

## Ergonomic Workstations and Height Adjustable Tables Reduce Work Stress

BY JEAN FEINGOLD

**E**rgonomic workstations bring the work to the workers by optimizing the fit between people, their tools, the task and their environment. Examples include raising tables or using tilting work surfaces. The goal is to avoid forcing operators to lean over to do their work using a poor posture that could result in low back and/or upper back discomfort, explained Kelly Wehner, president of MHI member BOSTONtec.

“Ergonomic workstations are designed for the specific type of job duty that is being performed by a worker or assembler,” said Kim Tyler, sales manager at MHI member Tiffin Metal Products, Inc. “The main focus is to design the workstation around the task that is being done. Fitting the design of these workstations to the task being performed is the key. This allows for easy movement of the items that are being worked with.”

Research studies have shown proper workstation design can increase worker productivity from 15 to 25 percent or more compared with the traditional poorly designed fixed bench and shelf approach, Wehner pointed out. Ergonomic design can also substantially reduce operator fatigue, improve safety and increase employee job satisfaction. Difficult lifting, lowering, reaching and similar motions are eliminated or assisted, reducing muscular-skeletal stresses.

### Customization available

Since every application is different, it may be desirable to choose customized workstations and tables to improve functionality, process, ergonomics and ROI. “A workstation can be customized in any manner that the end user wants,” said Tyler. “Focusing on the movement of the items on the workstation and what the worker needs to

do with the product while at the station helps develop the design.”

“Base tables are designed around ergonomic principles and configured to address an application solution,” said Wehner. Base units can be configured many different ways using accessories like articulating shelving, monitor arms, keyboard trays, bag and cardboard storage, ball transfer tops, task lights and bins. Application solutions are generally designed in collaboration with the end user and possibly other equipment suppliers with the help of a consultant or integrator. “It is critical the workstation manufacturer and the end use customer

understand the application thoroughly so the best solution can be provided,” she stressed. “Ergonomic workstations can be extremely powerful if the application is intimately understood, well designed and configured and used correctly.”

Analyzing what is needed to customize the workstation for the best ergonomic solution typically involves application engineers from the workstation manufacturer who may visit the site. While there, “we always interview the user of the table to understand how they perform their work,” Wehner said. “Any application solution will



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incorporate that feedback as well as ergonomic zones that will fit the majority of the population through adjustability.” The process takes a few days to several weeks depending on the application’s complexity. Workers involved in the solution design phase will be the new workstations’ biggest supporters.

Height adjustable tables can be either powered or manual. “Manual tables are generally used in applications where a consistent group of employees are assigned to a particular workstation,” said Wehner. “Powered tables are more often used in environments where there are multi-shift or multi-employee assignments. The type of work, other equipment integrated into the application, the availability of a maintenance staff to adjust manual tables and ROI will also dictate a powered or manual table decision.”

## **Reducing worker injuries**

Many workplace ailments result from improper back or head posture due to incorrect work surface height.

Repetitive motion injuries can occur when work areas are laid out improperly with reach zones misaligned with tasks to be completed. “Ergonomic workstations are designed and configured around horizontal and vertical reach zones,” Wehner said. Proper workstation planning begins by considering all articles required to perform the designated task including tools, instruments and equipment. These articles should be laid out with consideration to their priority in the task and then assigned to the appropriate reach zones. Material handling into and out of the workstation should also be examined to insure the safest, most efficient methods are being used.

By focusing on designing the workstation to fit the task, unneeded movement of the product by the worker will be eliminated. When workstations are configured and/or designed for specific applications, the process of flow can be considered with a dual focus on productivity and ergonomics. With a focus on LEAN process and the elimination

of waste, each application can be its most effective and efficient.

Ergonomic workstations also decrease fatigue. When workers use efficient movements to complete their tasks, productivity is improved. Task illumination, ambient noise, environment colors and ambient temperature are other factors that can also be controlled to maximize human productivity.

## **Payback period varies**

Investing in ergonomic workstations and height adjustable lift tables will help companies save money in the long run although payback periods vary. It depends in part on how badly suited the current fixtures are to the workers’ ability to complete their tasks. “The more wasteful a company’s current workstation application and process are, the quicker the payback will be with ergonomic workstations,” said Wehner.

Learn more about ergonomic solutions at [MHI.org/ease](http://MHI.org/ease). ●