

Medical Match Staffing www.medicalmatch.net December 2009

Need front desk or clinical staff, billers, or management? **303-980-1000**



2009 Science

Compared to healing practices of 100 years ago, medical offices create daily miracles for patients with trained teams, computers, procedures, medications, and equipment. This year's interesting scientific developments continue to advance diagnosis and treatments. Other recent discoveries in science protect the environment and expand our knowledge of underwater creatures and outer space possibilities.

1. Medical Celox **Trauma Gauze** is a bandage which can (a.) seal gashes with a blood clotting agent or (b.) relieve burns after soaking it in water and turning the bandage into a cooling gel.
2. 3M/Littman **Cardioscan Stethoscope** transmits heart sounds to a doctor's PC by Bluetooth and renders a graph representation onscreen. Software analyzes the waves and highlights the abnormalities. Results can be transferred quickly to cardiologists and to patient charts, saving time and EKG expenses.
3. Over 600 patients have had surgery to **restore sight by implanting a piece of tooth into the eye**. The process involves a piece of tooth, a man-made lens, and grafting the patient's skin to grow a new cornea. Once healed, the surgeon cuts a hole in the cornea to let the light in, restoring sight.
4. The Nobel Prize in physiology or medicine was awarded to Americans Elizabeth H. Blackburn, Carol W. Greider, and Jack W. Szostak for discovering **how chromosomes protect themselves as cells divide**. This work has inspired experimental cancer therapies and may offer insights into aging.
5. Thiol-SAMMS, a white silica/sulphur powder, can **clean mercury-contaminated water**. Each grain, an engineered molecular sponge, absorbs more than half its weight in mercury and instantly converts to a stable powder, safe for landfills. 10 pounds can treat about a million gallons of water. \$50-750/pound.
6. **X Flex Blast Protection Wallpaper** is made from Kevlar-like material, sandwiched by sheets of elastic polymer wrap. Attached to walls by peeling off the backing and reinforcing with edge fasteners, it can test stronger than the brick or cement wall it is protecting against blasts, natural disasters, and explosions.
7. University of Texas researchers spray nanoparticle "inks" full of tiny photovoltaics from copper gallium selenide (CIGS) to create **very thin solar panels on any surface**. Currently the ink only converts 1% of the sunlight into electricity; researchers predict a better conversion %. They plan to market in 3-5 years.
8. December *National Geographic* reported a 2009-10 survey of **over 5700 sea creatures living in total darkness**, so far. With specially designed cameras and secondary light sources, this international project taped: sea cucumbers with 15 tentacles, jumbo webbed octopi, oil-eating tube worms, and more.
9. Although identified 10 yrs. ago, the Lawrence Berkeley national Lab confirmed the existence of **Element 114**, temporarily named **ununquadium**. It is heavier than uranium and has a longer half-life.
10. *Anchiornis huxleyi* is a recently found **dinosaur fossil** between 1-11 million years older than the oldest known bird. Feathers covered each of the dinosaur's 4 wings and feet, indicating it lived in trees.
11. After a USA planned flight and a **moon** crater explosion, cameras documented icy **water molecules**. Data is being analyzed to find if, and how, the water might be accessible for future moon exploration.

Happy Holidays and a Prosperous New Year from Medical Match!

