

عنوان مقاله:

Comparison of smart and conventual bandage to control optimal wound conditions and monitor the emergence of critical wound condition

محل انتشار:

چهارمین کنگره بین المللی و ششمین کنگره ملی زخم و ترمیم بافت (سال: 1398)

تعداد صفحات اصل مقاله: 1

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خلاصه مقاله:

Controlling wound conditions and comparing optimal wound healing parameters is always a concern of physicians, who are periodically examined by patients for acute wounds. Doctors needs to monitor these conditions consistently and carefully, in which they can include cost savings, accelerated recovery, and accurate conclusions, including its benefits. One of the important topics studied by prestigious universities around the world is the continuous and precise control of wound healing conditions. Factors such as temperature, humidity, blood sugar, acidic blood pressure are important topics around the world. Iran has not paid much attention to this issue. Temperature and humidity are also a condition of the wound that is very important in the treatment. In this research, the SHT family s temperature and humidity sensor as one of Sensirion s main products was selected to monitor the wound with high quality. The information read by the sensor is given to a small control board that has capabilities such as comparing wound conditions to the optimal rate based on a given schedule and can alert the physician, patient, and surroundings by contact, SMS and etc. Also, it can notify them for critical situations or of prior notice of such occurrences. The materials used in this study for conventional wound dress was selected as AgO nanoparticle (AgO—NP) have investigated the abundant and natural antibacterial activity of chitosan or polysaccharide with a positive charge. Chitosan is a compound of the Ketine family that is found in skeletal and crustacean extracts such as crab and shrimp. Currently various forms of silver are used in wound dress in big companies like smith and nephew. Although costly, it has been proven that silver is effectively used as an antimicrobial agent. Silver is classified as an almost neutral metal, so it would not react with the human body if it was not ionized. Silver interferes release of bacterial ions and disrupts electron transfer, binds to bacterial DNA and inhibits bacterial cell proliferation, interfering with bacterial cell membranes, disrupting receptor function and structural integrity. AgO-NP with formation of insoluble and inert compounds that inhibit microbial activit is more suitable for wound care application

کلمات کلیدی:

Smart Dressing, Optimal Wound Control, Critical Wound, Silver Oxide Nanoparticles, Antibacterial

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