive results and post-travel evaluation of skin test status for those who traveled to areas where there are high incidences of TB.

2.16.3.6 Centers are authorized to assemble and issue travel medical kits to NASA employees traveling on official NASA business. The instructions and contents of the medical kits shall be determined by the Center. A summary of the traveler's past and any current medical history, including allergies, medications, and special diet shall be provided to the traveler in accordance with privacy and confidentiality requirements.

2.16.3.7 Center Occupational Medicine clinics shall provide a SOS Access Cards to each civil service employee traveling internationally on official NASA business. Medical services for non-NASA-related travel are the responsibility of the employee.

2.16.3.8 NASA contractors are responsible for facilitating arrangements with a medical service provider for their employees, in accordance with their contract. Responsibility for international emergency medical services remains with the contractor and contracted employee, as specified in NASA FAR Supplement, Clause 1852.242-78.

2.16.3.9 NASA civil service employees who suffer a traumatic injury or occupational illness while in the performance of their official duties may be eligible for compensation benefits under the Federal Employees' Compensation Act. The mishap must be reported in accordance with NPR 8621.1, NASA Procedural Requirements for Mishap Reporting, Investigating, and Recordkeeping. Medical assistance shall be obtained through SOS International.

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