

MED MALL AT NAS SIGONELLA, ITALY ERGONOMICALLY DESIGNED FOR EMPLOYEES AND CUSTOMERS

The daily task of supplying the offices of Naval Air Station (NAS), Sigonella, Italy and the 43 other Navy activities located there falls to a small group within the Supply Department called the Mediterranean Mall, nicknamed the *MED Mall*. MED Mall employees inventory new



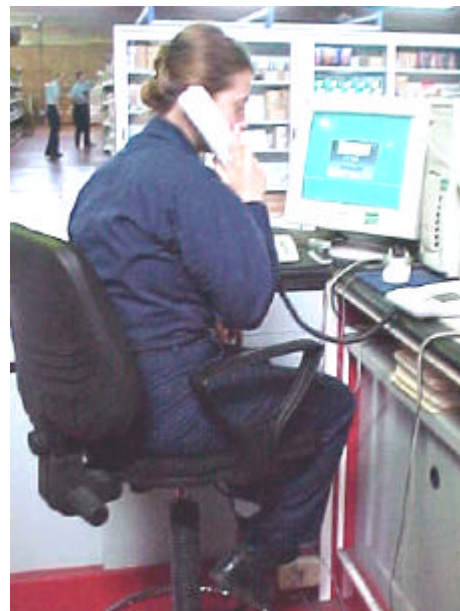
Standing in one place for long periods can lead to back and leg pain

supplies, stock shelves, and get items for customers. These seemingly uncomplicated work tasks often require MED Mall workers to stand at the customer service desk for long periods of time, while conducting business with customers and suppliers.

Work tasks that require using a group of muscles, such as those that support a person's *static standing posture*, for long periods during each workday, tend to fatigue that muscle group. This overburdening may lead to a work-related musculoskeletal disorder, or WMSD. A WMSD is a disability that usually involves weakness and discomfort in the affected muscles. Discomfort often improves after discontinuing activities that weaken the affected muscles and getting medical treatment for the WMSD.

Standing in one location for extended periods of time puts a worker in a *static posture*. A *static standing posture* is often a contributing factor to back and leg pain.

Redesigning work tasks or workstations using procedures and tools that minimize the risk of WMSDs can reduce their frequency and severity. The science of fitting the work to the worker, instead of requiring the worker to adapt to existing working conditions is called *ergonomics*. Work tasks, equipment, and tools that are ergonomically



Stool with foot ring supports lower extremities

designed help to reduce the risk of work-related injuries and WMSDs by making it easier for the worker to avoid repetitive motions, awkward positions, and static postures.

The ergonomics hazard and risk of WMSDs created at MED Mall by *static*



Curved edges on service desk help to avoid compression to the forearms

standing posture was resolved following a “discomfort survey” by the Safety Department, which identified the problems. One change included providing service desk workers with a stool with a foot ring, which supports the lower extremities and reduces fatigue and discomfort. This means that workers can avoid remaining in one static posture for long periods by alternating between sitting and standing. The MED Mall’s customer service desk was also redesigned to provide

further worker comfort. The edges of the desk are now curved to avoid compression to the forearms, which occurs when the arms are pressed down on sharp edges. Compression can result in fatigue and weakness in the muscles and supporting ligaments and tendons of the forearms.

The NAS Sigonella Supply Department made additional ergonomic improvements at MED Mall to reduce the risk of back and repetitive motion injuries among MED Mall workers and its customers. Customers have access to wheeled carts to minimize carrying heavy packages. The carts have bent handles and large rubber casters. The bent handle design provides adequate spacing between the cart and the user's torso, preventing the user's legs from striking the cart while pushing it. The rubber casters allow the carts to roll smoothly so that customers avoid straining their backs, arms, and shoulders while pushing the carts. Installed metal plates let carts roll easily over doorsills as customers push them into the MED Mall.



Cart design makes loading and pushing easier

Shelves in the MED Mall self-service area are tilted forward at a 45-degree angle for easy stocking and retrieval of self-service items without using awkward postures. The tilted shelves allow a person's hands to remain close to a neutral position when reaching for and lifting items from the shelves. The neutral position results in less physical stress on the hands when gripping and/or manipulating small items like pens and markers. Supply items are strategically placed on shelves to avoid lifting injuries. Lightweight articles, such as notepads and tape, are placed above shoulder level or below knee level. This allows heavier objects to be placed about waist level for optimal lifting without bending down or reaching overhead for these items. Lifting heavy objects at waist



Tilted shelves ease stocking and retrieval of items

level helps workers and customers to avoid additional strain on their arms, backs, legs and knees.

The MED Mall's ergonomically designed shopping system helps NAS Sigonella employees and customers avoid injuries and WMSDs. By incorporating ergonomics into MED Mall's work tasks and into its shoppers' needs, the NASSIG Supply Department's MED Mall store is looking out for its workers and its customers.

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