# Article information:

A building‐block approach to 3D printing a multichannel, organ‐regenerative scaffold - Wang - 2017 - Journal of Tissue Engineering and Regenerative Medicine - Wiley Online Library
<https://onlinelibrary.wiley.com/doi/full/10.1002/term.2038?casa_token=fegMC6jKDXUAAAAA%3A8Esidhy9DCvmoASlJaEqNgrltWa5B45LQPt5kSURiS7LBVscvqMB-FlMDQVdQnGSyyUuhZxSbRAnrQ>

# Article summary:

1. Tissue engineering requires the manufacture of multichannel scaffolds for complex organ production.

2. Three-dimensional printing (3DP) is a promising technology for fabricating scaffolds for regenerative medicine.

3. Researchers have used synthetic polymers to build 3D scaffolds with micro- or macrochannels, promoting vascular and nerve formation.

# Article rating:

Appears moderately imbalanced: The article provides some useful information, but is missing several important points or pieces of evidence that would be required to present the discussed topics in a balanced and reliable way. You are encouraged to seek a more balanced perspective on the presented issues by exploring the provided research topics and looking at different information sources.

# Article analysis:

The article titled "A building-block approach to 3D printing a multichannel, organ-regenerative scaffold" discusses the use of three-dimensional printing (3DP) technology for manufacturing multichannel scaffolds for complex organ manufacture. The article provides an overview of the benefits of using macro- or microporous scaffolds in tissue engineering and regenerative medicine, such as cell proliferation, cell aggregation, and angiogenesis.

The article highlights the potential of 3DP technology in fabricating scaffolds for regenerative medicine. However, it fails to provide a balanced view on the limitations and challenges associated with this technology. For instance, the article does not discuss the potential risks associated with using synthetic polymers such as poly(lactic-co-glycolic acid) (PLGA) and polyurethane (PU) in building 3D scaffolds.

Moreover, the article seems to be biased towards promoting the use of 3DP technology in tissue engineering without providing sufficient evidence to support its claims. For example, while the article mentions that researchers have used biomaterials and RP techniques to fabricate scaffolds for regenerative medicine, it does not provide any data on their effectiveness or safety.

Additionally, the article lacks depth in discussing alternative approaches to tissue engineering and regenerative medicine. It only briefly mentions some studies that have used other methods such as PU-gelatin or PU-collagen constructs with interconnected channels for vascular and nerve systems.

Overall, while the article provides some useful insights into the potential applications of 3DP technology in tissue engineering and regenerative medicine, it is limited by its one-sided reporting and lack of depth in discussing alternative approaches and potential risks associated with this technology.

# Topics for further research:

* Limitations and risks of using synthetic polymers in 3D printing for tissue engineering
* Effectiveness and safety of biomaterials and RP techniques in scaffold fabrication for regenerative medicine
* Alternative approaches to tissue engineering and regenerative medicine beyond 3D printing
* PU-gelatin and PU-collagen constructs with interconnected channels for vascular and nerve systems
* Challenges associated with 3D printing of multichannel scaffolds for complex organ manufacture
* Comparative analysis of different scaffold fabrication techniques for tissue engineering and regenerative medicine.

# Report location:

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