

Search history

Search 1: SFT=(WOUND AND VOLUME AND MEASUR*) (Results 123406)
Search 2: SFT=(WOUND AND VOLUME AND MEASUR*) and IC=(A61B) (Results 8980)
Search 3: SFT=(WOUND AND VOLUME AND MEASUREMENT) and IC=(A61B) (Results 5209)
Search 4: SFT=(WOUND AND VOLUME AND MEASUREMENT AND METHOD) and IC=(A61B) (Results 4901)
Search 5: SFT=(WOUND AND VOLUME AND MEASUREMENT AND METHOD AND DEVICE) and IC=(A61B) (Results 4503)
Search 6: SFT=(WOUND 1W VOLUME AND MEASUREMENT AND METHOD AND DEVICE) and IC=(A61B) (Results 26)

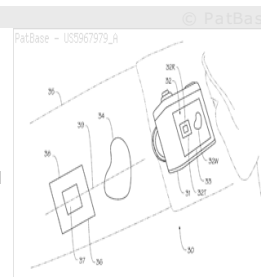
1) Family number: 20477416 (US5967979A)

METHOD AND APPARATUS FOR PHOTOGRAMMETRIC ASSESSMENT OF BIOLOGICAL TISSUE

Abstract: Source: US5967979A A remote wound assessment method and apparatus includes forming an oblique image of a wound and a target plate containing a rectangle and placed near the wound. Using a novel method of determining vanishing points where photographic images of parallel lines on the target object intersect, coordinate transformations are calculated which map the oblique image of the rectangle into a normal image thereof. Using the same coordinate transformations, an oblique image of a wound adjacent to the target plate is mapped into a normal view thereof, allowing precise measurement of wound features. By forming two separate images of a wound and target plate at two different oblique inclinations, three dimensional features of a wound may be measured.

Probable Assignee: VERG INC

Earliest Publication Date: 19970522



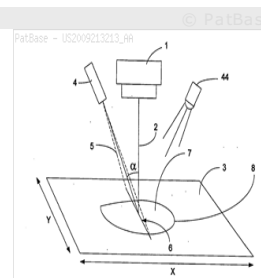
2) Family number: 34394852 (US2009213213A)

METHOD OF MONITORING A SURFACE FEATURE AND APPARATUS THEREFOR

Abstract: Source: US2009213213A Dimensions of a surface feature are determined by capturing an image of the surface feature and determining a scale associated with the image. Structured light may be projected onto the surface, such that the position of structured light in the captured image allows determination of scale. A non-planar surface may be unwrapped. The surface may alternatively be projected into a plane to correct for the scene being tilted with respect to the camera axis. A border of the surface feature may be input manually by a user. An apparatus and system for implementing the method are also disclosed.

Probable Assignee: APPLIED RESEARCH ASSOCIATES NZ LTD

Earliest Publication Date: 20070419



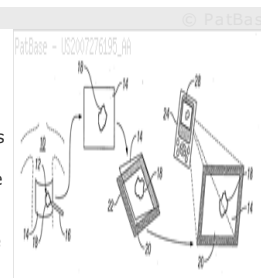
3) Family number: 40837616 (US2007276195A)

SYSTEMS AND METHODS FOR WOUND AREA MANAGEMENT

Abstract: Source: US2007276195A Systems and methods for capturing and digitizing an image of a wound and/or a wound trace from a patient and determining therefrom a degree of change in the characteristics of the wound. A first embodiment includes a transparent/translucent film onto which a dark outline of the wound is traced. The film is fixed to a reference template that provides a geometrically defined reference area. The film/template assembly is imaged with a digital imaging device associated with a handheld digital processor (such as a PDA). The digital image of the template and the wound trace are analyzed to identify the wound tracing and quantify the area within the closed curve. A second embodiment includes imaging the wound site with a reference tag and viewing the image on a display with an associated graphical data input device. A trace of the wound perimeter is made on display with the graphical data input device to establish a data set for the wound perimeter. The data set for the wound trace and the reference tag are analyzed to identify and quantify the wound area. In each embodiment, the system includes a display for providing both a view of the wound trace and the calculated data associated with the wound area.

Probable Assignee: KCI LICENSING INC

Earliest Publication Date: 20071122



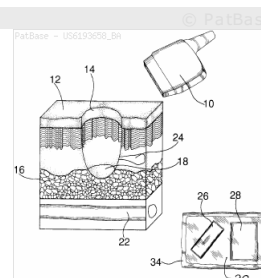
4) Family number: 14971230 (US6193658B)

METHOD AND KIT FOR WOUND EVALUATION

Abstract: Source: US6193658B A method and kit for the evaluation of wounds or ulcers (14) using ultrasound that allows an examiner to measure a wound (14) along with adjacent soft tissue structures (16) and bone (22) including tendon, ligaments, and muscle. This same method and kit contains gel (30) and an adhesive flexible film (32) which has a duo function and serves as a protective barrier preventing cross contamination between transducer (10) and ulcer (14), while allowing unimpeded conduction of ultrasound transmission to tissues (16) and subsequent echoes received from tissues (16) to be evaluated and recorded by a health care practitioner.

Probable Assignee: POPE CHARLES L

Earliest Publication Date: 20010227



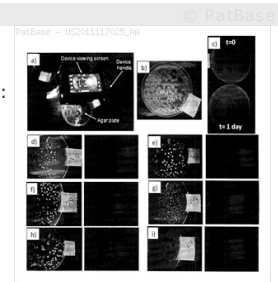
5) Family number: 44054144 (US2011117025A)

DEVICE AND METHOD FOR FLUORESCENCE-BASED IMAGING AND MONITORING

Abstract: Source: US2011117025A A device for fluorescence-based imaging and monitoring of a target comprising: a light source emitting light for illuminating the target, the emitted light including at least one wavelength or wavelength band causing at least one biomarker associated with the target to fluoresce; and a light detector for detecting the fluorescence.

Probable Assignee: HEALTH NETWORK UNIV

Earliest Publication Date: 20091126



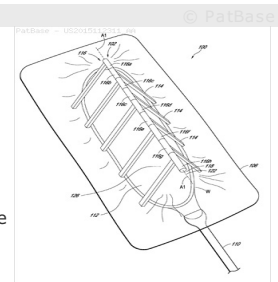
6) Family number: 55204323 (US2015112311A)

WOUND CLOSURE DEVICE

Abstract: Source: US2015112311A A wound dressing for use in the application of negative pressure to a wound, comprising a support member and a cover member positionable over the wound in use. The support member can have a first support element having a first portion aligned with a first axis and a body portion coupled with and extending away from the first portion, and a second support element having a first portion aligned with the first axis and a body portion coupled with and extending away from the first portion of the second support element. At least the body portion of each of the first support element and the second support element can be independently rotatable about the first axis. The support member can support at least a middle portion of the cover member above a surface of the wound so as to define a space between the wound cover and the wound.

Probable Assignee: SMITH AND NEPHEW PLC

Earliest Publication Date: 20131128



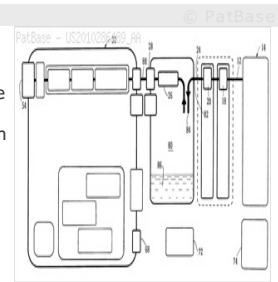
7) Family number: 41459616 (US2010286489A)

APPARATUS AND METHOD FOR **WOUND VOLUME** MEASUREMENT

Abstract: Source: US2010286489A A method and apparatus for measuring a volume of a wound are described, the method comprising the steps of: applying a dressing over a wound, the volume of which is to be measured, the dressing including at least a sealing drape over the wound so as to create a sealed wound cavity; creating a vacuum in said wound cavity by vacuum pump means so as to produce a predetermined vacuum in the wound cavity; measuring a volume of air extracted from said wound cavity in producing said predetermined vacuum; and, calculating a volume of said wound.

Probable Assignee: SMITH AND NEPHEW PLC

Earliest Publication Date: 20090611



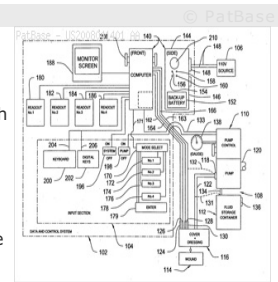
8) Family number: 41512771 (US2008041401A)

COMPUTER ADJUSTED PRESSURE WOUND CARE DEVICES, SYSTEMS AND METHODS

Abstract: Source: US2008041401A A system and method of wound therapy treatment using differential subatmospheric pressures applied to the wound which are calculated to be at least the substantially optimum of such pressures after considering various wound conditions, and either continually or at intervals recalculating the best of such pressures to use. A control center contains all of the equipment for doing this, including a computer program. There are several different parts to the system which are important to the invention, some of which may also be considered to be individually patentable. This includes the computer program, the wound dressing features such as maintaining a seal around the wound by use of the differential subatmospheric pressure at the wound and also on the underside of the dressing that covers the wound, shaped foam or sponge-like wound fillers that are a part of the dressing, and are covered by the seal blanket of the dressing. These shaped devices fit the wound better than the current practice does, maintain their placement in the wound, and therefore do not permit tunnels or fistulas to develop inside the wound during the vacuum treatments of the wound.

Probable Assignee: BIO INNOVATIVE OPERATIONS INC

Earliest Publication Date: 20080221



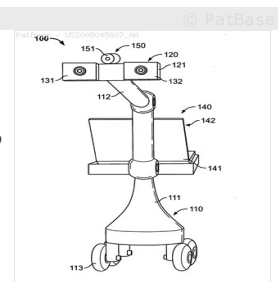
9) Family number: 41515506 (US2008045807A)

SYSTEM AND METHODS FOR EVALUATING AND MONITORING WOUNDS

Abstract: Source: US2008045807A A system and methods to evaluate and monitor the healing progress of a wound. At least two optical imaging devices are mounted on a support device in order to capture images. The images are resolved in order to be matched to create a depth map of the object. The depth map can be analyzed to obtain data, such as the length, width, and depth of the wound and the area and volume of the wound.

Probable Assignee: BOARD OF UNIV OF NEBRASKA

Earliest Publication Date: 20080221



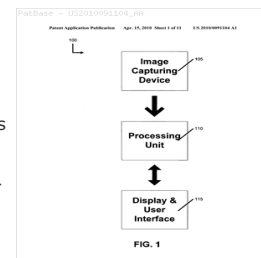
10) Family number: 41668008 (US2010091104A)

SYSTEMS AND METHODS FOR THE MEASUREMENT OF SURFACES

Abstract: Source: US2010091104A The present invention discloses systems and methods for the measurement of surfaces. More particularly, the present invention discloses a portable, hand-held, non-contact surface measuring system comprising an image capturing element, at least four projectable reference elements positioned parallel to one another at known locations around the image capturing element, a processing unit, and a user interface. The present invention further discloses a method for the non-contact surface measurement comprising projecting at least four references onto a target surface, capturing an image of the targeted surface and the projected references with the image transferring device, transferring the image to a processing unit, processing the image using triangulation-based computer vision techniques to correct for skew and to obtain surface measurement data, transferring the data to the user interface, modifying the data with the user interface. The systems and methods for the measurement of surfaces can be applied to the measurement of biological surfaces, such as skin, wounds, lesions, and ulcers.

Probable Assignee: GEORGIA TECH RESEARCH CORP

Earliest Publication Date: 20080403



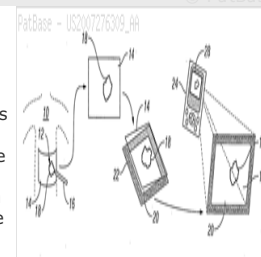
11) Family number: 42698986 (US2007276309A)

SYSTEMS AND METHODS FOR WOUND AREA MANAGEMENT

Abstract: Source: US2007276309A Systems and methods for capturing and digitizing an image of a wound and/or a wound trace from a patient and determining therefrom a degree of change in the characteristics of the wound. A first embodiment includes a transparent/translucent film onto which a dark outline of the wound is traced. The film is fixed to a reference template that provides a geometrically defined reference area. The film/template assembly is imaged with a digital imaging device associated with a handheld digital processor (such as a PDA). The digital image of the template and the wound trace are analyzed to identify the wound tracing and quantify the area within the closed curve. A second embodiment includes imaging the wound site with a reference tag and viewing the image on a display with an associated graphical data input device. A trace of the wound perimeter is made on display with the graphical data input device to establish a data set for the wound perimeter. The data set for the wound trace and the reference tag are analyzed to identify and quantify the wound area. In each embodiment, the system includes a display for providing both a view of the wound trace and the calculated data associated with the wound area.

Probable Assignee: KCI LICENSING INC

Earliest Publication Date: 20071122



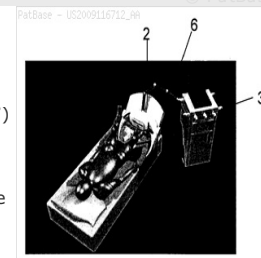
12) Family number: 43217281 (US2009116712A)

APPARATUS AND METHOD FOR WOUND DIAGNOSIS

Abstract: Source: US2009116712A A configurable scanner (1), adapted for contactless measurement of the depth and perimeter of a wound on a target body part (9), has a scan head (4), and a processor (3) for controlling a scanning procedure and analyzing the results. The scan head is translated along a substantially semicircular path (7) having a configurable radial distance from an imaginary axis, such that the imaginary axis is approximately coincident with an axis of the target (9). The scan head (4) projects a contour line having a calibrated length onto the target surface, and the processor (3) stores an image of the projected contour line captured by an image capturing device (11). The processor (3) analyzes a series of captured images to determine the coordinates in three axes of the projected contour line, creates therefrom a 3D model of the region of interest, and determines a depth and perimeter of the wound from the 3D model.

Probable Assignee: WOUNDMATRIX INC

Earliest Publication Date: 20090507



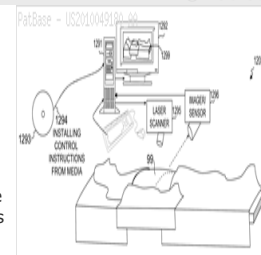
13) Family number: 43506238 (US2010049180A)

SYSTEM AND METHOD FOR CONDITIONING ANIMAL TISSUE USING LASER LIGHT

Abstract: Source: US2010049180A Systems and methods for prophylactic measures aimed at improving wound repair. In some embodiments, laser-mediated preconditioning would enhance surgical wound healing that was correlated with hsp70 expression. Using a pulsed laser ($\lambda=1850$ nm, $T_p=2$ ms, 50 Hz, $H=7.64$ mJ/cm²) the skin of transgenic mice that contain an hsp70 promoter-driven luciferase were preconditioned 12 hours before surgical incisions were made. Laser protocols were optimized using temperature, blood flow, and hsp70-mediated bioluminescence measurements as benchmarks. Bioluminescent imaging studies in vivo indicated that an optimized laser protocol increased hsp70 expression by 15-fold. Under these conditions, healed areas from incisions that were laser-preconditioned were two times stronger than those from control wounds. Our data suggest that these methods can provide effective and improved tissue-preconditioning protocols and that mild laser-induced heat shock that correlated with an expression of Hsp70 may be a useful therapeutic intervention prior to or after surgery.

Probable Assignee: LOCKHEED MARTIN CORP

Earliest Publication Date: 20090716



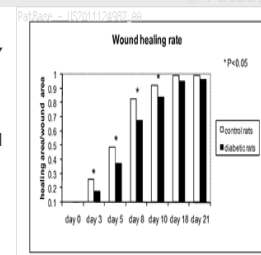
14) Family number: 43924847 (US2011124987A)

METHODS FOR MEASURING CHANGES IN OPTICAL PROPERTIES OF WOUND TISSUE AND CORRELATING NEAR INFRARED ABSORPTION (FNIR) AND DIFFUSE REFLECTANCE SPECTROSCOPY (DRS) WITH TISSUE NEOVASCULARIZATION AND COLLAGEN CONCENTRATION TO DETERMINE WHETHER WOUND IS HEALING

Abstract: Source: US2011124987A Optical changes of tissue during wound healing measured by Near Infrared and Diffuse Reflectance Spectroscopy are shown to correlate with histologic changes. Near Infrared absorption coefficient correlated with blood vessel in-growth over time, while Diffuse Reflectance Spectroscopy (DRS) data correlated with collagen concentration. Changes of optical properties of wound tissue at greater depths are also quantified by Diffuse Photon Density Wave (DPDW) methodology at near infrared wavelengths. The diffusion equation for semi-infinite media is used to calculate the absorption and scattering coefficients based on measurements of phase and amplitude with a frequency domain or time domain device. An increase in the absorption and scattering coefficients and a decrease in blood saturation of the wounds compared to the non wounded sites was observed. The changes correlated with the healing stage of the wound. The methodologies used to collect information regarding the healing state of a wound may be used to clinically assess the efficacy of wound healing agents in a patient (e.g., a diabetic) and as a non-invasive method

Probable Assignee: DREXEL UNIV

Earliest Publication Date: 20091029

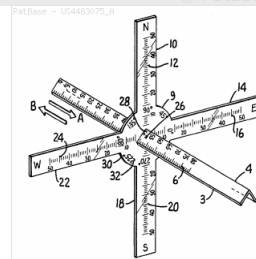


APPARATUS AND METHOD FOR MEASURING DEFORMED AREAS OF SKIN SURFACE

Abstract: Source: US4483075A A novel apparatus and method for using the same is disclosed for determining the height and volume of a hematoma structure on the skin surface and for further determining the depth and area of a wound, particularly a crater-type wound on the skin's surface. The apparatus is primarily constructed with a first elongated member having incremental markings thereon and a second member having four radially outward extending arms with incremental markings thereon throughout the length of the radially extending arms where adjacent arms are disposed at 90 degrees angles from one another and a first and second member engaged one to the other and disposed perpendicularly. One embodiment of the invention is constructed of a single member comprising four flat, radially extending arms with incremental markings throughout the length of the arm and where the adjacent arms are disposed 90 degrees from one another. This embodiment of the invention is particularly suitable for measuring the height and volume of the hematoma structure.

Probable Assignee: KUNDIN JANE I

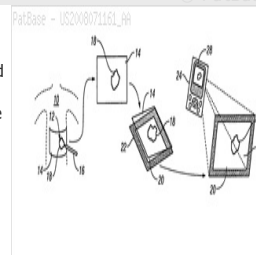
Earliest Publication Date: 19841120

**SYSTEM AND METHOD FOR TRACKING HEALING PROGRESS OF A WOUND**

Abstract: Source: US2008071161A A system and method for determining and tracking healing progress of a wound may include receiving a trace of a wound via an electronic display device and a wound depth measurement. A **wound volume** may be calculated from an area of the trace of the wound and the wound depth measurement. One embodiment may include receiving an image of a wound, displaying the image of the wound on an electronic display, enabling a user to generate indicia on the image of the wound, and generating trace lines between successive indicia to create a closed boundary that defines a perimeter of the wound.

Probable Assignee: KCI LICENSING INC

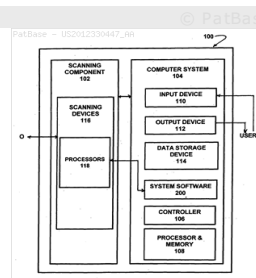
Earliest Publication Date: 20080320

**SURFACE DATA ACQUISITION, STORAGE, AND ASSESSMENT SYSTEM**

Abstract: Source: US2012330447A A surface data acquisition, storage, and assessment system for detecting and quantifying similarities or differences between stored data and data collected from a scan. The system operates utilizing a method that decreases the time required for calculating a pose estimate thus increasing its performance making it more practical for applications that require real-time operations. In a preferred embodiment the system comprises one or more sensing components for scanning and measuring surface features of an object for determining the identity of the object, and determines differences between data obtained from two or more scans.

Probable Assignee: ECTOSCAN SYSTEMS LLC

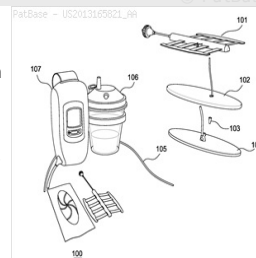
Earliest Publication Date: 20120524

**MECHANICAL WOUND THERAPY FOR SUB-ATMOSPHERIC WOUND CARE SYSTEM**

Abstract: Source: US2013165821A A mechanical wound therapy (MWT) system includes a connection for a vacuum source, which is routed through an airtight covering to a porous material positioned over the wound. The porous material may be a tubing network interspaced by a netting material constructed of biologically inert or bioabsorbable material. Alternatively, the porous material may be a layered unified dressing in which layers of mesh, netting or thin perforated film are separated and fixedly attached to functional elements of the dressing (e.g., irrigation tubing) or spacers. The vacuum and irrigation systems may be completely separated. An airtight sealing layer or foldable adhesive sealing layer may seal the dressing and facilitate sealing the dressing to the wound margins. Additional modular devices such as a wound approximating system, positive pressure bladders and adjuvant therapy modules as well as enhanced monitoring technology can be added to synergistically increase the capabilities of each dressing.

Probable Assignee: J AND M SHULER MEDICAL INC

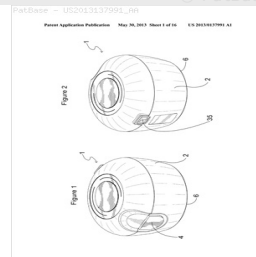
Earliest Publication Date: 20130510

**HANDHELD SKIN MEASURING OR MONITORING DEVICE**

Abstract: Source: US2013137991A A handheld skin monitoring or measuring device includes a camera having a camera optical axis; and a structured light arrangement configured to project three or more laser fan beams such that the laser fan beams cross at a crossing point in front of the camera.

Probable Assignee: ARANZ HEALTHCARE LTD

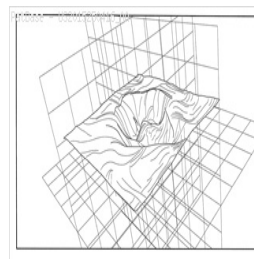
Earliest Publication Date: 20130530

**APPARATUS AND METHOD TO ASSESS WOUND HEALING**

Abstract: Source: US2015250416A A device and method for measuring wounds is provided. The device includes a guide having cross-hairs that are positioned on a wound. A computer generated caliper guide having a known dimension is placed on one of the cross-hairs. The outer perimeter or inner perimeter of the a computer-generated image of the wound is marked to form a polygonal shape. From this shape, the surface area of the wound including its volume may be calculated by computer means.

Probable Assignee: VASAMED INC

Earliest Publication Date: 20140410



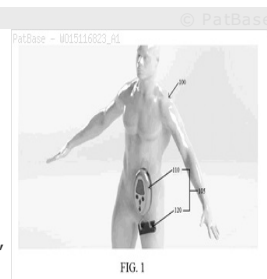
21) Family number: 60021793 (WO15116823A1)

SYSTEM AND METHOD FOR WOUND IMAGING AND DEBRIDEMENT

Abstract: According to the disclosed embodiments, a debridement accessory arrangement debrides necrotic tissue present in a wound of a patient and includes one or more debridement accessories, such as a microneedle array, pH-responsive bristles, and a debriding agent- embedded pH-responsive polymer film. A dual pressure wound therapy (DPWT) unit is coupled to the debridement accessory arrangement and is configured to intermittently apply positive and negative pressure to the wound in conjunction with the debriding of the necrotic tissue by the debridement accessory arrangement. Also, according to the disclosed embodiments, an image of a wound of a patient is acquired. Then, a multi-dimensional image of the wound is generated based on the acquired image, an amount of wound perfusion of the wound is measured based on the acquired image using superpixel image analysis, and a frequency-based histogram of the wound perfusion is generated.

Probable Assignee: UNIV JOHNS HOPKINS

Earliest Publication Date: 20150806



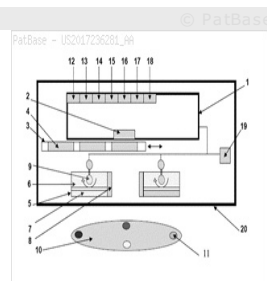
22) Family number: 61543041 (US2017236281A)

COLLECTION AND ANALYSIS OF DATA FOR DIAGNOSTIC PURPOSES

Abstract: Source: US2017236281A Systems and methods for determining bacterial load in targets and tracking changes in bacterial load of targets over time are disclosed. An autofluorescence detection and collection device includes a light source configured to directly illuminate at least a portion of a target and an area around the target with excitation light causing at least one biomarker in the illuminated target to fluoresce. Bacterial autofluorescence data regarding the illuminated portion of the target and the area around the target is collected and analyzed to determine bacterial load of the illuminated portion of the target and area around the target. The autofluorescence data may be analyzed using pixel intensity. Changes in bacterial load of the target over time may be tracked. The target may be a wound in tissue.

Probable Assignee: UNIV HEALTH NETWORK

Earliest Publication Date: 20160128



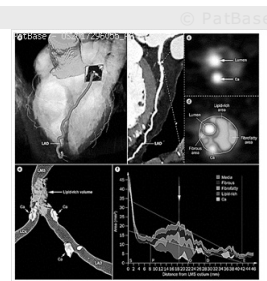
23) Family number: 62923701 (US2017296055A)

ANGIOGENIC TREATMENT OF ISCHEMIC HEART DISEASE

Abstract: Source: US2017296055A Devices, methods, systems and procedures for localized, targeted treatment of angiogenic-based therapy in at least one region of interest in one or more layers of cardiac tissue. Various methods can include diagnosing a patient with ischemic heart disease or "at-risk" of manifesting ischemic heart disease, placing the patient into a specific angiogenic-based treatment therapy group, collecting image data, confirming image data and other diagnostic test results, developing a preoperative plan to target region of interest, inserting the catheter into a heart chamber, monitoring the distal end of the catheter tip within the heart on a visual display, contacting at least one layer of cardiac tissue, creating one or more channels in the heart tissue and/or administering the angiogenic-based therapy.

Probable Assignee: CARDIOVASCULAR BIOTHERAPEUTICS INC

Earliest Publication Date: 20160714



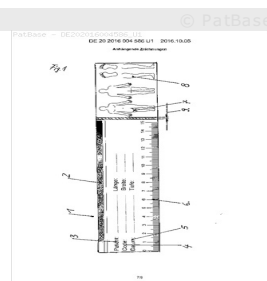
24) Family number: 63714075 (DE202016004586U1)

WUNDMESSSCHABLONE FÜR DIE WUNDDOKUMENTATION WOUND MEASURING TEMPLATE FOR WOUND DOCUMENTATION (MACHINE TRANSLATION)

Abstract: Source: DE202016004586U1 Wundmessschablone fuer die Wunddokumentation fuer die Behandlungssicherheit, Qualitaetssicherung und Qualitaetskontrolle der Wunde, dadurch gekennzeichnet, dass ein transparentes, flexibles Lineal (1) mit Farbskala (2), Skala (6) und platziertem Wundtiefenmessstab (11) sowie moeglicher Wundstellenmarkierung (7) an abgebildeten Koerperteilen (8) die Wunddokumentation ermoeeglicht. Wound measuring template for wound documentation for the treatment safety, quality assurance and quality control of the wound, characterised in that a transparent, flexible ruler (1) allows the wound documentation with color scale (2), scale (6) and placed wound depth gauge (11), as well as potential sore points mark (7) illustrated body parts (8).

Probable Assignee: NEUBAUER NORBERT

Earliest Publication Date: 20161006



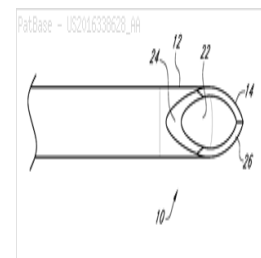
25) Family number: 64049278 (US2016338628A)

NEEDLE FOR TRANSCUTANEOUS ANALYTE SENSOR DELIVERY

Abstract: Source: US2016338628A The present disclosure relates to a needle including a wall structure, a cutting edge and a blunt contour. The needle advantageously can be used to deliver a sensor (such as a glucose or other analyte sensor) through an outer skin layer and into a sensor depth in a less invasive way than prior art needles. The size of the cutting edge is balanced against a portion of the distal wall structure that has blunt contours. Thus, the needle is capable of cutting the more durable outer skin layer (first phase) and then progressively stretching open the cut for further advancement into the subcutaneous layer (second phase). When the needle is sufficiently advanced, it is retracted leaving the sensor in a desired position. Early testing has shown a reduction of "dip and recover" from glucose sensors delivered using the needle.

Probable Assignee: DEXCOM INC

Earliest Publication Date: 20161124



26) Family number: 66073733 (US2017165116A)

NEGATIVE PRESSURE WOUND CLOSURE DEVICES AND METHODS

Abstract: Source: US2017165116A Systems, devices, and methods of the present application can accelerate and reduce medical complications associated with healing of amputation wounds. The devices and methods utilize a compression structure and negative pressure to cause the amputation wound to preferentially close from the deepest portion of the wound to the shallowest portion.

Probable Assignee: OF MASSACHUSETTS UNIV

Earliest Publication Date: 20170615

