

FIVE THINGS TO KNOW ABOUT ...

HIV pre-exposure prophylaxis

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HIV pre-exposure prophylaxis (PrEP) is the regular use of antiretroviral medication by HIV-negative individuals to prevent HIV infection

Currently, PrEP refers to prophylactic daily oral use of tenofovir disoproxil fumarate/emtricitabine (TDF/FTC), a formulation that is indicated in Canada for the treatment of HIV infection. Although licensed only in the United States for PrEP, this formulation is used off label in Canada for carefully selected and monitored individuals who are at high risk of HIV infection, based on expert clinician judgment. Those at high risk include men who have sex with men and who have frequent unprotected anal intercourse.

PrEP does not protect against other sexually transmitted infections

Infections may increase if users perceive themselves to be protected from HIV and increase high-risk behaviours (i.e., risk compensation), but this has not been borne out by empirical data.^{1,3,4} Although TDF/FTC protects against incident hepatitis B infection, hepatitis B screening and vaccination is recommended before PrEP initiation.⁶

PrEP is well-tolerated, with minimal short-term nausea

Although associated with rare renal and bone-related complications in HIV-positive individuals, TDF/FTC has been associated with minimal adverse effects in PrEP trials.^{1,3,4} Long-term risks remain unknown.

PrEP is efficacious in the prevention of HIV, with adherence being the critical determinant of effectiveness

Randomized controlled trials of PrEP have found reductions of 44%–75% in HIV incidence among men who have sex with men, heterosexual people and people using injection drugs.^{1–4} Pharmacodynamic modeling suggests efficacy above 99% if PrEP is taken daily.⁵ A trial of intermittent dosing, as well as demonstration projects, are under way to assess real-world effectiveness.

The development of HIV resistance is a rare but real concern

M184V/I and K65R mutations emerged in 5 of 11 trial participants given TDF/FTC who had undiagnosed HIV infection at the time of enrolment, despite having undergone standard HIV testing.^{1–4} No resistance was documented in 93 participants given TDF/FTC who acquired HIV after PrEP was started, although the development of resistance remains a concern in this group.^{1–4} Patients starting and using PrEP should undergo careful clinical assessments and laboratory testing for HIV every three months. PrEP should not be dispensed or redispensed until seronegativity has been documented.²

Resources for clinicians and an annotated bibliography are available in Appendix 1 (www.cmaj.ca/lookup/suppl/doi:10.1503/cmaj.140127/-/DC1)

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