

## THE NEMOURS FOUNDATION ACTIVE UNITED STATES PATENT LIST

United States Patent No.:  
Inventors: Langhans S, et al.

8,835,124  
Issued: September 16, 2014

### Method for treating cancer with agents that bind phosphorylated CDC27

#### Abstract

The presence of phosphorylated Cdc27 in cancer cells is utilized to identify patients likely to benefit from treatment with a chemotherapeutic agent that binds to, or bind to and crosslinks, phosphorylated Cdc27, e.g., curcumin, or to determine whether patients undergoing such treatment will continue to respond effectively. Candidate compounds are screened for anticancer effect by testing the ability to bind to or crosslink phosphorylated Cdc27.

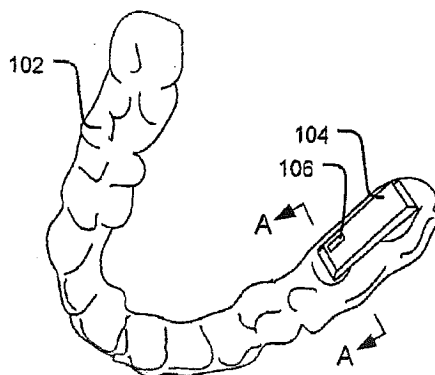
United States Patent No.:  
Inventors: Rahman T, et al.

8,771,149  
Issued: July 8, 2014

### Compliance monitor and method for a medical device

#### Abstract

An orthodontic compliance monitor includes a sensor that senses when an orthodontic appliance is properly positioned and a processor that processes an output of the sensor and generates compliance data. A memory device stores compliance data and the processor generates the compliance data based on a compliance protocol. System and methods for orthodontic compliance are also disclosed.



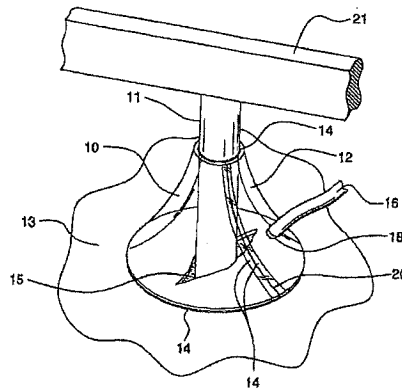
United States Patent No.:  
Inventors: Sample W, et al.

8,523,859  
Issued: September 3, 2013

**Vacuum-assisted wound healing around a pin-site**

**Abstract**

A vacuum-assisted wound healing device is provided comprising an airtight hollow conical member surrounding a skin-breaching bone stabilization device, and a port for attaching a suction tube. The conical member has an opening at one end conforming to the circumference of the shaft of a bone stabilization device, and an opening at the other end to enclose a wound in a patient's skin surrounding the bone stabilization device. The device may be used to provide controlled reduced pressure to the wound site, reducing healing time and risk of infection.



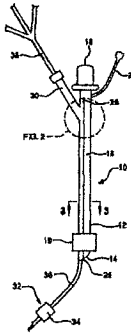
United States Patent No.:  
Miller TL, et al.

8,375,952  
Issued: February 19, 2013

**Device and method for unilateral lung ventilation**

**Abstract**

A system for unilateral lung ventilation includes an endotracheal tube and a blocking device for blocking the bronchus of a non-ventilated lung to prevent a ventilation medium from entering the lung. The blocking device includes an inflatable member supported by a catheter having an inflation lumen for inflating the inflatable member. The catheter includes at least one lung treatment lumen for delivering a therapeutic agent to the non-ventilated lung. An inner channel within the main channel and a side branch provide a guideway for the blocking device within the tube. A valve may be included to close the side branch when the blocking device is removed from the inner channel for parallel flow of ventilating gas in the main and inner channels. A method of using the system provides for ventilation/perfusion (V/Q) matching by respectively delivering cooled air and nitric oxide to the non-ventilated and ventilated lungs.



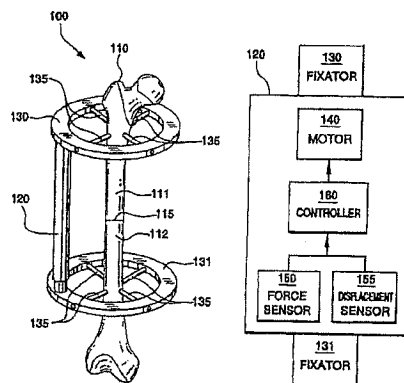
United States Patent No.:  
Mackenzie W, et al.

8,282,652  
Issued: October 9, 2012

**Force-controlled autodistractor**

**Abstract**

Force-controlled autodistractor for lengthening a bone is disclosed. A distractor is coupled to first and second fixators that are coupled to first and second portions of the bone, respectively, on opposite sides of an osteotomy of the bone. A motor produces a motion of the first fixator relative to the second fixator such that the first portion of the bone is distracted from the second portion of the bone. A force sensor measures a resistant force to the motion, and a distractor displacement sensor measures a distractor displacement. A controller is operably coupled to the force sensor, the distractor displacement sensor, and the motor. The controller is configured to determine a variable limb stiffness using the resistant force, the distractor displacement, and a known distractor stiffness of the distractor, and to adjust a gain of the motor such that the variable limb stiffness matches a desired limb stiffness.



**United States Patent No.:**  
**Devotta M, et al.**

**8,067,166**  
**Issued: November 29, 2011**

**Chromosome 1p36 polymorphisms and low bone mineral density**

**Abstract**

The invention provides methods and compositions for diagnosing risk of low BMD and risk of osteoporosis based on the detection of SNP identity for human chromosome 1p36 polymorphisms designated in the NCBI SNP database (dbSNP) as rs2794328, rs446529, rs397559 and rs1802353

**United States Patent No.:**  
**Kirwin S, et al.**

**7,807,643**  
**Issued: October 5, 2010**

**Compositions containing leptin**

**Abstract**

A method and composition for administering leptin to a subject. The invention includes suspending isolated native leptin-containing milk fat globules in a suitable medium for administering to a subject. The suspended milk fat globules may be administered orally as well as by intravenous, intramuscular, intraperitoneal, other enteral routes of administration, and other parenteral routes of administration. The invention includes a method for treating growth or maturational-related disorders in newborns as, well as subjects having conditions that can be treated by the administration of leptin.

**United States Patent**  
**Rahman T, et al.**

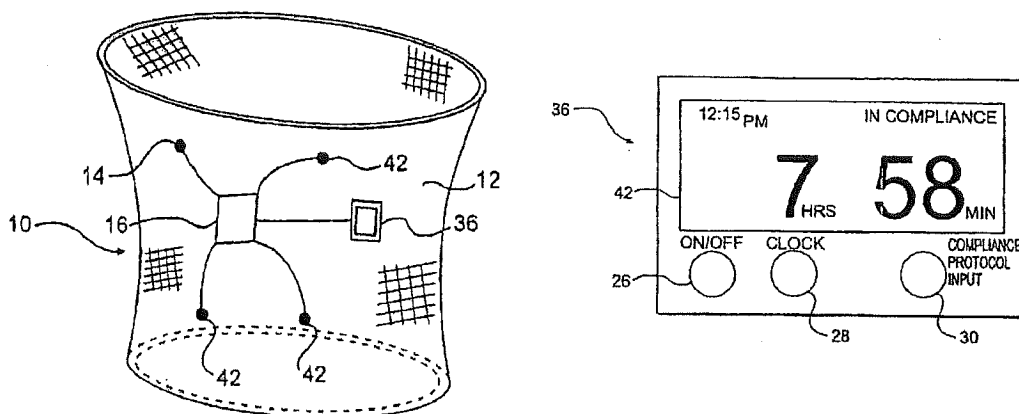
**7,632,216**  
**Issued: December 15, 2009**

**Brace compliance monitor**

**Abstract**

A brace compliance monitor is disclosed that includes a compliance sensor, a signal processor, and a display. Compliance data displayed on the display to provide the patient or subject with immediate compliance information on whether they have been wearing the brace for the specified period and in the specified manner. The brace compliance monitor may also include a secondary sensor such as a tilt sensor, a pressure sensor, a force sensor, an acceleration sensor, or

a velocity sensor. The secondary sensors may provide additional compliance data to the patient and health care provider.



United States Patent No.:  
Devoto, M, et al.

7,618,779  
Issued: November 17, 2009

### Chromosome 1p36 polymorphisms and low bone mineral density

#### Abstract

The invention provides methods and compositions for diagnosing risk of low BMD and risk of osteoporosis based on the detection of SNP identity for human chromosome 1p36 polymorphisms designated in the NCBI SNP database (dbSNP) as rs2794328, rs446529, rs397559 and rs1802353.

United States Patent No.:  
Kirwin S, et al.

7,354,896  
Issued: April 8, 2008

### Administration of leptin

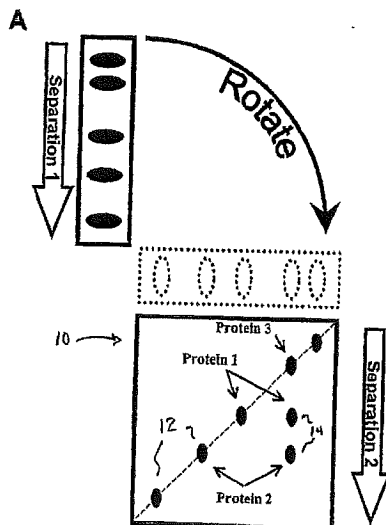
#### Abstract

A method and composition for administering leptin to a subject. The invention includes suspending isolated native leptin-containing milk fat globules in a suitable medium for administering to a subject. The suspended milk fat globules may be administered orally as well as by intravenous, intramuscular, intraperitoneal, other enteral routes of administration, and other parenteral routes of administration. The invention includes a method for treating growth or maturational-related disorders in newborns as well as subjects having conditions that can be treated by the administration of leptin.

**Multi-dimensional proteomic analysis method**

**Abstract**

A multi-dimensional proteomic analysis method utilizing cationic electrophoresis is described. The method includes separating proteins in one direction using cationic electrophoresis and separating the proteins in a second orthogonal direction using other electrophoresis separation methods such as denaturing electrophoresis and electrophoresis subsequent to proteolytic cleavage or isofocussing. The two dimensional array may be used to determine various protein-protein interactions in a sample.

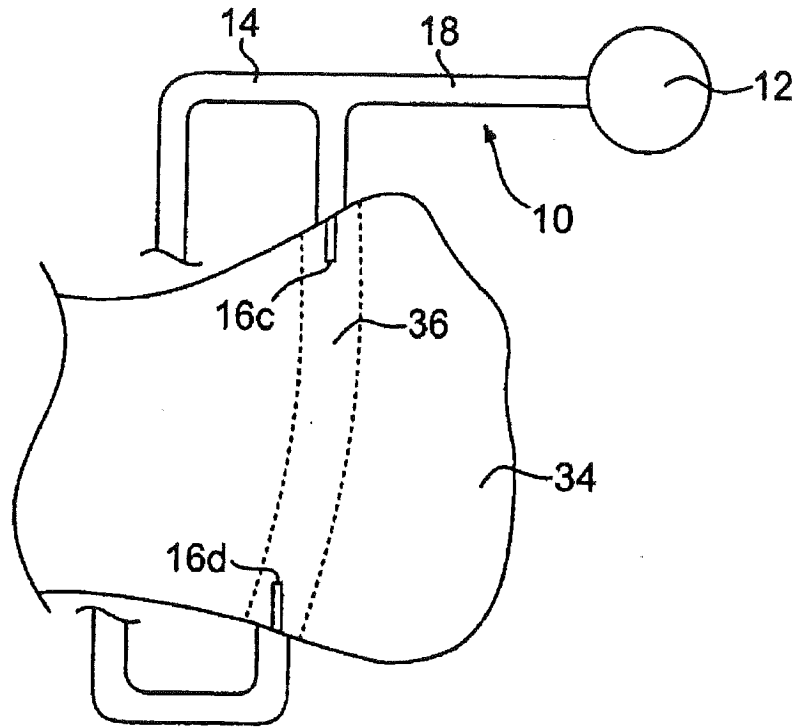


**Electrical current induced inhibition of bone growth**

**Abstract**

A method and device is disclosed for inhibiting bone growth, including inducing epiphyseodesis or hemiepiphyseodesis, using electrical current. The device includes a power source and one or a series of electrodes for applying a current sufficient to reduce or stop the growth of a bone to selected regions of the bone. The method and device may be used to correct growth

discrepancies in extremities such as the arms or legs, as well as correct the curvature of the spine in scoliosis patients.



United States Patent No.:

7,166,063

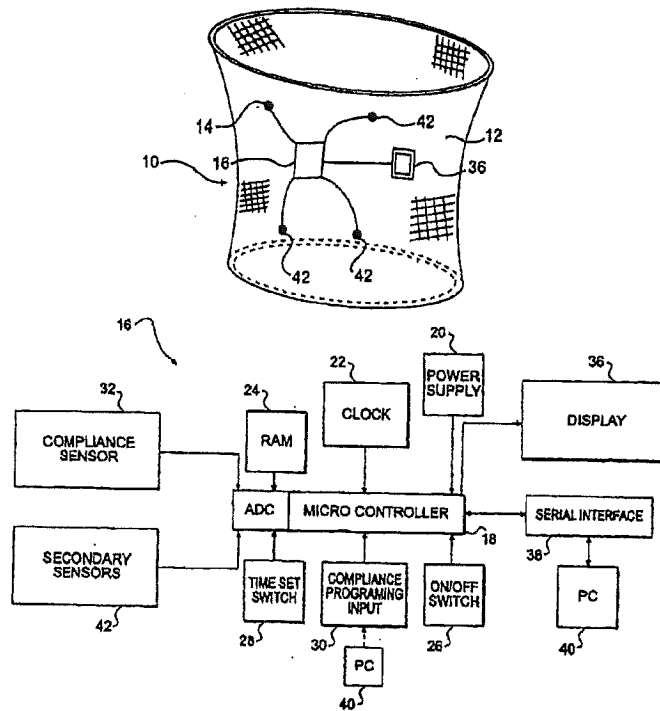
Rahman T, et al.

Issued: January 23, 2007

### Brace compliance monitor

#### Abstract

A brace compliance monitor is disclosed that includes a compliance sensor, a signal processor, and a display. Compliance data is displayed on the display to provide the patient or subject with immediate compliance information on whether they have been wearing the brace for the specified period and in the specified manner. The brace compliance monitor may also include a secondary sensor such as a tilt sensor, a pressure sensor, a force sensor, an acceleration sensor, or a velocity sensor. The secondary sensors may provide additional compliance data to the patient and health care provider.



United States Patent No.:  
Schwartz, M

7,074,764  
Issued: July 11, 2006

**Treatment of intestinal epithelial cell malfunction, inflammation or damage with Hepatocyte growth factor**

**Abstract**

The present invention relates to a method and composition for treating a patient having a condition characterized as inflammatory bowel disease with an effective dose of HGF. Inflammatory bowel disease as defined by the present invention, includes Chronic Ulcerative Colitis, Crohn's Disease, necrotizing enterocolitis, severe acute gastroenteritis, chronic gastroenteritis, cholera, chronic infections of the bowel, immunologic disorders affecting the intestine, immunodeficiency syndromes affecting the intestine, and HIV. Mucosal damage and histologic lesions are reduced by administering an effective dose of HGF to patients suffering from the same. Specifically, the effective dose of HGF is in a range of about 30 .mu.g/kg body weight/day to about 300 .mu.g/kg body weight/day. HGF may be administered to the patient lumenally or systemically.



United States Patent No.:  
Funanage V, et al.

6,884,777  
Issued: April 26, 2005

### Method for treating respiratory distress syndrome

#### Abstract

The invention provides a method for treating infants, children or adults suffering from pulmonary distress caused by low or insufficient production of surfactant. It is particularly suitable for treating premature infants suffering from Respiratory Distress Syndrome. The method comprises administering a leptin compound to an individual with impaired surfactant production for a time and in an amount sufficient to enhance surfactant production. The method may be used for treatment of any mammal with impaired lung surfactant production.

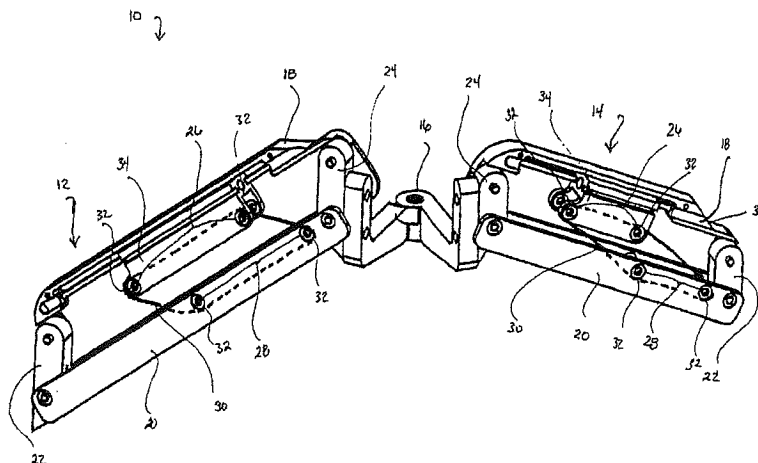
United States Patent No.:  
Rahman T, et al.

6,821,259  
Issued: November 23, 2004

### Orthosis device

#### Abstract

An orthosis device generally includes two limb sections pivotably attached to each other in at least one degree of freedom and adapted for insertion of or attachment to adjacent portions of a limb of a user. Each limb section further includes a four-bar linkage and a spring member adapted to provide an equilibrium-inducing force corresponding to a combined weight of the limb section and the limb inserted therein or attached thereto. The equilibrium-inducing force allows every point in three-dimensional space to be a balanced position, such that a user with muscular abnormalities can move his or her limbs and hold them in place. A pivotable shoulder bracket for attaching the orthosis device to a wheelchair may also be provided. Furthermore, the orthosis device can be adapted to accommodate individuals of varying weight or with varying levels of disability by adjusting the spring member or providing powered actuators and force sensors.



**United States Patent No.:**

**6,630,444**

**Schwartz M, et al.**

**Issued:**

**October 7, 2003**

### **Intestinal function using leptin**

#### **Abstract**

A method for treating a patient that has inadequate intestinal function is described. Administering leptin to a subject increases the intestinal function beyond that for a normal intestine and beyond that of a normal adaptive response. Further, administering leptin to a subject results in an increase in amino acid absorption, sugar absorption, mucosal mass, transport mechanisms for amino acids, or transport mechanisms for sugars. The method may be used for treating subjects have conditions such as short bowel syndrome, inflammation of the bowel, necrotizing enterocolitis, intestinal atresia, midgut volvulus, severe acute gastroenteritis, chronic gastroenteritis, cholera, chronic infections of the bowel, immunologic disorders affecting the small intestine, and inflammatory bowel disease such as, chronic ulcerative colitis and Crohn's Disease.

**United States Patent No.:**

**6,475,984**

**Kirwin S, et al.**

**Issued:**

**November 5, 2002**

### **Administration of leptin**

#### **Abstract**

A method and composition for administering leptin to a subject. The invention includes suspending isolated native leptin-containing milk fat globules in a suitable medium for administering to a subject. The suspended milk fat globules may be administered orally as well as by intravenous, intramuscular, intraperitoneal, other enteral routes of administration, and other parenteral routes of administration. The invention includes a method for treating growth or maturational-related disorders in newborns as well as subjects having conditions that can be treated by the administration of leptin.

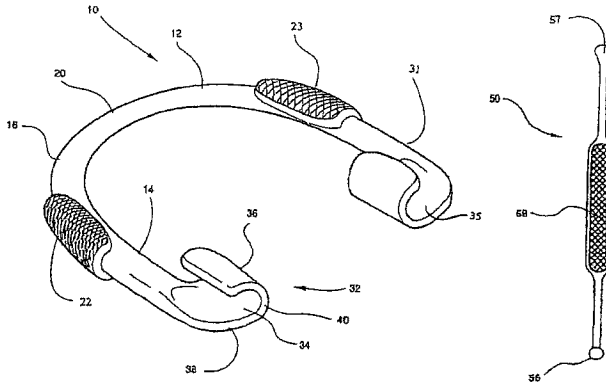
United States Patent No.:  
Herod R

6,440,065  
Issued: August 27, 2002

**Single-use disposable eyelid speculum, eye examination kit, and method for examining a patient's eye**

**Abstract**

The present invention relates to a single-use disposable eyelid speculum and scleral depressor. The eyelid speculum comprises an elongated curved arm formed from an elastic single piece element. The elongated curved arm terminates in integrally formed spoons, each spoon being configured to engage an eyelid. The eyelid speculum and scleral depressor may be provided as a kit in either separate or combined packing in a sterilized condition. The kit is intended to be disposable after a single use.



United States Patent No.:  
Fawcett, P

6,165,736  
Issued: December 26, 2000

**Method of detecting bacterial infection**

**Abstract**

A method of developing sensitive and discriminatory diagnostic procedures for detecting active bacterial infection in animals, especially humans, basically involves partially digesting the genomic DNA of the infecting bacterial pathogen into a generally large number of ideally random fragments and finding proteins encoded by those fragments which evoke a discriminating response to specimens from viably infected animals. Cloning techniques are used

to cause the genes of the multitude of DNA fragments to produce proteins. Groups of proteins encoded by the genes of each fragment are separately tested for the ability to generate an immune response in certain specimens from animals known to have "viable infection", "convalescent infection" and "naive status" with respect to infection by the infecting bacterial pathogen. The protein groups which evoke positive immune responses to viably infected but no immune response to naive specimens are identified as "selectively responsive proteins". Similarly, selectively responsive proteins which are found to evoke no immune response from convalescent specimens are identified as "discriminatingly responsive proteins". These selectively and discriminatingly responsive protein groups can be cloned in magnitude and used to test unknown patients for status of infection. The method is amenable for developing tests based upon non-invasively obtained specimens, such as peripherally-obtained blood samples. Moreover, rigorous mapping of the pathogen genome is not prerequisite for carrying out the development method. Consequently, the development method can be used to obtain diagnostic procedures particularly suitable for generating individually inexpensive bacterial infection assays capable for screening large scale patient populations.

United States Patent No.:  
Schwartz, M

5,972,887  
October 26, 1999

**Treatment of intestinal epithelial cell malfunctions with  
Hepatocyte Growth Factor**

**Abstract**

Reversal of reduced intestinal mucosal mass and absorptive function in patients by the administration of low doses of exogenous HGF either systemically or intraluminally.

United States Patent No.:  
Funanage V, et al.

5,882,868  
Issued: March 16, 1999

**Method of diagnosing spinal muscular atrophy**

**Abstract**

A diagnostic method for determining whether an individual is affected with spinal muscular atrophy involves evaluating the relative amounts of exon 5 of Neuronal Apoptosis Inhibitory Protein (NAIP) and exon 7 of centromeric and telomeric Survival Motor Neuron (SMN) genes in a genomic sample from the subject. A PCR analysis employing NAIP5F, NAIP5R, SMNX7DRA and SMNR111 primers is used to amplify the desired genes. The PCR product is digested with an enzyme which recognizes only the centromeric SMN sequence and the digested product can be separated by electrophoresis. The novel method allows multiplex analysis for both NAIP and SMN genes in the same sample work up. The analytical procedure further permits the digestion to be carried out without prior purification of the PCR product. Very importantly, the analytical procedure provides for the ability to diagnose the heterozygous telomeric SMN phenotype and thus allows the non-affected carrier of spinal muscular atrophy to be identified.

**United States Patent No.:**  
**Funanage V**

**5,604,199**  
**Issued: February 18, 1997**

**Method of treating fibrosis in skeletal muscle tissue**

**Abstract**

A method of treating skeletal muscle fibrosis in mammals. The novel method is effective for reducing the extent of skeletal muscle fibrosis in an individual who suffers from a disorder which targets skeletal muscle tissue, such as Duchenne's and Becker's muscular dystrophy and denervation atrophy induced by either trauma or neuromuscular disease. The treatment includes administering to the individual an effective amount of a metalloporphyrin compound, especially hemin, heme arginate, cobalt protoporphyrin IX chloride and cobalt protoporphyrin IX arginate.