Important links regarding 4th generation HIV testing algorithm

http://www.cdc.gov/hiv/guidelines/testing.html

http://stacks.cdc.gov/view/cdc/22423

http://www.cdc.gov/mmwr/pdf/wk/mm6224.pdf

Routine HIV screening is recommended by:

Center for Disease Control and Prevention (2006)

American College of Physicians (2009)
http://annals.org/article.aspx?articleid=744218

U.S. Preventive Services Task Force (2013)
http://www.uspreventiveservicestaskforce.org/uspstf/uspshivi.htm

American Academy of Family Physicians (2013)
http://www.aafp.org/patient-care/clinical-recommendations/all/hiv.html

Key points about Arizona’s HIV testing law

- No written consent form required for an HIV test; verbal consent is sufficient.
- HIV testing can be incorporated into general medical consent.
- No formal pre or post counseling is required.

The mission of the Arizona AETC is to provide healthcare professionals with the knowledge and skills necessary to provide outstanding care to people living with HIV.

www.aetc-arizona.org

Additional HIV/AIDS Clinical Resources

UA Health Network Physicians’ Resource Service
(For medical providers only)
(Tucson – 24/7) 520-694-5868
800-777-7522
(in Mexico) 95-800-328-5868
*Ask for the infectious disease physician on call

National HIV Clinician Consultation Center
www.nccc.ucsf.edu

National HIV Telephone Consultation Service
WARMLINE: 1-800-933-3413

National Clinicians’ Post-Exposure Prophylaxis Hotline: 1-888-HIV-4911

Contact:
Alyssa Bittenbender, Program Director
Arizona AIDS Education and Training Center
alyssa1@email.arizona.edu
520-626-0723

Office of Disease Integration and Services
Arizona Department of Health Services
602-364-3628

New 4th generation HIV testing algorithm information, training or technical assistance

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Health and Wellness for All Arizonans
www.azdhs.gov

Clinicians can help stop the spread of HIV by detecting acute HIV infections.
New CDC recommended 4th generation HIV testing algorithm.

This new algorithm supersedes the previous CDC recommendations for Western blot (1989) and HIV-2 (1992).

4th generation HIV testing algorithm detects acute and chronic HIV infections.

4th generation HIV tests detect both antigen (p24) and antibody (IgM and IgG antibodies). This allows detection of acute HIV infection, which is when viral load is highest and substantial HIV transmission can occur.

Multiple studies have demonstrated improved sensitivity of this algorithm for detecting acute HIV infections while maintaining the ability to accurately detect established HIV-1 infections.

The algorithm incorporates the HIV-1 RNA test to resolve discordant results and reduces indeterminate test results.

Consistently validated in national studies, the algorithm was also shown to avert missed diagnoses in 32% of HIV-infected patients in a Phoenix emergency department screening program.

4th generation HIV testing algorithm detects infection up to 20 days before the Western blot.

In studies, 3rd generation immunoassays were reactive in 20% to 37% and 4th generation assays were reactive in 62% to 83% of specimens that were negative by HIV-1 Western blot (WB) but reactive for HIV-1 RNA. Therefore, both 3rd and 4th generation immunoassays detect acute infections that the WB would miss. Please see the chart below which illustrates the number of days different FDA-approved HIV tests become positive before the Western blot.

Sequence of Test Positivity Relative to WB (plasma)

166 specimens, 17 Seroconverters - 60 % Positive Cumulative Frequency

4th generation HIV testing algorithm has a fast turnaround time.

Most 4th generation immunoassays (initial test) have results in less than 60 minutes if available in house; the HIV-1/HIV-2 antibody differentiation immunoassay (second test) results in 15 minutes. In contrast, Western blot results can take hours of technical time and RNA tests to document acute infections may take longer.

This algorithm thus affords the opportunity to deliver same-day definitive test results to the majority of HIV-infection persons. It has been used for urgent same-day testing.

HOW TO

1. Identify your clinic's contracted laboratory (s).
2. Locate your clinic's current HIV screening test order and what testing code it routes to.
3. Identify contracted laboratory testing code for a complete, 4th generation reflex algorithm (includes 4th generation Ag/Ab, reflex to HIV 1/2 Ab differentiation test (Multipot) and HIV-1 RNA if necessary).
4. Manually order HIV testing with the new testing code OR contact your laboratory representative to ensure that all HIV testing orders are now routed to the 4th generation algorithm.

SWITCH to the recommended 4th generation HIV testing algorithm.

Orders are usually routed to the laboratory with a particular testing code. For the past several years, HIV screening test orders have routed to 3rd generation EIA followed by reflex Western blot. In order to obtain a complete 4th generation reflex algorithm, clinicians need to look up the testing code and specimen requirements from their contracted lab representative to ask for all HIV testing to now be routed to a complete 4th generation algorithm.

Checklist for switching to 4th generation HIV testing algorithm:

- Identify your clinic’s contracted laboratory.
- Identify your clinic’s current HIV screening test order and what testing code it routes to.
- Manually order HIV testing with the new testing code OR contact your laboratory representative to ensure that all HIV testing orders are now routed to the 4th generation algorithm.

Sources:

"New CDC recommended 4th generation HIV testing algorithm" and "Sequence of Test Positivity Relative to WB" images courtesy of Bernard Branson, MS, Associate Director for Laboratory Diagnostics, CDC–Division of HIV/AIDS Prevention.