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Continuing Education on the Machine Floor can Develop a Culture of Manufacturing Excellence

American frontier novelist Louis L'Amour once said, "No one can get an education, for of necessity education is a continuing process."

This notion applies to many situations, but perhaps acutely so to outsourced medical device manufacturing.

This is because the U.S. Food and Drug Administration (FDA) and global regulatory bodies have raised the bar on expectations for supplier controls. They've made it clear that medical device companies are wholly responsible for their own products—regardless of what manufacturing partners they use in the production chain. Therefore, more than at any other time, contract manufacturers need to step up their knowledge and capabilities to help their OEM partners shine.

Outsourced manufacturers take a step in the right direction when they hire machine floor operators with the proper capabilities. But it's the organizations that integrate continuing education and systematic cross-training on the machine floor that offer the most support and peace of mind to their OEM clients.

Let's evaluate six ways in which continuing education on the machine floor benefits individual team members, results in high-quality, safe, reliable products, and sets your outsourced medical device manufacturing company apart from competitors.

1. Competitive skill sets. In today's medical device manufacturing world, it's no longer enough for an associate to merely execute a job. They must now also be able to troubleshoot problems and possess skills that keep themselves and their company competitive.

For example, having multiple machine floor team members cross-trained to use various types of inspection equipment and high-tolerance technology leverages a medical manufacturer's ability to recognize and maintain quality.

Additionally, cross-training and continuing education that develops skills on the machine floor broadens opportunities for the business development and engineering teams. If they have confidence that the manufacturing team has the capabilities and knowledge to meet the intricate, detailed, and difficult needs of a client, they can offer higher-level solutions to potential partners. This strengthens both the contract manufacturer's and the OEM client's position in the marketplace.

2. Increased employee retention. A 2008 study by Spherion Atlantic Enterprises LLC, a staffing and employment services firm, notes that "training and continuing education are cornerstones to retaining top talent."

In another Spherion study, 61 percent of respondents who received additional training reported that they were more likely to stay with their current employer for at least the next five years. Investing in continuing education and consistent cross-training demonstrates that a company values developing its employees and enriching their future career.

In addition to cultivating an increased sense of loyalty to the company and its management, systematic training also saves a significant amount of money. *HR Management* magazine reported in a 2008 article that replacing a worker costs on average 100 percent to 125 percent of an employee's annual salary. Moreover, the loss of productivity and potential decline in morale can be comparable to losing a major client.

Providing growth opportunities for associates shows that they are an integral part of the company team. This fosters a culture where people are enthusiastic about working for a company longer and offering more value.

3. Improves motivation and morale. A common, but illogical, strategy in medical device manufacturing is to hire machine floor operators for their present



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capabilities, and then offer little to no cross-training or continuing education to help them develop and advance their skills. If an error or oversight is made, instead of improving the operator's abilities, the manufacturer lets them go.

Not only is there a high cost to this approach, as noted above, there's also a negative impact on morale. Feelings of satisfaction and self-worth are lowered when team members feel they cannot readily communicate challenges or ask pertinent questions. Issues are hidden, impeding product quality and reliability, because associates are fearful of losing their jobs.

However, a work culture where mistakes are taken seriously, but also are seen as important continuing education opportunities, results in highly-skilled, self-motivated operators who are more inclined to promptly relay issues and errors. This makes for a more enjoyable, rewarding workplace where people are enthusiastic about learning, advancing, and teaching others to do the same.

4. Enhanced flexibility and responsiveness. When multiple operators are versatile in several different processes and capable of performing multiple tasks, superior products are produced at an accelerated pace.

For example, a machine floor operator hired for his or her drilling and polishing capabilities, improves his or her ability to inspect and maintain standards when he or she is cross-trained on CNC (computer numerical control) machining. This flexibility results in more qualified team members who value velocity, productivity, and excellence on the machine floor.

Cross-training and continuing education also allows the team to swiftly respond to "hot" projects that arise—without sacrificing quality or attention to other projects in progress. If a new, acute project comes in requiring immediate attention and the set-

up team member is preoccupied on another machine, this could severely delay production time. A cross-trained team, however, can promptly relieve the set-up person from his process, allowing him to focus attention to the new project with little to no lag time.

Additionally, if a client requires an unfamiliar process or technology, a continually educated team can identify viable solutions at a much faster rate. Machine floor teams that do not emphasize continuing education often miss out on opportunities to embrace the newest technology or requirements needed to keep themselves and their clients competitive.

5. Lowers overall project cost. A study evaluating lean, agile manufacturing processes (Wallace Hopp and Mark Van Oyen) indicates that cross-training can lower project cost in two main ways: increased efficiency and compressed time-to-market. Their report notes that the flexibility of cross-trained teams allows them to complete more tasks during scheduled work hours and accomplish projects faster, reducing the investment in inventory.

Hopp and Van Oyen further assert that "Cross-training can enable shorter lead time quotes and more reliable delivery by reducing the cycle time to produce a product. Increasing worker flexibility, improving task speed, reducing the effective setup and handoff times, or minimizing task time variation can reduce congestion to facilitate shorter average cycle times."

When the machine floor team is supported with continuing education and consistent cross-training, they are given opportunities to learn how to leverage one technology for different parts using one set-up. This leaner, more productive process reduces cost in multiple ways for both OEMs and contract manufacturers.

6. Higher quality medical devices. Since quality is everything when manufacturing medical devices, OEMs require

higher standards from their outsourced partners. Consistently cross-training and offering continuing education opportunities to machine floor operators—and all associates at the company—enables a contract manufacturer to meet those standards more efficiently and effectively.

Cross-trained operators gain the ability to run different processes and, in turn, check and verify quality. Documentation is improved and strict supplier controls and FDA regulations can be met in accelerated time-frames.

Manufacturers that don't integrate consistent internal cross-training or external continuing education, ultimately struggle with quality because they lack the operators that possess the right capabilities to maintain high parameters. Particularly in high-precision industries such as medical device manufacturing, in order to truly compete, dedicated effort must be made to actually implement systematic internal cross-training and continuing education.

Though few would argue the value of workforce training and development, some companies are reluctant to commit to it. A main concern is that taking team members off the floor will result in lost productivity. While this may be an initial experience, the reality is that the long-term benefits far outweigh the short-term sacrifice.

Keeping associates up to date on improvements in processes and new technologies will result in more invested team members, expanded production opportunities, lower overall expenditures, and world-class clients who seek your expertise to help them thrive in the global marketplace. ♦

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