**MINORS IN LABORATIES AT CORNELL UNIVERSITY**

**PURPOSE**

Cornell University is committed to creating a safe environment for minors visiting or working in laboratories or laboratory support spaces where hazardous materials and equipment are present.

**SCOPE**

The following requirements regarding the presence of minors in University laboratories and laboratory support spaces applies to:

* All laboratories and laboratory support spaces at Cornell University, with the exception of Weill Cornell Medical College
* All members of the University community, including faculty, staff, volunteers, interns, academic appointees, , teaching assistants, registered University students, and contractors; and
* Non-University organizations that operate programs for minors in University facilities.

These requirements do not apply to:

* Undergraduate students enrolled in courses listed in a campus course catalog having a laboratory component; and
* Computational laboratories, or laboratories where no hazardous materials or equipment are present

In addition, all units and members of the University community are expected to comply with the University's Protection of Minors Guidelines.

**DEFINITIONS**

**Minor**: Any person under the age of 18.

**Laboratory**: For the purposes of this document, “laboratory” refers to any space used for scientific activities that may involve hazardous materials and/or equipment, including teaching laboratories and research laboratories.

**Laboratory support space:** For the purposes of this document, “laboratory support space” refers to any space that supports or serves as an extension of a laboratory where hazardous materials and/or equipment may be used or present. Examples include chemical storage rooms, equipment rooms, cold rooms, tissue culture rooms, microscope rooms, dark rooms, growth chambers, greenhouses, and animal housing and procedure spaces.

**Hazardous materials:** Hazardous materials include, but are not limited to: chemicals, biological agents, radioactive materials, compressed gases, and cryogenic liquids that present a health and/or physical hazard.

**Hazardous equipment:** Hazardous equipment includes, but are not limited to: radiation-producing equipment, lasers, and other laboratory equipment, machinery, and tools that present electrical, pressure, temperature, ultraviolet, and/or other physical hazards.

**Qualified Adult:** A person over the age of 21 who has knowledge of the laboratory operations and hazards, and has the authority to take action in the event of a risk to the minor. The qualified adult is typically the principal investigator or his/her designee assigned to this task.

**Personal Protective Equipment (PPE):** Personal protective equipment is equipment worn to minimize exposure to hazards. Examples of PPE include lab coats, gloves, eye protection (safety glasses or chemical splash goggles), hearing protection (earplugs or muffs), respirators, foot protection (steel-toed shoes), etc.

**Appropriate Laboratory Attire:** Appropriate laboratory attire covers the torso, legs, and feet, and accommodates a lab coat and other required PPE. Long hair is tied back.

**PROCEDURES**

**Minors Under age 13:** Minors under the age of 13 are not permitted to enter a laboratory or laboratory support space unless they are participating in an observation-only tour or visit that does not involve the use of hazardous materials or equipment.

**Minors Participating in Observation-Only Tour or Visit:** The following are requirements for all minors participating in observation-only tours or visits: The tour or visit is approved by the department head and the principal investigator (PI).

* Minors participating in tours or visits have written consent by their parent or guardian. Departments should retain the signed copies for at least three years.
* Minors participating in tours or visits are supervised at all times while on the premises by a qualified adult designated for this responsibility.
* Minors participating in tours or visits are provided with and wear the personal protective equipment (PPE) required for entry by the specific laboratory or facility.
* Minors participating in tours or visits wear appropriate laboratory attire.
* Minors participating in tours or visits do not perform any laboratory activities involving hazardous materials and/or equipment.
* Hazardous materials are properly stored and hazardous equipment is in a safe mode while minors are present.

**Minors in University-Sponsored Programs**: Minors age 13-17 are permitted in a laboratory when they are participating in a University-sponsored educational program, and the following requirements are met:

* Participation of the department and the laboratory in the program is approved by the department head and the PI responsible for the laboratory or laboratory support space.
* Minors participating in the program have written consent from their parent or guardian. Departments should retain the signed copies for at least three years.
* Minors participating in the program have received training on the hazardous materials and equipment they will use or have potential exposure to. The training length and content is specific to the program and may be provided by the Environmental Health and Safety Department (EHS), the principal investigator or direct laboratory supervisor, and/or the program leader as appropriate. The training must be documented and maintained by the laboratory supervisor, program coordinator and/or EHS.
* Minors participating in the program are supervised at all times by a qualified adult designated for this responsibility.
* Minors participating in the program are provided with and wear all required personal protective equipment (PPE).
* Minors participating in the program wear appropriate laboratory attire.

**Minors working and interning in laboratories:** Minors age 16-17 are permitted to work and intern in laboratories, provided the requirements in the Fair Labor Standards Act (FLSA) and the following requirements are met:

* Minors working or interning in a laboratory have written consent from their parent or guardian. Departments should retain the signed copies for at least three years.
* Minors working or interning in a laboratory are under the direct supervision of a qualified adult designated for this responsibility.
* Minors working or interning in a laboratory are not permitted to work alone in the laboratory, regardless of the work they are performing.
* Minors working or interning in a laboratory have received all applicable laboratory safety training from EHS, and the training is documented through CULearn.
* Minors working or interning in a laboratory have received training on the specific hazardous materials and equipment present in the laboratory by the PI or designee, and the training is documented and maintained by the laboratory.
* Minors working or interning in a laboratory are provided with and wear all required personal protective equipment (PPE).
* Minors working or interning in a laboratory wear proper laboratory attire.

**Minors volunteering in labs**: Due to liability reasons, the University Volunteers Policy, 6.5, prohibits minors from working in university labs on any volunteer basis, regardless of the work being performed.

**Minor children or guests:** Minor children or guests of university personnel and visitors are not permitted in university labs.

**Prohibited or Restricted Materials, Equipment, and spaces**

**Radioactive Materials Use**

* Per Cornell University’s NYDOH radioactive materials license, all use of radioactive materials is approved by the Radiation Safety Committee through the issuance of permits.
* The addition of any radioactive materials user to a permit, including minors, must be approved by the Radiation Safety Officer (RSO).
* Specific restrictions for minors working with radioactive materials and radiation producing equipment are listed in the following table.

**Biological Materials Use**

* Contact the Biosafety Officer (BSO) for approval for minors to work with Risk Group 2 agents. A risk-based approach will be utilized to determine approval based on the specific agent**.**
* Cornell University’s Institutional Biosafety Committee (IBC) is responsible for the oversight of activities involving biohazardous materials, and use is approved via a Memorandum of Understanding and Agreement (MUA). The addition of individuals to the MUA, including minors, requires an amendment.
* Cornell University’s Institutional Animal Care and Use Committee (IACUC) is responsible for the oversight of activities involving research animals, and use is approved via a protocol review process. The addition of individuals to the protocol, including minors, requires an amendment.
* Specific restrictions for minors working with biological materials are listed in the following table.

The following table outlines the specific materials, equipment, and spaces that are prohibited or restricted for minors in laboratories and laboratory support spaces.

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| **Category** | **Materials, Equipment, and/or Spaces Prohibited for ALL Minors** | **Materials, Equipment, and/or Spaces Prohibited for Minors Under Age of 16 and Restricted for Minors Aged 16-18\*** |
| **Biological** | * Risk Group 3 agents * BSL-3/ABSL-3 facilities * Toxins of biological origin with an LD50 of ≤ 100 μg/kg body weight | * Risk Group 2 agents, unless specifically approved by BSO\* |
| **Chemical** | * Controlled substances * Explosives * Pyrophoric materials * Hydrofluoric acid * High acute toxicity materials (oral LD50 ≤ 50 mg/kg, dermal LD50 ≤ 200 mg/kg, gases with LC50 ≤ 500 ppm; GHS categories 1 and 2, GHS hazard statements H300/H310/H330 fatal if swallowed/in contact with skin/if inhaled) | * Known carcinogens (NTP “known to be carcinogens,” IARC Group 1, GHS categories 1A, 1B)\* * Known reproductive toxins, teratogens, mutagens (GHS categories 1A, 1B)\* * Strong corrosives (acid with pH ≤ 2, base with pH ≥ 12; GHS category 1A, 1B, 1C for skin/eye corrosion)\* |
| **Radiation** | * Radioactive iodine * Irradiator * Any work with radioactive materials or radiation producing equipment in which the dose may exceed the general public dose limit. | * All radioactive materials and radiation producing equipment\* * Open beam Class 3B and Class 4 lasers\* |
| **Physical Hazards** | * Equipment with electrical or high voltage hazards (i.e. electrophoresis, power supplies, capacitor banks) * Federal and/or NY state law prohibits minors under 18 from operating specific machinery, including: circular saws; band saws; guillotine shears; power-driven woodworking, metal-forming, metal-punching and metal-shearing machinery; and power-driven hoisting apparatus | * Power-driven tools and machinery (NY state law prohibits minors under the age of 16 from operating or assisting in operating any machinery unless all moving parts other than keys, levers, or handles are so guarded as to prevent any part of the person or clothing for the operator from touching them)\* * Cryogenic liquids\* * Pressurized gas cylinders\* * Hoists and cranes\* |

\* Minors aged 16-18 must have proper training, supervision, and personal protective equipment to work with these materials or equipment. Contact EHS for review and approval.

**RELATED RESOURCES**

* Cornell Policy, 6.5 University Volunteers <http://www.dfa.cornell.edu/treasurer/policyoffice/policies/volumes/humanresources/volunteers.cfm>
* Cornell Policy, 8.6 Environment, Health and Safety <https://www.dfa.cornell.edu/sites/default/files/policy/vol8_6_0.pdf>.
* Human Resources (HR) Policy 6.6.12 Special Employment Circumstances – Employment of Minors <https://www.hr.cornell.edu/policies/nonacademic/special_circumstances.html>
* Fair Labor Standards Act
* <https://www.dol.gov/whd/regs/compliance/hrg.htm>
* NYS Labor Standards – Laws Governing the Employment of Minors <http://www.labor.state.ny.us/workerprotection/laborstandards/workprot/minors.shtm>
* NY State Department of Labor – Federal Prohibited Occupations <https://labor.ny.gov/workerprotection/laborstandards/workprot/fedproc.shtm>
* NY State Department of Labor – State Prohibited Occupations https://www.labor.ny.gov/workerprotection/laborstandards/workprot/stprhboc.shtm
* University Protection of Minors Guidelines: <http://www.risk.cornell.edu/forms-documents/risk-guidance/youth-programs/>

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