

The Science Behind the Geo-Matt Design



This support surface design was developed by Span-America in the late 1980's in conjunction with Dr. Thomas Krouskop of the Baylor School of Medicine.

Computer-guided equipment is used to cut foam into a geometric pattern of supportive cubes that are undercut with an open channel.

Unlike flat or convoluted ("eggcrate") foam, these individual cubes allow the surface to conform to the body and accommodate bony prominences, redistributing *pressure* across the support surface. This minimizes the pulling of the skin and tissue over bony prominences, thereby offsetting the harmful effects of *shearing* forces.



The "Ring of Air" helps to *disperse heat and moisture* away from the body and out into the atmosphere. The channel also assists in pressure management by providing, in effect,

a layer of air between two layers of foam to enhance conformance of the foam to the body.

Does it work? In a two-year independent study*, 83 patients at risk for, or with, pressure ulcers were randomized to either the Geo-Matt or an air-suspension bed. Results: an analysis of covariance revealed *no statistically significant difference* in the prevention or healing of any stage pressure ulcer with respect to type of support surface used.

Based on its clinical efficacy as an overlay surface, Span-America has gone on to incorporate the design into the surface of the majority of its mattress, seat cushion, and patient positioning products.

*Day,A, Leonard F. Seeking quality care for patients with pressure ulcers. *Decubitus* 1993 Jan; 6(1):32-43.