Mattress for Bed Sore Prevention

Tech ID: 31921 / UC Case 2019-955-0

SUMMARY

UCLA researchers in the Department of Mechanical and Aerospace Engineering have designed a low-cost, lightweight and easily adjustable mattress that prevents bed sores.

BACKGROUND

Every year in the US, 2.5 million patients are affected by bed sores. 60,000 patients die every year as a direct result of the condition, resulting in $9.1 - $11.6 billion in treatment costs every year. Currently, the most effective bed sore prevention approach is to use silica-bead air fluidized beds. These beds, however, are expensive, extremely heavy and difficult to adjust. There is a need for a simple, cost effective and lightweight solution to prevent bed sore formation.

INNOVATION

Professor Hopkins and his research team at UCLA have designed a low-cost mattress that can prevent bed sores with high efficacy. The mattress would be lightweight and easily reconfigured. The mattress design has a unique deformation mechanism that adjusts the mattress pressure points.The energy required to operate the mechanism is minimal. The design generates very little noise and wear, making it an ideal solution for preventing bed sore formation.

APPLICATIONS

▶ Bed sore prevention (mattresses)

▶ Seat cushions for wheelchairs, and other seats where occupants sit for extended periods

ADVANTAGES

▶ Affordable

▶ Robust

▶ Lightweight

▶ Readily adjusted

▶ Quiet

▶ Automatic mattress reconfiguration

PATENT STATUS

Country	Type	Number	Dated	Case
European Patent Office	Published Application	EP4013365	06/22/2022	2019-955
United States Of America	Published Application	20220175601	06/09/2022	2019-955

ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

▶ Actively Controlled Microarchitectures with Programmable Bulk Material Properties

▶ Boundary Learning Optimization Tool

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INVENTORS

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OTHER INFORMATION

KEYWORDS

Bed sores (pressure ulcers), air fluidized beds, hospital mattresses, multi-stable compliant-mechanism, freedom and constraint topologies (FACT), boundary learning optimization tool (BLOT)

CATEGORIZED AS

▶ Medical

　▶ Devices

　▶ Other

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