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July 29, 2024

Shannon Duffy
Safety and Occupational Health Manager
Phoenix Area Office
Occupational Safety and Health Administration

Via e-mail: Duffy.shannon.r@dol.gov

Subject: Request for Investigation of the Washington National Primate Research Center Breeding Facility in Mesa, Arizona

Dear Ms. Duffy:

I'm writing to formally request an investigation into the University of Washington National Primate Research Center Arizona Breeding Facility (WaNPRC-ABC) located at 4202 S. Canal Service Rd. in Mesa, Arizona. This off-site breeding colony, located on Salt River Pima–Maricopa Indian Community land, was established by the University of Washington (UW) in an attempt to produce monkeys in a cost-effective manner. Typically, the facility maintains 400 to 500 pig-tailed macaques (*Macaca nemestrina*). Monkeys are sent to UW in Seattle as well as to other facilities across the country several times per year for use in biomedical experimentation. No experimentation takes place at the WaNPRC-ABC. This request is prompted by serious concerns regarding possible worker safety and health violations related to pathogen exposure and workplace conditions at this facility.

Animal autopsy reports as well as documents submitted by WaNPRC-ABC to the National Institutes of Health confirm that monkeys maintained and bred at the facility harbor unintended pathogens, including simian varicella virus, simian retrovirus, Coccidioides immitis (the causative agent of Valley Fever), *Trypanosoma cruzi* (the causative agent of Chagas disease), *Vibrio cholerae*, and species of Mycobacteria, Campylobacter, Shigella, Salmonella, Yersinia, Cryptosporidium, Staphylococcus, and Plasmodium. Many of these pathogens can be transmitted to humans, and all of them can undermine an animal's immune systems, which can result in increased shedding of pathogens in bodily fluids.

Records from UW show that worker exposures at the facilities are occurring during routine cleaning and husbandry tasks such as pressure washing animal cages, which can aerosolize animal urine, feces, blood, and saliva, as well as through direct handling of monkeys and/or traumatic injuries associated with equipment in the facility. The risk associated with these tasks necessitates stringent safety measures and prompt medical treatment following exposure.

Of particular concern is the presence of *Macacine herpesvirus* 1 (herpes B), a highly pathogenic zoonotic virus that continues to circulate among the macaques in the colony. As it's shed in macaque bodily fluids, transmission and infections in humans can occur following high-risk exposure, such as bites, scratches, or

mucosal exposure. Protocols for post-exposure assessment, treatment and anti-viral prophylaxis have been established in order to reduce the risk of deadly encephalomyelitis, and standards of care and best practices apply to laboratory personnel who have been exposed to macaques who may be harboring herpes B.

Safety incidents that occur at the primate center locations are reported to the UW's Group 1 Safety Committee. Meeting minutes from 2021 to 2023 show that bites, scratches, accidental needle pokes, eye splashes, and injuries from contaminated equipment are extremely common. These records show that Seattle primate center personnel are routinely offered evaluation, treatment, and antiviral prophylaxis for potential herpes B exposures. However, reports from the Safety Committee also reveal that these exposures are not always managed according to best practices at the Mesa facility. For instance, while workers exposed to herpes B at the Seattle campus primate facility are typically referred to the UW Emergency Room for evaluation and treatment (Table 1), this protocol appears not to be consistently followed at UW's Arizona location (Table 2). This disparity in treatment standards poses significant health risks to employees in Arizona.

The 2019 publication, "Decision Tool for B Virus Exposure" outlines the recommended protocols for handling herpes B virus exposures. This tool includes a comprehensive evaluation process for determining the need for antiviral prophylaxis based on several critical factors.

1. **Adequacy of first aid:** Immediate and thorough washing of an exposed area with detergent for 15 minutes or flushing with saline for mucous membrane exposure
2. **Type, depth, and location of exposure:** Assessment of a wound's severity, including high-risk exposures such as deep puncture wounds, mucosal exposures, and exposures to potentially infectious specimens (saliva, central nervous system tissue, etc.)
3. **Characteristics of the source animal:** Evaluation of the macaque, including the animal's health status, breeding conditions, and known seropositivity for herpes B virus.

The decision tool scores each variable on a scale, with a total score guiding the recommendation for post-exposure prophylaxis (PEP). For instance, high-risk exposures (scores ≥ 4), such as splashes to the eye, mandate PEP, whereas lower-risk exposures are evaluated based on specific criteria.

The way in which disease risk following personnel exposure to aerosolized fecal pathogens is handled at WaNPRC-ABC, as evidenced by the following safety incident reports, appears to be inadequate. In April 2022, a Safety Committee member expressed a cavalier attitude regarding bacterial and viral pathogen exposures that may be causing gastrointestinal symptoms for workers at the Seattle facility and also appeared to be unaware that Shigella infection is a nationally notifiable disease.

> **2022-04-050:** SEA WANPRC employee was seeing the health nurse, and mentioned they had had gastrointestinal symptoms for more than a week; checking with doctor to see if related to any NHP exposure.
>
> **Resolution:** Supervisor notes say that if the GI issues are related to the monkeys in clinical isolation for GI pathogens, the exposure likely occurred before the monkeys were isolated. Suggests changing gloves more often between rooms, even when not under clinical isolation and wash hands more thoroughly when

> leaving the facility. … *Matt said that virtually everyone who works in the units gets ill at some point in their first 6 months, due to meeting staph and shigella for the first time and being around aerosolized fecal matter.* [*Emphasis added.*]

In addition to the inadequate management of pathogen exposure, chronic understaffing at the Mesa facility has been reported, with the facility unable to hire a senior veterinarian for the past nine months while animal technician and other veterinary positions remain unfilled. This situation leads to increased incidents of worker injuries due to rushed and overburdened staff, further exacerbating the unsafe working conditions and increasing the risk of accidents and improper handling of hazardous exposures. (See Table 1.)

Given the severity of these concerns, I urge OSHA to conduct a thorough investigation into the working conditions at the WaNPRC's Mesa facility. The health and safety of the workers must be prioritized, and immediate corrective actions are necessary to address these violations.

Please note that since we began raising concerns with UW authorities, Group 1 Safety Committee is no longer posting its minutes or incident reports online. Therefore, we have no access to the 2024 data.

Thank you for your attention to this urgent matter. I look forward to your prompt response and actions to ensure the safety and well-being of the employees at this facility.

Sincerely,

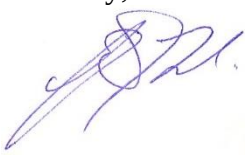

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Table 1. Examples of how potential herpes B exposures have been handled at the WaNPRC facility in Seattle, Washington between 2021-2023.

2023-11-072: SEA WNPRC employee was grabbed by a male macaque, tearing the disposable lab coat and leaving a bruise. Skin was not broken, area scrubbed for 15 minutes. Based on the information Employee Health explained the IP could decide to go to the ED or not; IP chose not to. Suggests wearing a real or thicker lab coat.	**Resolution:** Supervisor agrees about wearing better protective clothing. *Also, situational awareness.*
2023-10-091: SEA WNPRC employee was attempting to unlock a Group 5 Seattle-style cage when the NHP inside reached through for the IPs hair cap, scratching their forehead. It was scrubbed 30 minutes later when scratch was noticed, and IP went to the ER.	**Resolution:** Supervisor notes IP was a trainee without full training on how close to get to a cage. For future training, animal awareness and proper space from animals will be addressed explicitly and sooner in the training.
2023-09-054: SEA WNPRC student employee was changing the cover on the surrogate when an infant bit their hand. IP washed but did not report to ER for treatment. Later they declined medical follow-up other than B-virus lab work.	**Resolution:** Supervisor added the age of the animal was the biggest contribution; there is a need to change practices as the animals age. They will be curtailing activities with animals this age, and PPE practices will be revised to be sure proper gloving protocols are followed. EH&S biosafety followed up and reports the IP was rushing with their final animal at the end of their shift. The infant was not cooperating, but IP went ahead anyway. The injury was more a scratch than bite, with no bleeding. EH&S discussed not rushing, patience, and what to do in future if injured.
2023-04-015: IP was bitten by a monkey when attempting to fasten the other monkey partnered in the cage. The double gloves were not broken, but the bite caused a hematoma under the nail and 2 small cuts. They washed per protocol and went to the ED for usual follow up.	**Resolution:** No **s**upervisor comments. *Melinda reminded the supervisor to complete the comment section. She added that she wasn't sure it was an actual exposure, and Sonia noted that she herself might have adjusted the 'type of incident' to say exposure, even with a near miss, so that the report would get a review by the appropriate people.*
2023-03-026: SEA WNPRC employee was attaching a sign to a cage when an NHP scratched their hand through their glove. IP did not realize until later that the scratch had happened; they then followed washing protocol and went to the ER for tests.	**Resolution:** No supervisor comments. *Melinda will ask the supervisor.*
2023-01-002: SEA WNPRC employee was pulling out a cage to clean the floor when a	**Resolution: Supervisor** suggests retraining on safer areas to hold cages, and that hands should

NHP reached out and scratched their hand, tearing two glove layers. IP scrubbed the area for 15 minutes with an exposure kit sponge, reported the incident and went to the ER. Suggests wearing thicker gloves.	not be on cages longer than necessary. *Melinda noted that the supervisor is the new Animal Husbandry Trainer.*
2022-12-104: SEA WNPRC employee was handing frozen mango treats to a pair of rheseus macacques when one grabbed their right hand, ripping both layers of gloves off. There was no apparent skin breakage. IP showed the hand to supervisor, who recommended cleaning with alcohol and then using the Herpes scrub kit. At that point, some blood was noticed and IP proceeded with the scrub kit and went to the ER. IP notes proper animal care & PPR were used, and that they may add extra layers of gloves.	**Resolution**: Supervisor noted that these animals are in caging that allows for some animal accessibility around the food hopper. These animals will be moved back to the standard facility cage, which allow a person to drop food items into the hoppers from more of a distance. *Melinda added that as this involved the rheseus monkeys, EH&S will do a review, with a report to NIH. She repeated the need to wear the heavy gloves and glove liners.*
Group 9: 2022-10-042: Yazdan Lab personnel was facilitating loads a NHP into a chair when the NHP grabbed at a treat in their hand. The IP later noticed a small red bump during a change to sterile gloves. IP had been wearing double nitrile gloves and a double knit lab coat cuff was pulled down over the top of the gloves. They scrubbed for 15 minutes, and the 4 discarded gloves were found to be undamaged. After consultation, the decision was made that it was unlikely they had an exposure.	**Resolution**: Supervisor notes it was a near-miss, and that animals can respond to routine activities differently day to day; humans must be vigilant. Primate Center has ordered cut resistant gloves and are waiting on delivery. They will be made available and monitored to see if there are any issues wearing them when caging or using the chairs.
2022-11-001: SEA WNPRC employee gave NHP a treat while cleaning its cage; the animal grabbed roughly, breaking through the two pairs of gloves and scratching IPs finger. IP went to ER for treatment.	**Resolution**: Per supervisor, the cage has a feeder box. Always be careful and pay attention to the animals; vet staff should also do regular maintenance nails of animals. Employee is fine, did not miss work.
2022-10-022: SEA WNPRC employee shifted four juvenile NHP into the same pen to clean the other enclosure, not knowing that door was not secured. Seeing the four had noticed the open door, IP rushed to close it. As they had not used the transfer door before, they did not know how to latch it. Attempting to fasten it in a hurry, they pushed back their fogged up face shield. One of the animals bit at IP's glove and then let it snap back in place, causing fluid to hit IP's right eye. IP secured the lock and went to the eye wash for 15 minutes. Co-workers	**Resolution**: No supervisor comments. *Melinda will remind them.*

waited during the eyewash, and one walked IP to the ED. IP will switch to goggles.	
2022-09-085: SEA WNPRC employee received a needle stick in their index finger when trying to give a subcutaneous injection to an NHP. The syringe with prograf/tacrolimus was in one hand, and when the animal wiggled, the needle grazed their other hand, breaking the glove. The needle had not touched the animal, and IP felt no solution was injected. IP washed the site for 15 minutes and followed up with Employee Health.	**Resolution**: Supervisor offered different options/sites of administering SQ injections safely.
2022-08-016: SEA WNPRC staffer was cleaning tools after a necropsy and punctured finger with rat tooth forceps. Scrubbed for 15 minutes, went to the ER & started taking Acyclovir while they wait for the test result from EHC.	**Resolution**: Supervisor suspects inattention and recommends care and concentration. *Per Melinda, the tools had been soaking in cleaning solution for a while, and it was an abundance of caution.*
2022-08-022: SEA WNPRC employee was head-stabilizing a NHP in a chair when NHP thrashed head and dragged left canine along base of employee's thumb, causing 3cm laceration. IP washed per protocol and went to the ED. Incident happened on the Thursday, IP was hospitalized on Friday night/Saturday morning.	**Resolution**: Supervisor notes the IP is transferring to this lab from another lab at the Primate Center, and the procedure techniques are different. IP was only wearing nitrile gloves on the injured hand. Recommends adding more Kevlar gloves to the lab's supply, wearing both nitrile and Kevlar on both hands, learning to hold the NHP head from behind and having another person assist. *Melinda added that it is now an L&I claim, due to the hospitalization, with a potential fine for the lack of PPE on both hands. Sonia noted that it warrants a serious EH&S serious investigation and a formal root cause analysis. Group 1 should receive a copy & reports when the EH&S investigation is done.*
2022-08-043: SEA WNPRC; during an NHP's TB test, NHP movement resulted in used needle grazing employee's finger, puncturing gloves but not skin. Scrubbed for 15 minutes, declined a visit to the ER.	**Resolution**: Supervisor recommends being more careful with hand placement during procedure; make sure animal is properly sedated.
2022-06-009: SEA WANPRC employee had an accidental needlestick with syringe containing formulation. Nothing was injected, but had concerns about any residue on the needle.	**Resolution**: Supervisor notes it as personal negligence, and advises more care and to pay attention. EH&S comments that the OH nurse noted that proper post exposure protocol was followed. No biohazard, and nurse reached out to IP.
2022-06-013: SEA WANPRC employee was feeding NHP treats to distract it while IP visualized an incision sit. Agitated NHP grabbed employee's hand, scratching skin through t layers of nitrile gloves. Followed SOP and washed the area, and went to ER. Plans to wear thicker or cut gloves in future.	**Resolution**: Supervisor agrees with glove recommendation; also to limit close contact with research animals, and watch for agitation. *Melinda added that the IP has just moved into a new job as vet tech, and this might be part of the learning process. It might be good to remind staff to be aware when concentrating on a new skill.*

2021-12-045: SEA WANPRC tech was scratched above the protective sleeve by a NHP during a blood draw. IP reported a small tear in the coveralls. They washed the scratches and the alcohol test was done. It appeared the skin was broken, but the IP chose not to go for medical follow up at the time.	**Resolution**: No supervisor comments. *Melinda notes that supervisors have been working on the floor as they have personnel gaps from Covid quarantining and (in December) the snow.*
2021-11-089: SEA WANPRC, SOM lab personnel was bitten while working with a mildly-sedated primate. IP washed the area, and went to the ED for treatment and the potential B virus follow up.	**Resolution**: No supervisor comments. *Discussion tabled until later, as EH&S are doing a formal review. Melinda called this report a place-holder input at the time of injury. The IP has provided a much more detailed explanation of the incident.*
2021-07-026: SEA WANPRC employee bitten on right hand/third finger while feeding NHP. Treated at ER with follow-up by Employee Health.	**Resolution**: Supervisor thinks employee was rushing and not being cautious enough; there is also a lot of activity in the room which may have stressed the animal. Suggests more caution and not getting close to the animals. *Melinda says the supervisor also suggested cut proof gloves; Matt thinks it is hard to be bitten when feeding and wondered if the AP was engaging with the animal or trying to calm it.*

Table 2. Apparent Violations of Occupational Safety and Health Administration Regulations at the University of Washington's National Primate Research Center's Facility in Mesa, Arizona

Apparent OSHA Violation
§ 1910.176(b) - "Storage of material shall not create a hazard. Bags, containers, bundles, etc., stored in tiers shall be stacked, blocked, interlocked and limited in height so that they are stable and secure against sliding or collapse."
2023-11-036: AZ WNPRC employee was hit by a filled metal water bottle when it fell from the top of a 5-foot fridge. It hit the IP's finger, causing bruising and swelling. **Resolution:** Supervisor notes the appliance had just been defrosted and so was lighter than usual. Recommends not placing water bottles on the top. Sulgi added the bottle also struck the IP's head on the way down, and that the fridge had not been touched by anyone.
2021-12-016: AZ WANPRC vet had a crowbar fall onto their head, causing ~2 cm open wound that required staples to close. The wound was scrubbed for 15 minutes prior to going to urgent care. The crowbar was dislodged when a co-worker pulled a glove from the shelf, as they got ready to assist.

Resolution: A crowbar was stored on the top shelf of a storage rack; storage location was changed.

§ 1904.8(a) – "You must record all work-related needlestick injuries and cuts from sharp objects that are contaminated with another person's blood or other potentially infectious material (as defined by 29 CFR 1910.1030). You must enter the case on the OSHA 300 Log as an injury. To protect the employee's privacy, you may not enter the employee's name on the OSHA 300 Log (see the requirements for privacy cases in paragraphs 1904.29(b)(6) through 1904.29(b)(9))."

2023-07-064: AZ WNPRC employee was recapping needle of tuberculin when they poked their right thumb.

Resolution: Supervisor notes a failure to follow established procedures for safely recapping needles; there is a specific device which should be used. Scheduled refresher training for all vet staff at department meeting. *Melinda noted that the IP should not have been using two hands. Per Sulgi, the supervisor in Arizona has ordered more and different styles of re-cappers.*

2023-05-034: AZ WNPRC employee was removing poly max plastic from an enclosure wall, when the poly cracked, ripping the IP's gloves and scratching the skin. They immediately used the scratch kit.

Resolution: Supervisor recommends heavier gloves when removing the poly over the latex gloves.

2023-03-115: AZ WNPRC employee got a needlestick to finger as they uncapped a syringe.

Resolution: No supervisor comments. *Sonia noted that comments were added later; the supervisor said that it was a slip tip syringe which doesn't always click firmly in place, so that the needle can sometimes come off with the cap. They are moving to the Luer lock syringe, which allows a needle to be twisted on and then locked in place.*

2023-02-111: AZ WNPRC employee was using a squeegee to push water out of an enclosure. When they drew their arm back, they cut knuckles on the metal animal bench lining.

Resolution: No supervisor comments. *The IP was working in a small space, and was wearing 2 layers of nitrile gloves. Sulgi will remind the supervisor to complete the report.*

2023-02-112: AZ WNPRC employee's finger got caught in the side of a trashcan and they broke the nail off.

Resolution: No supervisor comments. *Per Sulgi, the IP is not sure just how it happened; they were wearing 2 layers of nitrile gloves. Sonia added that on investigation, it turned out to be an exposure incident, and that the OARS report needs a better description of the incident, as well as the supervisor's comments. Sulgi will talk with them.*

2022-08-027: AZ WNPRC employee cut their finger on an animal bench while they were cleaning in a cage.

Resolution: Supervisor suggests checking the bench for any rough areas and smoothing them. Recommends personnel take more care.

2022-05-069: AZ WANPRC Employee cut right thumb on metal floor grate.

Resolution: No supervisor comments at time of meeting. *Sulgi said these are the grates that cover the gutters in OARS report 2022-05-007; the short ends are sharp and some are old enough that when lifted they also pull up the lower grating. Their facilities people will work on smoothing the sharp edges as they can.*

2021-07-025: AZ WANPRC vet tech was performing dental cleaning on animal when they cut their hand through gloves with the scaler. AP says will pay more attention to hand placement.

Resolution: Supervisor cites inattention, and to remain vigilant when working with animals and equipment.

2021-09-015: AZ WANPRC discovered must have hit thumb while changing pigtail macaque cages; after finishing, removed two pairs of gloves to find thumb and nailbed were bloody. Got the herpes B kit, and scrubbed the affected area for 15 minutes with an iodine scrub. The inner glove had a hole, and so reported to clinical staff. Staffer reported to the emergency department. Staffer had worn all the required protective coverings, and suggested they go slower.

Resolution: No supervisor comments. *Melinda will follow up with the supervisor.*

2021-07-086: AZ WANPRC employee was pulling down shift door handle when finger grazed an exposed screw, lacerating both glove and skin. AP suggests a maintenance request.

Resolution: Maintenance was notified about the exposed screws and they covered them.

§ 1910.22(a)(2): "The floor of each workroom is maintained in a clean and, to the extent feasible, in a dry condition. When wet processes are used, drainage must be maintained and, to the extent feasible, dry standing places, such as false floors, platforms, and mats must be provided."

2023-10-001: AZ WNPRC employee slipped and fell, landing on their side.

Resolution: Supervisor notes IP was walking fast around a corner on a wet floor; do not rush when floors are wet.

2023-02-010: AZ WNPRC employee slipped and fell on a wet floor, and scratched their arm. This was treated as a potential B virus exposure, and employee was sent to urgent care.

Resolution: Supervisor suggests checking the tread on boots, and replacing if necessary.

2022-05-007: AZ WANPRC employee was walking on wet floor, left leg went into an open gutter and they fell forward, bruising shoulder, arm, and knee.

Resolution: No supervisor comments at time of meeting. *Allison asked if it was possible to paint around the gutters. Per Sulgi, the gutters are always open, and the floor is always wet and both are known hazards.*

2022-03-065: AZ WANPRC staffer employee was pressure washing outside enclosure when they slipped down stairs, causing bruising and/or cutting elbows, hands, buttocks and knees.

Resolution: No supervisor comments. *Melinda and Sulgi had been DM-ing re: this incident. IP slipped while moving pressure washer hose to the upper level. Ryan asked about leaving a second washer on the upper level, but the stairs are inside the compound, so that won't work. He then asked if a dedicated water line could be there, instead, to hook the washer up when needed. Melinda added that they are short-staffed down there.*

2021-08-009: AZ WANPRC stepped to one side to pick up a syringe knocked from their hand by an animal, and slipped on a wet area of the floor. Swung out arm for balance, felt a twinge in the right scapula area, which progressed to a dull ache down the arm. Took Tylenol; the muscles felt knotted and aching several hours later. Will pay closer attention to floors.

Resolution: Supervisor suggests looking into facility shoes with better treads. Reviewed footwear with IP. *The employee also suggested boot brushes to clear the shoe treads.*

2021-09-076: AZ WANPRC staffer slipped and pulled his upper back on the catwalk leaving the roof to the lower level. Suggests he be careful and slow down on wet surfaces.

Resolution: Supervisor says there was moisture on the catwalk, and to use the handrails. *Rain on the outside catwalk, Melinda talked with the supervisor who had originally filed this as a near-miss as there wasn't a fall. It was re-filed.*

2021-08-050: AZ WANPRC employee was cleaning floor gutters/troughs, when foot slipped, causing them to land awkwardly on the right side of their foot. There was discomfort, and they were going to monitor.

Resolution: No supervisor comment beyond 'wet surface.' *Looking into footwear.*

§ 1910.22(a)(3): Walking-working surfaces are maintained free of hazards such as sharp or protruding objects, loose boards, corrosion, leaks, spills, snow, and ice.

2022-12-114: AZ WNPCR employee was coming back down stairs carrying a net, and slipped on poop, sliding down 3-4 stairs.

Resolution: Supervisor suggests not carrying objects while on stairs; note that IP did catch themselves on railing. *Sulgi added that the stairs do get cleaned regularly.*

2022-12-046: AZ WNPCR employee fell after foot fell into the uncovered drain, while carrying the covers they use to protect the tvs during power washing. IP suggests moving the tv covers before the drain grates are removed.

Resolution: Supervisor adds getting help with the covers as they are bulky, and waiting to pull the drain lids. *Sulgi added that the drains remain uncovered for several hours while the areas are power washed.*

2022-09-015: AZ WNPRC staffer slipped on floor slippery with hydraulic fluid. Trying to catch themselves in the fall, IP pulled a muscle on the outside of their thigh. Later in the day, slipped on wet cheerios and further aggravated it. Took an OTC anti-inflammatory and returned to work. IP knew the spill was there, and notes that it was appropriately posted. Added they will be more careful and be sure there is adequate bedding down to counteract fluids.

Resolution: Supervisor says that not enough sawdust was down, and IP walked through and not around the area. Facilities are still waiting on a part to fix the leaky hydraulics. *Per Sulgi, the fix has finally happened.*

2022-09-017: AZ WNPRC employee also slipped in the fluid reported in 2022-09-015. Caught themselves but tweaked lower back. Not long after, they were pushing a wet-vac down an incline, and when they tried to stop it flipping, more pressure was put on back. IP reported the spill signage had been moved out of sight. They recommend getting a wet-vac for each level so the awkwardly weighted machine does not have to be manipulated on an incline.

Resolution: Supervisor notes IP walked through and not around the area even with sawdust down; and they should have asked for help and/or pulled the shop vac instead of pushing. *Sulgi added that the signage/cones had been moved away and is unsure why.*

2022-07-017: AZ WNPRC employee was walking to turn off water, with a fogged face shield. Stepped on a garbage can lid on the floor, it slid underfoot, and IP landed hard in the splits position, bruising and straining groin, buttocks, legs.

Resolution: No supervisor comments. *Per Sulgi, the lid should not have been in the colony area.*

2022-03-008: AZ WANPRC employee was pushing a cage through obstructions in a hallway. The cage rebounded off wall protrusion and caught employee's hand between cage and wall, bruising and abrading hand. Neither glove was broken, and the cage was clean & outside the facility. Recommends a 2nd person to help guide the cage.

Resolution: Supervisor says the employee was hurrying through a chokepoint in the hallway. Recommends slowing down and using safe moving techniques. Help was

available, and the obstructions temporary. Discussed moving techniques with employee. Seeking storage spaces for the obstructing cages.
2022-01-010: AZ WANPRC staffer stepped on rock with right heel when getting off the forklift. The area where the forklift is driven & parked is on dirt and rocks; suggested corrective action would be asphalt or concrete driveway. Meanwhile, will use more caution when stepping off the forklift in the dark. **Resolution:** No supervisor comments. *Per Melinda, it was a stone bruise and they did not seek medical attention. They were wearing work boots.*
§ 1910.132(a): "Protective equipment, including personal protective equipment for eyes, face, head, and extremities, protective clothing, respiratory devices, and protective shields and barriers, shall be provided, used, and maintained in a sanitary and reliable condition wherever it is necessary by reason of hazards of processes or environment, chemical hazards, radiological hazards, or mechanical irritants encountered in a manner capable of causing injury or impairment in the function of any part of the body through absorption, inhalation or physical contact."
2022-07-022: AZ WNPRC employee was cutting avocados when their knife cut through fruit/pit and cut left index finger. IP forgot about the cut gloves, and recommends a general reminder and signage might help. **Resolution:** Supervisor recommends wearing protective gloves.
2022-05-061: AZ WANPRC Employee was cleaning outdoor enclosure when water dripped from face shield sponge into left eye. **Resolution:** No supervisor comments at time of meeting. *Employee got safety goggles, and plans made that all new hires will wear goggles for the first 2 months. They are also trying anti-fog spray on them. Sulgi pointed out that people don't like the goggles because of the fogging and discomfort wearing them.*
2022-05-075: AZ WANPRC employee splashed in right eye by pressure washer. IP suggested wearing safety goggles under face shield. **Resolution:** No supervisor comments at time of meeting. *Per Sulgi, the pressure washing by the animal techs is done at all angles so splash happens.*
§ 1910.176(c): "Storage areas shall be kept free from accumulation of materials that constitute hazards from tripping, fire, explosion, or pest harborage. Vegetation control will be exercised when necessary."
2021-09-023: AZ WANPRC was born on hands and neck by noseeums/sand flies/midges. Later noticed many insects in front of the AB main entry doors inside and outside the changing area. Find their breeding area? **Resolution:** No supervisor comments. *Melinda had talked with the supervisor who was unsure how to complete the OARS report in this case. There had been a lot of*

rain in AZ, and an insect boom. Employees were told to use insect spray if they were concerned. Carmen asked if the first aid kits included anti-itch ointment.

General Duty Clause § 5. Duties (A): "Each employer—
(1) shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees."

2023-10-059: AZ WNPRC employee missed their footing as they stepped from an enclosure and fell onto their left knee and rolled their left wrist. When they finally stood, they had an ache in their wrist and a knee that hurt when they walked.

Resolution: Supervisor notes inappropriate footwear (crocs), Wear footwear with good tread and take care on slippery surfaces.

2023-09-030: AZ WNPRC employee was handing out treatments when an animal bit their finger. IP notes that bites are always a risk when handing out medication in a group enclosure.

Resolution: No supervisor comments. Sulgi will remind the supervisor, and that a good rule of thumb is 'don't put fingers inside the mesh'.

2023-08-013: AZ WNPRC employee cut thumb on the pressure washer hose clamp.

Resolution: Supervisor suggests replacing the hose clamps with ones that so not have sharp edges.

2023-08-087: AZ WNPRC employee noticed a pain in their wrist while locking and unlocking in B building. Subsequently feels pain when squeezing/turning wrist.

Resolution: Supervisor thinks the locks may need to be oiled, remembering to stretch hands & wrist.

2023-07-044: AZ WNPRC employee leaned drain grate against cage during cleaning, and the grate fell onto employee's leg, bruising and cutting calf. IP suggests lighter drain covers and changing SOP to reflect steps for different style grates.

Resolution: No supervisor comments. *Sulgi will prompt them.*

2023-07-061: AZ WNPRC employee was pressure washing cages when their thumb and hand became painful, followed by swelling and stiffness.

Resolution: No supervisor comments. *Sulgi mentioned that they are looking into vibration gloves due to the repetition of this as a problem. She added that swapping people out during the task would help. Sonia wondered if this had been addressed in the ergonomics report AZ WNPRC had done? Melinda said that various things re: power washing had been discussed, but this might be a good subject for further discussion.*

2023-06-011: AZ WNPRC employee had thumb and pointer finger numbness. Suggests something be added to hold the trigger down.

Resolution: Supervisor notes the continuous use of hand; suggests changing hands and hand position when using the pressure washer. *This was a new employee with a new task; IP has since left. Sulgi notes that the pressure washers have a trigger lock, but that there is constant vibration, which is why switching hands is important.*

2023-05-062: AZ WNPRC employee was passing out food when some dirty water got swept up into their eye. IP notes they were wearing all proper PPE.

Resolution: No supervisor comments.

2023-01-044: AZ WNPRC vet was attempting to move an animal from an enclosure using a jump box; animal entered the box more quickly than expected and IP strained back. IP recommends changing approach to moving animals, using trap and run portable caging as more ergonomic.

Resolution: Supervisor notes that jump boxes are not stabilized, and the operator absorbs all the force of the animal. Recommends using trapping run, especially with larger animals. *Ryan asked the weight of these animals; they range from 1-14 Kg. Sulgi explained that the jump boxes are small, heavy carriers with a handle on the top, and that the trap & run is much heavier and has to be forklifted to the upper area. Employees are trained to put their full weight on the box, to keep it from moving. Melinda added that it was one of the areas the ergonomist they hired was looking at, including discussion of having handles in a different place so that two people could manage it.*

2022-09-029: AZ WNPRC employee had pain in left shoulder, radiating down to ring finger and pinky, with occasional numbness and tingling. It occurred after power washing, and is worsening.

Resolution: Supervisor says too much pressure washing or possible improper handling of equipment; suggests using other arm, stretching beforehand, let coworkers do the task if having issues. *Melinda added that an ergonomist is going to the AZ facility in 2 weeks to look into these issues.*

2022-07-021: AZ WNPRC occupational health employee fell, bruising elbow and hand. Per the IP, they were outside in 103F heat, adjusted their face shield as they walked, and mis-stepped moving from sidewalk to lower pathway, falling forward. IP suggested not adjusting a face shield while walking, and that perhaps they need to go to Arizona more often to acclimate to the heat.

Resolution: Supervisor note the IP was not familiar with the site. Recommends marking the change in elevation with paint and going more slowly when touring visitors around. *Melinda added that this was her, she was hydrated & in proper shoes, and that it was just a misstep. Sulgi added that they have now painted step edges.*

2022-07-104: AZ WNPRC animal tech was using a step stool as a chair, pushed it back and it collapsed. They fell over backwards, landing on their tailbone and hitting their shoulder blade on a metal water bottle. They suggest not using a step stool as a chair.

Resolution: No supervisor comments. *Same IP as in 2022-07-017; possibly using the stepstool as still uncomfortable after the first fall. Sulgi says the stepstool was trashed, as a different person had a fall from it. It will be replaced.*

2022-04-077: AZ WANPRC employee carrying a sedated animal into a cage, stood up into the metal perch, hitting and bruising their shoulder. Suggest changing the work layout.

Resolution: Supervisor says the root cause was the existing policy for returning a sedated NHP, having to maneuver through an interior door that is not high enough. Recommends using a cart to transport the animal, so the person can navigate the doors more safely. The IP will try this method, and report back if it works better.

2022-01-071: AZ WANPRC staffer was unloading chow off the forklift, hit the doorframe with a bag of feed and jammed their wrist. IP suggests wider doors on the feed shed.

Resolution: No supervisor comments. *Same IP as in 2022-01-010; Melinda added that the root cause was due to the door size. The IP needed to unload 300+ bags of feed by daisy chaining them off one pallet and restacking them inside the building on a new pallet. The door is being replaced 2/10 and they will now be able to directly place the pallet in the feed storage area. This should be prevent future wrist injuries and be an ergonomic win for the group.*

2021-12-054: AZ WANPRC staffer twisted right ankle when tripped on a gravel driveway in the dark. Motion light that would light the area was out; IP will put in work order to fix it.

Resolution: No supervisor comments. Melinda says the IP is still receiving PT.

2021-12-063: AZ WANPRC staffer was bitten twice (calf and knee) by a displeased monkey. Two co-workers were attempting to move two monkeys out of the enclosure and into a box; the angry monkey had been prevented from getting through a gap and back to the colony. IP suggests reviewing work procedure, perhaps using a Group 6 cage (for larger NHP) to avoid issue.

Resolution: A Group 6 cage was available, but not used. It has an extension the abuts the enclosure to prevent an animal from squeezing through any gap. WaNPRC are working on center-wide guidelines for when jumping animals out of enclosures.

2021-10-074: AZ WANPRC tech had pants soaked with Wexide when the hose coupler was broken. IP gave the coupler to maintenance, then took a 15-minute shower.

Resolution: Supervisor adds the coupler o-ring was worn and needed replacement. IP stated they did not need to go to Concentra; has a mild red area on her leg just above the knee.

2021-07-027: AZ WANPRC staffer has back pain and strain from frequent heavy lifting and carrying. AP suggests change/review work procedures, possible a larger cart to move heavy

items and NHPs. Will be using the exercises and stretches the PT provided to increase strength & mobility in the lower back.

Resolution: Supervisor adds that it is a very physical job requiring heavy lifting/ pushing/pulling/carrying, leaving employees prone to physical injuries, ergonomic issues and repetitive motion injuries. Recommends working in teams, utilizing the provided wheeled carts, taking breaks and stretching throughout the day. *Melinda says they have ordered additional carts, and will check on the status of the order.*

2021-07-047: AZ WANPRC staffer was cleaning a cage when vets and vet techs entered the room to do a transfer; agitated NHP scratched employee's wrist. AP suggests pausing cleaning when a transfer is in progress as there are NHPs who become harder to handle than usual when the vets and vet techs are in the room.

Resolution: No supervisor comment.