

3D Bioprinting Pre/Post-Quiz

- 1. Which of the following most accurately describes 3D bioprinting?**
 - A. Manufacturing biological tissues and organs out of living cells *only* using a 3D bioprinter
 - B. Manufacturing biological tissues and organs out of living cells and non-living biomaterials using a 3D bioprinter
 - C. Manufacturing non-living tissues and organs using a 3D printer that are intended for use in medicine
 - D. Using living organisms to “print” biological tissues and organs that will be used in medicine
- 2. What is a potential benefit that could one day be achieved with 3D bioprinting?**
 - A. To help patients who are in need of new tissues or organs
 - B. To aid in the testing of new drugs
 - C. To reduce the risk of transplant rejection using host cells
 - D. All of the above
- 3. What is a current capability of 3D bioprinting?**
 - A. Printing tissue samples for use in drug testing
 - B. Printing small organs like ears or bones
 - C. Printing complex, functional organs like hearts and kidneys
 - D. All of the above
- 4. Which of the following is not a limitation of 3D bioprinting?**
 - A. The abundant and branched nature of the vasculature is difficult to reproduce
 - B. Risk of immune rejection is high when using foreign materials
 - C. Accurately printing tissues on the micro-scale
 - D. Finding long-lasting, biocompatible materials that will not have negative side-effects
- 5. Which of the following are considered types of extracellular matrix (ECM) biomaterials?**
 - A. Collagen
 - B. Cardiac cells
 - C. Elastin
 - D. A and C
 - E. A, B, and C