FRANKENSCIENCE OR FEARLESS MEDICINE?
How far will modern medicine go with advances in 3D bioprinting?

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FRANKENSCIENCE OR FEARLESS MEDICINE?

While 3D printing in the biomedical sector is moving fast, the path from dental implants to regrown organs is a long and difficult one.

BY TAN HWEE HWEE

Two centuries from the debut of Mary Shelley’s *Frankenstein*, science is again testing the boundaries of humanity. The creation of the first commercial three-dimensional (3D) bioprinter would make possible the printing of a human being from scratch, layer by layer, organ by organ, vastly advanced from resurrecting life by piecing together flesh recovered from the dead as pictured in the 1800s literary classic. >>>
Not all are equal

How some 3D-printing applications have moved ahead of others

by Beryl L. K. Cheng and M. E. L. Cheng

The advent of 3D printing has made it possible to produce complex medical devices in a cost-effective and efficient manner. However, the acceptance of 3D printing in the medical field has been slow, with some applications moving ahead of others. This article discusses the factors that have contributed to the success of certain applications and the challenges that need to be addressed to accelerate the adoption of 3D printing in healthcare.

Doctors' orders

With their unique ability to print medical devices and implants, 3D printing has transformed the way medical professionals think about patient care. This article explores the potential of 3D printing in the medical field, with a focus on its applications in orthopedics and cardiology.

The potential of 3D printing in orthopedics

3D printing has revolutionized the production of custom medical devices and implants, allowing for personalized treatment options. However, the adoption of 3D printing in orthopedics has been slow, with several factors contributing to this.

The potential of 3D printing in cardiology

3D printing has also transformed the field of cardiology, with the ability to print custom medical devices and implants.

The use of 3D printing for surgical implants

The use of 3D printing for surgical implants is still in its early stages. While some companies have started using 3D printing for surgical implants, the adoption of this technology remains slow.

Off-the-shelf devices

Off-the-shelf devices are gaining popularity, with surgeons using them in place of custom-made implants. This approach can reduce costs and improve patient outcomes.

The future of 3D printing in healthcare

The future of 3D printing in healthcare is promising, with advancements in technology and increased adoption of this technology. However, challenges remain, requiring continued research and development.

Glossary

3D printing: A process that uses a digital design to create a physical object layer by layer.

Orthopedics: The branch of medicine dealing with disorders of the musculoskeletal system.

Cardiology: The branch of medicine dealing with the heart and blood vessels.

Surgical implants: Devices placed in the body to assist or replace a natural function.

Off-the-shelf devices: Devices that are ready to use and do not require customization.