

# IAS 2019 conference on HIV science reveals hopeful new treatment and prevention approaches

The International AIDS Society's 10th Conference on HIV Science took place in Mexico City from July 21 to 24, and featured a number of noteworthy developments relating to clinical care and treatment of HIV.

## Implantable PrEP

Pre-exposure prophylaxis, or PrEP, has proven highly effective in preventing HIV infection, but for some taking PrEP, taking the daily pill can be challenging, and in these cases its efficacy is lessened. A new study, whose results were unveiled on the last day of the conference amid great anticipation, showed that a slow-release implant from pharmaceutical company Merck provided effective long-lasting protection against the HIV virus. The drug used in the implant, known as MK-8591, or islatravir, is experimental, and is considered to be ten times more powerful than many other antiretrovirals (making very small doses effective). The study, which aimed only at this point to test the safety and tolerability of the drug, lasted only three months, but scientific projections showed that the 62mg dose would maintain sufficiently high levels of the drug in the blood to stop HIV replication (a 54mg dose did not show the same outcome). The drug's "extraordinary persistence," in the words of Dr Randolph Matthews, the study's lead researcher from Merck, made it particularly suitable for long-lasting applications. Further clinical trials will follow.

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Four days on-three days off antiretroviral treatment strategy shown to work

A study led by the French national HIV research agency, the ANRS, has shown that taking HIV treatment four days a week was just as effective as daily treatment, for people who already had a fully suppressed viral load. Some types of antiretroviral medication maintain sufficient levels in the blood for several days, keeping HIV under control even when a single dose was missed. The QUATUOR study recruited 647 people whose viral load had been fully suppressed for at least 12 months, and who had no resistance to HIV medications. The participants were on a variety of different antiretroviral regimens, and were randomized to take their medication seven days a week or for four consecutive days. Results were measured after 48 weeks, with 'therapeutic success' defined as undetectable viral load as well as no interruption of the assigned treatment strategy. Results for the four-day-a-week strategy were 'non-inferior,' and there was no difference between different categories of antiretrovirals.

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WHO recommends dolutegravir as preferred HIV treatment

On the basis of new evidence publicized at the IAS conference, the World Health Organization has recommended that the antiretroviral medication dolutegravir (DTG) be used as the preferred first-line and second-line treatment for all populations, including pregnant women. This recommendation is especially important following a May 2018 study in Botswana that raised the possibility of a link between the use of DTG during pregnancy and neural tube defects in infants born to women who had been using DTG at the time of conception. However, the new data, which comes from two large clinical trials comparing the safety of DTG and efavirenz (EFV) have confirmed that the risk of neural tube defects as a result of DTG use is significantly lower than initially suspected.

#### Read the WHO press release...

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Best practices from 6 HIV treatment locations

Friends of the Global Fight, AVAC, and amfAR launched a new report at the IAS conference, that shows how "dramatic reductions in HIV incidence and mortality have been achieved in six very different settings" across the globe: Thailand; Malawi; Rakai, Uganda; New South Wales, Australia; London, England; and San Francisco, in the United States. According to the report, the six different locations all highlight a number of most-effective interventions to end the epidemic: Campaigns to encourage HIV testing, particularly among the most affected groups; free and easy access to HIV treatment at the time of diagnosis (regardless of CD4 count); the scale-up of evidence-based HIV prevention techniques (such as voluntary medical male circumcision, PrEP, and harm reduction); and concerted efforts to provide human-rights-based services and social supports alongside programs to fight stigma and discrimination.

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ECHO study finds high rates of HIV and STIs

The Evidence for Contraceptive Options and HIV Outcomes (ECHO) trial was a clinical trial conducted in four African countries (eSwatini, Kenya, South Africa and Zambia) over 18 months, which compared the HIV risk to women using the three most common contraceptive methods: the DMPA-IM injection, a copper intrauterine device, and a levonorgestrel (LNG) implant. The trial found that HIV infection risk does not differ significantly by contraceptive method, putting to rest long-standing fears that the use of come hormonal contraceptives might have increased women's risk of becoming infected with HIV. The study also found very high rates of HIV incidence among young women involved in the trial, whose cohort comprised sexually active, HIV-negative women from age 16 to 35. The women were followed for 12-18

months across nine sites in South Africa, and another three in the other three countries.

Read the IAS's full press release...

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