

Furniture: Increasing Productivity and Reducing The Bottom Line

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If your company's chairs and workstations are not adjustable enough to accommodate 90% of your employees then your company is losing calls, reducing customer satisfaction and paying out more for medical costs, workman's compensation insurance and lost days. What you should be looking for is furniture that will accommodate the range - 5th percentile female to the 95th percentile male; that is, a 5-foot-1-inch woman to a 6-foot-3-inch male. Buying furniture that accommodates the range and quickly adjusts to each employee will give the greatest return for the investment: Seating and workstation purchasing decisions should be based on specifications and adjustments that promote comfort, not discomfort.

Options abound in chair and workstation selections as does price ranges. But do not be fooled into thinking a few adjustments will allow your employees to work in comfort, be friendly and eliminate repetitive injuries. When shopping for furniture, ask yourself what the features are addressing and, more importantly, what they are not addressing. Will new medical problems arise? Will customer service quality and productivity be reduced? How fast will the furniture pay for itself, or will more costs be incurred as a result of injury and lost days?

Ergonomic Chairs

The chair is the most critical piece of furniture in a call center because it contacts the body and supports most of the body weight at the buttocks, back and forearm areas. Therefore, good ergonomic chairs are a necessity. Buyers should consider the following adjustments to accommodate the size range of employees: **Seat height** accommodates different statures and provides a 2 to 4 inch space for the popliteal area (soft tissue area behind the knee), this being the best approximation of the proper seat height; **Seat angle** provides various trunk-thigh postural angles and reduces pressure in the lower back; **Backrest height** gives overall support to the small of the back (the lumbar area); **Backrest depth** accommodates and provides support for varying leg lengths, provides back support for small employees because they sit forward in the chair, and allows taller employees to seat deeper in the seat pan; **Backrest angle** allows for position changes throughout the day; **Lumbar** provides for individualized lumbar support; **Arm height** supports the arms and takes pressure off the neck and shoulder areas; and **Armrest direction** provides complete forearm support.

If one or more of these adjustments is missing, muscle, tendon and ligament stress can compress nerves and cause pain. Each adjustment is necessary to prevent stress that can develop from sitting in a chair for extended periods of time. Finally, look for the following specifications to adjust to the anthropometric needs of the employee and, therefore, optimize productivity.

- **Seat Height:** 38 to 53.5 cm (15 to 21 inches)

- **Seat Width:** minimum 45 cm (17.7 inches)
- **Seat Depth:** minimum 38 to 43 cm (15 to 17 inches) exceeding 16 inches requires relief to the back of the knee such as a waterfall front edge
- **Seat Angle Adjustment:** -15° to $+8^{\circ}$
- **Backrest Height Adjustment:** 15.24 cm to 25.4 cm (6 to 10 inches)
- **Backrest Depth Adjustment:** 37 to 49.5 cm (14.5 to 19.5 inches)
- **Backrest Angle Adjustment:** -15° to $+8^{\circ}$
- **Armrest Height Adjustment:** 17.57 to 27.87 cm (6.92 to 10.97 inches)
- **Armrest Width Adjustment:** 41.91 to 55.88 cm (8.11 inches)
- **Armrest Rotation:** 360°

Workstations

The call center workstation is a different matter. There are non-adjustable sitting workstations, adjustable sitting workstations and sit-stand workstations.

The **non-adjustable sitting workstation** is *“designed for the average person”*; however, no one person is average. With the non-adjustable workstation, the person adjusts to the workstation as best he or she can, instead of the workstation adjusting to the person. Supplementing this type of workstation with accessories can accommodate the range. As an example, the smaller employee is brought up to a towering worksurface by the ergonomic chair and a footrest is put under their feet.

With non-adjustable workstations, accessories are a must, including items such as wristrest/palmrests and adjustable keyboard trays. Unfortunately, the needs of the entire range may not be met even after modifying the non-adjustable workstation.

Depending on the limitations of the workstation and accessories, a percentage of the employees will be in a physically stressed position. "Designed for the average person" means everyone using the design is uncomfortable.

Unlike the non-adjustable station, the **adjustable workstation** accommodates the entire range, and the workstation is able to adjust to each person. Separate adjustable work surfaces, one for the monitor and one for the keyboard/work area add flexibility to meet the needs of multiple-shift users better than one working surface. This feature allows correct monitor positioning for each employee and prevents neck and shoulder pain. The adjustable keyboard height allows for a variety of elbow rests heights while maintaining the fingers on home row keys. Make sure the adjustments can be made easily and quickly; otherwise, employees will not use them.

Another type of workstation that not only meets anthropometric needs, but physiological needs as well, is the **sit-stand workstation**. **Why is standing important?** In the nut shell, a company realizes the benefits of ergonomic furniture on an upward economic scale. As more anthropometric requirements and physiological needs are met, **higher productivity levels are realized.**

The sitting-standing concept is recommended to encourage physical movement and posture changes because both increase circulation. Movement relieves the fatigue associated with sedentary jobs by circulating lactic acid out and transporting oxygen and nutrients into discs, muscles, tendons and ligament systems. Standing allows stretching and movement of muscle systems that increases metabolism and provides mental and physical **stress relief**. In combination, sitting and standing allows easier, safer and more efficient postural changes. Lastly, standing and making easy chair and workstation adjustments burn more calories and reduce the chance of producing the **feed lot syndrome** "Sit, eat, sit, eat, sit, sleep".

Let's analyze the call center situation in relationship of an employee to the furniture. According to the MTM Association for Research and Standards (1985), an employee that uses their computer greater than four hours per day, inputs information and leaves their seat less than once an hour is considered to be at **high ergonomic risk** of discomfort. At United Parcel Service (UPS) "the fully adjustable sit-stand workstation with an adjustable chair was specified for the high risk jobs, typically those employees using the telephone and/or computer for the majority of their day."

A survey of UPS data entry employees, conducted prior to, during and after installation of sit-stand workstations, showed that they "adjusted their workstations to a standing position an average of 3.6 times per day. On an average day, employees spend 23% of their time standing."

Body part discomfort, injury/illness rates, productivity, and absenteeism were tracked. Body part discomfort ratings improved by over 26% following the office enhancements. The number of work-related injury/illnesses decreased by 28% percent and lost-time occurrences decreased by 82%. The cost associated with these occurrences decreased by 95%. One department demonstrated significant improvements in productivity (over 17%) relative to another site without the new equipment. This level of improvement is above and beyond that attributed to system changes.

These figures not only reflect the employees comfort or lack of discomfort but their awareness of their new control over their own wellness. "Employees have provided very positive feedback about the sit-stand workstations. They appreciate the ability that they have to adjust the workstations to meet their specific needs and enjoy the opportunity to stand."

The following specifications will help to ensure that you are buying for the to increase productivity and reduce costs in the long term.

- **Workstation Height for sitting and standing:**
 - for the 5th Female - 48.25 cm (19.00 inches) (Workstation Height, WSH)
 - for the 95th Male - 114.64 cm (45.13 inches) (WSH)
 - Worksurface height range of adjustment: 48.25 cm to 114.64 cm (19.00 inches to 45.13 inches)*
- **Worksurface Thickness:** less than 3.81 cm (1.5 inches)
- **Workstation Depth:**
 - 71.96 cm (28.33 inches) - minimum
 - 113.21 cm (44.57 inches)**- maximum
 - **This may cause problems because the forward functional*

reach of a 5th percentile female is 67.67 cm (26.64 inches) and a 95th percentile male is 86.70 cm (34.13 inches).

- **Workstation Width:** recommended 116.84 cm (46 inches) minimum
- **Monitor Height Range of Adjustment:** 103.59 cm to 174.29 cm (40.78 to 68.62 inches)
- **Lighting:** recommended 200 to 500 lux
- **Acoustic Noise:** recommended 56 to 66 decibels
- **Temperature:** recommended 68° F to 78° F

What Message Is Your Call Center Sending?

Employees will not increase productivity if their “normal aches and pains” increase from 8 hours in a chair and at a workstation that does not fit their anthropometric needs. An excellent example is the comparison a fast food restaurant’s seating and a hotel restaurant and bar’s seating. Fast food restaurants are designed to promote a high customer turnover, you eat... you drink... your butt hurts...you leave. But at the hotel restaurant and bar, you have a soft place to rest your forearm, a footrail and soft cushioned chairs and couches that you never want to leave. The message their sending, “Stay and partake.”

What message are your employees getting? Discomfort equates to poor performance, reduced productivity and eventually leads to costly medical conditions. Pay now or pay later.