

Institutional Handbook of Operating Procedures
Policy 08.01.24

Section: Health, Safety and Security	Responsible Vice President: EVP and Chief Business/Finance Officer
Subject: General Electrical Safety	Responsible Entity: Environmental Fire and Safety

I. Title

General Electrical Safety

II. Policy

It is the responsibility of UTMB personnel to follow this policy, promote a safe work environment, and be cognizant of potential electrical hazards and preventive measures necessary to minimize or eliminate these hazards. UTMB shall promote the compliance with and enforcement of the requirements of the Office of the State of Texas Fire Marshal for the safe use of electrical appliances, including extension cords, surge protectors, and power adapters.

III. Policy Requirements and Precautions

The following conditions are expressly forbidden by code and UTMB policy:

1. Extension cords of any type used as permanent wiring.
2. “Daisy chaining” of surge protectors and/or multiple outlet adapters.
3. Multiple outlet adapters. Note: Multi-outlet adapters that have integrated surge protectors are allowed.
4. Outlets or switches with protective covers missing. If observed, please report to Business, Operations and Finance (BOF) by calling the Clean line at extension 24040 for repair.
5. "Cheater” adapters or two-wire AC outlets.
6. The cords of surge protectors shall not exceed 6 feet in length.

NOTE: *UTMB, Environmental Health and Safety in conjunction with Property Services will approve the emergency temporary use of extension cords for longer-term use, but in no case will such an installation be permanent.*

The following precautions should be employed:

1. Before using any equipment that requires connection to an electrical outlet, make sure you inspect the equipment, and ensure that it carries a current electrical safety certification Underwriters Laboratories (UL) label.
2. Do not use coffee makers, radios, lamps, or other personal electrical appliances unless they have UL approval.
3. Do not clip or tape electric cords and telephone wires to desks. If cords must cross the floor, use plastic channels designated for this purpose.
4. Use only electrical equipment that has a three-wire plug, polarized prongs, and is properly grounded. Property Services will ensure the grounding of electrical outlets.

IV. Equipment Testing

In the clinical enterprise, the electrical equipment testing program is designed to ensure a proper ground for all equipment in case the device becomes energized. See Clinical Equipment Services policies for further guidance at <http://www.utmb.edu/ces>.

V. Responsibility

Environmental Health and Safety (EHS)

- Provide consultant services regarding electrical safety
- Provide liaison services between the Office of the State Fire Marshal and the UTMB campus
- Issue electrical safety hazard warnings
- When needed, perform periodic safety surveys of UTMB facilities with subsequent feedback to building occupants

Supervisors

- Enforce this policy with their employees
- Provide adequate facilities, supplies, and supervision to control electrical hazards
- Ensure that employees know and understand the potential electrical hazards associated with each instrument and the necessary safeguards to prevent a possible shock/electrocution.
 1. Immediately disconnect or shut off the power source, and/or free the victim from the source by using a non-conductor.
 2. Initiate lifesaving procedures immediately and continue them until professional medical assistance arrives.
 - If the heart has stopped, begin cardiopulmonary resuscitation (CPR) or the use of an Automated External Defibrillator (AED) if available.
 - If respiration has stopped, begin artificial respiration at once.
 3. Call for emergency assistance quickly. Inside the hospital complex, call extension 24000. Outside the hospital complex, call 911.

VI. Personal Safety

The following safety precautions should be employed if working with electrical equipment:

1. Unplug equipment before attempting to troubleshoot (or repair) equipment.
2. Do not hold energized electrical appliances with wet hands or when wearing wet shoes
3. Body moisture or perspiration lowers resistance, which permits a greater current flow. Keep body resistance high by keeping hands and feet dry

VII. Defective Equipment

Never ignore a tingling sensation caused by a piece of equipment. This indicates that the equipment is defective. Turn it off. Place an "Out of Service" tag on it, and report it to the appropriate department for repairs.

1. Clinical Equipment Services (CES) (for hospital/clinical equipment and non- medical equipment) – ext 76143
Biomedical Engineering and Electronics (BMEE) (for research equipment) - ext 32750
Facilities Operations and Management (for building equipment and power) - ext 21586
2. All equipment must be cleaned and disinfected before sending for repair. A Decontamination Form will be completed and note if the equipment cannot be thoroughly cleaned, attach a biohazard tag.
3. Any device or instrument under a private maintenance contract (e.g., photocopy machines, typewriters, dictating machines) should be reported directly to the company that services the contract.

VIII. Guidelines for New Equipment

The operators of all electrical devices are expected to perform visual and operation checks to ensure good mechanical condition and proper operation of equipment each time a device is used.

Equipment used in the hospital, clinics, and supporting laboratories shall receive preventive maintenance with supporting documentation.

The manufacturer's recommendations for proper use should always be followed.

IX. Guidelines for Re-locatable Power Taps (Power Strips)

Power strips may be used in a patient care vicinity to power rack-, table-, pedestal-, or cart-mounted patient care-related electrical equipment assemblies, provided **all** of the following conditions are met:

1. The receptacles are permanently attached to the equipment assembly.
2. The sum of the ampacity of all appliances connected to the receptacles shall not exceed 75 percent of the ampacity of the flexible cord supplying the receptacles.
3. The ampacity of the flexible cord is suitable in accordance with the current edition of NFPA 70, National Electric Code.
4. The electrical and mechanical integrity of the assembly is regularly verified and documented through an ongoing maintenance program.
5. Means are employed to ensure that additional devices or non-medical equipment cannot be connected to the multiple outlet extension cord after leakage currents have been verified as safe.
Power strips used in conjunction with an isolated power system are not subject to this requirement.

Power strips may **not** be used in a patient care vicinity to power non-patient care-related electrical equipment (e.g., personal electronics).

Power strips **may** be used outside of the patient care vicinity for both patient care-related electrical equipment & non-patient-care-related electrical equipment.

Power strips providing power to rack-, table-, pedestal-, or cart-mounted patient care-related electrical equipment assemblies are not required to be an integral component of manufacturer tested equipment.

Power strips may be permanently attached to mounted equipment assemblies by personnel who are qualified.

Power strips providing power to patient care-related electrical equipment must be Special-purpose Re-locatable Power Taps (SPRPT) listed as UL 1363A or UL 60601-1.

Power strips providing power to non- patient-care-related electrical equipment must be Re-locatable Power Taps (RPT) listed as UL 1363.

X. Definitions

“Cheater Adapters” a device used to allow a 3-prong electrical plug to be plugged into a 2-prong outlet. (removal of electrical grounding)

Daisy Chaining: One extension cord, multi-outlet adapter or surge protector plugged into one another

“Patient care vicinity” is defined in as a space, within a location intended for the examination and treatment of patients (i.e., patient care room) extending 6 ft. beyond the normal location of the bed, chair, table, treadmill, or other device that supports the patient during examination and treatment and extends vertically 7 ft. 6 in. above the floor.

Permanent Use: Pertaining to the use of extension cords, “permanent” means used for longer than a single shift for an individual task and generally being used in lieu of permanent, fixed wiring and outlet.

Polarized Prongs: One prong wider than the other

Temporary Use: Pertaining to the use of extension cords, “temporary” means in-use for the purpose of performing a limited duration task such as drilling holes, buffing a floor, etc. generally not to exceed one work shift.

XI. Related UTMB Policies and Procedures

[UTMB Safety Manual – Chapter 6, Sections 4 and 5 Electrical Safety](#)

[UTMB Safety Manual – Chapters 8 Electrical Safety Testing And Prevention Maintenance](#)

[IHOP - 0 9.13.03 - Patient Owned Medical Equipment](#)

[IHOP - 09.13.22 - Handling Malfunctioning, Defective Clinical Equipment, Devices, Supplies](#)

XII. Dates Approved or Amended

<i>Originated: 02/03/2012</i>	
<i>Reviewed with Changes</i>	<i>Reviewed without Changes</i>
08/18/2016	

XIII. Contact Information

Environmental Health and Safety
(409)747-0515