

SEX, DRUGS & SURVEILLANCE 2017

State Bar of Texas

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Austin, Texas

DRUG and ALCOHOL TESTING

Chapter 3

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DRUG & ALCOHOL TESTING

URINE TEST

1. Positive THC	121.3 ng/mg
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(3 weeks later)

2. Positive THC	157.4 ng/mg
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Was marijuana used between tests?

DRUG & ALCOHOL TESTING

URINE TEST

1. THC	121.3 ng
Creatinine	13.7 ng

(3 weeks later)

2. THC	157.4 ng
Creatinine	189 mg/dl

DRUG & ALCOHOL TESTING

URINE TEST

	<u>Lab Report</u>	<u>Normalized</u>
THC	121.3 ng	(885.4 ng)
Creatinine	13.7 ng	(100 mg/dl)

(3 weeks later)

THC	157.4 ng	(83.2 ng)
Creatinine	189 mg/dl	(100 mg/dl)

DRUG & ALCOHOL TESTING

Diluted Urine Specimen Study

Day 1 subjects consumed 1 marijuana cigarette

Day 3 subjects consumed 40 mg of cocaine

Days 2 and 4 Subjects consumed 1 gallon of water
(1 qt/hr)

After consuming 2 quarts
most subjects were producing
false-negative results

DRUG & ALCOHOL TESTING

Diluted Urine Specimen

- Creatinine ... < 20 mg/dL
- Reduces drug level 10 to 24 times
- Most common means of beating a urine drug test
- Do NOT ignore diluted specimens with low creatinine levels

It is an intentional attempt to beat the test if it occurs more than once

DRUG & ALCOHOL TESTING

NORMAL CREATININE LEVELS

Females	100 – 150 mg/dL
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Male	150 -200 mg/dL
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DRUG & ALCOHOL TESTING

**When you order or ask for a “drug test”
you will get a test for.....?**

DRUG & ALCOHOL TESTING

When you order or ask for a standard drug test you will get a test for.....?

- **Illegal drugs**
- **A few Rx drugs**
- **Rx drugs must be requested to add to panel**

DRUG & ALCOHOL TESTING

- **What are the methodologies used by the lab**
 - Initial Immunoassay
 - Case in Nevada
 - False positives from Rx and OTC
 - Confirmation GC/MS, LC/MS, LC/MS/MS
 - No false positives

DRUG & ALCOHOL TESTING

False positives with the quick test devices



- Window most drugs < 24 hours, max 48 hours

DRUG & ALCOHOL TESTING

URINE TEST

Window of Detection

- Most drugs approximately 3 days
- Marijuana, up to 30 to 40 days

DRUG & ALCOHOL TESTING

Does it matter if you wait a day or more after requesting a urine test?

YES!!!!!!

- 3 hours or less
 - Court orders still contain 8, 12, 24 hours to test
- Witnessed
- Adulterants
- Random
 - Minimum 2/month
 - Optimum “up to 3/month”
 - Optional 1/month for ex to request test

DRUG & ALCOHOL TESTING

Hair Testing

Body hair

- Window of detection 7-12 mo. excluding current 2 weeks
- Electric razor...New or cleaned in presence of donor
 - Always new electric razor - pubic hair
- Scissors, hair clips.. Cleaned in presence of donor
 - Waist up only
 - Check cashing business
 - Hair clip and Swiss army knife

DRUG & ALCOHOL TESTING

Hair Testing

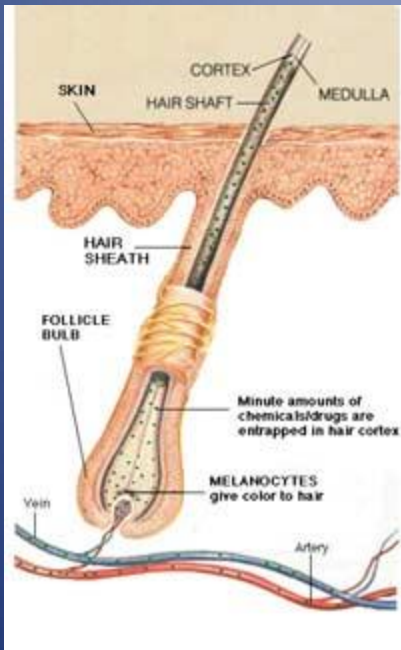
Head hair

- It is **NOT** a hair **“FOLLICLE”** test!!!!!!
- Window of detection 3 months excluding current 2 weeks
 - Exception..... curly hair
- Collected from 3 to 4 small areas in the back crown area

DRUG & ALCOHOL TESTING



DRUG & ALCOHOL TESTING



150 to 200 strands of hair needed to run a test

Body.....5 million strands

Head100,000 strands, Dark colored hair

140,000 strands, Light colored hair



DRUG & ALCOHOL TESTING

Does it matter if you wait a day or more after requesting a hair test?

YES!!!!

- Shampoos, bleaching, stripping, etc.
- Document color of hair in court
- Include in order not to cut, color, bleach or alter hair

DRUG & ALCOHOL TESTING

Nail Testing

- Scraping surface of nail .. HIPAA, shorter window, insufficient quantity
- Cut distal end Preferred and longest window
- Nail clippers New and discard

Window of Detection

- Fingers.....3 to 5 months
- Toes..... 8 to 12 months



DRUG & ALCOHOL TESTING

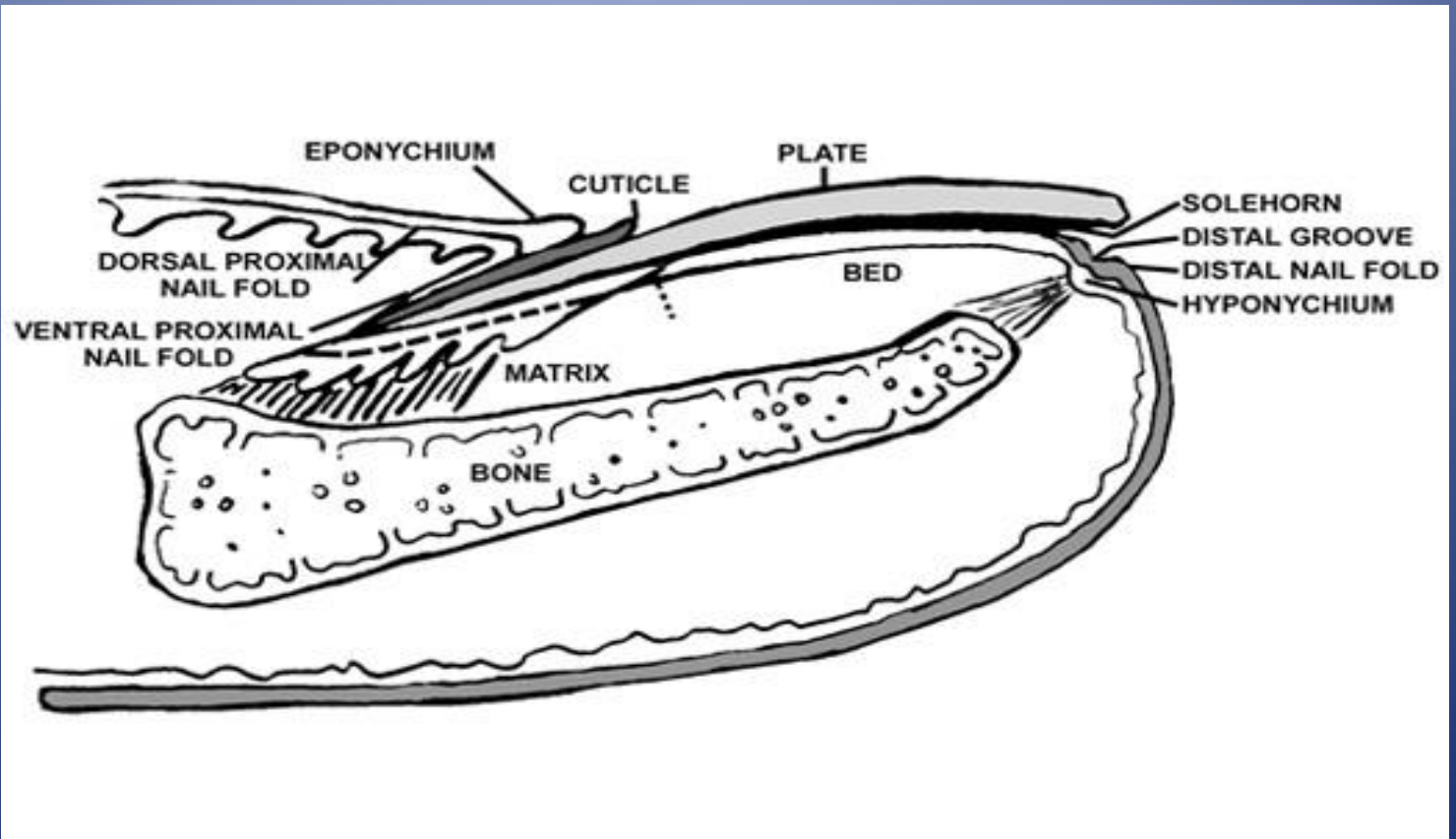


DRUG & ALCOHOL TESTING

**Does it matter if you wait a day or more
after requesting a nail test?**

NO!!!!

DRUG & ALCOHOL TESTING



DRUG & ALCOHOL TESTING

When a nail test is ordered in court

- Document nail length in court room
- Order not to cut, alter nails until collection occurs
- Too short, order to grow for 2-3 weeks
- Nail polish, acrylics, etc. must be removed
- 1 product on market claiming to clean nails

DRUG & ALCOHOL TESTING

EtG & EtS Alcohol Urine

- Detection up to 80 hours for chronic consumption
- Detection window varies based on numerous variables
- It will not detect a few drinks for 80 hours (myth)
- Non-drinkers do not have EtG or EtS in their system

DRUG & ALCOHOL TESTING

EtG & EtS Alcohol Hair and Nail

OLD DEFINITION to get above 20 pg cut off

- Females: 4 drinks or more within 2 hours (BINGE),
>20 drinks per month
- Males: 5 drinks or more within 2 hours (BINGE),
> 40 drinks per month

DRUG & ALCOHOL TESTING

EtG & EtS Alcohol Hair and Nail

NEW DEFINITION based on Body Mass Index (BMI)

HAIR: < 30 pg, consistent, casual consumption

>30 pg, consistent, chronic/binge consumption

NAIL: < 54 pg, consistent, casual consumption

>54 pg, consistent, chronic/binge consumption

DRUG & ALCOHOL TESTING

EtG & EtS Alcohol Hair and Nail

- Approximate 3 month detection window
- Chemicals applied to hair destroys EtG
- Swimming (chlorine) 2 x 20 minutes reduced 20%
- Nails recommended over hair

DRUG & ALCOHOL TESTING

PEth BLOOD ALCOHOL

- Phosphatidylethanol (PEth) is a direct alcohol biomarker.
- Donor cannot manipulate test results.

DRUG & ALCOHOL TESTING

PEth BLOOD ALCOHOL

- Window of detection is up to 3 weeks based on volume consumed.
- A positive is from a prolonged, regular consumption of alcohol or incidents of binge or heavy drinking.

DRUG & ALCOHOL TESTING

ALCOHOL POSITIVE FROM OTHER SOURCES

Urine Bladder Beer

- Uncontrolled diabetes
- Glucose in urine
- Naturally occurring yeast ferments in the sample cup forming alcohol
- Alcohol can form into EtG with certain bacteria
- EtS present confirms alcohol consumption

DRUG & ALCOHOL TESTING

SOBERLINK Mobile Alcohol Kit

1. Automatic text reminder to take test.
2. If positive, continue testing every 30 minutes until < 0.02 (and even below cutoff)
3. The User's BAC, digital photograph, time and GPS location are sent wirelessly to the Portal and others (ex-spouse, attorneys, etc.) for review via email and/or text within 2 minutes.



DRUG & ALCOHOL TESTING

Designer Drugs

- **Synthetic Marijuana**
 - K2, Spice, many versions
 - Illegal in US
 - >100 x stronger than Marijuana
 - Products labeled
 - “Synthetic Free”
 - “Does not contain JWH-018, etc.”
 - “Not for human consumption”
 - “For aromatherapy only”
 - *Users are still positive for synthetic marijuana*



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Designer Drugs

W-18

- Sold sometimes as fentanyl
- 100 times more potent than fentanyl
- Fentanyl is 100 times more potent than morphine
- Started in Canada in 2016, now in US

DRUG & ALCOHOL TESTING

Moth Balls

- **Contains Naphthalene**
- **Effects similar to alcohol, hallucinations, rapid emotion changes, kidney liver damage.**
- **Crushed and snorted.**

DRUG & ALCOHOL TESTING

Moth Balls

- Nevada case
- User died 1 week before hearing

DRUG & ALCOHOL TESTING

KRATOM

- Herbal drug derived from a tropical tree native to Southeast Asia
- Mimics effects of other drugs: stimulants, sedative and euphoric effects, lucid dreaming, last 6 hours
- Users become thin, skin darkens (particularly on the cheeks), dry mouth, constipation and frequent urination
- Opiate addicts use to self-treat to replace methadone
- DEA list on drugs of concern

DRUG & ALCOHOL TESTING

Designer Drugs KRATOM



DRUG & ALCOHOL TESTING

COURT ORDERS

Include....

Donor is not to drink excessive liquids resulting in a diluted specimen. If diluted, it may be deemed the same as a positive.

DRUG & ALCOHOL TESTING

COURT ORDERS

Include....

**(urine test) maximum 3 hours from
notice to provide urine sample**

**Do not include 12, 24, 48 hours to take a
urine test**

DRUG & ALCOHOL TESTING

DURING COURT

Observe/document nail & hair length

Verbally order not to cut, alter nails & hair

Too short, order to grow for 2-3 weeks

Nail polish, acrylics, etc. must be removed

Select nails before hair for testing

DRUG & ALCOHOL TESTING

Conversation occurring at court house last
year

**WILL PHENTERMINE CAUSE A
POSITIVE FOR
AMPHETAMINE/METHAMPHETAMINE?**

DRUG & ALCOHOL TESTING

**WILL PHENTERMINE CAUSE A
POSITIVE FOR
AMPHETAMINE/METHAMPHETAMINE?**

NO!

DRUG & ALCOHOL TESTING

EXPERT WITNESSES

- **Liver disease or dialysis creates cocaine in the body**

DRUG & ALCOHOL TESTING

EXPERT WITNESSES

- **Liver disease or dialysis creates cocaine in the body**
- **Ibuprofen false positive for marijuana**

DRUG & ALCOHOL TESTING

EXPERT WITNESSES

- **Liver disease or dialysis creates cocaine in the body**
- **Ibuprofen false positive for marijuana**
- **Morphine level >100,000ng in urine metabolizes to heroin (6-MAM)**

DRUG & ALCOHOL TESTING

LAB REPORTS

- **Always obtain lab report**

DRUG & ALCOHOL TESTING

LAB REPORTS

- **Always obtain lab report**
- **Invalid results: LC/MS interference**

DRUG & ALCOHOL TESTING

LAB REPORTS

- **Always obtain lab report**
- **“Invalid results: LC/MS interference”**
- **“Cancelled test”**

DRUG & ALCOHOL TESTING

LAB REPORTS

- Always obtain lab report
- “Invalid results: LC/MS interference”
- “Cancelled test”
- “Diluted specimen”

DRUG & ALCOHOL TESTING

4 types of labs
you should know about!



It is
NOT
a hair
“FOLLICLE”
test!!!!