The Do's and Don'ts of Selecting Hospital Bar Code Labels and Wristbands

A ZEBRA **BLACK&WHITE** PAPER

Zebra

Executive Summary

The reliability and durability of thermal bar code printers make it easy to forget they are very sophisticated devices that produce bars and spaces that can be precise down to the thousandths of an inch. Compatible, high-quality label and wristband media should be used with the printer to ensure crisp, scannable bar codes of all sizes. The media is an integral part of the thermal print solution, not an interchangeable commodity. To ensure that patient safety programs and other bar code applications function effectively, healthcare providers should carefully control the supplies used with their thermal bar code label and wristband printers.

Deviating from recommended combinations of printers, ribbons, labels and wristbands can cause immediate bar code quality problems. In fact, an analysis by Zebra's repair department found that many printing problems are caused by inappropriate media rather than the printers themselves. These problems are eliminated with the use of recommended labels and wristbands. Sometimes organizations undermine their investments in bar code systems by choosing "bargain" labels and wristbands for printers. More often, organizations don't understand the important relationship between printers and supplies, or the dangers to be aware of when ordering labels and wristbands.

There is much more to label and wristband media compatibility than whether or not the material fits into the printer. Thermal media is a specialty product that directly affects the efficiencies and effectiveness of bar code patient safety initiatives. Follow the tips presented here to maximize printer productivity and the benefits of bar code-based systems.

Match the Printer & Media

Thermal printers can process a specific range of media widths and thicknesses, roll sizes and materials. Supplies need to be matched to the specific printer model to ensure compatibility. Most printers can accept a wide range of media, but compatibility isn't certain, even if the printer and media come from the same supplier.

Label and wristband media generally consist of face stock (which may be paper-based or a synthetic, such as polyester), protective coating, and adhesive (for labels) and/or a fastener (for wristbands). Thermal printers work by applying a precise amount of heat to chemically treated media. Thermal-transfer printers apply heat to a ribbon, which transfers the image to the material.

Face stock, adhesive, coating and ribbon variables produce literally thousands of media options for patient wristbands, unit-dose containers, sample management, file tracking and other healthcare labeling applications. How the bar code will be used and the conditions it will be exposed to (e.g. soaps, alcohol, water, blood, lab washes, ultraviolet, fluorescent and natural light, moisture, radiation, sterilization, cold storage, etc.) dictate the best combination for each application.

Labels are Specialists, not Generalists

Supplies should be tested and selected for every different application within the hospital. One or two printer models may well be sufficient to satisfy all healthcare labeling needs, but each application will probably require its own media. Adhesives and protective coatings that work perfectly well in the pharmacy may not perform well in patient-care environments. Labels used to track specimen samples are typically exposed to an entirely different set of conditions. It would be easier for label users, purchasers and suppliers alike if a few label sizes and formulations could be used for everything, but the special quality requirements and usage conditions that healthcare applications present require optimized media.

Be Consistent

Once you find the right media, stick with it. Thermal printer heat settings, which are adjustable, need to be matched to the specific label and ribbon material and coating to print efficiently. Changing to another brand of supplies could produce unreadable bar codes that are too light (underburn) or too dark (overburn), because the heat setting is incorrect. The problem can be fixed, but requires support time and trial-and-error testing to find the right heat setting.

Sometimes underburn and overburn occur even if the hospital uses the same media from the same supplier. That's because some suppliers try to save money by switching to lower-cost label stocks—and customers may be unaware of the change. The result is inconsistent print quality and potentially dangerous errors. After careful sourcing and testing, Zebra sticks with the same vendors and formulations for its media, so customers can be sure the Zebra-branded label and wristband materials, adhesives, and protective coatings rarely change. Zebra offers more than 1,000 supplies choices, each produced to exacting specifications in ISO-certified manufacturing facilities.

Protect the Printer

The cheapest media you can find may not be the most cost-effective over the long term. Low-cost, low-quality wristbands, ribbons and label stock can lead to premature printhead failure. The cost of replacing a printhead or the entire printer will more than offset the few dollars saved on a label roll or replacement ribbon.

Be wary of suppliers who propose one or two media options to meet all needs – the recommended media may indeed perform well for all uses, but may not be the most efficient and cost-effective option for less challenging applications.

Don't Forget Your (Top) Coat

Wristband materials should include a special topcoat (over varnish) layer that provides protection against alcohol, foams, soaps, blood, water and UV light exposure. Without this protective coating, the text and bar code may fade and become unreadable. Protective coatings that allow wristbands to stand up to all the conditions they are exposed to during hospital stays really aren't an option, they are a requirement.

Work with Experts

Working with a supplies expert is the fastest way to determine the most efficient media choices to meet your bar code quality requirements. This up-front analysis and time commitment takes the guesswork out of supplies selection, prevents print quality problems that may not be readily attributed to the media, and establishes bar code supplies standards for hospital departments and applications that can easily be followed with each and every order.

Zebra and our Authorized Healthcare Resellers offer an extensive range of label, ribbon and wristband materials specially formulated to optimize the performance of Zebra bar code printers and meet your specific application needs. Zebra has more than 1,000 standard supply offerings and thousands more custom configurations. Visit www.lifesciences.zebra.com or the Supplies section of www.zebra.com for more information.

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