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3D PRINTING IN MEDICINE

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The aim of the study is to attract attention to a new field of medicine, that is 3D printing, which is actively developing now. Three-dimensional printing technologies have the genuine potential to improve medical treatments for conditions ranging from bone cancer and arthritis to glaucoma and hearing loss. Making 3D copies is widely used in doctors' practice in well-equipped hospitals: 3D bioprinting allows orthopaedic surgeons to print an artificial bone from the scan of the patient, printing existing surgical materials to precisely the right shape to replace a missing or damaged bone. The prospects of this invention are impressive. In the future, 3D printing technologies may be used together with advances in stem cell research to print living bone cells from patients' own cells or functioning organs for transplant. Though, 3D printing is not magic. It is simply a way to scale up the current processes to engineer organs in the laboratory. The goal is to produce organ structures such as these with 3D printing to make the engineering process more precise and reproducible. The ultimate goal of regenerative medicine – regardless of the way the organs are engineered – is to help solve the shortage of donor organs. 3D bioprinting also raises a number of ethical questions that will need to be considered as these technologies develop: justice in access to health care, testing for safety and efficacy, and whether these technologies should be used to enhance the capacity of individuals beyond what is 'normal' for humans.