



# MultiSpot and Insti Testing Platforms

---

Kerri Penrose, MS  
MTN Virology CORE

Sunday, October 26<sup>th</sup> 2014

# Multi-spot HIV-1/HIV-2 Test

- Would replace WB testing



- Can be done at site; fast results
- Differentiates between HIV-1 and HIV-2
- Nucleic acid testing (viral load) would still be used to resolve discordant or indeterminate results
- FDA-approved

# Performance of Multi-spot vs. WB

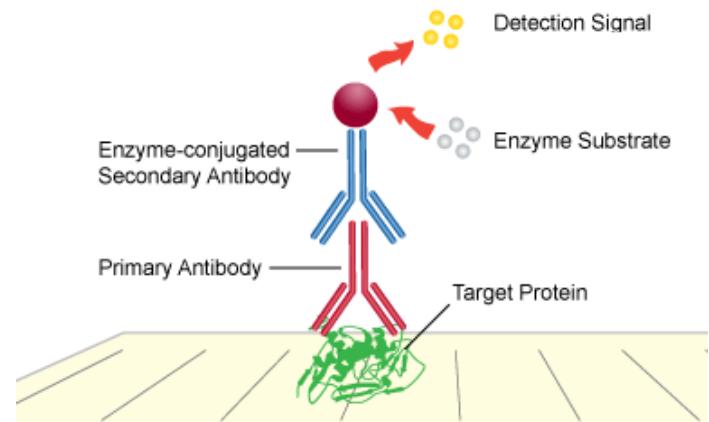
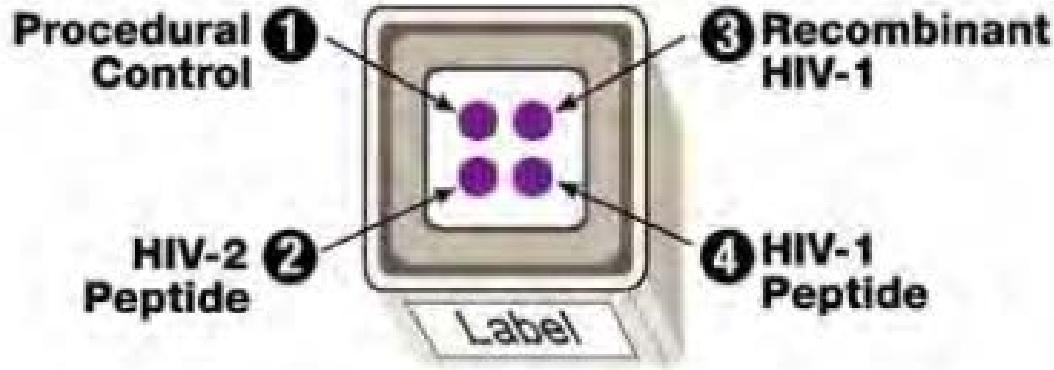
---

- 8,760 specimens tested positive by EIA and were tested by both WB and Multi-Spot
- Multi-spot was able to...
  - Detect an additional 14 HIV-1 infections
  - Differentiate 26 WB positives as HIV-2 infections
  - Detect an additional 12 HIV-2 infections

# Kit components



# The Multi-spot HIV1/HIV-2 Test detects highly conserved HIV envelope regions



- 1 Procedural control: Anti-human IgG (goat)
- 2 HIV-2 Peptide: HIV-2 gp36 envelope peptide
- 3 Recombinant (E. coli) HIV-1: recombinant gp41
- 4 HIV-1 Peptide: immunodominant epitope of HIV-1 gp41

# Multi-spot HIV-1/HIV-2 Procedure



1. Remove foil; press prefilter down. Label cartridge and specimen or control test tubes.

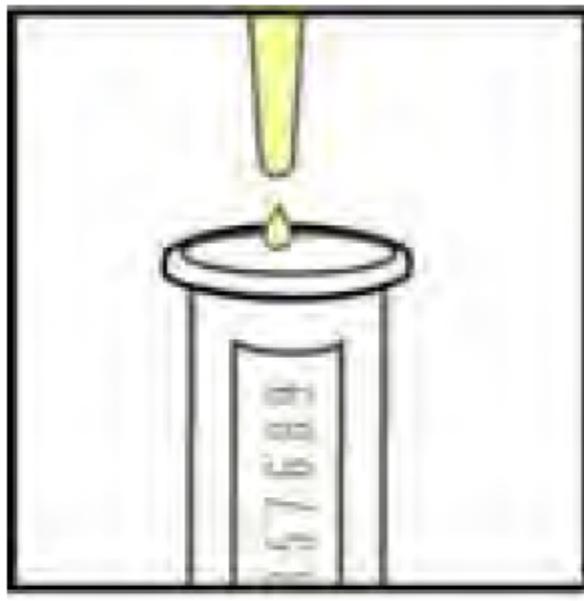
# Multi-spot HIV-1/HIV-2 Procedure



2. Add 2 full droppers of Specimen Diluent to each test tube.

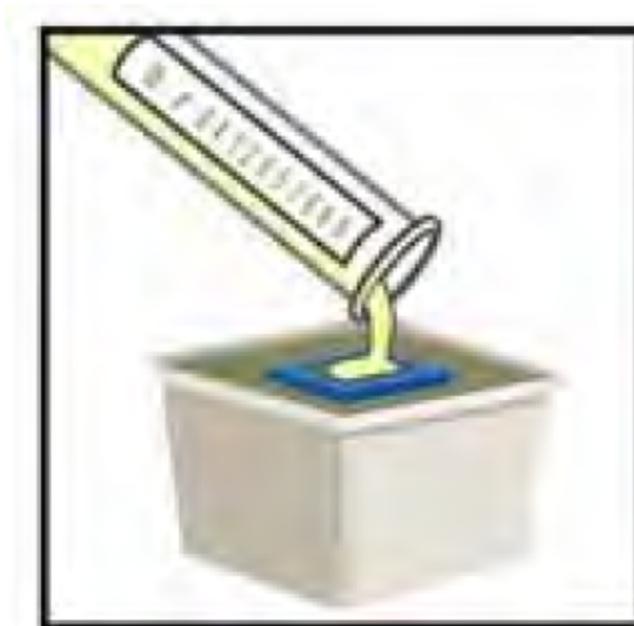
# Multi-spot HIV-1/HIV-2 Procedure

---



3. Add one drop of each sample or control to each labeled tube using a transfer pipette. Mix well.

# Multi-spot HIV-1/HIV-2 Procedure



4. Pour each sample into the prefilter of the labeled cartridge. Wait 2 minutes.

# Multi-spot HIV-1/HIV-2 Procedure



5. Remove and discard prefILTER.

# Multi-spot HIV-1/HIV-2 Procedure



6. Fill the central well of each cartridge with Wash Solution.

# Multi-spot HIV-1/HIV-2 Procedure



7. Once absorbed, add 3 drops of Conjugate.  
Wait 2 minutes.

# Multi-spot HIV-1/HIV-2 Procedure



8. Fill well with Wash Solution and let absorb.  
Repeat.

# Multi-spot HIV-1/HIV-2 Procedure



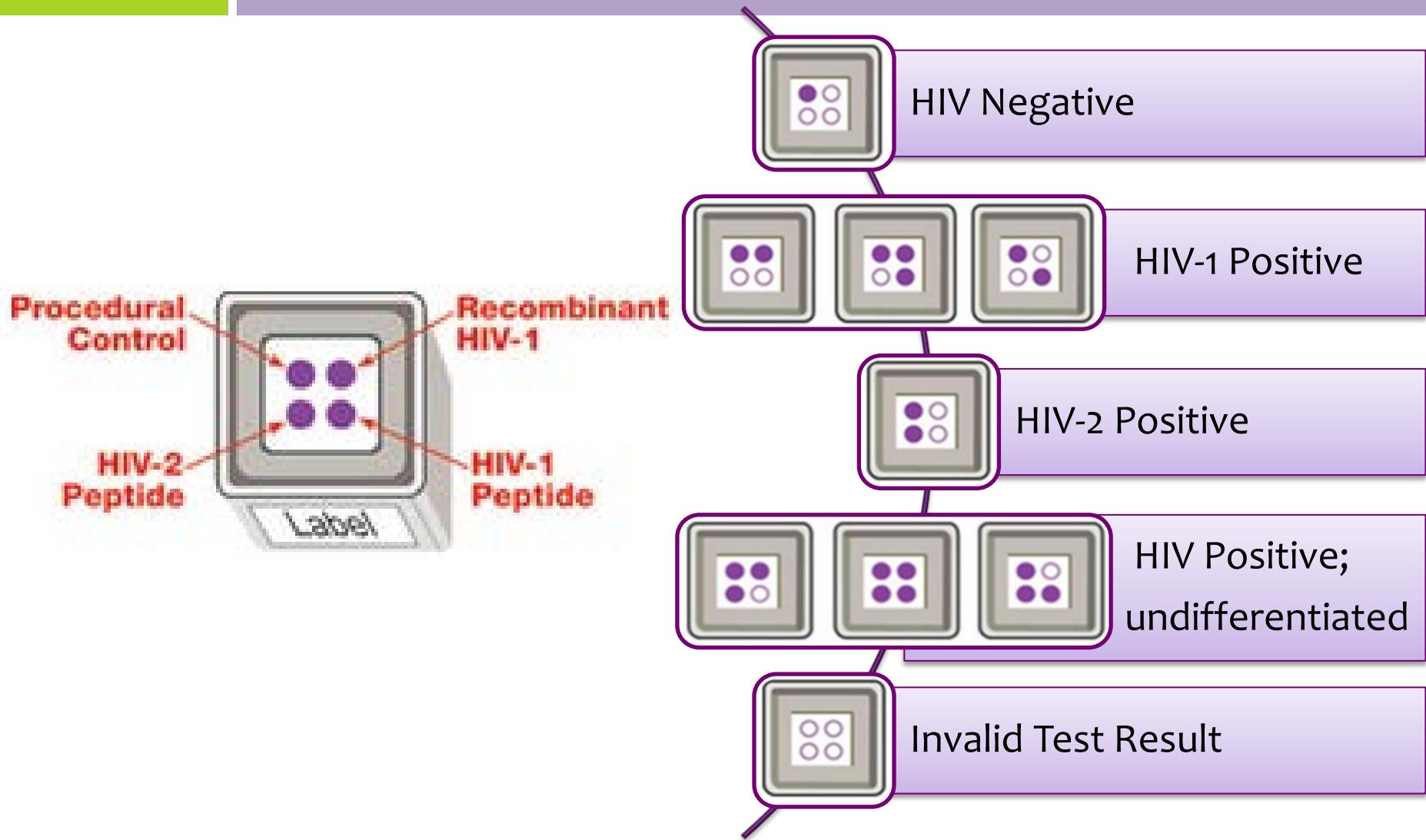
9. Add 3 drops of Development Reagent. Wait 5 minutes.

# Multi-spot HIV-1/HIV-2 Procedure



10. Fill well with Stop Solution. Allow to absorb and read results.

# Multi-spot HIV-1/HIV-2 Results



# Questions?

---



# INSTI™ HIV-1/HIV-2 Rapid Antibody Test

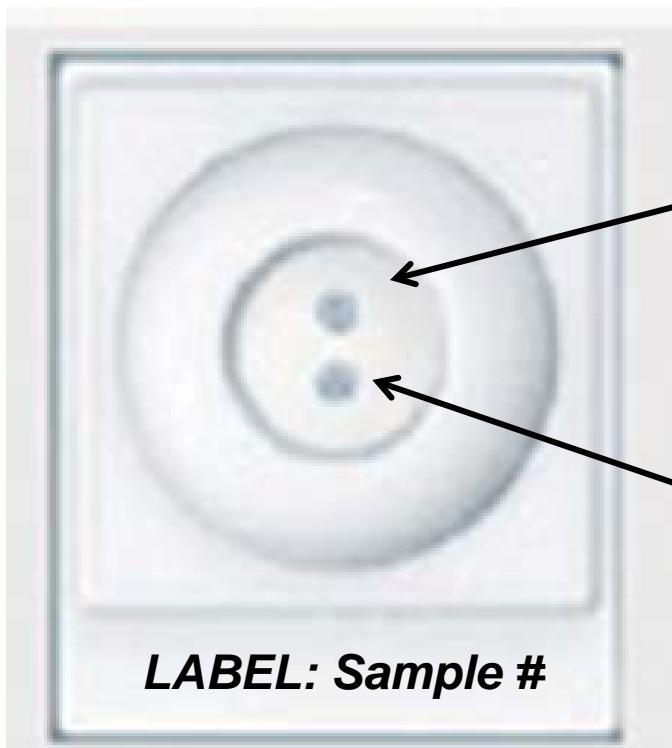


- Flow-through Immunoassay for the detection of HIV-1 antibodies
- Can test EDTA whole blood, fingerstick, serum and EDTA plasma
- ***Results in as little as 60 sec!***

# Kit components



# INSTI™ HIV-1/HIV-2 Rapid Antibody Test



**Procedural control:** protein A,  
detects human IgG

**Test region:** recombinant HIV1  
gp41 and HIV-2 gp36, detects  
HIV-1 and HIV-2 antibodies

# INSTI™ HIV-1/HIV-2 Rapid Antibody Test Procedure



Collect 50µl of fingerstick blood, venous whole blood, serum or plasma and add bottle number 1, Sample Diluent, recap and invert 3-4 times.

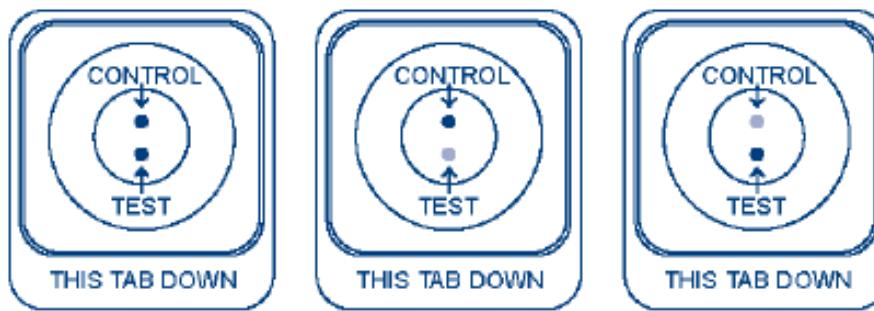
1 Pour the entire contents of bottle number 1 into the center of the Membrane Unit well. HIV antibodies, if present,

2 Add the entire contents of bottle number 2, Colour Developer, into the center of the Membrane Unit well to

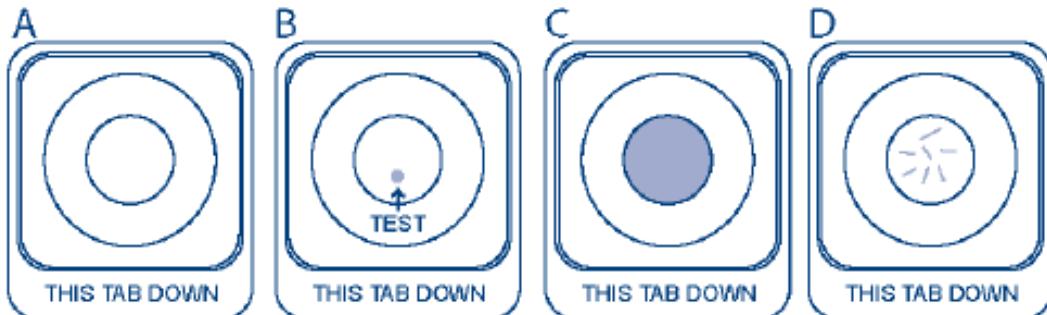
3 Add the entire contents of bottle number 3, Clarifying Solution into center of the Membrane Unit well to reduce background colour and

# INSTI™ HIV-1/HIV-2 Rapid Antibody Test Results

**VALID RESULTS**



**INVALID RESULTS**



# Questions?

---



# Acknowledgements



MTN is funded by NIAID (5U01AI068633),  
NICHD and NIMH, all of the U.S. National  
Institutes of Health