



13th International
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AND PREVENTION
ADHERENCE

Metrics of Success: How to Measure Adherence to PrEP and Intermittent PrEP

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Learning Objectives

- Explain how drug half-life dictates adherence interpretation.
- Give one example of a short half-life and long half-life assay for PrEP.



PrEP drug (PK) assays

TFV and FTC are phosphorylated and trapped in cells (TFV-DP, FTC-TP)

“short half-lives (~hours)”

- TFV/FTC plasma
- TFV urine
- TFV saliva
- FTC-TP DBS

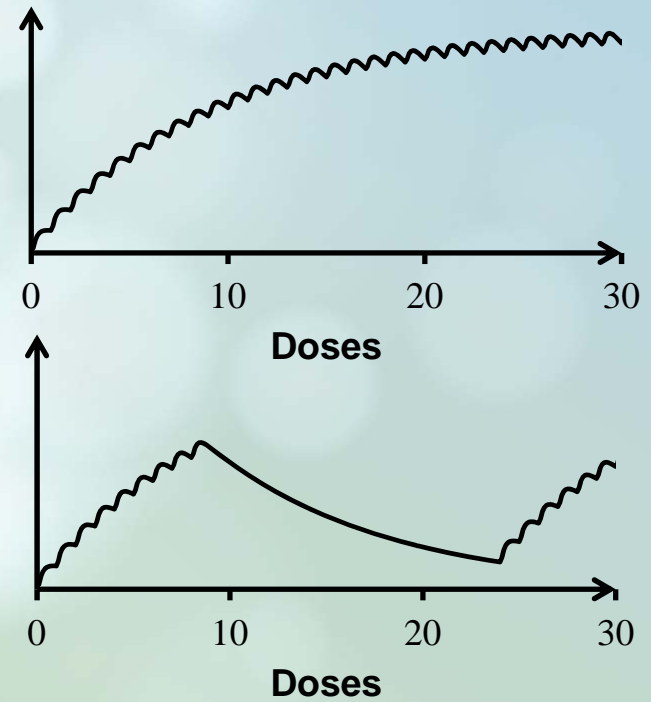
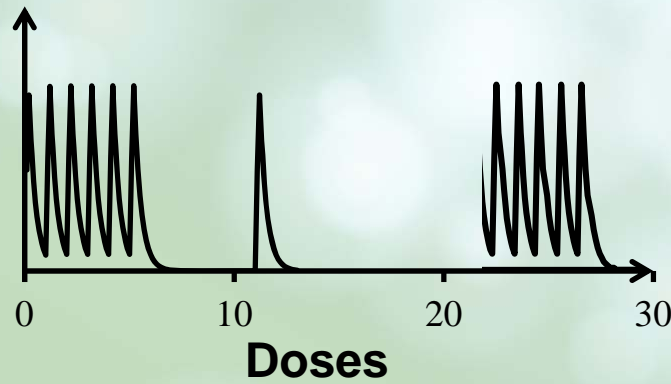
“long half-lives (~weeks)”

- TFV-DP DBS
- TFV/FTC hair



Short vs long half-life

Drug concentrations





Illustration

Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60		
Sex		O					O							O		O				O									O		O		O																													
Dosing		X	X	X		X	X							X	X	X				X	X	X					X	X						X	X	X																										





 PK Sample PK Sample

Short half-life: recent dose visit 1,
no recent dose visit 2

Long half-life: ~2-3 dose/wk over last
1-2 months

Adapted from: Van der Straten AIDS 2012. 26;7, F13-19 and Haber. AIDS. 2015 ;29(11):1277-85. Dai. J Infect Dis 2016; 213:335-42; Castillo-Mancilla Antimicrob Agents Chemother. 2016 Aug 29. Corneli. JAIDS 2104 66: 324-31; Grant. Lancet ID 2014, 14:820-9. Liu JAIDS. 2014;67(5):528-37

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Thank you...

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