### ELECTROCHEMICAL DETECTION SYSTEMS AND COMPONENTS THEREOF

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<thead>
<tr>
<th>Nº publicación</th>
<th>WO2019113085A1</th>
<th>13/06/2019</th>
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<tr>
<td>Solicitantes</td>
<td>LAXMI THERAPEUTIC DEVICES INC [US]</td>
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<tr>
<td>Resumen</td>
<td>The invention is directed to electrochemical detection systems, components thereof, materials and methods for making the systems and components thereof, and methods for detecting analytes with the systems. The systems include electrochemical cells containing hydrogels. The hydrogels include polymers with amine-containing pendant groups. The polymers can be cross-linked via the amine-containing pendant groups. The polymers can also or alternatively include enzymes and/or electron shuttles tethered thereto via amine-containing pendant groups. Monomers for making the polymers are provided. The systems can be used to detect analytes such as glucose.</td>
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### DIABETES THERAPY MANAGEMENT SYSTEMS, METHODS, AND DEVICES

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<thead>
<tr>
<th>Nº publicación</th>
<th>US2019175841A1</th>
<th>13/06/2019</th>
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<tr>
<td>Solicitantes</td>
<td>BIGFOOT BIOMEDICAL INC [US]</td>
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<tr>
<td>Resumen</td>
<td>Diabetes management systems include an insulin delivery device and a monitoring device for detecting at least one characteristic relating to the insulin delivery device. Monitoring devices may comprise pen caps.</td>
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### IMPLANTABLE OCULAR GLUCOSE SENSOR DEVICES AND METHODS

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<th>Nº publicación</th>
<th>US2019175083A1</th>
<th>13/06/2019</th>
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<tr>
<td>Solicitantes</td>
<td>MICROOPTX INC [US]</td>
<td></td>
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<tr>
<td>Resumen</td>
<td>Monitoring glucose concentration in aqueous humor can include inserting an implantable device into an eye and determining glucose concentration as a function of glucose sensed at the implantable device. In some implantable device embodiments, the device includes a polymer layer comprising a material that changes volume in response to varying glucose concentrations of the aqueous humor. A pressure sensor in the device can detect the changes in volume. In some implantable device embodiments, the device includes electrodes for determining the glucose concentration.</td>
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**COMPLEX REDUNDANCY IN CONTINUOUS GLUCOSE MONITORING**

**Número publicación**: US2019175080A1  
**Solicitantes**: MEDTRONIC MINIMED INC [US]  
**Resumen**: A continuous glucose monitoring system may employ complex redundancy to take operational advantage of disparate characteristics of two or more dissimilar, or non-identical, sensors, including, e.g., characteristics relating to hydration, stabilization, and durability of such sensors. Fusion algorithms, Electrochemical Impedance Spectroscopy (EIS), and advanced Application Specific Integrated Circuits (ASICs) may be used to implement use of such redundant glucose sensors, devices, and sensor systems in such a way as to bridge the gaps between fast start-up, sensor longevity, and accuracy of calibration-free algorithms. Systems, devices, and algorithms are described for achieving a long-wear and reliable sensor which also minimizes, or eliminates, the need for BG calibration, thereby providing a calibration-free, or near calibration-free, sensor.

**OPTIONAL SENSOR CALIBRATION IN CONTINUOUS GLUCOSE MONITORING**

**Número publicación**: US2019175079A1  
**Solicitantes**: MEDTRONIC MINIMED INC [US]  
**Resumen**: A method for optional external calibration of a calibration-free glucose sensor uses values of measured working electrode current (Isig) and EIS data to calculate a final sensor glucose (SG) value. Counter electrode voltage (Vcntr) may also be used as an input. Raw Isig and Vcntr values may be preprocessed, and low-pass filtering, averaging, and/or feature generation may be applied. SG values may be generated using one or more models for predicting SG calculations. When an external blood glucose (BG) value is available, the BG value may also be used in calculating the SG values. A SG variance estimate may be calculated for each predicted SG value and modulated, with the modulated SG values then fused to generate a fused SG. A Kalman filter, as well as error detection logic, may be applied to the fused SG value to obtain a final SG, which is then displayed to the user.

**METHOD AND SYSTEM FOR PROVIDING INTEGRATED ANALYTE MONITORING AND INFUSION SYSTEM THERAPY MANAGEMENT**

**Número publicación**: US2019175119A1  
**Solicitantes**: ABBOTT DIABETES CARE INC [US]  
**Resumen**: Method and system for providing diabetes management and insulin therapy based on substantially real time glucose monitoring system is provided.
Insulin Management

Número de publicación: US2019180858A1 13/06/2019
Solicitantes: ASEKO INC [US]
Resumen: A method of administering insulin includes receiving blood glucose measurements of a patient at a data processing device from a glucometer. The blood glucose measurements are separated by a time interval. The method also includes receiving patient information at the data processing device and selecting a subcutaneous insulin treatment from a collection of subcutaneous insulin treatments. The selection is based on the blood glucose measurements and the patient information. The selection includes one or more of a subcutaneous standard program, a subcutaneous program without meal boluses, a meal-by-meal subcutaneous program without carbohydrate counting, a meal-by-meal subcutaneous program with carbohydrate counting, and a subcutaneous program for non-diabetic patients. The method also includes executing, using the data processing device, the selected subcutaneous insulin treatment.

PSEUDO-ORTHOGONAL REDUNDANT GLUCOSE SENSORS, SYSTEMS, AND METHODS

Número de publicación: US2019175082A1 13/06/2019
Solicitantes: MEDTRONIC MINIMED INC [US]
Resumen: A pseudo-orthogonally redundant glucose sensor device may include one or more electrochemical peroxide-based glucose sensor(s) and one or more electrochemical oxygen-based sensor(s). The electrochemical peroxide-based glucose sensor(s) may operate as traditional peroxide-based sensor(s), which may include a chemistry stack with glucose oxidase as a catalytic agent. The electrochemical oxygen-based sensor(s) may be used to measure oxygen, as well as to measure glucose by computing differences in oxygen between two working electrodes. In embodiments of the invention, one of the oxygen-based sensors may be used directly as a diagnostic to determine whether each peroxide-based glucose sensor is functioning properly, as well as to determine which modality of sensing to use. Because of the internal oxygen-based reference, the glucose sensor device provides oxygen-resistant glucose sensing, as well as near-orthogonal redundancy.

STARTER KIT FOR BASAL INSULIN TITRATION

Número de publicación: US2019180857A1 13/06/2019
Solicitantes: NOVO NORDISK AS [DK]
Resumen: Systems and methods for treating a subject are provided. A first dataset comprising timestamped autonomous glucose measurements of the subject over a first time course is obtained. A second dataset, associated with a standing insulin regimen for the subject over the first time course and comprising insulin medicament records, is also obtained. Each record comprises a timestamped injection event including an amount and type of insulin medicament injected into the subject by an insulin pen. The first and second datasets serve to calculate a glycaemic risk measure and an insulin sensitivity factor of the subject during the first time course, which are used to obtain a basal titration schedule and a fasting blood glucose profile model over a subsequent second time course for the subject. The model predicts the fasting blood glucose level of the subject based upon amounts of basal insulin medicament injected into the subject.
**USER INTERFACE FOR DIABETES MANAGEMENT SYSTEMS AND DEVICES**

Nº publicación **US2019175833A1** 13/06/2019  
Solicitantes **BIGFOOT BIOMEDICAL INC [US]**  
Resumen  
One or more embodiments of the disclosure relate, generally, to a diabetes management system. The diabetes management system may include a computing device that is configured to receive data relating to prior insulin use of a user and calculate a sliding scale glucose correction based, at least in part, on the data relating to prior insulin use.

**METHOD AND/OR SYSTEM FOR DETERMINING BLOOD GLUCOSE REFERENCE SAMPLE TIMES**

Nº publicación **EP3494883A2** 12/06/2019  
Solicitantes **MEDTRONIC MINIMED INC [US]**  
Resumen  
Subject matter disclosed herein relates to monitoring and/or controlling blood glucose levels in patients. In particular, times for obtaining metered blood glucose samples of a patient may be altered based, at least in part, on a blood glucose level of said patient observed from a blood glucose sensor.
SECURED MEDICATION TRANSFER SYSTEM

Nº publicación US2019167526A1 06/06/2019
Solicitantes LILLY CO ELI [US]
Resumen A vial adaptor and needle assembly are disclosed for use with a vial containing a medication, such as insulin. The vial adaptor may include a needle opening configured to receive a needle of a geometrically corresponding needle assembly to withdraw the medication from the vial in a secured manner. The vial adaptor may also include a cleaning passageway configured to receive a cleaning device to clean the vial.

System and Method for Measuring Delivered Dose

Nº publicación US2019167919A1 06/06/2019
Solicitantes BECTON DICKINSON CO [US]
Resumen A flow sensor is provided to enable volumetric dose data to be acquired automatically by sampling flow rates of insulin measured by a flow sensor exposed to a flow manifold though which the insulin flows. The flow sensor preferably connects to a standard insulin pen on one end, and to a standard pen needle on the other end. Particular geometries and algorithms are utilized to accommodate the unique requirements of insulin flow determination during an injection event.
**BIO-ARTIFICIAL PANCREAS FOR TYPE II DIABETES INTERVENTION WITH NO NEED OF IMMUNOSUPPRESSION**

Nº publicación: US2019167959A1 06/06/2019  
Solicitantes: WANG TAYLOR G [US]  
Resumen: A vascularized bio-artificial pancreas for managing diabetes may include a capsule having a semi-permeable interwoven capsular membrane with tapered conduits, wherein the tapered conduits are smaller in diameter proximate to an outer surface of the semi-permeable capsular membrane and larger in diameter proximate to an inner surface of the semi-permeable capsular membrane; a capsular bead encasing a plurality of the capsules; and a capsular pouch encasing the capsular bead and designed to anchor the capsular bead to a transplantation recipient.

**ELECTROCHEMICAL DETECTION SYSTEMS AND COMPONENTS THEREOF**

Nº publicación: US2019170739A1 06/06/2019  
Solicitantes: LAXMI THERAPEUTIC DEVICES INC [US]  
Resumen: The invention is directed to electrochemical detection systems, components thereof, materials and methods for making the systems and components thereof, and methods for detecting analytes with the systems. The systems include electrochemical cells containing hydrogels. The hydrogels include polymers with amine-containing pendant groups. The polymers can be cross-linked via the amine-containing pendant groups. The polymers can also or alternatively include enzymes and/or electron shuttles tethered thereto via amine-containing pendant groups. Monomers for making the polymers are provided. The systems can be used to detect analytes such as glucose.

**METHODS AND SYSTEMS FOR IMPROVING THE RELIABILITY OF ORTHOGONALLY REDUNDANT SENSORS**

Nº publicación: US2019167170A1 06/06/2019  
Solicitantes: MEDTRONIC MINIMED INC [US]  
Resumen: Methods and systems for sensor calibration and sensor glucose (SG) fusion are used advantageously to improve the accuracy and reliability of orthogonally redundant glucose sensor devices, which may include optical and electrochemical glucose sensors. Calibration for both sensors may be achieved via fixed-offset and/or dynamic regression methodologies, depending, e.g., on sensor stability and Isig-Ratio pair correlation. For SG fusion, respective integrity checks may be performed for SG values from the optical and electrochemical sensors, and the SG values calibrated if the integrity checks are passed. Integrity checks may include checking for sensitivity loss, noise, and drift. If the integrity checks are failed, in-line sensor mapping between the electrochemical and optical sensors may be performed prior to calibration. The electrochemical and optical SG values may be weighted (as a function of the respective sensor’s overall reliability index (RI)) and the weighted SGs combined to obtain a single, fused SG value.
**DIABETES MANAGEMENT PARTNER INTERFACE FOR WIRELESS COMMUNICATION OF ANALYTE DATA**

**Nº publicación** US2019173885A1  
**Fecha** 06/06/2019  
**Solicitantes** DEXCOM INC [US]  

**Resumen**  
Systems, devices, and methods are disclosed for wireless communication of analyte data. In embodiments, a method of using a diabetes management partner interface to configure an analyte sensor system for wireless communication with a plurality of partner devices is provided. The method includes the analyte sensor system receiving authorization to provide one of the partner devices with access to a set of configuration parameters via the diabetes management partner interface. The set of configuration parameters is stored in a memory of the analyte sensor system. The method also includes, responsive to input received from the one partner device via the diabetes management partner interface, the analyte sensor system setting or causing a modification to the set of configuration parameters, according to a system requirement of the one partner device.

**SIMPLIFIED INSULIN PUMP FOR TYPE II DIABETICS**

**Nº publicación** US2019167901A1  
**Fecha** 06/06/2019  
**Solicitantes** TANDEM DIABETES CARE INC [US]  

**Resumen**  
A simplified insulin pump allows type II diabetics to identify routine patterns in their daily lifestyle that provide a generally accurate typical pattern of activity and meals. An infusion regimen can be programmed into the pump that generally correlates with this typical pattern to provide a viable treatment option for a type II diabetic without the need for specific and precise matching of insulin to carbohydrate consumption or activity level.
ADVANCED CONTINUOUS ANALYTE MONITORING SYSTEM

Nº publicación US2019167169A1 06/06/2019
Solicitantes DEXCOM INC [US]

Resumen The present invention relates generally to systems and methods for processing, transmitting, and displaying data received from continuous analyte sensor, such as a glucose sensor. In some embodiments, the continuous analyte sensor system comprises a sensor electronics module that includes power saving features. One feature includes a low power measurement circuit that can be switched between a measurement mode and a low power mode, in which charging circuitry continues to apply power to electrodes of a sensor during the low power mode. In addition, the sensor electronics module can be switched between a low power storage mode and a higher power operational mode via a switch. The switch can include a reed switch or optical switch, for example. A validation routine can also be implemented to ensure an interrupt signal sent from the switch is valid. The continuous analyte sensor can be physically connected to a sensor electronics module, which is in direct wireless communication with a plurality of different display devices.

HEALTHCARE APPARATUS AND OPERATING METHOD THEREOF

Nº publicación US2019167190A1 06/06/2019
Solicitantes SAMSUNG ELECTRONICS CO LTD [KR]

Resumen A healthcare apparatus according to an embodiment includes: a plurality of light sources configured to emit light of different wavelengths onto an object; a light detector configured to measure an optical signal of each of the wavelengths by receiving light reflected or scattered from the object; and a processor configured to obtain a blood glucose level and a blood flow index by using the optical signal of each of the wavelengths, and to estimate at least one from among dietary information and dietary metabolism state information by monitoring a blood glucose level change and a blood flow index change after ingestion of a food.
**Analyte Monitoring Device and Methods of Use**

Nº publicación: **US2019167165A1** 06/06/2019

**Solicitantes:** ABBOTT DIABETES CARE INC [US]

**Resumen:**
In aspects of the present disclosure, a no coding blood glucose monitoring unit including a calibration unit is integrated with one or more components of an analyte monitoring system to provide compatibility with in vitro test strip that do not require a calibration code is provided. Also disclosed are methods, systems, devices and kits for providing the same.

**URINE SUGAR DETECTION DEVICE HAVING TEMPERATURE SENSOR**

Nº publicación: **WO2019107611A1** 06/06/2019

**Solicitantes:** BK ELECTRONICS CO LTD [KR]

**Resumen:**
Provided is a urine sugar detection device having a temperature sensor so as to enable compensation for a urine sugar concentration according to temperature of urine. A sugar detection device according to an embodiment of the present invention comprises: a sugar detection sensor for detecting a sugar concentration by a WE, a RE, and a CE; and a temperature sensor disposed around the sugar detection sensor so as to measure temperature. Accordingly, since the urine sugar detection device further comprises a temperature sensor in addition to a urine sugar detection sensor, the device can compensate for a urine sugar concentration according to temperature of urine, and thus can provide accurate urine sugar concentration information.
MULTI-STREAM DATA COLLECTION SYSTEM FOR NONINVASIVE MEASUREMENT OF BLOOD CONSTITUENTS

Nº publicación US2019167160A1  06/06/2019
Solicitantes MASIMO CORP [US]
Resumen The present disclosure relates to noninvasive methods, devices, and systems for measuring various blood constituents or analytes, such as glucose. In an embodiment, a light source comprises LEDs and super-luminescent LEDs. The light source emits light at least wavelengths of about 1610 nm, about 1640 nm, and about 1665 nm. In an embodiment, the detector comprises a plurality of photodetectors arranged in a special geometry comprising one of a substantially linear substantially equal spaced geometry, a substantially linear substantially non-equal spaced geometry, and a substantially grid geometry.

IMPLANTABLE GLUCOSE MONITOR

Nº publicación WO2019101612A1  31/05/2019
Solicitantes SANOFI SA [FR]
Resumen Implantable device for measuring the glucose concentration of a body fluid when implanted, the implantable device comprising a glucose measurement unit, the glucose measurement unit comprising a first light source configured to emit light towards a light transmissive part of a housing of the device and a first optical sensor configured to detect light returned through the light transmissive part from the first light source, and output a first electrical signal based on the detected light; and a wireless communication module configured to wirelessly communicate with an external wireless communication device, wherein the wireless communication module is configured to wirelessly transmit a signal based on the first electrical signal to the external wireless communication device.

IMPLANTABLE GLUCOSE MONITOR

Nº publicación WO2019101611A1  31/05/2019
Solicitantes SANOFI SA [FR]
Resumen Implantable Glucose Monitor Implantable device for measuring the glucose concentration of a body fluid when implanted, the device comprising a glucose measurement unit, the glucose measurement unit comprising a light source configured to emit light towards a light transmissive part of a housing of the device, the device further comprising an optical sensor configured to detect light returned through the transmissive part from the light source, and output an electrical signal based on the detected light, and a wireless communication module configured to wirelessly communicate with an external wireless communication device, wherein the wireless communication module is configured to wirelessly transmit a signal based on the electrical signal to the external wireless communication device.
Basal insulin management

Nº publicación AU2017360970A1 30/05/2019
Solicitantes INSULET CORP

Resumen An improved basal insulin management system and an improved user interface for use therewith are provided. User interfaces are provided that dynamically display basal rate information and corresponding time segment information for a basal insulin program in a graphical format. The graphical presentation of the basal insulin program as it is being built by a user and the graphical presentation of a completed basal insulin program provides insulin management information to the user in a more intuitive and useful format. User interfaces further enable a user to make temporary adjustments to a predefined basal insulin program with the adjustments presented graphically to improve the user's understanding of the changes. As a result of being provided with the user interfaces described herein, users are less likely to make mistakes and are more likely to adjust basal rates more frequently, thereby contributing to better blood glucose control and improved health outcomes.

SYSTEMS AND METHODS FOR ADJUSTING A BASAL/BOLUS RATIO IN AN INSULIN REGIMEN

Nº publicación US2019164641A1 30/05/2019
Solicitantes NOVO NORDISK AS [DK]

Resumen Systems and methods are provided for adjusting a basal/bolus ratio in a standing insulin regimen for a subject that comprises daily amounts of basal and bolus insulin medicaments that define an initial basal/bolus ratio. A data set comprising glucose measurements of the subject with a respective timestamp for each such measurement over a time course is obtained. One or more fasting events are identified in the time course. A temporal glucose gradient is computed for each fasting event using the glucose measurements in the data set within the fasting event time period. Fasting event glucose gradients are used to determine whether to recommend adjustment to the basal/bolus ratio for the subject without change to the daily total insulin medicament. The recommended adjustment to the basal/bolus ratio is communicated when the determination is made to make the recommended adjustment to the basal/bolus ratio for the subject.
SYSTEM AND METHOD FOR OBTAINING BLOOD GLUCOSE CONCENTRATION USING TEMPORAL INDEPENDENT COMPONENT ANALYSIS (ICA)

Número publicación US2019159703A1 30/05/2019
Solicitantes SAMSUNG ELECTRONICS CO LTD [KR]
Resumen Un método para obtener la concentración de glucosa en la sangre utilizando espectroscopía infrarroja cercana (NIR) se proporciona. El método incluye obtener, por un módulo de análisis de componentes independientes (ICA) temporal, espectros puros ortogonales de los espectros NIR de los humanos; realizar, por un módulo de procesamiento, uno o más preprocesamientos y eliminación de desvío en los espectros NIR de los humanos y los espectros puros ortogonales para obtener espectros preprocesados; y obtener, por un bloque de regresión, la concentración de glucosa en la sangre a partir de los espectros preprocesados.

NON-INVASIVE GLUCOSE PREDICTION SYSTEM, GLUCOSE PREDICTION METHOD, AND GLUCOSE SENSOR

Número publicación US2019159705A1 30/05/2019
Solicitantes ELECTRONICS & TELECOMMUNICATIONS RES INST [KR]
Resumen Un método para predecir la glucosa no invasiva que consta: obtener una señal PAS mediante la iluminación de luz a la piel del cuerpo, obtener una imagen fotoacústica de la piel a partir de la señal PAS, seleccionar al menos una ubicación de medición basada en la imagen fotoacústica; y predecir la glucosa sanguínea basada en el espectro fotoacústico de una señal PAS correspondiente a la ubicación de medición al menos una de las señales PAS, un sensor de glucosa sanguínea y un sistema de predicción de glucosa sanguínea se proporcionan.

DEVICES AND METHODS FOR THE TREATMENT OF TISSUE

Número publicación AU2019203149A1 30/05/2019
Solicitantes FRACTYL LABORATORIES INC
Resumen Sistemas, métodos y dispositivos para el tratamiento de la piel se describen. Un sistema incluye una tubería delgada con una sección distal. Un elemento de tratamiento se coloca en la sección distal de la tubería, el elemento de tratamiento se construye y dispone para tratar el tejido objetivo. En una implementación, el tracto gastrointestinal es modificado para el tratamiento de la diabetes. Ver Fig. 4. WO 2012/099974 PCT/US2012/021739 Energy 330 Delivery Unit Controller Tootient Transfer 360 3/133 301 335 322b 370 maging 31b-- 311b Device -- 380 Protective Cap 332 311 b Ground Pad 311 a To PatAent 390 Tissue 316a Device 32 1 --371 500 Pharmaceutical Agents Body 510 Lumen mplantIG4
Zwitterion surface modifications for continuous sensors

Nº publicación AU2019203174A1 30/05/2019
Solicitantes DEXCOM INC
Resumen Devices are provided for measurement of an analyte concentration, e.g., glucose in a host. The device can include a continuous analyte sensor 34 configured to generate a signal associated with a concentration of an analyte, a reference electrode 30, and a sensing membrane 32 located over the working electrode 38. The sensing membrane comprises a diffusion resistance domain configured to control a flux of the analyte therethrough. The diffusion resistance domain comprises one or more zwitterionic compounds and a base polymer comprising both hydrophilic and hydrophobic regions.

SYSTEM AND METHOD FOR WIRELESS COMMUNICATION OF GLUCOSE DATA

Nº publicación EP3487405A1 29/05/2019
Solicitantes DEXCOM INC [US]
Resumen Systems, devices, and methods are disclosed for wireless communication of analyte data. One such method includes, during a first interval, establishing a first connection between an analyte sensor system and a display device. During the first connection, the method includes exchanging information related to authentication between the analyte sensor system and the display device. The method includes making a determination regarding whether authentication was performed during the first interval. During a second interval, the method may include establishing a second connection between the analyte sensor system and the display device for transmission of an encrypted analyte value, and bypassing the exchanging of information related to authentication performed during the first connection. The method also includes, during the second interval, the analyte sensor system transmitting the encrypted analyte value to the display device, if the determination indicates that the authentication was performed during the first interval.
BLOOD GLUCOSE MEASURING DEVICE, BLOOD GLUCOSE MEASURING SYSTEM, AND METHOD FOR MEASURING BLOOD GLUCOSE USING BLOOD GLUCOSE MEASURING DEVICE

Nº publicación KR20190057759A 29/05/2019
Solicitantes SAMSUNG ELECTRONICS CO LTD [KR]
Resumen Disclosed are a blood glucose measuring device, a blood glucose measuring system, and a method for measuring blood glucose using the blood glucose measuring device. The present blood glucose measuring device comprises: a sensor for measuring blood glucose via a body fluid of a user; and a processor for obtaining error information of the sensor by comparing a first blood glucose level measured by the sensor, and a second blood glucose level measured via the blood of the user, at a first calibration interval during a preset time; calculating the time taken for the error range of the sensor to reach a preset threshold value, on the basis of the first calibration interval and the error information of the sensor; and setting the first calibration interval as a second calibration interval on the basis of the calculated time.

Lancet Device For Diabetic Patients Only

Nº publicación KR20190055856A 24/05/2019
Solicitantes ROAHMED CO LTD [KR]
Resumen 본 발명은, 크게 채혈기의 외관을 형성하는 하부 케이스, 상부 케이스, 침바디를 보호하는 보호캡을 포함하고, 그리고 내부 구성물로서는 장전바디, 발사스프링, 채혈침으로 구성되어 있는 채혈기에 관한 것으로, 구조가 간단하여 제조 단가를 낮출 수 있을 뿐만 아니라 간편하게 장전이 가능하고 장전하는 다른 부품이 없기 때문에 사용이 매우 편리한 장점이 있다.
**GLUCOSE SENSOR APPARATUS ADDRESSING INTERFERENCE OF ASCORBIC ACID AND ACETAMINOPHEN**

**Resumen**
This disclosure relates to a nanoporous composition including a number of clusters of nanoparticles dispersed in a liquid, a nanoporous layer formed of the nanoporous composition, a glucose-oxidation electrode including the nanoporous layer, and a glucose-sensing device and system including the glucose-oxidation electrode. This disclosure also relates to a method of making the nanoporous composition, the nanoporous layer, the glucose-oxidation electrode and the glucose-sensing device and system. Further, this disclosure also relates to devices, systems and methods for continuous glucose monitoring (CGM) and blood glucose monitoring (BGM).

**BIOCOMPATIBLE IMPLANTABLE SENSOR APPARATUS AND METHODS**

**Resumen**
Receiver apparatus for use with an analyte sensor, and methods of operation and manufacturing. In one embodiment, the analyte sensor is an implanted/implantable blood glucose sensor, including oxygen-based detector elements. The receiver apparatus is a wireless-enabled small form-factor device with limited functionality that can be easily worn or kept with the user on a continual basis, thereby obviating the need for a more fully featured receiver or smartphone for extended periods of time (e.g., one week). The exemplary oxygen based analyte sensor, with high degree of stability over time, enables the user to divorce themselves from the more fully functioned receiver or smartphone, since no external calibration of the sensor is required during the extended period. In one variant, the device is a lightweight wristband. Other variants include e.g., pendants, finger-worn rings, arm or head bands, skin patches, and even dental, subcutaneous, or prosthetic implants.
MULTI-STREAM DATA COLLECTION SYSTEM FOR NONINVASIVE MEASUREMENT OF BLOOD CONSTITUENTS

Nº publicación US2019150800A1 23/05/2019
Solicitantes MASIMO CORP [US]
Resumen The present disclosure relates to noninvasive methods, devices, and systems for measuring various blood constituents or analytes, such as glucose. In an embodiment, a light source comprises LEDs and super-luminescent LEDs. The light source emits light at least wavelengths of about 1610 nm, about 1640 nm, and about 1665 nm. In an embodiment, the detector comprises a plurality of photodetectors arranged in a special geometry comprising one of a substantially linear substantially equal spaced geometry, a substantially linear substantially non-equal spaced geometry, and a substantially grid geometry.

BLOOD GLUCOSE DETECTION DEVICE

Nº publicación US2019150806A1 23/05/2019
Solicitantes MICROJET TECHNOLOGY CO LTD [TW]
Resumen A blood glucose detection device includes a carrier body, a flow-guiding actuator, a microneedle patch, a sensor and a controlling chip. The carrier body has a liquid guiding channel, a compressing chamber and a liquid storage chamber. The flow-guiding actuator seals the compressing chamber. The microneedle patch is attached on the carrier body and has plural hollow microneedles. The sensor is disposed within the liquid storage chamber. The controlling chip is disposed on the carrier body. The plural hollow microneedles puncture the skin of a human subject with minimal invasion. The controlling chip controls the flow-guiding actuator to actuate and the tissue fluid is sucked into the liquid storage chamber through the plural hollow microneedles, whereby the sensor detects the blood glucose of the tissue fluid to generate and transmit the measured data to the controlling chip. The controlling chip can generate monitoring information by calculating the measured data.
**Smart Bag Used in Sensing Physiological and/or Physical Parameters of Bags Containing Biological Substance**

**Resumen**  
A cost-effective, single use bag or container is provided for storing biological substances that incorporates on its inner wall an electronic device that is configured to measure physiological and/or physical parameters of the enclosed biological substances, such as source history, identification, demographics, time stamping, temperature, pH, conductivity, glucose, O2, CO2 levels etc. The electronic device of the disclosed bag comprises a sensor configured to measure physiological and/or physical parameters of the biological substances enclosed within the bag, and a radio-frequency (RF) device communicably coupled to the sensor and configured to: (a) acquire from the sensor data associated with the measured parameters, (b) store the acquired sensor data in nonvolatile memory, and (c) communicate the stored data wirelessly to a RE reader.

**APPARATUS AND METHOD FOR NON-INVASIVELY MONITORING BLOOD GLUCOSE**

**Resumen**  
A non-invasive glucose monitoring apparatus comprises at least one microstrip transmission line (MLIN) component comprising: a microstrip conductor that is arranged relative to a ground plane such that a body part of a user, such as a finger or wrist, is receivable in a space defined between the microstrip conductor and the ground plane, the microstrip transmission line component having an input port; a signal input component for transmitting an input signal to the input port; and a concentration determining component configured to: determine at least one parameter of an output signal of the microstrip transmission line component; and determine, based on a comparison of the at least one parameter to at least one respective calibration curve, a glucose concentration of the user.
BLOOD GLUCOSE MEASURING DEVICE, BLOOD GLUCOSE MEASURING SYSTEM, AND METHOD FOR MEASURING BLOOD GLUCOSE USING BLOOD GLUCOSE MEASURING DEVICE

**Nº publicación** WO2019098529A1  23/05/2019  
**Solicitantes** SAMSUNG ELECTRONICS CO LTD [KR]  
**Resumen** Disclosed are a blood glucose measuring device, a blood glucose measuring system, and a method for measuring blood glucose using the blood glucose measuring device. The present blood glucose measuring device comprises: a sensor for measuring blood glucose via a body fluid of a user; and a processor for obtaining error information of the sensor by comparing a first blood glucose level measured by the sensor, and a second blood glucose level measured via the blood of the user, at a first calibration interval during a preset time; calculating the time taken for the error range of the sensor to reach a preset threshold value, on the basis of the first calibration interval and the error information of the sensor; and setting the first calibration interval as a second calibration interval on the basis of the calculated time.

REPORTING OF GLYCEMIC VARIABILITY FROM CONTINUOUS GLUCOSE MONITORING

**Nº publicación** WO2019099626A1  23/05/2019  
**Solicitantes** SENSEONICS INCORPORATED [US]  
**Resumen** In one aspect, a method of estimating an HbA1c level is provided. The method may include obtaining a first and second glucose measurement, adding the first and the second glucose measurements to a glucose measurement data set, and calculating an estimated HbA1c level using at least the glucose measurement data set. In another aspect, a method of calculating a range of an estimated HbA1c level is provided. The method may comprise at least calculating an estimated HbA1c level and a standard deviation of the estimated HbA1c level using a glucose measurement data set, and combining the estimated HbA1c level with the standard deviation of the estimated HbA1c level to acquire the range of the estimated HbA1c level. In another aspect, a glucose monitoring device may display glycemic variability of an individual.
Non-invasive photonic sensing for monitoring diabetes

Nº publicación: AU2017353360A1  23/05/2019
Solicitantes:  UNIV SYDNEY
WU CHUJUN

Resumen: The present disclosure relates to a device (100) for monitoring a biomarker in an exhaled breath, the device (100) utilising a combination of a sensing element (110) having a thermochemical reactant (120) that undergoes a thermochemical reaction with the biomarker and a thermal sensor (140) positioned to measure a rate of change in temperature caused by the thermochemical reaction. A user interface (170) is provided for indicating to a user an indicated measure of the biomarker in the exhaled breath, wherein the indicated measure of the biomarker in the exhaled breath is determined from the measured rate of change in temperature.

Flexible analyte sensors

Nº publicación: AU2018209930A1  23/05/2019
Solicitantes:  DEXCOM INC

Resumen: Flexible analyte sensors are provided. Flexible analyte sensors may be flexible continuous analyte sensors that facilitate continuous monitoring of an analyte such as blood glucose. The flexible analyte sensor may have a relatively flexible conductive or non-conductive core, may be formed from a plurality of substantially planar layers, or may be configured to transform from a freestanding sensor ex vivo to a non-freestanding sensor in vivo.
BLOOD GLUCOSE MONITORING AND CONTROLLING SYSTEM

Nº publicación US2019151639A1 23/05/2019
Solicitantes MICROJET TECHNOLOGY CO LTD [TW]
Resumen A blood glucose monitoring and controlling system includes a detecting device and a liquid supplying device. The detecting device includes a first microneedle patch, a liquid pumping actuator, a sensor and a monitoring and controlling chip. The liquid supplying device includes a second microneedle patch, a liquid supplying actuator, a liquid supplying chamber and a liquid supplying and controlling chip. The detecting device is used to measure the blood glucose level of the user, and the liquid supplying device is used to supply insulin liquid. While the detecting device measures that the blood glucose level of the user is abnormal, the liquid supplying device is actuated to inject the insulin liquid into the user's body, thereby stabilizing the user's blood glucose level constantly.
Infusion systems, infusion devices, and related operating methods are provided. An exemplary method of operating an infusion device capable of delivering fluid to a user involves determining a current amount of active fluid in the body of the user, determining a threshold amount of active fluid in the body of the user, and automatically altering operation of the infusion device to modify delivery of the fluid to the user based on a relationship between the current amount and the threshold amount.
ANALYZE MONITORING: STABILIZER FOR SUBCUTANEOUS GLUCOSE SENSOR WITH INCORPORATED ANTIGLYCOLYTIC AGENT

Nº publicación US2019150809A1 23/05/2019
Solicitantes ABBOTT DIABETES CARE INC [US]
Resumen An analyte sensor including an antiglycolytic agent or a precursor thereof and a chelating agent that stabilizes the antiglycolytic agent positioned proximate to the working electrode of the sensor. Also provided are systems and methods of using the electrochemical analyte sensors in analyte monitoring.

SYSTEMS AND METHODS FOR ANALYSIS OF INSULIN REGIMEN ADHERENCE DATA

Nº publicación US2019156930A1 23/05/2019
Solicitantes NOVO NORDISK AS [DK]
Resumen Systems and methods are provided for monitoring adherence to an insulin medicament dosage regimen for a subject. A data set comprising a plurality of metabolic events the subject engaged in within a period of time is obtained. Each respective metabolic event comprises a timestamp of the event and a characterization that is one of insulin regimen adherent and insulin regimen nonadherent. A plurality of primary adherence values is calculated, each respective adherence value representing a corresponding time window in a plurality of time windows within the period of time. Each time window is of a same first fixed duration. Each respective adherence value is computed by dividing a number of insulin regimen adherent events by a total number of events that have timestamps in the time window corresponding to the respective adherence value. The adherence values across the period of time are communicated thereby monitoring adherence to the insulin regimen.
TREATMENT SELECTION SUPPORT SYSTEM AND METHOD

Nº publicación US2019156956A1 23/05/2019
Solicitantes HITACHI LTD [JP]

Resumen: It is provided a treatment selection support system comprising: a target achievement determination module configured to create target achievement determination information; a blood sugar controllability estimation module configured to create blood sugar controllability information; an achievement level prediction model creation module configured to create an achievement level prediction model; an appropriateness level calculation model creation module configured to create an appropriateness level calculation model for calculating an appropriateness level of a blood sugar control means based on formatted information, the target achievement determination information, and the blood sugar controllability information; an achievement level prediction module configured to use the achievement level prediction model; an appropriateness level calculation module configured to use the appropriateness level calculation model; and a blood sugar control means suggestion module configured to provide information on the blood sugar control means appropriate for the patient based on the predicted achievement level and the calculated appropriateness level.

GLUCOSE-SENSING DEVICE WITH MALTOSE BLOCKING LAYER

Nº publicación US2019150813A1 23/05/2019
Solicitantes UXN CO LTD [KR]

Resumen: This disclosure relates to a glucose-sensing electrode including a nanoporous metal layer and a maltose-blocking layer formed over the nanoporous metal layer. The nanoporous metal layer is capable of oxidizing both glucose and maltose without an enzyme specific to glucose or maltose in the glucose-sensing electrode. The maltose-blocking layer has porosity that permits glucose to pass therethrough and inhibits maltose from passing therethrough toward the nanoporous metal layer.
NON-ENZYMATIC GLUCOSE-SENSING DEVICE WITH NANOPOROUS STRUCTURE AND CONDITIONING OF THE NANOPOROUS STRUCTURE

Nº publicación US2019150814A1 23/05/2019
Solicitantes UXN CO LTD [KR]
Resumen This disclosure relates to a glucose-sensing electrode including a nanoporous metal layer and an electrolyte ion-blocking layer formed over the nanoporous metal layer. The nanoporous metal layer is capable of oxidizing both glucose and maltose without an enzyme specific to glucose in the glucose-sensing electrode. The electrolyte ion-blocking layer is configured to inhibit Na+, K+, Ca2+, Cl−, PO43− and CO32− from diffusing toward the nanoporous metal layer such that there is a substantial discontinuity of a combined concentration of Na+, K+, Ca2+, Cl−, PO43− and CO32− between over and below the electrolyte ion-blocking layer.

INTEGRATED CLOSED-LOOP MEDICATION DELIVERY WITH ERROR MODEL AND SAFETY CHECK

Nº publicación US2019151540A1 23/05/2019
Solicitantes ABBOTT DIABETES CARE INC [US]
CAMBRIDGE ENTPR LTD [GB]
Resumen A closed-loop system for insulin infusion overnight uses a model predictive control algorithm ("MPC"). Used with the MPC is a glucose measurement error model which was derived from actual glucose sensor error data. That sensor error data included both a sensor artifacts component, including dropouts, and a persistent error component, including calibration error, all of which was obtained experimentally from living subjects. The MPC algorithm advised on insulin infusion every fifteen minutes. Sensor glucose input to the MPC was obtained by combining model-calculated, noise-free interstitial glucose with experimentally-derived transient and persistent sensor artifacts associated with the FreeStyle Navigator® Continuous Glucose Monitor System ("FSN"). The incidence of severe and significant hypoglycemia reduced 2300- and 200-fold, respectively, during simulated overnight closed-loop control with the MPC algorithm using the glucose measurement error model suggesting that the continuous glucose monitoring technologies facilitate safe closed-loop insulin delivery.
Method and System for Providing Data Communication in Continuous Glucose Monitoring and Management System

Número de publicación: US2019150738A1, 23/05/2019
Solicitantes: ABBOTT DIABETES CARE INC [US]
Resumen: Método y sistema para proporcionar un generador de flujo de datos que genera un flujo de datos asociado con el nivel de analito monitoreado, y una sección de lógica de frecuencia radio que se ve operativamente conectada al generador de flujo de datos, la sección de lógica de frecuencia radio configurada para generar un flujo de datos de frecuencia radio basado en el flujo de datos generado del generador de flujo de datos, la sección de lógica de frecuencia radio incluye una o más máquinas de estado finitas y un conjunto de circuitos lógicos digitales, las máquinas de estado finitas configuradas para controlar al conjunto de circuitos lógicos digitales para generar el flujo de datos de frecuencia radio para la comunicación inalámbrica. Se proporcionan sistemas y kits que incorporan lo mismo.

DEVICE FOR NON-INVASIVELY MEASURING GLUCOSE

Número de publicación: EP3485812A1, 22/05/2019
Solicitantes: A D INTEGRITY APPLICATIONS LTD [IL]
Resumen: Para aumentar la precisión de la medición no invasiva de glucosa, el dispositivo utiliza una combinación de tres métodos no invasivos: ultrasonicos, electromagnéticos y térmicos. El monitoreo no invasivo de glucosa comprende una Unidad Principal, que controla tres diferentes canales sensoriales (uno por tecnología), ubicados en un dispositivo externo configurado como un clip para la oreja. Para efectos del canal ultrasonico, los elementos piezo se colocan en posiciones opuestas de la oreja. Para la implementación del canal electromagnético, las placas capacitivas se colocan en posiciones opuestas de la oreja y la oreja se utiliza como aislante. El canal térmico incluye un calentador y un sensor ubicados en el clip para la oreja, en el mismo lado de la oreja.
BLOOD GLUCOSE MONITORING AND CONTROLLING SYSTEM

Nº publicación EP3485811A1  22/05/2019
Solicitantes MICROJET TECHNOLOGY CO LTD [TW]
Resumen A blood glucose monitoring and controlling system (100) includes a detecting device (1) and a liquid supplying device (2). The detecting device (1) includes a first microneedle patch (11), a liquid pumping actuator (12), a sensor (13) and a monitoring and controlling chip (14). The liquid supplying device (2) includes a second microneedle patch (21), a liquid supplying actuator (22), a liquid supplying chamber (23) and a liquid supplying and controlling chip (24). The detecting device (1) is used to measure the blood glucose level of the user, and the liquid supplying device (2) is used to supply insulin liquid. While the detecting device (1) measures that the blood glucose level of the user is abnormal, the liquid supplying device (2) is actuated to inject the insulin liquid into the user's body, thereby stabilizing the user's blood glucose level constantly.

BLOOD GLUCOSE DETECTION DEVICE

Nº publicación EP3485814A1  22/05/2019
Solicitantes MICROJET TECHNOLOGY CO LTD [TW]
Resumen A blood glucose detection device (100) includes a carrier body (3), a flow-guiding actuator (5), a microneedle patch (7), a sensor (8) and a controlling chip (9). The carrier body has a liquid guiding channel (31), a compressing chamber (32) and a liquid storage chamber (4). The flow-guiding actuator seals the compressing chamber. The microneedle patch is attached on the carrier body and has plural hollow microneedles (71). The sensor is disposed within the liquid storage chamber. The controlling chip is disposed on the carrier body. The plural hollow microneedles puncture the skin of a human subject with minimal invasion. The controlling chip controls the flow-guiding actuator to actuate and the tissue fluid is sucked into the liquid storage chamber (4) through the plural hollow microneedles, whereby the sensor detects the blood glucose of the tissue fluid to generate and transmit the measured data to the controlling chip (9). The controlling chip (9) can generate monitoring information by calculating the measured data.
Medical device for the early diagnosis of metabolic diseases

Nº publicación GB2568635A 22/05/2019
Solicitantes INST POLITECNICO DE LEIRIA [PT]
Resumen The present invention relates to a medical device for the early diagnosis of metabolic diseases that is used to determine the function of the carotid bodies, in a non-invasive manner, associating the function of these organs with the metabolic functions of the body, specifically the production of insulin and the absorption of glucose, and also the measurement of sympathetic tone. This device is suitable for diagnosing alterations in the function of the carotid bodies in individuals who are overweight and who have a family history of metabolic disease, essential arterial hypertension and dyslipidemia. The device comprises a thoracoabdominal sensor unit with an elastic abdominal band (9) and a chest band (10), a transcutaneous partial oxygen pressure sensor (3), and a naso-auricular sensor unit positioned on the earlobe. The device also has temperature sensors (8), continuous glucose measurement sensors (7), movement sensors (4), a transcutaneous partial oxygen pressure sensor (3), a peripheral oxygen saturation sensor (1) and three electrodes for acquiring electrocardiogram line tracings, which are linked to the acquisition and recording module (5), which includes a push button (6).

APPARATUS AND METHOD FOR CALIBRATING GLUCOSE LEVEL

Nº publicación KR20190054361A 22/05/2019
Solicitantes ULSAN NAT INST SCIENCE & TECH UNIST [KR]
Resumen 혈당 측정 장치에 연관되며, 인공혈관을 감싸도록 배치되는 캐패시터를 이용하여 상기 인공혈관의 캐패시턴스를 측정하는 센서부로부터 상기 캐패시턴스를 수신하여 혈당 수치를 계산하고, 계산되는 상기 혈당 수치의 상기 인공혈관 부피 변화에 따른 증감 주기를 계산하는 계산부; 및 상기 증감 주기에 대응하여 측정되는 상기 캐패시턴스를 상기 계산부로 전달하는 클락 제너레이터를 포함할 수 있다.

Estimation of glucose rate of appearance, endogenous glucose production and insulin dependent glucose utilization from continuous glucose sensors and subcutaneous insulin deliver

Nº publicación US10297353B1 21/05/2019
Solicitantes PRINCE SULTAN UNIV [SA]
Resumen Method and system for determining glucose flux profiles in plasma during meals using continuous glucose sensors and insulin delivery. A database of plausible glucose flux profiles is encoded in dictionaries using sparse dictionary learning. A constrained Lasso minimization problem is formed that integrates a transport model for a patient with the dictionaries for estimating the glucose fluxes. Meal carbohydrates consumed by a patient is incorporated in the minimization problem through convex constraints. The estimated glucose fluxes resulting from solving the constrained Lasso minimization problem are glucose rate of appearance from the intestine, endogenous glucose production from the liver and insulin dependent glucose utilization. A method for determining patient carbohydrate to insulin ratio at the time of the meal by calculating the area under the curve of the estimated insulin dependent glucose utilization.
POTABLE OPTICAL NON-INVASIVE GLUCOSE DETECTOR AND MEASUREMENT STRIP

Nº publicación KR20190052240A 16/05/2019
Solicitantes KOREA ADVANCED INST SCI & TECH [KR]
Resumen 두채혈식 휴대형 혈당 측정 바이오센서 광학 시스템이 개시된다. 이 시스템은 혈당 측정기와 분석 단말을 포함한다. 혈당 측정기는 측정 대상자로부터 채취된 타액이 시료의 포도당에 선택적으로 반응하는 화학물이 포함된 채널을 통해 투과하는 투과광을 측정한다. 분석 단말은 상기 혈당 측정기에 의해 측정되는 측정 데이터를 전달받아서 혈당을 측정한다. 본 혈당 측정기는 휴대하기 용이하도록 소형화한 것을 특징으로 한다.

SYSTEM AND METHOD FOR NON-INVASIVE CONTINUOUS REAL-TIME BLOOD GLUCOSE MONITORING

Nº publicación WO2019094820A1 16/05/2019
Solicitantes GLUCO Z GMBH [CH]
ISMAIL NAJIB KHALED ABOU [US]
Resumen A wearable blood glucose monitoring device, apparatus, and method of measuring a blood glucose level are provided. The method includes an oscillator assembly that transmits microwaves at an oscillator frequency based on an input impedance. The input impedance is associated with the permittivity of blood in a user's blood vessel. The method also includes a frequency detection circuit that detects a first oscillator frequency at a first time and a second oscillator frequency at a second time. The method further includes a main control board that receives an indication of a user's condition, compares the first oscillator frequency with the second oscillator frequency to determine a frequency drift, calibrates the frequency drift based on the received indication of the condition of the user, and determines a blood glucose level of the user based on the calibrated frequency drift. A corresponding wearable blood glucose monitoring device and apparatus are also provided.
NON-INVASIVE BLOOD SUGAR MEASUREMENT METHOD AND DEVICE USING OPTICAL REFLECTOMETRY

Resumen  
A non-invasive blood sugar measurement device using optical reflectometry is provided. According to an embodiment of the present invention, provided are a specific configuration and method, the configuration comprising: a light generation means for generating light to be emitted at the skin to be measured when OTDR and OFDR are used; an optical measurement means for measuring the intensity of light; an optical system for emitting the generated light at the skin to be measured and transmitting reflected light to the optical measurement means; an analysis means for analyzing collected reflected light on the basis of a change in the intensity of the reflective light with respect to time by using optical reflectometry; and a blood sugar calculation means for calculating, on the basis of the analysis result, a blood sugar level of the skin to be measured.

SYSTEM AND METHOD FOR NON-INVASIVE CONTINUOUS REAL-TIME BLOOD GLUCOSE MONITORING

Resumen  
A wearable blood glucose monitoring device, apparatus, and method of measuring a blood glucose level are provided. The method includes an oscillator assembly that transmits microwaves at an oscillator frequency based on an input impedance. The input impedance is associated with the permittivity of blood in a user's blood vessel. The method also includes a frequency detection circuit that detects a first oscillator frequency at a first time and a second oscillator frequency at a second time. The method further includes a main control board that receives an indication of a user's condition, compares the first oscillator frequency with the second oscillator frequency to determine a frequency drift, calibrates the frequency drift based on the received indication of the condition of the user, and determines a blood glucose level of the user based on the calibrated frequency drift. A corresponding wearable blood glucose monitoring device and apparatus are also provided.
REPORTING OF GLYCEMIC VARIABILITY FROM CONTINUOUS GLUCOSE MONITORING

Solicitantes: SENSEONICS INCORPORATED [US]

Resumen: In one aspect, a method of estimating an HbA1c level is provided. The method may include obtaining a first and second glucose measurement, adding the first and the second glucose measurements to a glucose measurement data set, and calculating an estimated HbA1c level using at least the glucose measurement data set. In another aspect, a method of calculating a range of an estimated HbA1c level is provided. The method may comprise at least calculating an estimated HbA1c level and a standard deviation of the estimated HbA1c level using a glucose measurement data set, and combining the estimated HbA1c level with the standard deviation of the estimated HbA1c level to acquire the range of the estimated HbA1c level. In another aspect, a glucose monitoring device may display glycemic variability of an individual.

IMPLANTABLE GLUCOSE SENSORS HAVING A BIOSTABLE SURFACE

Solicitantes: INTERFACE BIOLOGICS INC [CA]

Resumen: Disclosed are implantable glucose sensors having a biostable surface. The implantable glucose sensor includes a glucose detector and an enclosure defining a boundary between an internal space and an external space. The enclosure includes a semipermeable biointerface film containing a base polymer and a biostabilizing additive. The semipermeable biointerface film has a biostable surface and is permeable to glucose. The working electrode is disposed inside the internal space, and the biostable surface faces the external space or faces both the internal and the external spaces. Also disclosed are methods of preparation of the semipermeable biointerface films adapted for use in the implantable glucose sensors. Further, disclosed are methods of monitoring glucose levels in a subject through the use of an implantable glucose sensor. The implantable glucose sensor may be an implantable electrochemical glucose sensor, in which the glucose detector is a working electrode. Alternatively, the implantable glucose sensor may be an implantable optical glucose sensor, in which the glucose detector is a glucose recognition element including a glucose-binding fluorophore.
WEARABLE INSULIN PUMP IN A COMPACT AND REUSABLE FORM FACTOR

Nº publicación: US2019143031A1 16/05/2019
Solicitantes: ADMANI RICHARD F [US]
Resumen: A wearable, adherable, tubeless, stand-alone, two-part system insulin pump includes a patch component in a first housing, wherein the patch component includes an adhesive pad, a fixed needle, a flexible tube, and collapsible reservoir connected to the flexible tube and storing insulin; and a pump component in a second housing, wherein the pump component includes a peristaltic pump configured that includes a rotor and more than one roller to pump the insulin from the flexible tube to the fixed needle and a controller for control thereof; wherein the first housing and the second housing are selectively connected to one another, and wherein the pump component is reusable with one or more pump components. Of note, the pump can support other drugs besides insulin.

HANDHELD PROCESSING DEVICE INCLUDING MEDICAL APPLICATIONS FOR MINIMALLY AND NON INVASIVE GLUCOSE MEASUREMENTS

Nº publicación: US2019142283A1 16/05/2019
Solicitantes: CERCACOR LABORATORIES INC [US]
Resumen: The present disclosure includes a handheld processing device including medical applications for minimally and noninvasive glucose measurements. In an embodiment, the device creates a patient specific calibration using a measurement protocol of minimally invasive measurements and noninvasive measurements, eventually creating a patient specific noninvasive glucometer. Additionally, embodiments of the present disclosure provide for the processing device to execute medical applications and non-medical applications.
BASAL TITRATION WITH ADAPTIVE TARGET GLUCOSE LEVEL

Solicitantes: NOVO NORDISK AS [DK]

Resumen: Systems and methods are provided for adjusting long acting insulin medicament dosages for a subject. A plurality of timestamped glucose measurements of the subject and insulin injection data is obtained. A first glycaemic risk measures is determined, where the first risk glycaemic risk measure is i) glucose level variability across the glucose measurements, (ii) a variability in fasting glucose levels calculated from the glucose measurements, (iii) a minimum observed glucose measurement in the plurality of glucose measurements (iv) rate of change in ISF, or (v) adherence values. A fasting blood glucose target function is computed based upon at least the first glycaemic risk measure thereby obtaining an updated target fasting blood glucose level that is between a minimum and maximum target fasting blood glucose level. The long acting insulin medicament dosage is adjusted based upon the updated target fasting blood glucose level.

TIERED TIME-IN-RANGE GUIDING INTERFACES FOR DIABETES MANAGEMENT

Solicitantes: VERILY LIFE SCIENCES LLC [US]

Resumen: Introduced here are diabetes management platforms able to guide people with diabetes toward a glycemic target. Rather than state the absolute amount of glucose within the blood, the diabetes management platform can instead produce personalized glycemic goals based on the physiological data associated with an individual. For example, if the diabetes management platform determines that the time spent within a first glycemic range exceeds a specified threshold, then the diabetes management platform may recommend that the individual attempt to keep their blood glucose level within a second glycemic range. Generally, the second glycemic range is closer than the first glycemic range to a target glycemic range corresponding to a healthy glycemic state.
Systems and methods for patient monitoring using an HCP - specific device

Resumen

Systems and methods disclosed provide ways for Health Care Professionals (HCPs) to be involved in initial patient system set up so that the data received is truly transformative, such that the patient not just understands what all the various numbers mean but also how the data can be used. For example, in one implementation, a CGM device is configured for use by a HCP, and includes a housing and a circuit configured to receive a signal from a transmitter coupled to an indwelling glucose sensor. A calibration module converts the received signal into clinical units. A user interface is provided that is configured to display a measured glucose concentration in the clinical units. The user interface is further configured to receive input data about a patient level, where the input data about the patient level causes the device to operate in a mode appropriate to the patient level.

Measurement of susceptibility to diabetic foot ulcers

Resumen

The present disclosure provides apparatuses and methods for measuring capacitance as an indication of susceptibility to the formation of a diabetic foot ulcer.
**METHOD FOR PREDICTION OF RISK OF DEVELOPMENT OF FEMALE GENITAL NEOPLASMS**

Nº publicación **RU2687780C1** 16/05/2019

**Solicitantes** FEDERALNOE GOSUDARSTVENNOE BYUDZHETNOE OBRAZOVATELNNOE UCHREZHDENIE VYSSHEGO OBRAZOVANIYA YAROSLAVSKI [RU]

**Resumen**
FIELD: medicine. SUBSTANCE: invention refers to medicine, namely oncology and oncogynecology, and can be used in prediction of the risk of developing malignant neoplasm of the female genital area. That is ensured by determining the following factors: presence of abortions in past history (Ab), active way of life (AWL), presence of intrauterine spiral throughout life (IUS), long-term residence in military camps of air defence troops, age, presence of malignant growths of other localization in relatives, haemorrhage from genital tract in past history (CPR), presence of uterine fibroids, onset of sexual activity, menstrual disorders, problems with conception child, work associated with severe physical labour (SPL), presence of uterine cervical ruptures, previous body weight loss, presence of breast cancer in relatives, presence of diabetes mellitus (DM), presence of cardiovascular diseases (CVD), stresses, psychological overloads, experiences. In the absence of each of the above factors, “0 points” and availability is “1 point”. Age and the onset of sexual activity are evaluated quantitatively. Then, according to original design formula, prognostic coefficient PC is calculated. If the PC value is less than 0.3267, a low risk is predicted. If PC is 0.3267 and more - the risk of developing malignant neoplasms of the female reproductive system is considered to be high. **EFFECT:** method enables the accurate assessment of a prognostic risk of developing malignant growths of the female genital area.

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**METHOD FOR ADJUSTING A BOLUS AMOUNT OF INSULIN, DEVICE AND MEDICAL SYSTEM**

Nº publicación **WO2019091998A1** 16/05/2019

**Solicitantes**
- ROCHE DIABETES CARE GMBH [DE]
- ROCHE DIABETES CARE INC [US]
- HOFFMANN LA ROCHE [CH]

**Resumen**
The present disclosure refers to a method for adjusting a bolus amount of insulin for a meal event using a control unit having a processing unit and a touch screen display as well as a medical control device and a medical system configured to perform the method. Additionally, the present disclosure refers to a computer program or computer program product which when executed performs the method.
METHOD FOR ADJUSTING A BOLUS AMOUNT OF INSULIN, DEVICE AND MEDICAL SYSTEM

Nº publicación **EP3483891A1**  15/05/2019
Solicitantes ROCHE DIABETES CARE GMBH [DE]
HOFFMANN LA ROCHE [CH]

Resumen  The present disclosure refers to a method for adjusting a bolus amount of insulin for a meal event using a control unit having a processing unit and a touch screen display as well as a medical control device and a medical system configured to perform the method. Additionally the present disclosure refers to a computer program or computer program product which when executed performs the method.
REMOTE ANALYTE MONITORING AND INSULIN DELIVERY SYSTEM

Nº publicación WO2019089891A1 09/05/2019
Solicitantes SENSEONICS INCORPORATED [US]
Resumen In one aspect, an analyte monitoring and insulin delivery system is provided. The system may include an analyte sensor configured to convey sensor data indicative of a measurement of one or more detectable properties based on an amount or concentration of an analyte. The system may include a transceiver configured to receive the sensor data and calculate an analyte level based on the sensor data. The system may include a display device configured to receive calculate an adjusted insulin delivery rate for an insulin pump and display the received analyte level and/or the adjusted insulin delivery rate. The system may include the insulin pump configured to increase, decrease or maintain a first insulin delivery rate based on the adjusted insulin delivery rate. The display device may further display icons corresponding to the system components and an operational status indicator for each icon.

DIABETES MANAGEMENT PARTNER INTERFACE FOR WIRELESS COMMUNICATION OF ANALYTE DATA

Nº publicación WO2019089324A1 09/05/2019
Solicitantes DEXCOM INC [US]
Resumen Systems, devices, and methods are disclosed for wireless communication of analyte data. In embodiments, a method of using a diabetes management partner interface to configure an analyte sensor system for wireless communication with a plurality of partner devices is provided. The method includes the analyte sensor system receiving authorization to provide one of the partner devices with access to a set of configuration parameters via the diabetes management partner interface. The set of configuration parameters is stored in a memory of the analyte sensor system. The method also includes, responsive to input received from the one partner device via the diabetes management partner interface, the analyte sensor system setting or causing a modification to the set of configuration parameters, according to a system requirement of the one partner device.
SYSTEMS AND METHODS FOR GRADED GLUCOSE CONTROL

Nº publicación WO2019090016A1  09/05/2019
Solicitantes  BOSTON SCIENT SCIMED INC [US]
Resumen  A system may include a controller operably connected to a diabetic therapy delivery system. The controller may be configured to: receive therapy inputs including a therapy input indicative of a glucose measure; determine a therapy input index using the at least one therapy input including the therapy input indicative of a glucose measure; map the determined therapy input index to a graded glucose control; and set the graded glucose control based on the mapped graded glucose control for the determined therapy input index, wherein the graded glucose control includes at least one of a neuromodulation target, a neuromodulation type, or at least one neuromodulation parameter value. The diabetic therapy delivery system may be configured to deliver the therapy for graded glucose control using the graded glucose control that was set based on the mapped graded glucose control.

FIG. 1

PREVENTION OF PROTEIN GLYcation USING LYSINE/ZINC SUPPLEMENTS

Nº publicación US2019134083A1  09/05/2019
Solicitantes  BURD JOHN [US]
Resumen  A method of preventing protein glycation using a supplement may comprise: administering a supplement comprising lysine and zinc; monitoring a concentration of glucose before and after the supplement is administered in a bio-sample; and determining a change in a dose of the supplement based on the concentration of glucose found in the bio-sample.
SYSTEM AND METHOD FOR PROVIDING GLUCOSE CONTROL THERAPY

Nº publicación: WO2019090009A1 09/05/2019

Solicitantes: BOSTON SCIENT SCIMED INC [US]

Resumen: A system may include an implantable structure with a plurality of electrodes attached thereto, where the implantable structure is configured to be implanted proximate to a nerve that innervates and is proximate to an organ involved with glucose control. The system may further include a controller configured for use to control which of the plurality of electrodes are modulation electrodes and which of the plurality of electrodes are sense electrodes, a modulation energy generator configured to deliver modulation energy using one or more of the modulation electrodes, and a nerve traffic sensor configured to sense nerve traffic in the nerve using one or more of the sense electrodes. The controller may be configured to determine if the delivered modulation energy captures the nerves based on the sensed neural activity.

PREVENTION OF PROTEIN GLYCATION USING LYSINE SUPPLEMENTS

Nº publicación: US2019134084A1 09/05/2019

Solicitantes: LYSULIN INC [US]

Resumen: A method of preventing protein glycation using a supplement may comprise: administering a supplement comprising lysine and zinc; monitoring a concentration of glucose before and after the supplement is administered in a bio-sample; and determining a change in a dose of the supplement based on the concentration of glucose found in the bio-sample.
NOVEL CHOLESTEROL METABOLITE, 5-CHOLESTEN, 3β,25-DIOL, DISULFATE (25HCDS) FOR THERAPY OF METABOLIC DISORDERS, HYPERLIPIDEMIA, DIABETES, FATTY LIVERS DISEASES AND ATHEROSCLEROSIS

Número de publicación: US2019135856A1 09/05/2019
Solicitantes: UNIV VIRGINIA COMMONWEALTH [US]
Resumen: 5-cholesten, 3β, 25-diol, disulfate (25HCDS) has been found to be an authentic PPARγ agonist and LXR antagonist, and is used for the therapy of lipid disorders and inflammatory diseases, including without limitation fatty liver, inflammatory bowel, and atherosclerotic diseases.

INSULIN INJECTION DEVICE PROVIDED WITH A NEEDLE PUSH-EJECTION MECHANISM, AND NEEDLE FOR SAME

Número de publicación: WO2019085231A1 09/05/2019
Solicitantes: HUAIAN EFAST INNOVATION TECH CO LTD [CN]
Resumen: An insulin injection device provided with a needle push-ejection mechanism, and needle for same, the device comprising a dose delivery mechanism (1), a cartridge holder (2) and an injection needle (3). The cartridge holder (2) is tubular and adapted to hold a cartridge (4). A viewing window (21) is provided on the cartridge holder (2) to allow axial viewing of the volume of drug in the cartridge (4). A rear end of the cartridge holder (2) is attached to the dose delivery mechanism (1). A front end of the cartridge holder (2) or the cartridge (4) is provided with a mounting boss (5) adapted to connect to the injection needle (3). The injection needle (3) comprises a shaft (31), a hub (32) and an adapter (33). The shaft (31) is mounted on the hub (32), which is attached to the adapter (33). The injection needle (3) locks onto the mounting boss (5). An ejection sleeve (6) is sheathed over or within the wall of the cartridge (2). The diameter of the aperture at a front end of the ejection sleeve (6) is greater than the diameter of the mounting boss (5) but smaller than the diameter of the adapter (33). Axial sliding of the ejection sleeve (6) is restricted by the front end of the cartridge holder (2). The present invention allows quick and convenient fitting and removal of needles, and is safe, as it is possible to remove needles without touching them, reducing the risk of accidental injury to the operator.
Glucose measuring device

Nº publicación KR20190048706A  09/05/2019
Solicitantes TEMPS INC [KR]
Resumen 본 발명은 피부와 접촉될 수 있고, 상기 피부와 접하는 도광 공간이 형성되는 몸체; 상기 도광 공간의 일단부에 설치되고, 상기 피부 내부를 흐르는 혈액 중 글루코스(glucose)농도를 측정하기 위해서 측정광을 발생시키는 발광 모듈; 상기 도광 공간의 타단부에 설치되고, 상기 피부로부터 전달받은 반응광을 수광하는 수광 모듈; 및 상기 수광 모듈로부터 측정된 값으로부터 혈당 수치를 산출하는 재어부를 포함하고, 상기 수광 모듈은, 상기 발광 모듈에서 발생된 측정광 대비 상기 반응광의 전체 감소율을 측정할 수 있는 적어도 하나의 제1센서; 및 상기 반응광 중에서 상기 글루코스에 의해 흡광된 부분 흡광율을 측정할 수 있는 적어도 하나의 제2센서를 포함할 수 있다.

REGIMEN ADHERENCE MEASURE FOR INSULIN TREATMENT BASED ON GLUCOSE MEASUREMENTS AND INSULIN PEN DATA

Nº publicación EP3479267A1  08/05/2019
Solicitantes NOVO NORDISK AS [DK]
Resumen Systems and methods are provided for adjusting a standing insulin medicament dosage regimen for a subject. Fasting events are identified using autonomous timestamped glucose measurements of the subject in a first data set. A second data set, from one or more insulin pens used to apply the standing regimen, comprises records, each record comprising a timestamped event specifying an amount of injected insulin medicament. Each fasting event is characterized as adherent or nonadherent. A fasting event is adherent when the second data set includes one or more records that temporally and quantitatively establish adherence with the standing regimen during the fasting event. Conversely, a fasting event is nonadherent when the second data set fails to temporally and quantitatively establish adherence with the standing regimen. Dosages in the standing regimen are adjusted using glucose measurements contemporaneous with adherent fasting events and by excluding glucose measurements contemporaneous with nonadherent fasting events.
SYSTEMS AND METHODS FOR ANALYSIS OF INSULIN REGIMEN ADHERENCE DATA

Nº publicación EP3479263A1 08/05/2019
Solicitantes NOVO NORDISK AS [DK]
Resumen System and methods are disclosed for monitoring adherence to a prescribed insulin regimen for a subject. A data set comprising a plurality of metabolic events the subject engaged is obtained. Each metabolic event comprises a timestamp of the event and a first classification that is one of insulin regimen adherent and nonadherent. Each respective metabolic event is then further classified using a second classification, based upon the timestamp of the metabolic event. The second classification has a temporal periodicity represented by a plurality of periodic elements. Metabolic events are binned on the basis of the second classification thereby obtaining a plurality of subsets of the metabolic events, each subset for a different periodic element. For each respective subset, a respective representation of adherence to the insulin regimen is communicated, the representation of adherence being collectively based upon the first classification of metabolic events in the respective subset.

SYSTEMS AND METHODS FOR ANALYSIS OF INSULIN REGIMEN ADHERENCE DATA

Nº publicación EP3479266A1 08/05/2019
Solicitantes NOVO NORDISK AS [DK]
Resumen Systems and methods are provided for monitoring adherence to an insulin medicament dosage regimen for a subject. A data set comprising a plurality of metabolic events the subject engaged in within a period of time is obtained. Each respective metabolic event comprises a timestamp of the event and a characterization that is one of insulin regimen adherent and insulin regimen nonadherent. A plurality of primary adherence values is calculated, each respective adherence value representing a corresponding time window in a plurality of time windows within the period of time. Each time window is of a same first fixed duration. Each respective adherence value is computed by dividing a number of insulin regimen adherent events by a total number of events that have timestamps in the time window corresponding to the respective adherence value. The adherence values across the period of time are communicated thereby monitoring adherence to the insulin regimen.
Insulin patch pump

Nº publicación US10279106B1 07/05/2019
Solictantes TANDEM DIABETES CARE INC [US]
Resumen A user-wearable patch pump system for delivery of insulin or other medicament can include a pump and an attachment portion that attaches the pump to a user's body. The pump can include a drive unit and a disposable cartridge containing a medicament with the drive unit configured to cause the pump to deliver the medicament in the cartridge to the user. The attachment portion can include a retention frame configured to selectively retain the pump therein and an adhesive patch configured to be attached to the user's body. The pump can be selectively attached to the retention frame and used to deliver medicament through tubing to an infusion site displaced from the pump.

SYSTEM FOR SUBCUTANEOUS INTRODUCTION OF MEDICINAL SOLUTIONS, COMBINED WITH PARACORPORAL DISPENSER

Nº publicación RU2687181C1 07/05/2019
Solictantes OBSHCHESTVO S OGRANICHENNOJ OTVETSTVENNOSTYU KONTINENTAL MED [RU]
Resumen FIELD: medicine.SUBSTANCE: invention refers to medicine, namely to medical equipment, and can be used for independent subcutaneous injections in treating diabetes mellitus, various inflammatory diseases, etc. Task solved by the proposed technical solution is creation of a universal infusion system combined with paracorporal dispenser of different manufacturers, design of a system which is convenient and cost-effective to use, reliable in operation, high-tech in production. Technical result is achieved by using an infusion system for subcutaneous administration of a drug solution containing a skin-mounted infusion device connected by a connective catheter with a solution delivery port, as well as a syringe for installing an infusion set on the skin. Port of invasive system has inner thread and outer Luer cone in center, wherein system is additionally equipped with two adapters, in which on the side of system external thread is made with pitch and diameter identical to internal thread and system port pitch, and inner Luer cone, and on the side connected to the paracorporal dispenser, an external thread is made with pitch and diameter identical to the internal thread and pitch of the fitting of the corresponding dispenser, and an internal Luer cone or needle.EFFECT: reliable and sealed connection both to the port of the infusion system and to the outlet nozzle of the paracorporal dispenser for medicinal solutions by means of a set of adapters.1 cl, 1 dwg

DIAGNOSTIC METHOD OF DIABETIC DISTAL NEUROPATHY

Nº publicación RU2687019C1 06/05/2019
Solictantes FEDERALNOE GOSUDARSTVENNOE BYUDZHERNOE UCHREZHDENIE NOVOSIBIRSKIJ NAUCHNO ISSLEDOVATELSKIJ INSTITUT [RU]
Resumen FIELD: medicine.SUBSTANCE: invention refers to medicine, namely to endocrinology and functional diagnostics. For early diagnostics of diabetic distal neuropathy, electroneuromyography of sensitive fibers of peripheral nerves of lower extremities is performed, in which active electrode (A) is applied in the middle between the medial malleolus and Achilles tendon. Reference electrode (R) is applied 3-4 cm proximal to active electrode (A). Earthing electrode is applied on middle third of shin. Electroneuromyography is carried out on the plantar surface of feet. Sensitive fibers of medial plantar nerve and lateral plantar nerve are stimulated. From active electrode (A) is plotted along diagonal 9-11 cm on bottom surface of foot and point (1) is fixed. Further, from point (1) 2-5 cm is measured along medial plantar sulcus and point (2) is fixed. A stimulating electrode is then placed in point (2) and stimulation is performed. Further, from point (1) 2-5 cm is measured along lateral plantar furrow and point (3) is fixed. A stimulating electrode is then placed in point (3) and stimulation is performed. Further, the equipment for measuring and recording bioelectric operation processes the obtained data and outputs the final result of each nerve of the sole of the feet separately on both legs.EFFECT: method provides more accurate diagnosis at the early stage of the disease by examining the distal sensitive fibers of the nerves on the foot surface of the foot, which are primarily damag
METHOD FOR PREDICTION OF COLONIC PREPARATION EFFECTIVENESS TO COLONOSCOPY

Nº publicación RU2686958C1 06/05/2019
Solicitantes FEDERALNOE GOSUDARSTVENNOE OBRAZOVATELNNOE UCHREZHDENIE VYSSHEGO OBRAZOVANIYA YAROSLAVSKI [RU]

Resumen
FIELD: medicine.SUBSTANCE: invention refers to medicine, namely to diagnostic methods in endoscopy, oncology, coloproctology and gastroenterology. Patient's data are determined: gender, level of education, presence of diabetes mellitus, specialty of the doctor who sent the patient to the colonoscopy. Determining the time between the end of the polyethylene glycol intake and the onset of the colonoscopy, the patient's drinking regimen and dietary recommendations, patient's violation of polyethylene glycol administration instructions, patient's constipation and abdominal surgeries in past history. Prognostic coefficient (CPE) is calculated by the claimed formula. If CPE is more than or equal to 0.8534, then it is predicted that colon preparation for colonoscopy is effective.EFFECT: method enables accurate and simple prediction of the colonic preparation effectiveness to colonoscopy by evaluating the complex of the most significant indicators.1 cl, 1 dwg, 1 tbl, 2 ex

METHOD FOR PREDICTION OF DIABETIC FOOT DEVELOPMENT

Nº publicación RU2686951C1 06/05/2019
Solicitantes FEDERALNOE GOSUDARSTVENNOE OBRAZOVATELNNOE UCHREZHDENIE VYSSHEGO OBRAZOVANIYA CHITINSKAYA [RU]

Resumen
FIELD: medicine.SUBSTANCE: invention relates to medicine, namely to surgery. Microcirculatory bed is analyzed by laser Doppler flowmetry (LDF). LDF values are measured at the foot of the foot, calculating the prognostic DS coefficient by formula: DS=1.2-0.38×M+0.02×Kv-0.125, where M is an index of microcirculation, which characterizes erythrocyte flow per unit time through a unit of tissue volume (pf units), Kv is coefficient of variation reflecting relation between tissue perfusion and value of its variability (%). If DS is more than 1.0, development of diabetic foot is predicted.EFFECT: method provides more accurate prediction of developing diabetic foot as a result of examination of microcirculatory bed by LDF method and selection criteria of probability of developing diabetic foot syndrome in diabetic patients on the basis of significance of signs in the onset of this pathological state based on data of constructing a mathematical model based on regression analysis methods.1 cl, 3 ex

DEVICE FOR REGULATING THE CONCENTRATION OF GLUCOSE IN THE BLOOD OF A PERSON

Nº publicación WO2019083354A1 02/05/2019
Solicitantes INREDA DIABETIC B V [NL]

Resumen
The invention relates to a device for regulating the concentration of glucose in the blood of a person, comprising:-pump means for selectively supplying at least one substance; injecting means for injecting the substance into the body of the person, and transport means which connect the pump means for medium throughflow to the injecting means; characterized in that the device is configured to flush out the transport means with the substance, and the device comprises detection means for detecting whether or not the device is in medium throughflow contact with the internal part of the body of the person via the transport means and the injecting means, wherein the device is configured to flush out the transport means only when the detection means detect that there is no medium throughflow contact with the internal part of the body of the person.
Solicitantes: DEXCOM INC [US]

Resumen: Systems, devices, and methods are disclosed for wireless communication of analyte data. In embodiments, a method of using a diabetes management partner interface to configure an analyte sensor system for wireless communication with a plurality of partner devices is provided. The method includes the analyte sensor system receiving authorization to provide one of the partner devices with access to a set of configuration parameters via the diabetes management partner interface. The set of configuration parameters is stored in a memory of the analyte sensor system. The method also includes, responsive to input received from the one partner device via the diabetes management partner interface, the analyte sensor system setting or causing a modification to the set of configuration parameters, according to a system requirement of the one partner device.
SYSTEMS AND METHODS FOR GRADED GLUCOSE CONTROL

Nº publicación US2019125226A1  02/05/2019
Solicitantes BOSTON SCIENT SCIMED INC [US]
Resumen A system may include a controller operably connected to a diabetic therapy delivery system. The controller may be configured to: receive therapy inputs including a therapy input indicative of a glucose measure; determine a therapy input index using the at least one therapy input including the therapy input indicative of a glucose measure; map the determined therapy input index to a graded glucose control; and set the graded glucose control based on the mapped graded glucose control for the determined therapy input index, wherein the graded glucose control includes at least one of a neuromodulation target, a neuromodulation type, or at least one neuromodulation parameter value. The diabetic therapy delivery system may be configured to deliver the therapy for graded glucose control using the graded glucose control that was set based on the mapped graded glucose control.

Distributed system architecture for continuous glucose monitoring

Nº publicación AU2019202621A1  02/05/2019
Solicitantes DEXCOM INC
Resumen The present disclosure relates to techniques for receiving glucose data from a continuous glucose sensor and controlling the use and redistribution of that data so it is used in an intended manner. In one aspect, a method includes preparing data including glucose levels using a continuous glucose sensor unit; wirelessly transmitting the data relating to the glucose levels to a display device from the continuous glucose sensor unit; automatically forwarding the data relating to the glucose levels from the display device to a cloud computing architecture; and storing the data relating to the glucose levels in separate groups at the cloud computing architecture. WO 2016/183198 PCT/US2016/031850 MREARE GLUCOSE DATA ANDOTHERDATA -> 402 TNSMhi GLUCOSE AND OER DATA TO DISMAY(S) FORWARD DATA TO (LOUD COMPUTING INFRASTRUTURE) 406 STORE DATA IN SEPARATE FIG,
Compatibilidad de la aplicación para la monitorización continua de la glucosa

N° publicación: AU2019202622A1 02/05/2019
Solicitantes: DEXCOM INC
Resumen: Disclosed are systems, methods, and articles for determining compatibility of a mobile application and operating system on a mobile device. In some aspects, a method includes receiving one or more data values from a mobile device having a mobile medical software application installed thereon, the data value(s) characterizing a version of the software application, a version of an operating system installed on the mobile device, and one or more attributes of the mobile device; determining whether the mobile medical software application is compatible with the operating system by at least comparing the received data value(s) to one or more test values in a configuration file; and sending a message to the mobile device based on the determining, the message causing the software application to operate in one or more of a normal mode, a safe mode, and a non-operational mode.

DISPOSITIVO DE SUMINISTRO LÍQUIDO PARA INJECCIÓN DE INSULINA HUMANA

N° publicación: US2019125967A1 02/05/2019
Solicitantes: MICROJET TECHNOLOGY CO LTD [TW]
Resumen: A liquid supplying device for a human insulin injection includes a substrate, a liquid storage chamber, a flow-guiding-and-actuating unit, a sensor and a driving chip. The flow-guiding-and-actuating unit includes a liquid guiding channel having a liquid guiding outlet in fluid communication with a liquid storage outlet of the liquid storage chamber. The sensor contacts with the human skin to measure a blood glucose level contained in sweat. The driving chip is configured to control the actuation of the flow-guiding-and-actuating unit, control open/closed states of the switching valves and receive the measured data from the sensor for determination. By driving the flow-guiding-and-actuating unit, a pressure gradient is generated, and an insulin liquid stored in the liquid storage chamber is transported to the liquid guiding outlet through the liquid guiding channel, flowing into a microneedle patch, and injected into a subcutaneous tissue through a plurality of hollow microneedles.
REMOTE ANALYTE MONITORING AND INSULIN DELIVERY SYSTEM

Nº publicación US2019125969A1 02/05/2019
Solicitantes SENSEONICS INCORPORATED [US]
Resumen In one aspect, an analyte monitoring and insulin delivery system is provided. The system may include an analyte sensor configured to convey sensor data indicative of a measurement of one or more detectable properties based on an amount or concentration of an analyte. The system may include a transceiver configured to receive the sensor data and calculate an analyte level based on the sensor data. The system may include a display device configured to receive calculate an adjusted insulin delivery rate for an insulin pump and display the received analyte level and/or the adjusted insulin delivery rate. The system may include the insulin pump configured to increase, decrease or maintain a first insulin delivery rate based on the adjusted insulin delivery rate. The display device may further display icons corresponding to the system components and an operational status indicator for each icon.

SYSTEM, METHOD AND ARTICLE FOR CONTROLLING THE DISPENSING OF INSULIN

Nº publicación US2019125968A1 02/05/2019
Solicitantes DOSE SAFETY [US]
Resumen An integrated circuit includes circuitry to control a process. The process includes adjusting fuzzy-logic control parameters based on received and retrieved blood glucose-related data, predicting blood glucose levels based on the received blood-glucose-related data, and generating control signals to control dispensing of insulin based on the received blood glucose-related data and the fuzzy-logic control parameters. The process may include predicting blood glucose levels based on the retrieved blood glucose-related data. The process may include transitioning between a post-meal correction protocol and a fasting protocol. The process may include transitioning from a post-meal correction protocol to a fasting protocol when a fasting criteria is satisfied.
**Systems and Methods for Providing Professional Treatment Guidance for Diabetes Patients**

*Resumen*

Sistemas y métodos se proporcionan para proporcionar orientación terapéutica para un paciente en el que se obtiene un conjunto de datos bioquímicos. El conjunto de datos bioquímicos consta de resultados de una sola toma de sangre del paciente que incluye al menos tres mediciones seleccionadas de la lista: un test de proteína de reacción en cadena de alta sensibilidad, un test de adiponectina, un test de nivel intacto de proinsulina, un test de nivel de insulina, un test de C-peptide, un test de HbA1c, y un test de función renales efectiva. Se obtiene también un conjunto de datos demográficos para el paciente que incluye el género y la etapa de la diabetes. El conjunto de datos bioquímicos y demográficos se evalúa contra uno o más reglas para determinar un primer patrón de tratamiento del paciente. Luego, se prepara un informe basado en la identidad del primer patrón de tratamiento del paciente. El informe establece prioridades entre las clases de intervención para el paciente basadas en la identidad del primer patrón de tratamiento.

**SYSTEM AND METHOD FOR PROVIDING GLUCOSE CONTROL THERAPY**

*Resumen*

Un sistema puede incluir una estructura implantable con un conjunto de electrodos, donde la estructura implantable está configurada para ser implantada proximal a un nervio que innerva y está proximal a un órgano involucrado en el control del glucosa. El sistema puede incluir además un controlador configurado para controlar cuáles de los electrodos son electrodos de módulo y cuáles de los electrodos son electrodos de sensor. Un generador de energía de módulo configurado para entregar energía de módulo utilizando uno o más de los electrodos de módulo, y un sensor de tráfico nervioso configurado para detectar el tráfico nervioso en el nervio utilizando uno o más de los electrodos de sensor. El controlador puede ser configurado para determinar si la energía de módulo entregada captura el nervio basado en la actividad neural sensed.
ROTATIONAL METERING PUMP FOR INSULIN PATCH

Nº publicación US2019125962A1 02/05/2019
Solicitantes BECTON DICKINSON CO [US]
Resumen A rotary pump for a fluid metering system is provided. The rotary pump reciprocates, and is reversed by a signal from a limit switch that is deflected by an actuator arm on a rotating sleeve of the pump system.

WEARABLE LIQUID SUPPLYING DEVICE FOR HUMAN INSULIN INJECTION

Nº publicación US2019125964A1 02/05/2019
Solicitantes MICROJET TECHNOLOGY CO LTD [TW]
Resumen A wearable liquid supplying device for human insulin injection is fixed on a body of human through a ring belt and includes a substrate, a flow-guiding-and-actuating unit, a sensor and a driving chip. The substrate has a liquid storage chamber. The flow-guiding-and-actuating unit has a liquid guiding channel in communication with a liquid storage outlet of the liquid storage chamber and a liquid guiding outlet. The sensor measures a blood glucose level and generates measured data correspondingly. The driving chip receives the measured data from the sensor and controls the actuation of the flow-guiding-and-actuating unit and the open/closed states of the switching valves. The flow-guiding-and-actuating unit is enabled to generate a pressure difference so that the insulin liquid is transported to the liquid guiding outlet through the liquid guiding channel and flows into the microneedle patch for allowing the microneedles to inject the insulin liquid into the subcutaneous tissue.
WEARABLE LIQUID SUPPLYING DEVICE FOR HUMAN INSULIN INJECTION

Resumen
A wearable liquid supplying device for insulin injection is fixed on a user's body through a ring belt and includes a carrier body, a flow-guiding-and-actuating unit, a sensor, an air bag, a miniature air pump and a driving chip. The sensor measures sweat on human skin to detect a level of the blood glucose. The driving chip receives the glucose monitoring data and accordingly controls the actuation of the flow-guiding-and-actuating unit and the open/closed states of the switching valves. The miniature air pump is enabled to inhale gas into the air bag, so that the air bag is inflated and the ring belt contacts the human skin tightly. The flow-guiding-and-actuating unit is enabled to generate a pressure difference so that the insulin liquid is transported to a liquid guiding outlet through a liquid guiding channel and flows into the microneedle patch for being injected into the subcutaneous tissue.

Prefilled Injection Pen

Resumen
A prefilled injection pen for injecting insulin, the prefilled injection pen including: a screw rod, a memory connection barrel, a fixed barrel and a rotating barrel. A plurality of first one-way teeth is evenly distributed on an end surface of the rotating barrel. The memory connection barrel is disposed inside the rotating barrel. The inner wall of the memory connection barrel is provided with a protrusion matching a thread of the screw rod. An end face of one end of the fixed barrel is provided with a ratchet pawl matching the first one-way teeth. The fixed barrel is also provided with a first inner thread matching the screw rod. The screw rod is provided with two machined plane surfaces. A plunger is disposed at one end of the screw rod and a stopper is disposed in a thread groove at the other end of the screw rod.
WEARABLE LIQUID SUPPLYING DEVICE FOR HUMAN INSULIN INJECTION

N° publicación EP3476420A1  01/05/2019
Solicitantes MICROJET TECHNOLOGY CO LTD [TW]
Resumen  A wearable liquid supplying device (100) for insulin injection is fixed on a user's body through a ring belt (2) and includes a carrier body (3), a flow-guiding-and-actuating unit (5), a sensor (8), an air bag (12), a miniature air pump (13) and a driving chip (9). The sensor (8) measures sweat on human skin to detect a level of the blood glucose. The driving chip (9) receives the glucose monitoring data and accordingly controls the actuation of the flow-guiding-and-actuating unit (5) and the open / closed states of the switching valves (6). The miniature air pump (13) is enabled to inhale gas into the air bag (12), so that the air bag (12) is inflated and the ring belt (2) contacts the human skin tightly. The flow-guiding-and-actuating unit (5) is enabled to generate a pressure difference so that the insulin liquid is transported to a liquid guiding outlet (52) through a liquid guiding channel (51) and flows into the microneedle patch (7) for being injected into the subcutaneous tissue.

WEARABLE LIQUID SUPPLYING DEVICE FOR HUMAN INSULIN INJECTION

N° publicación EP3476419A1  01/05/2019
Solicitantes MICROJET TECHNOLOGY CO LTD [TW]
Resumen  A wearable liquid supplying device (100) for human insulin injection is fixed on a body of human through a ring belt (2) and includes a substrate (3), a flow-guiding-and-actuating unit (5), a sensor (8) and a driving chip (9). The substrate (3) has a liquid storage chamber (4). The flow-guiding-and-actuating unit (5) has a liquid guiding channel (51) in communication with a liquid storage outlet (41) of the liquid storage chamber (4) and a liquid guiding outlet (52). The sensor (8) measures a blood glucose level and generates measured data correspondingly. The driving chip (9) receives the measured data from the sensor (8) and controls the actuation of the flow-guiding-and-actuating unit (5) and the open/closed states of the switching valves (6). The flow-guiding-and-actuating unit (5) is enabled to generate a pressure difference so that the insulin liquid is transported to the liquid guiding outlet (52) through the liquid guiding channel (51) and flows into the microneedle patch (7) for allowing the microneedles (71) to inject the insulin liquid into the subcutaneous tissue.
LIQUID SUPPLYING DEVICE FOR HUMAN INSULIN INJECTION

Nº publicación  EP3476416A1  01/05/2019
Solicitantes  MICROJET TECHNOLOGY CO LTD [TW]
Resumen  A liquid supplying device (100) for a human insulin injection includes a substrate (1), a liquid storage chamber (2), a flow-guiding-and-actuating unit (3), a sensor (6) and a driving chip (7). The flow-guiding-and-actuating unit (3) includes a liquid guiding channel (31) having a liquid guiding outlet (314) in fluid communication with a liquid storage outlet (21) of the liquid storage chamber (2). The sensor (6) contacts with the human skin to measure the blood glucose level contained in sweat. The driving chip (7) is configured to control the actuation of the flow-guiding-and-actuating unit (3), control open/closed states of the switching valves (4a, 4b) and receive the measured data from the sensor (6) for determination. By driving the flow-guiding-and-actuating unit (3), a pressure gradient is generated, and insulin liquid (200) stored in the liquid storage chamber (2) is transported to the liquid guiding outlet (314) through the liquid guiding channel (31), flowing into a microneedle patch (5), and injected into a subcutaneous tissue through a plurality of hollow microneedles (51).

ELECTRONIC DEVICE AND ESTIMATION SYSTEM

Nº publicación  EP3476281A1  01/05/2019
Solicitantes  KYOCERA CORP [JP]
Resumen  An electronic device includes a sensor configured to acquire a subject's pulse wave, a blood pressure measurement portion configured to measure the subject's blood pressure level, and a controller configured to estimate a state of glucose metabolism or lipid metabolism of the subject on the basis of an index based on the subject's pulse wave acquired by the sensor and the subject's blood pressure level measured by the blood pressure measurement portion.
APPARATUS AND METHOD FOR GLUCOSE SENSING

Nº publicación KR101974284B1  30/04/2019
Solicitantes ULSAN NAT INST SCIENCE & TECH UNIST [KR]
Resumen  혈당 측정 장치에 연관되며, 보다 구체적으로 다이폴 안테나의 특정 파라미터를 측정하는 센서부; 상기 센서부가 측정하는 상기 특정 파라미터를 이용하여 혈당 수치를 계산하는 계산부; 및 코일을 이용하여 무선으로 전력과 데이터를 송수신하는 통신부를 포함할 수 있다.

BOLUS CALCULATOR AND METHOD FOR CALCULATING A BOLUS

Nº publicación WO2019077095A1  25/04/2019
Solicitantes SANOFI SA [FR]
Resumen  The present disclosure relates to a bolus calculator (4.1) for determining a bolus (B) of insulin, the bolus calculator (4.1) having an input configured to be fed with a time series (h(t-τ)) of blood glucose values and to store at least one known pulse response (x(τ)) representing an active profile of at least one insulin, wherein the bolus calculator (4.1) is configured to convolute the time series (h(t-τ)) of blood glucose values with the known pulse response (x(τ)) to obtain the bolus (B) and to a method for calculating a bolus (B) of insulin, comprising feeding a time series (h(t-τ)) of blood glucose values into an input of a bolus calculator (4.1) and storing at least one known pulse response (x(τ)) representing an active profile of at least one insulin in the bolus calculator (4.1), convoluting the time series (h(t-τ)) of blood glucose values with the known pulse response (x(τ)) to obtain the bolus (B).

Systems, Methods and Products for Minimizing Tissue Reactions and Tissue Injury at an Infusion Site

Nº publicación US2019117738A1  25/04/2019
Solicitantes CELL AND MOLECULAR TISSUE ENG LLC [US]
Resumen  Products, systems and methods are disclosed for lowering the concentrations of at least one of preservatives and fibrils in a liquid insulin composition. One method comprises replacing at least a portion of at least one of phenol and m-cresol with at least one of cyclodextrins, cyclodextrin polymers, cyclodextrin beads, and an ion exchange resin.
A SYSTEM AND METHOD FOR USE IN DISEASE TREATMENT MANAGEMENT

Nº publicación WO2019077482A1 25/04/2019
Solicitantes MOR RESEARCH APPLIC LTD [IL] 
DREAMED DIABETES LTD [IL]
Resumen Aspects of embodiments pertain to a method for use in disease treatment management comprising: receiving data indicative of pump treatment parameters; analyzing physiological data during use of a pump; said physiological data being indicative of a physiological characteristic of the patient; analyzing the received pump treatment parameters data to thereby identify at least one patient-related treatment characteristic; creating data indicative of multiple daily injections (MDI) treatment parameters by automatically determining individualized insulin dosing injection parameters data based on said at least one patient-related treatment characteristic and said physiological data.

DELIVERY DEVICES

Nº publicación WO2019079384A1 25/04/2019
Solicitantes THE METHODIST HOSPITAL SYSTEM [US]
Resumen Disclosed herein are devices for use in transplanting cells. The devices can include a housing defining a cavity; and a support structure separating the cavity into a cell chamber and a reservoir chamber, wherein the support structure comprises a membrane for fluid communication between the cell chamber and reservoir chamber. The cell chamber can define a first opening comprising a microstructure containing an array of micro-channels, each having a diameter to facilitate growth of vascular tissues; and an array of micro-reservoirs, each having a diameter to facilitate housing of cell aggregates individually. The membrane can define a surface area that is at least 50% of a total surface area of the support structure. Methods of treating a subject for a disease condition, such as diabetes, are also disclosed.

ORTHOGONALLY REDUNDANT SENSOR SYSTEMS AND METHODS

Nº publicación US2019117137A1 25/04/2019
Solicitantes MEDTRONIC MINIMED INC [US]
Resumen A continuous glucose monitoring system may include a hand-held monitor, a transmitter, an insulin pump, and an orthogonally redundant glucose sensor, which may comprise an optical glucose sensor and a non-optical glucose sensor. The former may be a fiber optical sensor, including a competitive glucose binding affinity assay with a glucose analog and a fluorophore-labeled glucose receptor, which is interrogated by an optical interrogating system, e.g., a stacked planar integrated optical system. The non-optical sensor may be an electrochemical sensor having a plurality of electrodes distributed along the length thereof. Proximal portions of the optical and electrochemical sensors may be housed inside the transmitter and operationally coupled with instrumentation for, e.g., receiving signals from the sensors, converting to respective glucose values, and communicating the glucose values. The sensors' distal portions may be inserted into a user's body via a single delivery needle and may be co-located inside the user's body.
METHOD FOR RAPID DETERMINATION OF INDICATIONS FOR PERFORMING INVASIVE CORONARY ANGIOGRAPHY IN PATIENTS WITH ACUTE CORONARY SYNDROME OF MODERATE AND LOW RISK OF DEVELOPING MYOCARDIAL INFARCTION WITHOUT LIFTING SEGMENT ST ON ELECTROCARDIOGRAM

Resumen

FIELD: medicine. SUBSTANCE: invention relates to medicine, namely to X-ray endovascular diagnostics and treatment, and is intended for determining indications for angiographic examination of patients hospitalized for emergency indications with chest pain and a preliminary diagnosis of "acute coronary syndrome". Disclosed is a method for rapid determination of indications for invasive coronary angiography in patients with acute coronary syndrome without ST segment elevation on an electrocardiogram and presence of moderate and low risk of developing infarction and death, including determining risk factors of cardiovascular diseases. Risk factors are hypercholesterolemia and dislipidemia; arterial hypertension; smoking; abdominal obesity; burdened heredity; cardiovascular disease factor; low physical activity; diabetes mellitus; insufficient consumption of fruits and vegetables; as well as male sex of patient and age for women of 55 and more years, for men of 45 and more years, in case of presence of patient's three and more of the above risk factors, invasive coronary angiography is performed urgently - up to 24 hours from admission, if more than three risk factors are detected, an additional examination is performed. EFFECT: invention provides rapid determination among the whole set of patients of moderate and low risk of myocardial infarction and cardiac death of patients with an increased risk of significant coronary arterial contractions, which are indicated by angiographic e...

Methods and Systems for Assessment of Cutaneous Autonomic Nerve Function

Resumen

A system and method for the non-invasive assessment of cutaneous autonomic nerve function through the application of external vibrational stimulus is disclosed. System embodiments comprising an electronic vibration source and photoplethysmographic (PPG) sensor enable measurement of vasomotor responses to vibrational stimuli. This response, facilitated by Pacinian channel-mediated stimulation of small fiber autonomic nerves, is quantified by PPG waveform analysis of transient skin vasoconstriction. Utilizing this normally elicited vasoconstriction reflex as the reference standard, small fiber autonomic nerve deficits revealed by absent or diminished vasomotor responses can be detected. Measurement of these deficits will enable rapid, non-invasive assessment of small fiber nerve degeneration in a variety of medical conditions including diabetes, hypothyroidism and chemotherapy-induced peripheral neuropathy.
Time averaged basal rate optimizer

Nº publicación AU2019202128A1 18/04/2019
Solicitantes DEXCOM INC
Resumen Systems and methods for integrating a continuous glucose sensor, including a receiver, a medicament delivery device, a controller module, and optionally a single point glucose monitor are provided. Integration may be manual, semi-automated and/or fully automated.

System and method for data analytics and visualization

Nº publicación AU2019202094A1 18/04/2019
Solicitantes DEXCOM INC
Resumen Systems and methods are described that provide a dynamic reporting functionality that can identify important information and dynamically present a report about the important information that highlights important findings to the user. The described systems and methods are generally described in the field of diabetes management, but are applicable to other medical reports as well. In one implementation, the dynamic reports are based on available data and devices. For example, useless sections of the report, such as those with no populated data, may be removed, minimized in importance, assigned a lower priority, or the like.
**CLOUD BIG DATA-BASED SMART REAL-TIME DYNAMIC BLOOD SUGAR MONITORING SYSTEM AND METHOD**

**Resumen**
A cloud big data-based smart real-time dynamic blood sugar monitoring system and method, the system comprising an implantable dynamic glucose sensor, a smart phone, blood sugar monitoring application software that is installed on the smart phone, a finger blood sugar meter, and a cloud big data server. The real-time dynamic blood sugar monitoring system comprising the smart phone and the cloud big data server may, by means of personal blood sugar measurement history data of a user that is stored in the cloud, effectively correct an influence produced by individual user differences on signals of the implanted dynamic glucose sensor so as to ensure the validity and accuracy of measurement signals when the sensor is in operation.

**CLOUD BIG DATA-BASED METHOD AND SYSTEM FOR INSULIN PUMP INDIVIDUALIZED CONFIGURATION OPTIMIZATION**

**Resumen**
A cloud big data-based method and system for insulin pump individualized configuration optimization. The system comprises an insulin pump, a real-time dynamic blood sugar monitoring system, a smartphone, blood sugar monitoring application software installed on the smartphone, and a cloud big data server. The insulin pump individualized configuration optimization system allows, by means of personal blood sugar measurement history data of users stored in the cloud, the effective calculation of an individualized optimal insulin injection dosage and injection rate for each user, thus aiding physicians and patients to formulate diabetes treatment plans of increased effectiveness.
GLYCEMIC RESPONSE INSIGHT DETECTION

Nº publicación US2019110723A1 18/04/2019
Solicitantes VERILY LIFE SCIENCES LLC [US]
Resumen Introduced here are techniques for developing personalized retroactive insights into how contextual factors can affect glycemic responses. The personalized retroactive insights can be made available to the corresponding individual so that they can examine the impact certain contextual events have had on blood glucose level. A contextual event represents an activity or a circumstance that is related to glycemic response. Rather than state the absolute amount of certain molecules (e.g., carbohydrates, protein, or fat) in a foodstuff, an insight detection platform can instead interpret disparate data types to discover the effect certain contextual events have on blood glucose level.

MULTI-STREAM DATA COLLECTION SYSTEM FOR NONINVASIVE MEASUREMENT OF BLOOD CONSTITUENTS

Nº publicación US2019110719A1 18/04/2019
Solicitantes MASIMO CORP [US]
Resumen The present disclosure relates to noninvasive methods, devices, and systems for measuring various blood constituents or analytes, such as glucose. In an embodiment, a light source comprises LEDs and super-luminescent LEDs. The light source emits light at least wavelengths of about 1610 nm, about 1640 nm, and about 1665 nm. In an embodiment, the detector comprises a plurality of photodetectors arranged in a special geometry comprising one of a substantially linear substantially equal spaced geometry, a substantially linear substantially non-equal spaced geometry, and a substantially grid geometry.
CALIBRATION TECHNIQUES FOR A CONTINUOUS ANALYTE SENSOR

Nº publicación US2019110724A1 18/04/2019
Solicitantes DEXCOM INC [US]
Resumen Disclosed herein are systems and methods for calibrating a continuous analyte sensor, such as a continuous glucose sensor. One such system utilizes one or more electrodes to measure an additional analyte. Such measurements may provide a baseline or sensitivity measurement for use in calibrating the sensor. Furthermore, baseline and/or sensitivity measurements may be used to trigger events such as digital filtering of data or suspending display of data.

BIOCOMPATIBLE ZWITTERIONIC POLYMER COATINGS AND HYDROGELS FOR REDUCING FOREIGN BODY RESPONSE AND FIBROSIS

Nº publicación EP3468633A1 17/04/2019
Solicitantes MASSACHUSETTS INST TECHNOLOGY [US]
CHILDRENS MEDICAL CT CORP [US]
Resumen Zwitterionic polymers or biocompatible polymers with improved properties for cell encapsulation, coating of devices, or a combination thereof are described. The biocompatible polymer contains a zwitterionic monomer, a monomer with a reactive side chain, and optionally another hydrophobic monomer or a neutral hydrophilic monomer. The zwitterionic polymers are cross-linked with a cross-linker via covalent bond to form a zwitterionic hydrogel in the presence of cells. Also provided, are methods of making and using the zwitterionic polymers.