

عنوان مقاله:

Biosensor wound dressing: A review

محل انتشار:

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

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نویسنده:

Rezvan Motahareh - PHD, student of Biochemistry, Department of Medical laser, Medical Laser Research Center, Yara Institute, ACECR, Tehran, Iran

خلاصه مقاله:

In managing hard-to-heal wounds, consideration of wound parameters that may provide information about the progress of wound healing process is important. Wound healing involves a complex series of biochemical and immunological events traditionally managed by low-tech dressings. In the last decade, a new generation of wound dressing has been developed using biosensor technology to manage both chronic and acute wounds. Biosensors are analytical devices that combine a biological component with a physicochemical detector to observe and analyze a chemical substance and its reaction in the body. According to the parameters related to wounds including temperature, pH, moisture, uric acid, hemoglobin, broad-spectrum protease activity, oxygen tension, wound fluid and volatile components including bacterial factors, wound dressing developed with point-of-care biosensor which could significantly optimize and improve wound management and therapy. Engineering wearable biosensors have several advantages including the ability to monitoring physiological information and microfiber structure creates a thin, stretchable, and flexible device that is mechanically compatible with the curvilinear surface of the biological system. Next-generation platforms of bio-sensors are focused on integrating with biological skin, cardiac and neural tissue. The bio-mimicry structured sensor platform allows free mass transfer between biological tissue and bio-interfaced electronics, which enable real-time, on-site evaluation of wound healing progress and provides appropriate therapeutic intervention at the right time.

کلمات کلیدی:

Biosensor, Wound-dressing, Wound-healing

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