

Newsletter

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Recent Updates in the Medical Industry

With rising complications in most of the diseases and disorders, it has become a dire need of the tech-savvy world to seek simplest means and in minimum time imparting the best possible results. The luxurious and fast moving life of humans spares no margin of time for regular body tests or gulping pills.

INTRODUCTION

Scientists in collaboration with biotechnologists around the world consistently carry out research to possibly unleash all the human body limits. Some of which have been listed here briefly. A craze of the tattoo among people will now be satisfied with extraordinarily

developed ink, untimely and painful migraines which did not let you concentrate on work can now be treated without an aspirin, diagnosis of skin cancer has been made easier also like regaining vision of a blind.

RECENT UPDATES

COLOUR CHANGING INK TATTOO TO EXAMINE SUGAR LEVEL

Researchers from MIT and Harvard Medical School have developed three different inks that change colour corresponding to the interstitial fluid between our body cells. The Project 'Dermal

Abyss ' uses biosensor ink, one of which measures glucose level of the human body with precision. This ink shifts its colour from blue to brown with the rise in blood sugar level in the human body. A body tattoo with this ink will ease the life of people with diabetes, who rely on daily finger pricking methods. Various other colour changing ink have also been developed to measure Sodium level and pH value.

Glucose value
(mmol-L⁻¹)

5

110



ELECTRONIC ASPIRIN

Electronic Aspirin will be a medical innovation to treat chronic headaches. The root cause of a chronic headache and migraine experienced by patients is the signals emitted by a group

of nerves of the human face known as the Sphenopalatine ganglion or SPG. Electronic Aspirin is a device which will be planted in the upper gum of patients suffering from a chronic headache and migraine to stimulate the SPG and block its signals. Designed by Autonomic Technologies, the lead tip the Electronic Aspirin will connect with the SPGs and emit signals guided by a handheld remote near the cheek, the one closer to the implant, of the patient. Thus, the neurotransmitters causing pain will be blocked. The following process is observed.

GENERAL ANESTHESIA IS APPLIED TO USER'S BODY

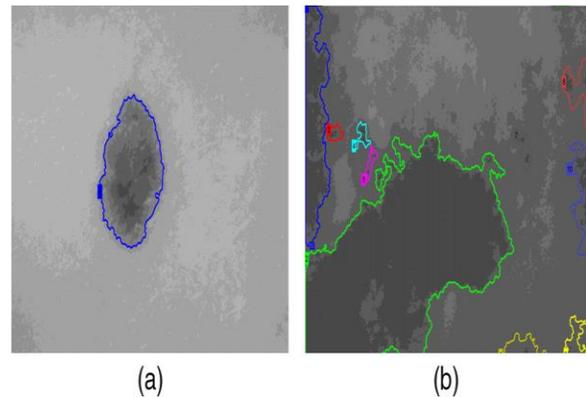
SIGNALS WILL BE TRANSMITTED TO SPG AND WILL BLOCK THE PAIN

ONCE SETTLED IN. USER LOCATES REMOTE ON HIS CHEEK TO START THE DEVICE

SPG IS IMPLANTED NEAR THE NOSTRA, TOUCHING THE NERVE

CUTTING BACK ON MELANOMA BIOPSIES

Melanoma is a severe type of skin cancer which is detected by means of surgical biopsy. Initially, it is diagnosed with numeral moles on the body. Now with advanced research and technology, miniature devices are used by dermatologists to analyze the form and structure of surrounding tissues. One of those devices is an optical scanner. The optical scanner uses non-invasive detection of damaged and suspicious tissue at the required wavelength. Later the collected signals are matched and compared with 10,000 other images and signals of skin diseases and healthy tissues. This procedure avoids surgical scars on patient's body and also is a less expensive process.



Benign
Mole with dysplasia

Mole

ARTIFICIAL RETINA

A person's central vision dissipated to one-tenth, or the individual lost peripheral sight seeing less than about twenty degrees out of the central vision, is legally considered blind. The normal vision of an eye is 20/20, enabling an individual to view around 90 degrees. Nano-Retina-a company, developed a tool to reinstate the eyesight of individuals who suffered a loss of

their eyesight because of a disease called, retinal degeneration. The tiny device called Nano Retina, the NR600 embed replaces the photoreceptor cells that have been damaged creating the electric stimulus that is required to activate the leftover healthy cells of the retina. NR600 comprises of a tiny chip that can be implanted and eyeglasses that are to be used by the victim.

CONCLUSION

Newer possibilities are thus daily transformed into realities by smarter and intelligent brains. But we never know if we even automate major processes of medical future with the help of Robots. Definitely, that day remains awaited.

REFERENCES

<https://www.asme.org/engineering-topics/articles/bioengineering/to-p-5-medical-technology-innovations>

<https://www.sciencealert.com/m-it-is-working-on-colour-changing->

[tattoo-ink-that-can-monitor-your-health-in-real-time](#)

<http://cargocollective.com/future-health/filter/individual/Electric-Aspirin>

Melanoma [Internet]. Vancouver: B.C. Cancer Agency; 2013. Surveillance and early detection in high-risk patients. [cited 2014 Feb 20].

<https://www.cadth.ca/optical-scanners-melanoma-detection>

Lior Graham; Yitzhak Yitzhaky; Ibrahim Abdulhalim, March 2013, Classification of skin moles from Spectropolarimetric images, Journal of Biomedical Optics | Volume 18 | Issue 11

<http://www.nano-retina.com>