

# DoD Ergonomics Working Group NEWS



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## *Guidelines for Office Chair Selection* *- Developed by the Navy Ergonomics Task Action Team -*

**Chair design contributes to the comfort and productivity of the workers.** The chair can be a critical factor in preventing back fatigue as well as improving employee performance and efficiency. People who sit for long periods of time run a high risk of low-back injury, second only to those who lift heavy weights.<sup>1</sup> Management, professional, and office workers accounted for 23% of injuries and illness involving days away from work with the back the primary body part affected, and the working position the second highest source of injuries.<sup>2</sup> To reduce this risk, a worker must be able to sit and maintain the spine in a neutral posture. A properly designed and adjusted chair is essential to maintaining a neutral posture.

Some manufacturers are eager to label furniture and accessories “ergonomically correct” or “ergonomically designed,” much like food products are liberally labeled “all natural” or “new and improved.” In reality, a chair that meets the body type of one person might not fit the next. Therefore, what is “ergonomically correct” for one individual may cause injury to another.

**Chair selection is best when based upon personal testing.** People vary widely in their shapes and sizes, and manufacturers offer a range of sizes to meet these needs. The table on page 2 contains key criteria to consider in chair selection. All adjustments should easily be made from the seated position.

Alternative seating such as exercise balls, ball chairs, and kneeling chairs do not meet the minimum requirements provided in the table and are not considered acceptable office seating. The dimensions<sup>3</sup> are intended to fit 90% of the population; special accommodations may be required for petite or tall individuals.

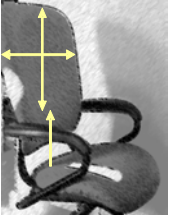
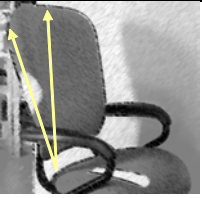
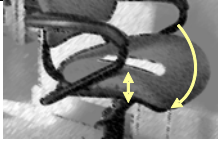
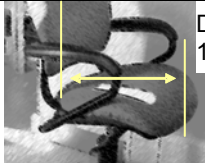
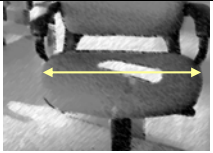

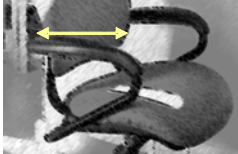
**Workers should use their chairs in accordance with manufacturer’s instructions.** For additional information, contact the local Safety and Occupational Health office or visit the Navy Ergonomics Program’s Website, [www.navfac.navy.mil/safety](http://www.navfac.navy.mil/safety), and click on “ergonomics.”

1. Andersson, G.B.J. “Epidemiological aspects of low back pain in industry” Spine, 6:53-60 (1981).

2. National Safety Council Injury Facts 05-06.

3. International Organization for Standardization 9241-5:1998 and Business and Institutional Furniture Manufacturer’s Association G1-200.

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Chair Component	Chair Features		
<b>Backrest</b>	<p>An independent backrest height adjustment with space for buttocks between the backrest and seat pan.</p> <p>The mid-lumbar portion of the backrest should range in height from 6 to 10" from the seat pan. Either backrest or lumbar support should be adjustable.</p> <p>Backrests size: minimum 14.2 to 15" high by 12" wide with a pronounced lumbar support that protrudes forward about 1" from the seat back.</p>	<p>Minimum Size 12" W x 14.2" H</p> 	
<b>Backrest (optional)</b>	<p>Tilting minimum range of 90 to 105 degrees.</p> <p>Locking tilt feature.</p>	<p>Minimum Range 90 to 105°</p> 	
<b>Seat Cushion</b>	<p>Seat cushion should be made of high-density foam, 1.5 to 2" thick, with cloth fabric for breathability.</p> <p>Minimal contouring, slightly concave with waterfall front edge.</p>	 <p>1.5 to 2" thick Waterfall front edge</p>	
<b>Seat Height</b>	<p>Pneumatic seat height adjustment, ranging from 15 to 20.5" from the floor measured at the center of the seat pan</p>		
<b>Seat Pan</b>	<p>Fixed: Maximum depth 16.9".</p> <p>Adjustable seat pan depth range 15 to 20".</p>	 <p>Depth 15-20"</p>	 <p>Minimal Width 18"</p>
<b>Seat Pan (optional)</b>	<p>Tilt 10 degrees forward to 5 degrees backward.</p> <p>Rocking mechanism.</p>		
<b>Base</b>	<p>Minimum of 5-star base.</p> <p>Swivel 360 degrees.</p> <p>Casters should be appropriate for the flooring type: rubber casters for linoleum and tile, nylon casters for carpet.</p>		
<b>Armrests (optional)</b>	<p>Adjustable height and width or removable.</p> <p>9 to 12" in length; no sharp edges.</p>	 <p>Length 9 - 12"</p>	