

## For Immediate Release

### **New Study Proves Ergonomic Benefit of Next-Generation Office Chairs**

**Revolutionary Liquid/Solid Material From Bayer MaterialScience De-stresses Back Using Unique Three-Dimensional Support**

**October 18, 2005**

PITTSBURGH, October 18, 2005—A new study conducted by internationally renowned neuromuscular researcher, Carlo J. De Luca, Ph.D., found that office chairs that incorporate a proprietary high-tech material into the seating structure were shown to reduce the activity of some back muscles by up to 28 percent.

"The significance of these results cannot be underestimated," said Dr. De Luca, director, NeuroMuscular Research Center of Boston University, and president, Delsys Inc. in Boston, where the study was performed. "Many people may not realize that the act of sitting requires several back muscles to work to support the spine and the pelvis. Prolonging this sustained muscle activity can cause any number of problems including low-back pain."

The research was conducted to determine if the proprietary high-tech material called Technogel® contributed to less back muscle activity and therefore greater comfort and potentially less back pain. Technogel is a unique polyurethane material licensed from Bayer MaterialScience and produced by the Technogel company, the world's leading gel producer. Technogel's exceptional "liquid solid" material properties are engineered for health, comfort and durability.

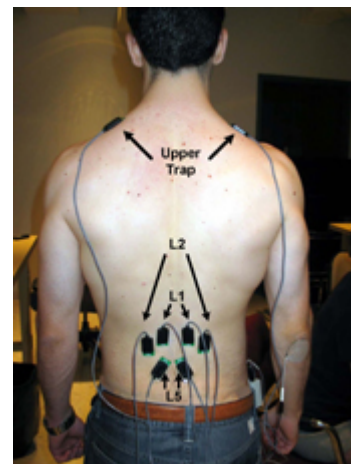
[Technogel](#) has been adapting this unique polyurethane material for over a decade into a wide variety of applications where the reduction of pressure points from sitting or laying in one position can be a life-saving necessity. Unlike many other cushioning materials, Technogel works because it provides superior pressure displacement in all three dimensions: front to back, side to side, and up and down.

#### **Research Details**

In the study, participants sat in each of two identical ergonomic chairs—one that incorporated a layer of Technogel over the foam seating and one that simply used the standard foam in the chair.



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In the study conducted by Dr. De Luca, the participants' back muscle activity was measured in three different positions reflecting actual common working postures.

The participants' back muscle activity was measured in three different positions reflecting actual common working postures: 1) back straight and knees bent at right angle with both feet on the ground; 2) back straight and one leg over the other; 3) back leaning forward and knees bent at right angle with both feet on the ground. A statistically significant result was achieved with only 24 subjects.

The office chairs used in the study were the Freedom® chairs by Humanscale®, the leading manufacturer of ergonomic work tools for the office. The Freedom chair was selected because it is so well designed throughout that any results could be more confidently attributed to the Technogel material.

The new Delsys study supports findings from a similar study performed in Europe.

### **About Sitting**

The amount of time people spend sitting to do their work is increasing, and computer advances now make it convenient to accomplish various tasks without leaving the chair. New software programs are available to remind workers to take rest breaks at specific intervals. Still, it's easy to get absorbed in a project or task with deadlines looming and ignore that nagging back or bottom ache. Recognizing the increased time spent sitting at work led to an office chair revolution in the '90s that is now entering a new era: the office chair has become a critical tool for health and its benefits can be related to productivity.

### **Health and Comfort via Technogel**

The initial uses for this high-tech material were wheel chair seat cushions, pressure-relieving bed pads for long-term bed-ridden patients and operating tables, and prosthetic liners for amputees. Realizing the health and comfort benefits of the material, subsequent applications put Technogel into shoe insoles, bicycle saddle seats and gel wrist supports for keyboard and mouse.

Beginning in 1999, Technogel worked with Humanscale to develop for the Freedom chair the first ever gel seat cushion for an office chair. Because Technogel is so aligned with Humanscale's mission of improving the health and comfort of office workers, Humanscale has since incorporated the gel cushions into its revolutionary new Liberty® office chair.

Bayer MaterialScience LLC is one of the leading producers of polymers and high-performance plastics in North America and is part of the global Bayer MaterialScience business with 18,000 employees at 40 sites around the world and 2004 sales of 8.6 billion euros. Our innovative developments in

coating, adhesive and sealant raw materials, polycarbonates, polyurethanes and thermoplastic urethane elastomers enhance the design and functionality of products in a wide variety of markets, including the automotive, construction, electrical and electronics, household and medical industries, and the sports and leisure fields. Our inorganic basic chemicals unit produces chlorine and related essential products for the chemicals industry. Let us give life to your vision. Bayer MaterialScience—Where VisionWorks.

Bayer Corporation, headquartered in Pittsburgh, is part of the worldwide Bayer Group, an international health care, nutrition and innovative materials group based in Leverkusen, Germany. In North America, as of April 2005, Bayer employed about 16,000 and had net sales of 8.3 billion euros. Bayer's three operating companies—Bayer HealthCare LLC, Bayer CropScience LP and BayerMaterialScience LLC—improve people's lives through a broad range of essential products that help diagnose and treat diseases, protect crops and advance automobile safety and durability.

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