Bloodborne Pathogens

Wednesday, August 17, 2016

4:20 PM

                                8/12/16

Bloodborne Pathogens (WILL LIVE OUTSIDE OF SCENE, WILL LIVE IN DRY BLOOD)

Hep B, Hep C, HIV

-How do we protect ourselves?

Intact Skin!

Universal precautions/PPE

Means of Transmission:

-Needle Sticks

-Cuts or punctures from objects (knives or broken glass)

-Contact with your mucous members your eyes, nose or mouth)

-Contact between cut or injured skin and contaminated blood or other infectious material.

What is potentially infectious?

-Significant Exposures

-2% infection rate with HEP C and open wounds

-No reported infections through intact skin

Cleaning yourself and equipment

-Hand washing- Even if PPE is used!

-10% bleach for equipment

-Biohazard Disposal

WHAT IS DNA

-Deoxyribonucleic Acid

-Biological/Genetic Material in all living things

-Combination of you mother and fathers DNA

-Unique to YOU, unless you have a twin

WHERE IS DNA FOUND?

DNA is the same in every cell

-The most common sources for evidence are:

BLOOD

SEMEN, VAGINAL FLUID

SKIN CELLS, PERSPIRATION

BONE, TEETH, HAIR

SALIVA, MUCUS, FINGERNAILS

URINE, FECES, ETC..

(CAN’T PUT EVIDENCE IN PLASTIC SINCE EVIDENCE CAN BECOME MOLDED AND MOLD EATS DNA) so brown paper bag it

Common Objects Containing DNA Evidence

Weapons

Hat/masks

Facial tissues

Tooth picks

Eye glasses

Cig. Butts

Bottles (COLLECT EVIDENCE BY PUNCHING OUT THE BOTTOM OF can/bottle NOT FROM PURING IT OUT)

Stamps

Bed linens

Fingernails

The Value of DNA evidence?

Identify potential suspects

Associate victims/suspects to scenes

Associate victimes/suspects to one another

Identify victims through relatives even if no body is located

Can link suspects to local, state or national crimes

If properly collected and stored can assist with cold cases

LIMITATIONS

Environmental factors; heat, sunlight, bacteria and mold an destroy DNA.

DNA from close relatives is more similar than unrelated individuals.

DNA cannot determine WHEN a person was at a crime scene.

CONTAMINATION CONCERNS

DNA testing is very sensitive

Dealing with small samples

Special care must be taken to avoid

CODIS

-CO-mbined DNA Index System

THREE INDEXES OF CODIS

-Forensic Index (cases with DNA evidence obtained from crime scene evidence)

Convicted Offender Index (DNA profiles of individuals convicted sex offenders)

Third Index (MISSING PERSON)

MINNESTOA DATEBASE

120,000 offender profiles

9411 forensic samples

investigations aided- 3200

Minnesota statute 609.117 says samples are to be taken from:

Convicted felons (or convicted of lesser charges)

Adults and Juveniles are tested

MARYLAND V. KING (2013)

U.S Supreme court cases (

JUST A TOUCH- only about 5-20 cells from the outermost layer of our skin

Doesn’t require you to see anything.

COLLECTING DNA SAMPLES

Collect the entire item

Take a sample from the item

Cutting

Swab (MOST COMMON)

BUCCAL SWABS

Uses sterile cotton tipped swab

Scrub the inside of the cheek

No food or drink for 20 minutes

Simple and painless procedures for obtaining a DNA sample

CLEAN COLLECTIONS

-Using new, clean, or sterile equipment for collecting evidence

Equipment must be new or cleaned between scenes

Tens are handled and packaged separately

Evidence containers are use

GLOVES AND PPE

When do you change gloves? (if evidence is on gloves change right away if like blood is on glove) change glove when moving to another location in the crime scene.

Work with one item at a time

LABELING EVIDENCE

Case Number

Officer Name

Date/Time of Collection

Description of Item

Seals initialed

Biohazard Stickers

"DEATH INVESTIGATION evidence are kept FOREVER in evidence room."