Point of Care Testing Gone Viral

A Novel Blood-borne Pathogen Exposure Program

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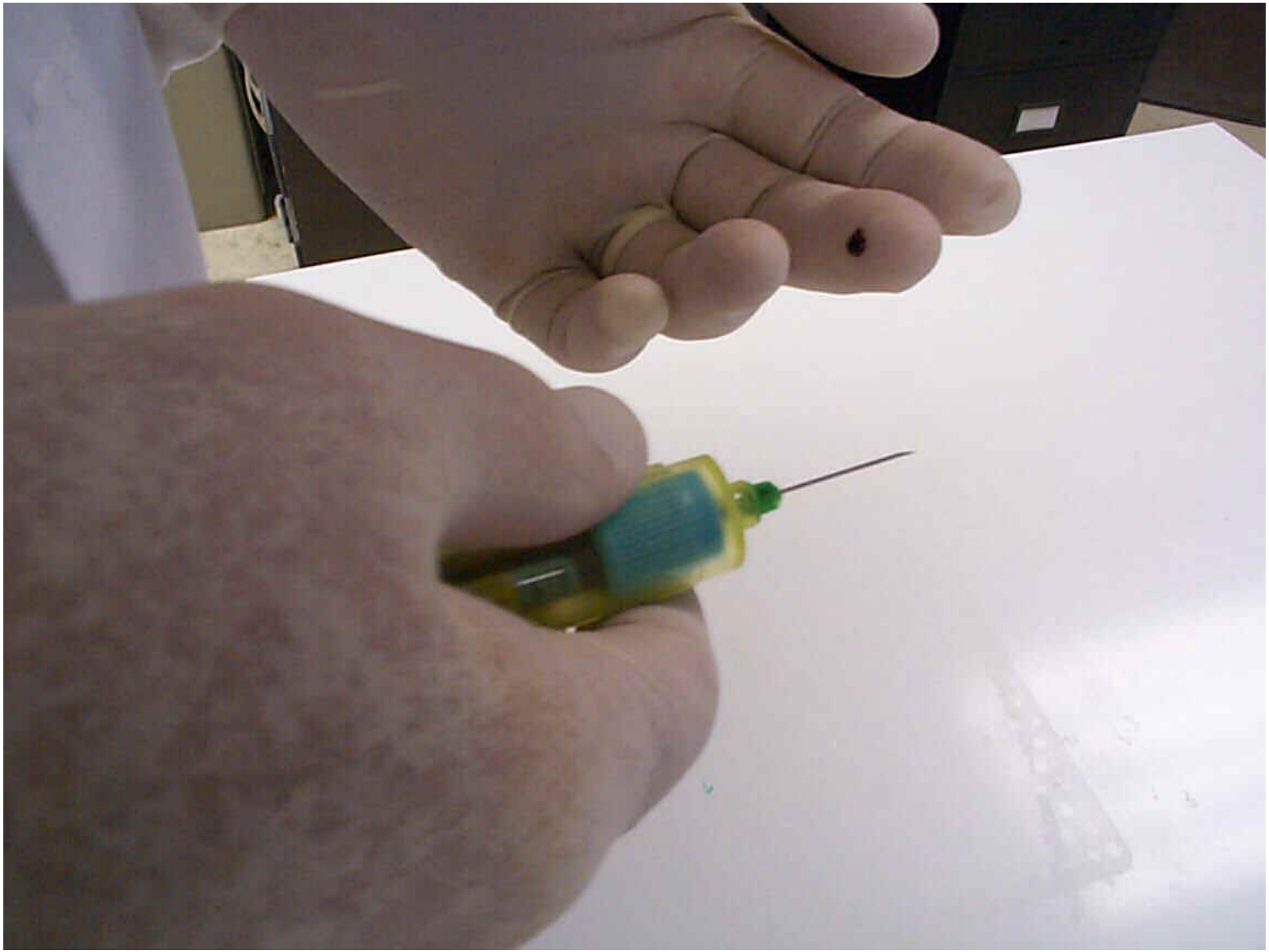


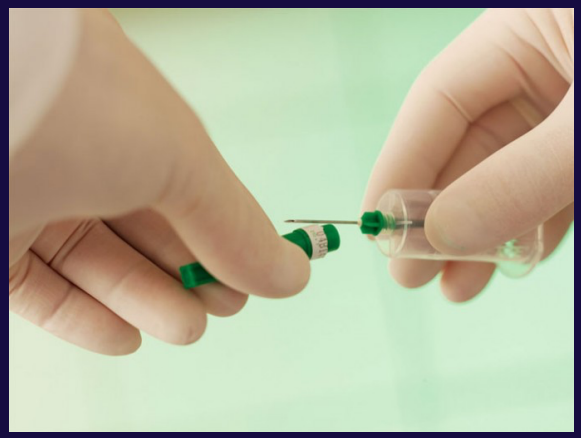
Scope of the problem: Exposure Stats

- The National Study to Prevent Blood Exposure in Paramedics: rates of exposure to blood
  - Boal et al. Survey in 2002-2003
  - 2,664 paramedics responded
  - 538 individuals experienced 895 exposures within the previous 12 months.

Int Arch Occup Environ Health (2010) 83:191–199

Risk of Transmission

- Needle stick exposure
  - HIV – 0.3% (1 in 300)
  - HCV – 1.8%
- Bloody mucous membrane exposure
  - HIV estimated to be 0.09% (1 in 1,000).



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OSHA Standards Interpretation

January 2007

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Occupational Safety and Health Administration
U.S. Department of Labor
www.osha.gov

Question: Is it a violation of 29 CFR 1910.1030 for a medical facility subject to OSHA authority not to perform "rapid HIV antibody testing" on a source individual after an exposure incident?

Reply: As you may know, the bloodborne pathogens standard provides that "the source individual's blood shall be tested as soon as feasible" after an exposure incident and after consent is obtained [29 CFR 1910.1030(f)(3)(ii)(A)]. At the current time there are at least four FDA-approved tests available for "rapid HIV antibody testing," which usually can confirm negative HIV status in less than an hour after blood is drawn from a source individual. They are widely available, easy to use, and inexpensive. Standard enzyme immunoassay (EIA) testing can take a much longer time, especially if facilities to perform the tests are not available locally. Therefore, an employer's failure to use rapid HIV antibody testing when testing as required by paragraph 1910.1030(f)(3)(ii)(A) would usually be considered a violation of that provision. The use of rapid HIV antibody testing is supported by the current CDC recommendations for HIV post-exposure prophylaxis (PEP) in the *Updated U.S. Public Health Service Guidelines for the Management of Occupational Exposures to HIV and Recommendations for Postexposure Prophylaxis*, published on September 30, 2005. The CDC states on page 7 that having a "rapid HIV test could result indecreased use of PEP and spare personnel both undue anxiety and adverse effects of antiretroviral PEP." The document goes on to note on page 8 that "rapid HIV testing of source patients can facilitate making timely decisions regarding use of HIV PEP after occupational exposures to sources of unknown HIV status." Current guidance on the management of HBV and HCV exposure and PEP, as well as guidance for evaluation of the exposure source, is also contained in the *Updated U.S. Public Health Service Guidelines for the Management of Occupational Exposures to HBV, HCV and HIV and Recommendations for Postexposure Prophylaxis* (June 29, 2001),

MMWR™

Recommendations and Reports

September 30, 2005 / 54(RR09);1-17

Updated U.S. Public Health Service Guidelines for the Management of Occupational Exposures to HIV and Recommendations for Postexposure Prophylaxis

Summary

This report updates U.S. Public Health Service recommendations for the management of health-care personnel (HCP) who have occupational exposure to blood and other body fluids that might contain human immunodeficiency virus (HIV). Although the principles of exposure management remain unchanged, recommended HIV postexposure prophylaxis (PEP) regimens have been changed. This report emphasizes adherence to HIV PEP when it is indicated for an exposure, expert consultation in management of exposures, follow-up of exposed workers to improve adherence to PEP, and monitoring for adverse events, including seroconversion. To ensure timely postexposure management and administration of HIV PEP, clinicians should consider occupational exposures as urgent medical concerns.

Exposure

Complet e sPT Care

sPT* = Source patient

sPT* transport decision

FF transported to UCMC

UCMC

Other Facility

Proces De

Admin

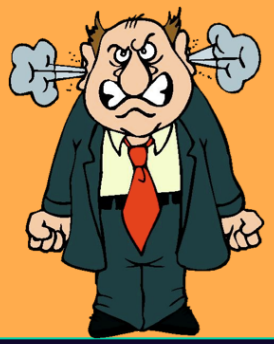
Sourc Obt Te

s

ood Obtained/ Tested

DELAYS

- Nursing/phlebotomy issues
  - Not perceived as an “emergent” situation
  - What blood tube does the RN draw
  - “What’s that **Rapid HIV test?”**
  - Where do I send it?
- Laboratory issues
  - “What **Rapid HIV test**?”
  - Blood tube labeling
  - Test results go where?
  - Who gets charged?



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Exposure

Complete sPT Care

*sPT = Source patient

*sPT transport decision

DRT (DOA)
RMA
Jail

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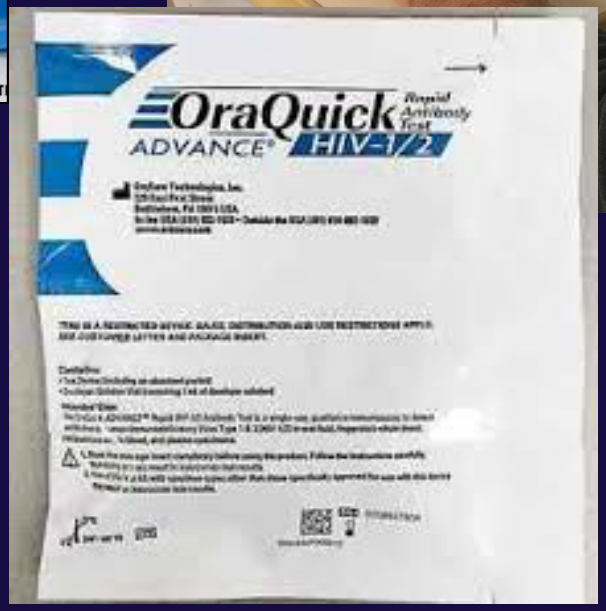

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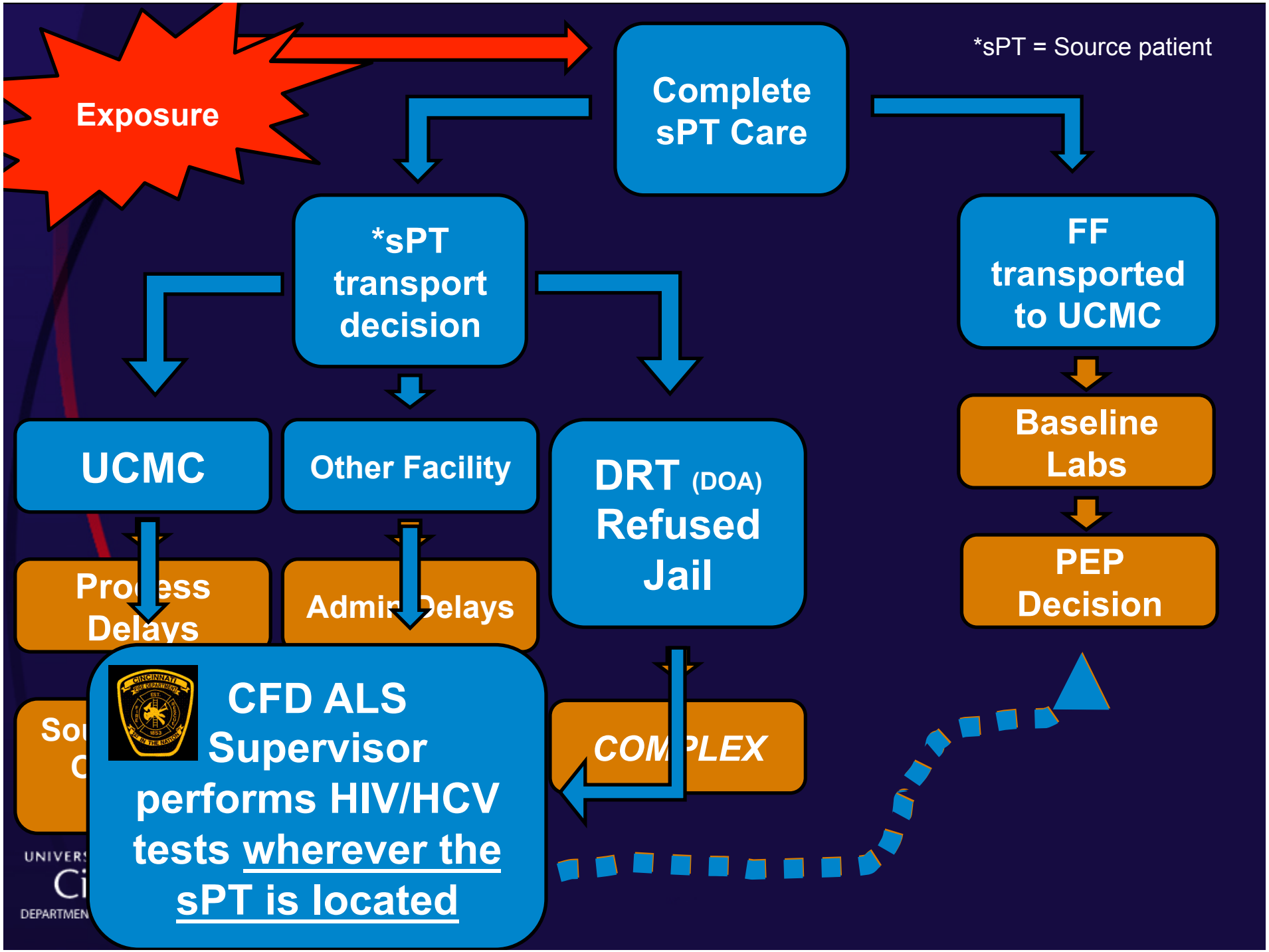
Exposure
Complete sPT Care
*sPT = Source patient
*sPT transport decision
FF transported to UCMC
UCMC
Other Facility
DRT (DOA) Refused Jail
Baseline Labs
PEP Decision
Process Delays
Admin Delays
COMPLEX
CFD ALS Supervisor performs HIV/HCV tests wherever the sPT is located

CFD Experience

	Date	Exposure Type	HIV	HCV	Patient Dispo	Test Conducted	Other
1	1/17/14	blood tinged vomitus, eye	-	-	deceased	on scene	no loops
2	1/21/14	hollow bore needle	-	-	deceased	on scene	code
3	2/14/14	blood tinged sputum, mouth and eyes	-	-	UCED	UCED	combative patient
4	2/22/14	hollow bore needle	-	-	OSH	OSH	
5	3/29/14	hollow bore needle	-	+	UCED	on scene	IV on heroin OD
6	5/30/14	blood tinged vomitus, mouth and eye	-	+	OSH	OSH	suctioning narcan'd pt
7	7/8/14	blood tinged sputum, eyes	-	-	DM tx and release	on scene	pt refused transport, DM spit
8	8/6/14	blood tinged sputum, mouth and eyes	-	+	UCED	UCED	combative psych patient
9	8/6/14	blood tinged sputum, mouth and eyes	-	+	UCED	UCED	combative psych patient
10	9/18/14	blood tinged vomitus, eye	-	+	UCED	UCED	od patient
11	10/8/14	blood tinged nasal mucus to mouth/eyes	-	-	UCED	UCED	mvc entrapment
12	1/29/15	blood to eye	-	-	UCED	UCED	SZ FS, squeezed finger
13	3/1/15	blood to eye	-	+	UCED		DM FS, squeezed finger
14	3/3/15	blood tinged vomitus, eye	-	-	OSH	OSH	cardiac arrest, auscultating
15	6/9/15	blood tinged sputum, eyes	-	n/a	UCED	UCED	unresponsive, then spitting, ?OD
16	6/22/15	blood tinged sputum, mouth and eyes	-	-	UCED	UCED	od patient
17	7/12/15	hollow bore needle	-	+			Delayed tested next day (heroin)
18	7/18/15	hollow bore needle	-	-	UCED	UCED	
19	8/2/15	blood splatter to face/mouth	-	-	UCED	UCED	
20	8/8/15	blood tinged sputum, mouth and eyes	-	+	UCED	UCED	
21	8/19/15	blood tinged sputum, mouth and eyes	-	-			
22	5/14/16	hollow bore needle	-	-	MHW		
23	8/10/16	used razor cut finger	+	-	OSH	OSH	shaving patients chest
24	9/5/16	hollow bore needle	-	+	UCED	UCED	heroin patient; needle safety "malfunction"
25	9/7/16	blood tinged vomitus, eye	-	+	deceased	on scene	
26	10/4/16	blood (FF lac to pt IM site)	-	+	UCED	UCED	
27	11/1/16	hollow bore needle	-	+	UCED	UCED	heroin patient, patients needle

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Benefits of this program

- Rapid information that can be used for decisions regarding PEP

- Psychological benefit of knowing early sPT HIV results

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Questions?

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Thanks to Dr. Dustin Calhoun for organizing this program