

# 3 d Technologies

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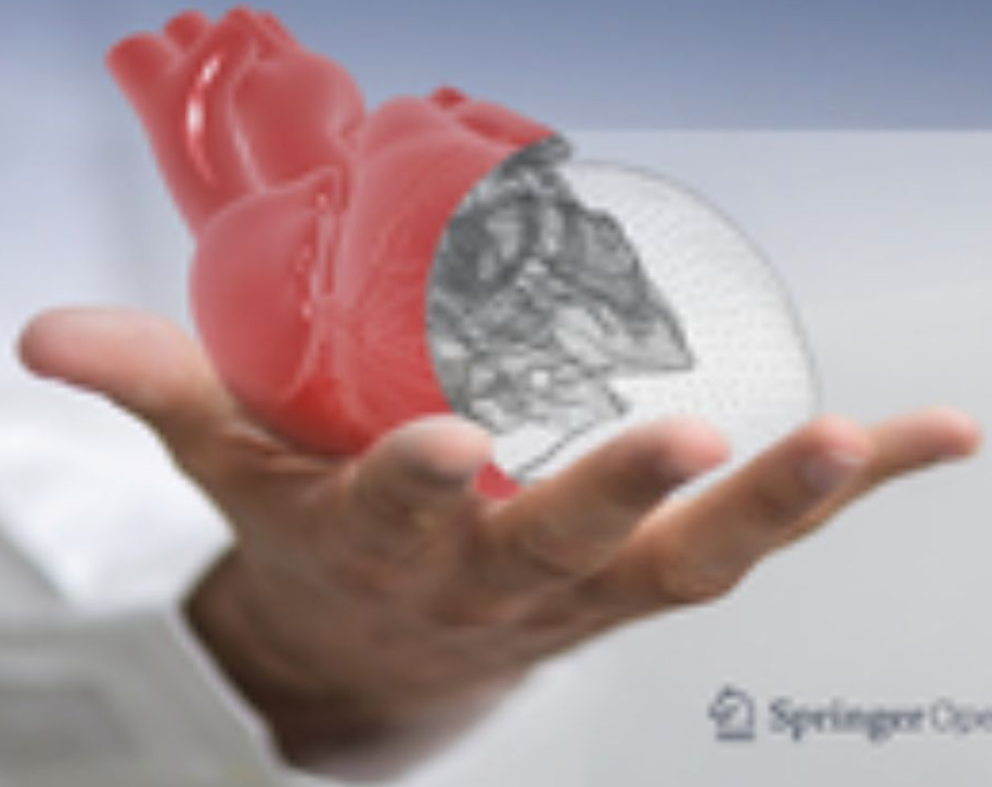


THE GUIDE TO  
**THE FUTURE  
OF  
MEDICINE**

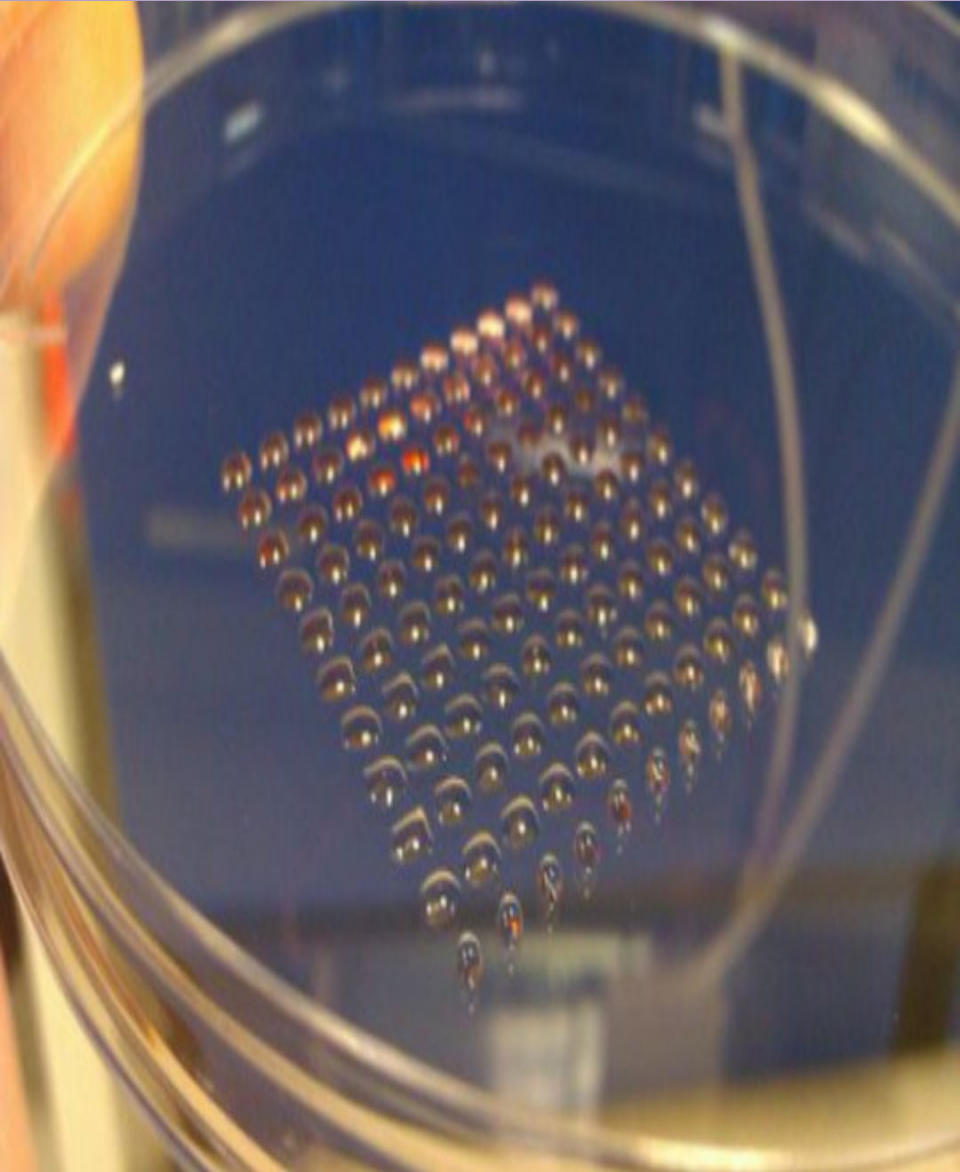
Technology AND The Human Touch

**In medicine additive technologies are used for different purposes from training students in medical universities and planning operations to printing implants and organs for transplantations.**

# 3D Printing in Medicine



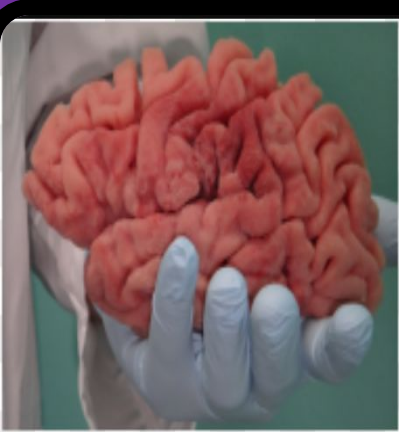
# Stem cells



Scientists from the  
bat institute in

learned to print  
stem cells  
great

**3 D TECHNOLOGIES ALLOWS YOU TO RECREATE EXACT COPY OF THE ORGAN THAT FACILITIES IN ADVANCE PLANNING OF THE OPERATION.**



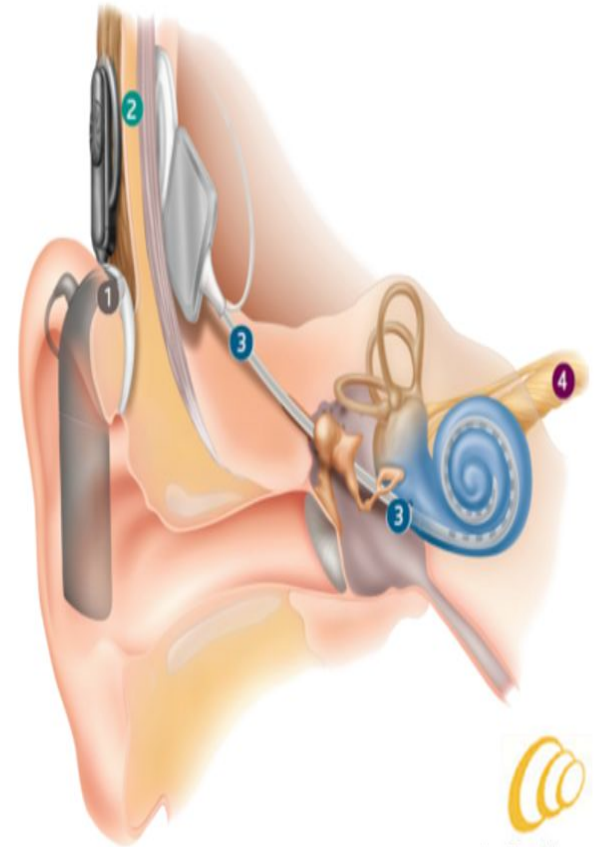


Scientists from Pristons University used 3 d printing for print out bionic ear, wich can catch ultrasound. Bionic have grown from cartilage tissue with polimer silver nanopartials.



## How a bionic ear works

- 1 The sound processor captures sounds and converts them into digital code.
- 2 The sound processor transmits the digitally coded sound through the coil to the implant just under the skin.
- 3 The implant converts the digitally coded sound to electrical impulses and sends them along the electrode array, which is positioned in the cochlea.
- 4 The implant's electrodes stimulate the cochlea's hearing nerve which sends the impulses to the brain where they are interpreted as sound.



Surgeons from Bejin removed the patient to chordoma  
7 affected vertebrae proas of the lumbar region and  
replaced them with 3 d printed implants.



# Help people with external affects



**Korean doctors made artificial nose to a boy from Mongoli, who was born without a nose. The nose was made from the patient own tissues.**





A 22 year old girl from Netherlands with chronic bone disease successfully transplanted the upper part of the scull on a plastic 3 d implant.





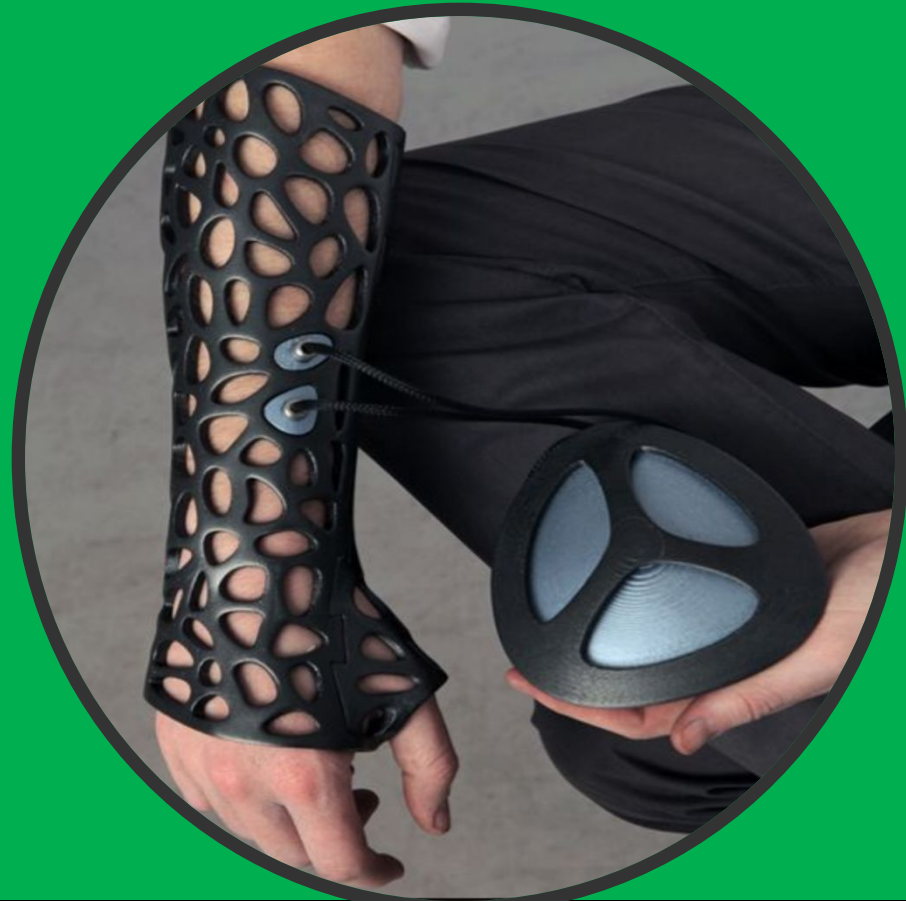
# pregnancy

Based on ultrasound images possible to create accurate three dimensional models .This allows doctors to follow the development of the fetus, to detect pathology in the early stages of development and future parents can get a unique souvenir for memory))

## Happy babies)))

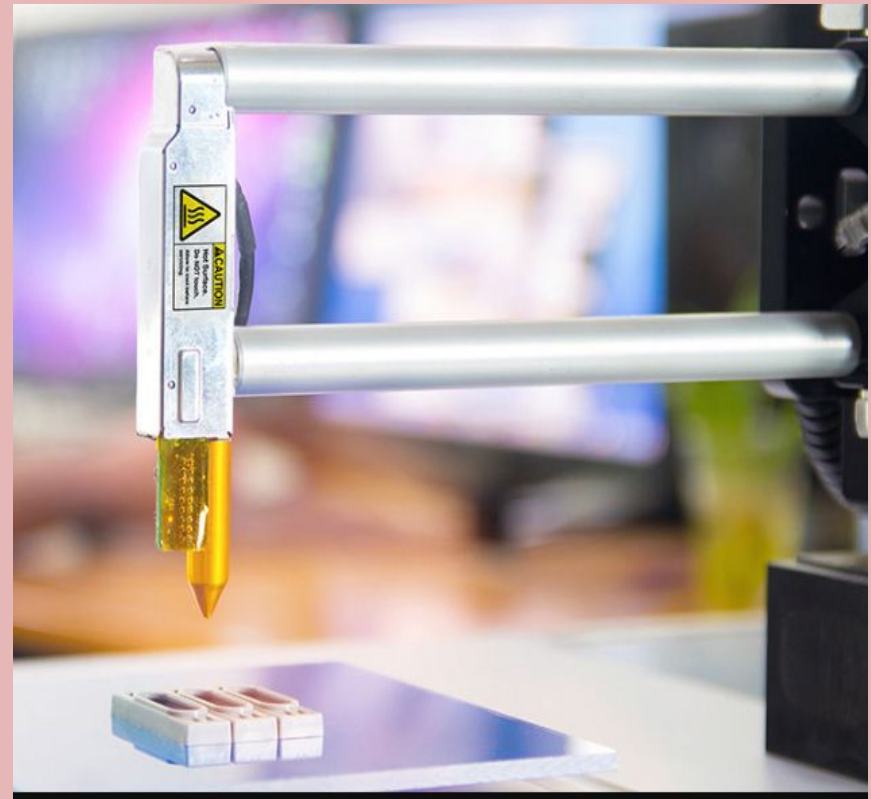


A graduate of wellington university architect Jake Evill developed an exoskeleton gypsum- cortex. This gypsum provides complete fixation, protection of broken bones, perfectly ventilated , friendly with water , also its lightweit.



### 3 D TABLETS

In March of this year appeared the first certified tablets, that allow you exactly regulate the dose and speed of its assimilation. When printing takes into account the rate, weight of growth and other parameters. Possible soon we can produce medicines without living home.))





**Thank for attention))**