



Treatment: Long-Lasting Meds

Researchers developed an extended-release injectable formulation of the most widely prescribed antiretroviral regimen worldwide.

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HIV treatment has come a long way, but people still need longer-lasting options. Researchers at the University of Washington developed an extended-release injectable formulation of tenofovir disoproxil fumarate, lamivudine and dolutegravir, the most widely prescribed antiretroviral regimen worldwide. They used novel drug combination nanoparticle technology that makes it possible to combine agents with differing physical and chemical properties. They were able to stabilize and assemble the three drugs into a formulation suitable for subcutaneous injection, which they dubbed TLD--in-DcNP. When given to monkeys, all three antiretrovirals exhibited long-acting profiles. Drug levels above predicted effective concentrations were maintained in blood plasma for four weeks after a single injection, and levels were even higher in cells. Tenofovir and lamivudine are also active against hepatitis B virus (HBV), making this regimen suitable for people with HIV/HBV coinfection. What's more, the subcutaneous formulation, injected under the skin, might allow for self-administration.

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