

EDIBLE ELECTRONICS

(FOR BETTER DIAGNOSIS)

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Electronic medical implants have been emerging in the field of biomedical engineering in the past few decades. Along with the great inventions came a few challenges, including infection and inflammation risks, and the cost of surgical implant procedure. The idea of edible electronics consumed through the digestive system to achieve certain diagnostic goals, was proposed as a solution to these problems. Edible electronics make possible many medical applications that are only dreamed of today by the wildest minds.

Edible electronics means implanting a capsule into the body. The main function of capsule is image acquisition, colon diagnosis, data transfer and detecting ulcers. The capsule does not cause any side effects since it is manufactured by using melanin pigment extracted from cuttlefish, serves as an ideal power source for certain types of medical devices. This capsule consists of camera, sensor, transmitter, antenna. This camera can capture “n” number of images this therapy using capsule is called capsule endoscopy.

The potential consumers include medical institutions, military and athletes. The core temperature sensing function of a device is useful in detecting over-heating or over-working problems. These over-heating problems are very hard to detect from the body surface, which makes in-body sensing necessary. In the future, many surgical procedures may be

eliminated in favour of edible solutions, and the possibilities will grow as time and the technology advances.

Some of the medical devices can be replaced by these e-capsules as they have reduced infection risk, there is no need of sterilization, cost effective deployment and the life span of these devices is more 24 hrs and the device size is less than 1 cm. In future it is going to become one of the revolutionary inventions in the bio-medical engineering.