EXTENSION CORDS, POWER STRIPS, AND SURGE SUPPRESSORS

OK IN OFFICE OR LAB…SOMETIMES.

Every office and lab uses electrical equipment, but the wall socket is not always in the right place. An extension cord, power strip, or surge suppressor offers a quick way to fix this situation. Sometimes, though, this is not a good thing.

Extension cords and similar equipment act like garden hoses for electricity, and like garden hoses, they present a resistance to flow. If you pass current through an extension cord—a resistor—power is consumed and turned into heat. ***Put enough demand on the cord or power strip, and it can catch on fire.***

TIPS

- Look on the power strip or extension cord to find its maximum current rating, and figure out how much current your electrical appliance uses. If you need more current, get a bigger cord.
- Don't use the full current rating of an extension cord or power strip. Allow room for error and connect only 13A of equipment to a 15A cord.
- Never "daisy-chain" extension cords by connecting them together, or plug an extender into a power strip or surge suppressor. This reduces the current rating of both and increases the chance of fire. Adapter plugs, which turn a single socket into many (or allow plugging a 3-prong plug into a 2-prong outlet), are particularly dangerous. *Do not use them*; JHU actually forbids their use.
- Keep cords and power strips 12 inches off the floor; mount the power strips to something solid. Floods happen occasionally in JHU buildings, and cords or strips on the floor could cause facilities workers (or you) to be electrocuted.
- Don't leave extension cords in place for months. It is illegal to use extension cords as permanent wiring; if you need power somewhere for more than a few weeks, you need a receptacle, not an extension cord. Contact Facilities Management to have an outlet installed where you need it. Departments should typically pay for this through the capital budget.
- Most lab equipment does not need a surge suppressor. Only sensitive electronics should be used with a surge suppressor. Other equipment, particularly motorized units such as fans, centrifuges, and refrigerators, can malfunction or overload the surge protector with high inrush currents.

Contact Dr. Dan Kuespert, Laboratory Safety Advocate,
at 410-516-5525 or dkuespert@jhu.edu for
more information about this JHU Safety Note.

DISCUSSION QUESTIONS

1. What equipment does our lab have connected to extension cords?
2. What about in the offices?
3. Has anyone checked to see that the cords are not overloaded?
4. Do we need any new electrical outlets?
5. Are surge suppressors used appropriately?
6. Are all electrical gear and cables elevated in case of a flood?

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