



A Fuzzy Controller Indenter Capable of Simulating Pressure Sore on the Guinea Pigs Skin During a Day

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A Fuzzy controller indenter system has been developed for physiological studies where a controlled uniaxial compressive force is required to be applied on the surface of the skin. This system is able to simulate pressure sore on the guinea pigs skin during a day. It's useful for studies on the pressure sore treatment or the physiological response of the tissues. Indenter is driven by two DC motors under a fuzzy controller. A load cell has been placed between the indenter and vertical arm, monitors the applied force and probe movement is measured by an optical encoder. These data are providing feedback signals to the computer via a USB port. This system has been controlled by Matlab GUI software. It can be applied by constant vertical, frictional or shear forces on the surface of the skin which leading to create a pressure sore. In addition, the force and displacement curves are plotted on the display.