

ACAer

American Certification Agency for Healthcare Professionals

20 Best Medical Breakthroughs of 2016



Special Points of interest:

- “There is a new experimental cancer drug called AR-12 that may work against drug-resistant bacteria and viruses. AR-12 is not an antibiotic but it interferes with the ability of bacteria to become and stay resistant to antibiotics”

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Mammograms for Heart Disease Screening Re

Researchers at Mt. Sinai Hospital have confirmed a link between the amount of calcium in the arteries of the breasts, which can be seen on digital mammograms, and the level of calcium buildup in the coronary arteries. Routine mammograms could be useful in identifying women at a higher risk of heart disease. If you get a digital mammogram, ask if your vessels show calcifications. If your breast arteries suggest a risk for heart disease, you could be referred for additional tests.

The World’s First Virtual Health Care Center

In Chesterfield, MO there is a care center that has no waiting room and over 300 doctors and nurses that sit in front of computer displays and watch over the care of patients at 38 hospitals in six states. This command center can oversee ICU patients and alert nurses to a crisis before it happens and gets info from at home patients via iPads and medical devices. Telemedicine technology can help keep many patients at home and only the very sickest patients in the hospital

A Vaccine Against Lung Cancer

CimaVax is the world’s first lung cancer vaccine and is now beginning clinical testing trials in the US. This vaccine targets the cancer’s fuel source in a deceptively simple way and with minimal side effects.

A Drug to Destroy Superbugs

There is a new experimental cancer drug called AR-12 that may work against drug-resistant bacteria and viruses. AR-12 is not an antibiotic but it interferes with the ability of bacteria to become and stay resistant to antibiotics. It targets a family of proteins that is essential for the replication of almost every type of bacterial or viral pathogen while leaving the normal body cells unharmed.

A Personal Chemical Analyzer

A new handheld sensor called SCIO by Consumer Physics reads the molecular makeup of foods, medications, and even your body with an infrared spectroscopy scan and sends the info to a smartphone app. It can tell you how many calories or carbs in a restaurant meal or even check your own body fat.

Diagnosis by SuperComputer

IBM’s Alcomputer Watson can consult through millions of research studies to compare a patient’s symptoms to arrive with the correct diagnosis in a matter of minutes. Watson’s medical training started in 2011 by reading through volumes of medical literatures. Watson consults with doctors and researchers around the world.

A One –Of-A- Kind Osteoporosis Drug

There is a new bone builder medication that is expected to get FDA approval very soon. Current meds on the market only reduce the rate of bone breakdown, whereas abaloparatide works by stimulating bone formation through direct effects on the bone-forming cells in our skeleton. It will improve bone mass in both the spine and hip rapidly and reduces fractures very quickly.

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20 Best Medical Breakthroughs of 2016

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A Way to Outsmart Zika-Spreading Mosquitoes

The FDA’s Center for Veterinary Medicine is doing a trial where genetically modified mosquitoes will be released to mate with wild female mosquitoes that carry the Zika virus. The males have a “self-limiting gene” that programs their offspring to die before maturity. This means that the Zika carrying mosquitoes will gradually decline.

Diabetes Drugs That Reduce Heart Risks

Many people with type 2 diabetes die from cardiovascular problems. Liraglutide is a glucose lowering drug that also lowers the risk of death from cardiovascular causes by 22% in those people with type 2 diabetes. Another diabetes drug, empagliflozin cuts cardiovascular deaths by 38% and hospitalization due to heart failure by 35%.

A DNA APP Store

A new company in CA., for a fee, will store a consumer’s genomes, and allow research labs to use the info to create health apps. Consumers get a detailed history of their genetic makeup.

Brain Training That Lowers Dementia Risk

The University of Florida showed that a particular form of computerized brain exercise may reduce the risk of dementia by as much as 48%. The game “Double Decision” from Posit Science simulates driving on a road while dealing with distractions and obstacles. The game was designed to improve mental quickness. The training has been shown to prevent dementia, not treat those who have already been diagnosed.

An Alternative To Blood Thinners For Atrial Fibrillation

People with Afib have an increased risk of blood clots and strokes because of their irregular heartbeat. They are usually treated with blood thinners can cause bleeding. There is a new minimally invasive procedure called the “Watchman” that became available once Medicare agreed to cover the cost. The implant is shaped like an umbrella and enters the heart via a catheter. It is placed at the opening of the left atrial appendage, where most clots develop. When the tissue forms over the device, it seals the appendage and then blood thinners are no longer needed.

3D Printed Organ Tissue That Tests Drug Toxicity

The goal is to create a reproducible and reliable source of tissues to screen potential drugs for safety before the drugs are administered to people. This is done by creating a liver with 3D bioprinted tissues. This allows drug makers to rely less on animal testing.

The Launch of Precision Medicine

The idea is to approach treatments and prevention strategies tailored to the individual. The NIH is going to study 1 million people who are willing to share their lifestyle habits, medical history and genetic information so more can be learned about factors that influence health.

Progress Toward a Zika Vaccine

In August 2016 the first human trial of a vaccine containing pieces of DNA that researchers encoded with genes for Zika virus proteins. The body will mount an immune response after being injected with the vaccine which allows the body’s cells to create proteins that transform into virus like particles.

Implanted Bionic Limbs

Johns Hopkins reported that a high-tech prosthetic limb was attached directly to a man for the first time. It is designed to allow users to move device by just thinking about it. Implanted sensors convey signals from the brain to a computer and then back to the limb.

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A Better Stroke Stopper

Stroke specialists have a new tool called a “stent retriever”. The mesh cage is threaded through a catheter into a blood vessel in the leg and then guided up to the blocked artery in the brain. The cage is opened and the clot is removed from the body and normal blood flow is restored.

Needle Free Glucose Testing

The University of Leeds in England has invented a device called “Glucosense” that reads blood sugar levels without a needle. Users place their finger on a piece of silica glass containing ions that fluoresce when hit with a low power laser. The reflected fluorescence signal varies according to the concentration of glucose in the blood. At a university in Wales they have created a glucose monitor that uses microwave energy to detect glucose levels through the skin and then send the data to an app.

An App To Diagnose Sleep Apnea

More than 25 million Americans have obstructive sleep apnea but there are not enough sleep labs to diagnose every person who may have it. Sleep apnea can cause elevated high blood pressure, stroke, heart problems, depression and diabetes. Sleep apnea can cause elevated high blood pressure, stroke, heart problems, depression and diabetes. Sleep apnea can cause elevated high blood pressure, stroke, heart problems, depression and diabetes. The “ApneaApp” uses inaudible sound waves from the phone’s speakers to track breathing patterns without sensors or special equipment. This allows for a diagnosis to be made at home. The app has achieved 95-99% accuracy compares with polysomnography, which is the test used in sleep labs.

A New Alzheimer’s Treatment

A new treatment in California involves infusions of a blood product called IVIG (Intravenous Immunoglobulin) that contains antibodies to amyloid, an abnormal brain protein found in Alzheimer’s patients. People who have a mild cognitive impairment and received infusions of IVIG over 2 months performed better on cognitive tests and had significantly less brain atrophy after 1 year than those who were given a placebo. IVIG could change the course of the disease if offered early to people.

Prevention December 2016

FDA ISSUES A BAN ON POWDERED GLOVES

The FDA has issued a final rule, effective January 2017, banning powdered surgeon’s gloves, powdered patient exam gloves, and absorbable powder for lubricating a surgeon’s gloves. The ban includes both natural rubber latex and synthetic latex gloves and applies to powdered gloves in commercial distribution and/or already in use at hospitals and other clinical settings.

The FDA cited serious risks to both patients and healthcare providers exposed to powder, including severe airway inflammation, hypersensitivity reactions and allergic reactions, including asthma. During surgery powder particles can trigger an immune response that can lead to complications such as granulomas and adhesions.

The FDA decided on the ban instead of a strong warning label because people affected might not have a chance to read a warning label and a warning label would not eliminate the risks posed by glove powder. Non powdered surgical and patient exam gloves are available that provide the same level of personal protection, dexterity, and durability without the same health risks.

Federal Register, December 19, 2016

“The FDA has issued a final rule, effective January 2017, banning powdered surgeon’s gloves, powdered patient exam gloves, and absorbable powder for lubricating a surgeon’s gloves

ACA RECERTIFICATION PACKETS

If your ACA certification expires on June 30, 2017, you will receive a packet of information on how to recertify by mid-May. You will NOT receive a packet if your certification does not expire until June 30, 2018.

Any recertification postmarked after June 30, 2017 and before August 31, 2017 must include a \$40 late fee.

After September 1st, 2017, recertification is by re-examination.

CONTINUING EDUCATION RESOURCES AVAILABLE

Media Lab

Medtronic Academy (ECG)

Texas Dept. of State Health CE Service

Health Stream

Cardio Village

MTS Lab Training Library

CEUfast Nursing CE

Phlebotomy Center

ABP, Inc.