Emunamedica

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Technology description

Emunamedica utilizes its patented near infrared (NIR) spectroscopy algorithms and technology to assess wound healing in chronic wounds such as diabetic foot ulcer. Chronic wounds affect over 8 million people in the United States, where over $10 billion is spent each year treating these wounds. Unfortunately there is no quantitative diagnostic available today to provide clinicians with quantitative data to help better assess whether a wound is going to heal or continue to become necrotic, eventually leading to amputation.

The clinically tested Emunamedica technology utilizes NIR spectroscopy to calculate actual levels of oxyhemoglobin in the wound as a proxy for neovascularization. Scientists at Drexel University have discovered that in acute wounds, neovascularization is transient, increasing with the onset of the wound to provide access for macrophages, growth factors and other cells to assist in wound healing, and subsequently disappearing as the wound is healed. With chronic wounds this neovascularization remains for extended periods of time, only retreating when the wound is on its way to permanent closure. By accurately measuring this neovascularization the Emunamedica technology has been proven in clinical studies to significantly (p-value < 0.002) differentiate healing from non- healing wounds.

CLINICAL STUDY HIGHLIGHTS

Highly Predictive Of Wound Healing

N=46 patients

Overall: Specificity 93%; Sensitivity 88%

Within 4-visits: Specificity 90%; Sensitivity 86%

Significance: p-value < 0.002

Significant Cost Savings Potential

Average potential cost savings per patient: $12,612

BUSINESS AND MEDICAL RATIONALE

There are over 50 different wound therapies available to clinicians in categories that include tissue products (dermal grafts), negative pressure wound therapy, hyperbaric oxygen therapy and various dressings. The large majority of these wound therapies have been shown clinically to only heal half of the patients, and in many cases not permanently. The challenge clinicians have is to understand when to switch therapeutic modalities in an effort to quickly find the therapy that works best for each patient. Payers such as Medicare have similar issues in that they are paying billions of dollars for

ineffective therapies that are used longer than they should be used. Patients pay the price as well, as time on ineffective therapies leads to the advancement of necrotic tissue and the eventual need for an amputation (over 100,000 in the US annually).

By utilizing the Emunamedica technology clinicians can shorten the time patients are on ineffective therapies, preserving precious vital tissue for patients, saving payers hundreds of millions of dollars and allowing them to see new patients sooner.

CASE STUDY: Negative pressure treatment cost: $700 per week; Prescribed for 16 weeks; Effective for 50% of the patients. Utilizing the Emunamedica technology a clinician would know within 4 weeks, with 90% accuracy whether the treatment was working for this patient. If the therapy wasn’ t working the clinician could switch to another therapy and (A) save 12 weeks of tissue vitality for the patient; and (B) save $8,400 for the payer.

MARKET OPPORTUNITY

Over 2,400 wound care centers in the US and over 16,000 podiatrists seeing over 8 million chronic wounds. Two-thirds of wound care centers are managed by wound care center managers such as Healogics (650 centers) providing for marketing concentration and requiring a small concentrated clinical sales team. The diagnostic device is used with proprietary single-use disposables to prevent cross contamination when used, providing for a razor & blade business model with high margin recurring revenue. The technology has been extended for screening pressure ulcer patients in a hospital setting, although this is still in human clinical studies.

Institution

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