

Which HIV Tests to Use When?

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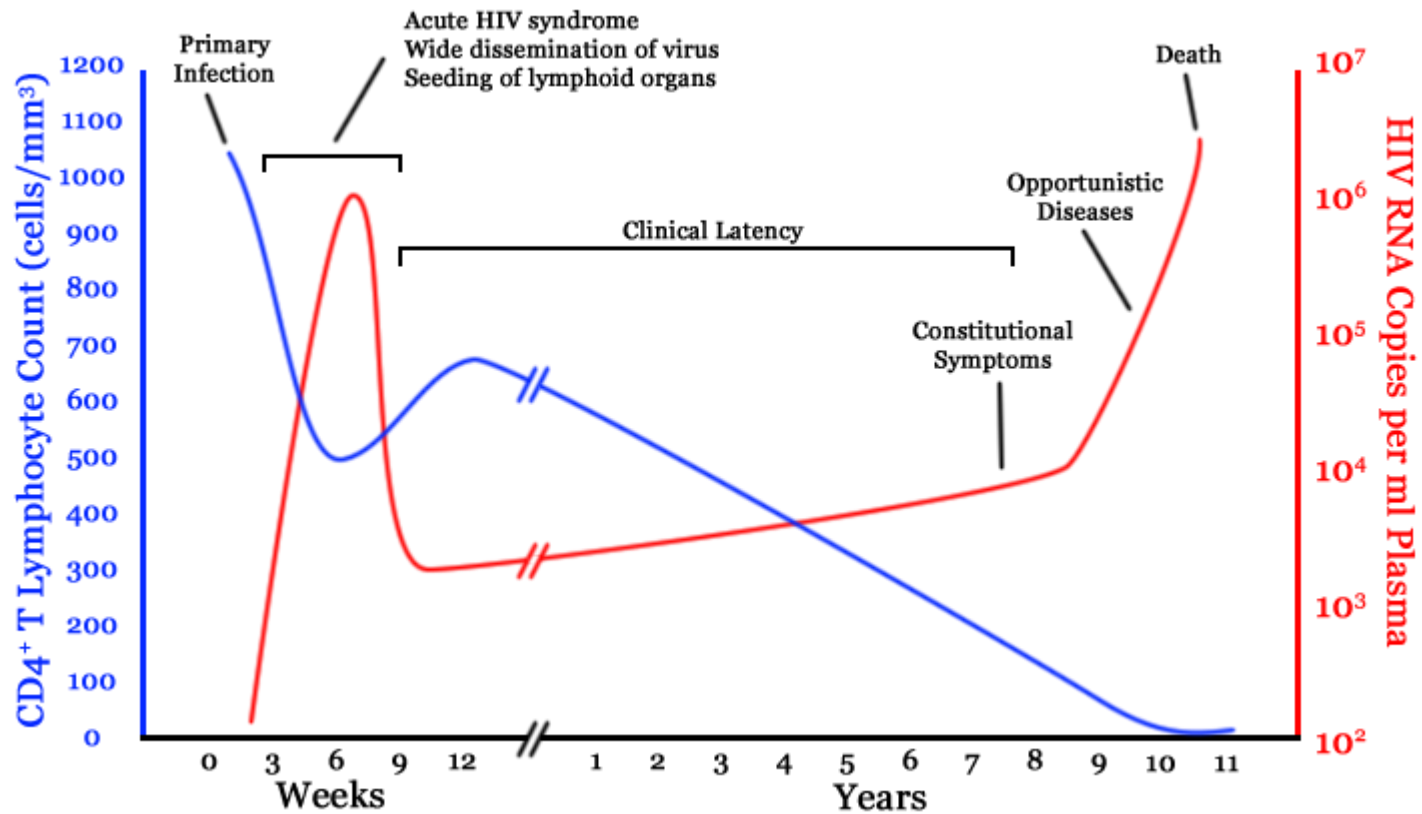
Objectives:

- Understanding which test provides which results and *when* it is used



- AIDS was first described in 1981
- First HIV tests became available
1984: Screening tests and
confirmation tests





Fauci Ann Intern Med. 1996;124(7):654-663

<http://annals.org/aim/fullarticle/709558/immunopathogenic-mechanisms-hiv-infection>



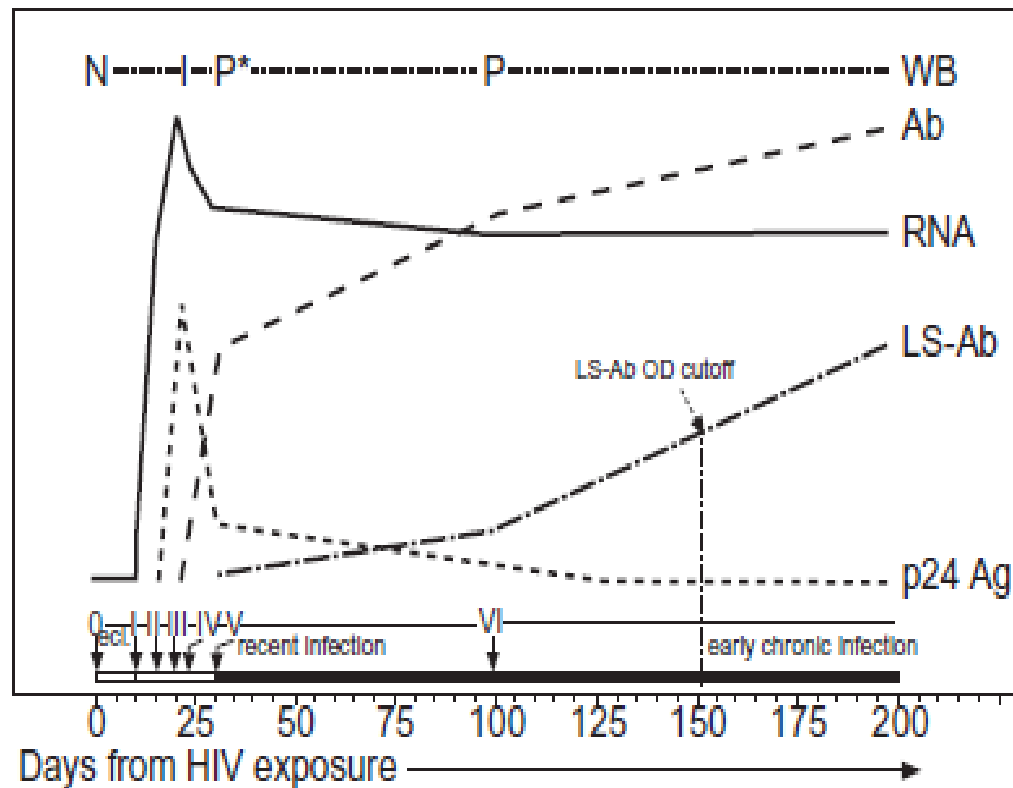
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AIDS. 2003 Sep 5;17(13):1871-9.

Dynamics of HIV viremia and antibody seroconversion in plasma donors: implications for diagnosis and staging of primary HIV infection.

Fiebig EW¹, Wright DJ, Rawal BD, Garrett PE, Schumacher RT, Peddada L, Heldebrandt C, Smith R, Conrad A, Kleinman SH, Busch MP.



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Table 1. Laboratory stages of primary HIV infection based on the emergence of viral markers in 51 seroconverting plasma donors.

Stage	RNA	Marker					Duration in days (95% CI) ^a	
		P24 Antigen	Antibody (EIA)		Western blot			
			NS	S		Individual	Cumulative	
I	+	–	–	–	–	5.0 (3.1, 8.1)	5.0 (3.1, 8.1)	
II	+	+	–	–	–	5.3 (3.7, 7.7)	10.3 (7.1, 13.5)	
III	+	+	–	+	–	3.2 (2.1, 4.8)	13.5 (10.0, 17.0)	
IV	+	+/-	–	+	I	5.6 (3.8, 8.1)	19.1 (15.3, 22.9)	
V	+	+/-	+/-	+	+ ^b	69.5 (39.7, 121.7)	88.6 (47.4, 129.8)	
VI	+	+/-	+	+	+	Open-ended	Open-ended	

^aCalculations are based on a parametric Markov model.

^bWithout p31 band.

CI, Confidence interval; I, indeterminate; NS, not sensitive, refers to second-generation not IgM-sensitive enzyme immunoassay (EIA); S, sensitive, refers to IgM-sensitive third-generation EIA.

- Stage I-IV 3-5 days; stage V 69.5 days, stage VI no time limitation



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Type of test	What the test look for?		
	RNA/ DNA *	Anti- gen	Anti- body
PCR/Viral load	●		
p24 only test (Ag)		●	
4th generation antigen/antibody (Ag/Ab) tests (p24+ ELISA, ELI, MEIA/ELFA/ECLIA): includes Architect, Duo, Combo/Combi etc		●	●
1st/2nd/3rd generation antibody only tests (ELISA, ELI, MEIA/ELFA/ECLIA): includes TriDot etc			●
Rapid tests: finger prick and oral swab test are antibody only: includes OraQuick.			●
Western blot tests look for antibodies to specific HIV proteins. They confirm a positive HIV antibody test result.			●
* Viral genetic material			

<http://i-base.info/guides/testing/appendix-1-different-types-of-hiv-test>



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