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Innovation Infosheet

Biomimetic Platform to Characterize Tissue Swelling

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Researchers at Purdue University have developed a biomimetic platform to quantify injection-induced tissue swelling. Administering biologics by subcutaneous injection is faster than by intravenous infusion and convenient for patients who can self-administer at home. However, the practice has not been broadly adopted, in part due to pain and discomfort from tissue swelling that occurs during an injection. There is currently no reliable platform to quantify tissue swelling for optimizing drug formulations. The Purdue researchers' platform enables prediction of mechanical stress and interstitial fluid pressure to optimize drug formulations with the goal of reducing pain and discomfort during subcutaneous injection.

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