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# ***The Duty to Warn: What Manufacturers Need to Know***

**By Patricia A. Robinson, Ph.D.  
Coronado Consulting Services, LLC**

There's no doubt that products today are safer. Chainsaws have tapered bars designed to reduce the likelihood of kickback. Hair dryers have ground-fault circuit interrupters built into the power cords. Industrial slicing machines have photo cells and interlocks to stop the blades before an operator's hand can reach the edge. Paper converters have guards and emergency stops to prevent entanglements. Users are more protected than ever.

All these design improvements mean that when someone does get hurt and sues the manufacturer, increasingly often the lawsuit alleges a *failure to warn* as the cause of the injury rather than a design defect. As a manufacturer, knowing when you need a warning and what that warning should say can help protect your users and reduce your liability exposure.

Most products liability actions are brought under one of two legal theories: negligence or strict liability in tort. Negligence essentially says that the manufacturer failed to exercise reasonable care in designing, manufacturing, packaging, or marketing the product, and because of that lack of care, the product was unreasonably dangerous. The focus in negligence is on the manufacturer's actions. Strict liability focuses on the product itself, not the care with which the manufacturer acted. Under strict liability, a plaintiff can recover if the product is defective (that is, not reasonably safe), without having to show that the manufacturer did something wrong.

Under either theory, the plaintiff must show four things:

- The product had a defect (such as inadequate warnings)
- The defect was present when the product left the manufacturer's control
- The plaintiff suffered injury or damage
- The injury or damage was caused by the defect.

Product warnings have two purposes: to inform users of hazards they might not be aware of, and to remind users of hazards they know about but might ignore through familiarity or complacency. Generally, though, you don't need to warn about hazards that are "open and obvious," such as that a knife cuts or a stove burner gets hot.

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How do you decide what warnings to put on your product and what those warnings should say? The first step is to look at the hazards your user might encounter.

### **What Are the Hazards?**

Your hazard analysis should start early in product development—while the product design is still easy to change. Your goal should be to eliminate as many hazards as possible at the design stage. If the hazard is eliminated, you don't need to warn about it. If you can't design it out, but can put a guard over it, that's the next best choice. You still might need a warning, but at least you have a physical barrier between the user and the hazard. The hazards that remain are called *residual hazards*, and they are the ones that your instructions and warnings must address.

Some hazards are inherent, even in proper use of a product. For example, you should wear safety glasses when you are operating a circular saw, because the rotating blade might throw a splinter or wood chip toward your eyes. Other hazards result from a departure from the instructions for safe use—often called misuse of a product. For example, a household dehumidifier that needs to be electrically grounded might be equipped with a three-prong plug intended to be inserted into a three-hole grounded receptacle, and the instructions might direct that the power cord only be plugged into a grounded receptacle. Nevertheless, someone might use it with a non-grounded extension cord having only a two-prong plug.

Does this mean that you have to warn against every imaginable hazard resulting from misuse? Absolutely not—in fact, too many warnings (particularly if they deal with far-fetched behavior) can obscure the important ones. You need to warn about misuse that is reasonably foreseeable—like using an ungrounded extension cord. To take another example, while it is foreseeable that a person might use his hand to check for a leak in a hydraulic hose, resulting in the danger of injecting oil into the skin, is *not* reasonably foreseeable that the same person might drink the hydraulic oil. The first misuse should have a warning; the second doesn't need one.

One good approach to deciding what warnings need to be on the product itself is to list all the hazards and rate them in terms of

- The severity of the potential injury or damage
- The likelihood of the user encountering the hazard

Let's look at how this works with that dehumidifier mentioned earlier. After analyzing the product at the design stage, you might come up with this list of hazards:

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1. Electric shock because of lack of proper electrical grounding.
  2. Electric shock because of water getting into the motor.
  3. Fingers cut by the fan blade because of trying to clean or service the dehumidifier while it is running.
  4. Injury or damage from the dehumidifier falling off a counter or table.
  5. Damage from the water reservoir overflowing.

Some of these have design solutions. You could install an interlock that shuts off the motor when the fan grille is removed. You could install a float valve in the reservoir that turns off the motor when the pan is full. Do you *have* to design these out? Not necessarily, but remember that eliminating a hazard through design is always best—and a good reason to start your hazard analysis early in the product development process.

The remaining hazards can be rated as follows:

Electric shock (both sources): severity HIGH, likelihood HIGH  
Falling/tipping hazard: severity MODERATE, likelihood LOW

The electric shock hazard—which can't easily be designed out—needs an on-product warning label. The falling/tipping hazard (given a low likelihood because dehumidifiers are heavy, and most people will leave them on the floor) can be addressed in the instructions.

Once you have identified and categorized the hazards, the next step is to identify your users.

### **Who Are the Users?**

Whatever your product, your primary goal should always be to design warnings that protect the user. *Remember, if there is no injury, there is no liability.* An effective warning label should tell the expected user the nature and severity of the hazard, what is likely to happen if the hazard is not avoided, and how to avoid it. Following a format such as is provided by the ANSI Z535.4 Standard for Product Safety Signs and Labels will help ensure that your warnings meet these criteria, but only if you know your user. Think about the characteristics of your expected users—who may or may not be the same as the purchaser. Remember, a hospital administrator or physician may authorize the purchase of an x-ray machine, but the user will probably be an x-ray technician with a two-year associate's degree. Or a purchasing agent may buy an industrial solvent, but the users will be the workers on the factory floor.

Ask yourself these questions about your users:

1. How much do they already know?
2. Will they understand the words?

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*How much do they already know?* If you're selling high-voltage equipment to be installed by electrical linemen, you can assume they have a certain amount of knowledge of the dangers of electricity—although you may still need to warn about hazards particular to your product. On the other hand, if you are selling consumer products or products for the do-it-yourself market, you cannot assume that your users are knowledgeable.

*Will they understand the words?* If you are selling ambulance equipment to be used by EMTs, you can assume they can read English, because they have to in order to become EMTs. But you shouldn't assume that they can read at a college level. If you are selling cleaning products, however, you cannot assume that your users will be able to read the words on your warnings. They may be illiterate or, more likely, they may not be able to read English. You will have to rely more heavily on the signal color (red, orange, yellow) and the pictorial to convey the presence of a hazard. If you know that many of your users speak a particular language other than English (such as Spanish, for example) you should include a translated word message as well. In general, if you make sure that your word message uses everyday language (e.g. "breathing fumes" rather than "inhalation of volatile vapors") and is supported by a clear pictorial representation of the hazard, you will be well on your way to an effective warning.

In short, analyzing (and eliminating if possible) the hazards associated with your product and knowing your users are the keys to keeping your users safe *and* fulfilling your legal duty to warn. Safe products and effective warnings are a win-win proposition—fewer users get hurt, and fewer manufacturers face liability.

*Patricia A. Robinson, Ph.D. has over thirty-five years experience in helping companies improve their instructions and warnings. She can be reached at (520) 604-7391 or by email at [pat@coronadoconsulting.com](mailto:pat@coronadoconsulting.com).*