

Urine Drug Screens - The Basics

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Topics

- Introduction
- Testing Process
- How to read the report & examples
- Cheating the system

Final Report

SPECIMEN DETAILS

Specimen collected at 2:20 pm on 28/08/2019
Urine Creatinine 11.4 mmol/L (> 1.8)
Sample received on 28/08/2018
Sample Check Passed

IMMUNOASSAY RESULTS

INTERP

CUT-OFF

AMPHETAMINE TYPE SUBS	Not detected	(300 ug/L)
BENZODIAZEPINES CLASS	RFT	(200 ug/L)
CANNABINOIDS	Not detected	(50 ug/L)
COCAINE/METABOLITE	Not detected	(300 ug/L)
OPIATE CLASS	RFT	(300 ug/L)

RFT - Requires Further Testing by GCMS

This drug screen was performed using CEDIA/ DRI methodologies.

GCMS CONFIRMATION:

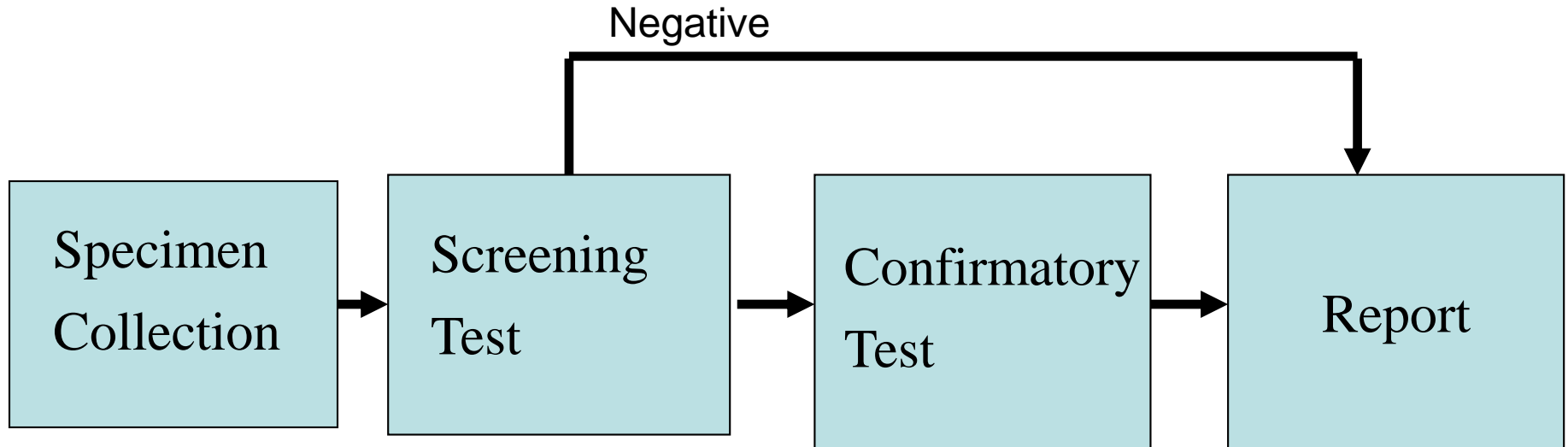
Codeine detected.

BENZODIAZEPINES not detected.

Laboratory screening and confirmatory procedures are conducted in compliance with Sections 4 and 5 of [AS/NZS 4308:2008](#).

The specimen was received from a collection facility which is not accredited to Section 2 of AS/NZS 4308:2008 for specimen collection, storage, handling and dispatch.

Testing Pathway



- Photo ID.
- Supervision of collection
- Sealed containers
Transport to Lab
- Chain of custody
- Special lab.

Relatively quick
test

Slower more
complex and
expensive test

Specimen Details Section

Specimen collected at 2:20 pm on 28/08/2019

Urine Creatinine 11.4 mmol/L (> 1.8)

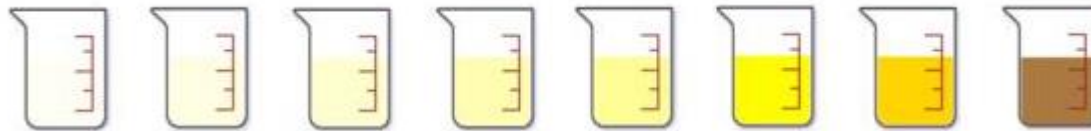
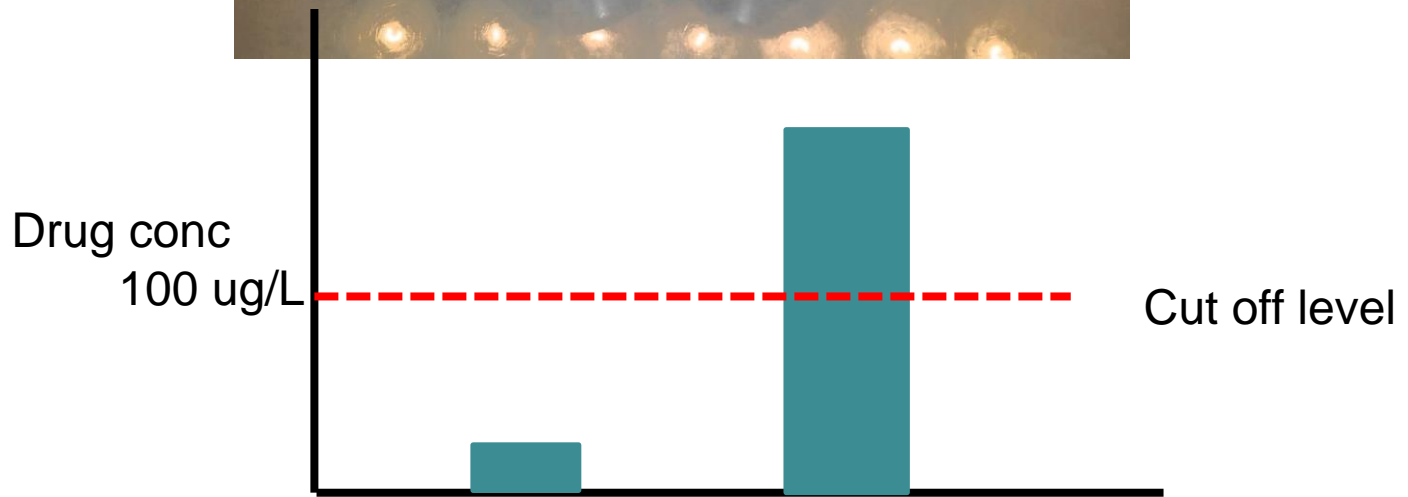
Sample received on 28/08/2018

Sample Check Passed

Creatinine

- A waste product from muscle excreted in the urine
- Confirms the sample is urine.
- Gives information about urine concentration
- Dilute urine will cause drug concentrations to be low, possibly below the cut-off levels.
- Low creatinine can be caused by excess fluid intake prior to test.

Significance of Creatinine



Creat

1

10

20

30

mmol/L

“Sample Check”

- A test carried out to determine if there are chemicals in the urine which may affect the result.
- May be abnormal if adulterants have been added to the urine.
- If a sample does not pass this test, no further testing is carried out on it. Suggest another urine sample.

Results Section

IMMUNOASSAY RESULTS

INTERP

CUT-OFF

AMPHETAMINE TYPE SUBS	Not detected	(300 ug/L)
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OPIATE CLASS	RFT	(300 ug/L)

RFT - Requires Further Testing by GCMS

This drug screen was performed using CEDIA/ DRI methodologies.

GCMS CONFIRMATION:

CODEINE detected.
BENZODIAZEPINES not detected.

Amphetamine Type Substances

Metabolism

Methamphetamine (Ice) $\xrightarrow{\text{Metabolism}}$ Amphetamine (Speed)

Detection Period

Approximately 2-3 days

Other Amphetamine Class Drugs

Ephedrine (Some medical uses)

Pseudoephedrine (Sudafed – restricted access)

Phentermine (Weight reduction drug - Duromine)

MDA

MDMA (Ecstasy)

Dexamphetamine (For ADHD - detected as amphetamine)

There is no prescription drugs that contains or metabolises to methamphetamine

Report No 1

25 yr old man, previously used amphetamines

IMMUNOASSAY RESULTS	INTERP	CUT-OFF
AMPHETAMINE TYPE SUBS	RFT	(300 ug/L)
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CANNABINOIDS	Not detected	(50 ug/L)
COCAINE/METABOLITE	Not detected	(300 ug/L)
OPIATE CLASS	Not detected	(300 ug/L)

RFT - Requires Further Testing by GCMS

This drug screen was performed using CEDIA/ DRI methodologies.

GCMS CONFIRMATION:

Amphetamine Detected
Methamphetamine Detected

Consistent with methamphetamine use.

Opiates

Metabolism

Half-life= 5 min

Heroin



Monoacetyl Morphine
(MAM)

Detected only for 12 hrs



Morphine

Detected for 2-3 days



Indicates heroin use



Codeine

Interpretation

Finding	Interpretations
MAM + morphine +/- codeine	heroin
Morphine + codeine	Codeine? Heroin?
Morphine	Morphine? Codeine? Heroin
Codeine	Codeine

Report No 2

33 year old, heroin user

IMMUNOASSAY RESULTS	INTERP	CUT-OFF
AMPHETAMINE TYPE SUBS	Not detected	(300 ug/L)
BENZODIAZEPINES CLASS	Not detected	(200 ug/L)
CANNABINOIDS	Not detected	(50 ug/L)
COCAINE/METABOLITE	Not detected	(300 ug/L)
OPIATE CLASS	RFT	(300 ug/L)

RFT - Requires Further Testing by GCMS

GCMS CONFIRMATION:

CODEINE, MORPHINE and **6-ACETYLMORPHINE** confirmed as detected.
Please note: These results are **consistent with Heroin use.**

Report No 3

40 year old female ? heroin user

IMMUNOASSAY RESULTS	INTERP	CUT-OFF
AMPHETAMINE TYPE SUBS	Not detected	(300 ug/L)
BENZODIAZEPINES CLASS	Not detected	(200 ug/L)
CANNABINOIDS	Not detected	(50 ug/L)
COCAINE/METABOLITE	Not detected	(300 ug/L)
OPIATE CLASS	RFT	(300 ug/L)

RFT - Requires Further Testing by GCMS

This drug screen was performed using CEDIA/ DRI methodologies.

GCMS CONFIRMATION:

CODEINE, MORPHINE confirmed as detected.

Opiate Like Compounds

- Other Prescribed opiate like drugs
eg. Hydromorphone, Oxycodone
 - will not show up on screening tests
 - must be specifically requested
- Opiate substitutes used in treatment
 - Methadone - tested if requested or if included on their medication list
 - Buprenorphine - must be specifically requested.

Benzodiazepines

- Used as anti-anxiety and sleeping medication
- May be prescribed or from black market
- Long half-life. Detectable for many weeks after last use
- Many drugs in this class.
- Lot of metabolic interconversion in the body.

- Commonest drug seen is Valium (diazepam).
- May be used as part of treatment programs
- In urine see various mixtures of
 - Nordiazepam
 - Temazepam
 - Oxazepam

Report No 4

25 year old man, heroin user

IMMUNOASSAY RESULTS	INTERP	CUT-OFF
AMPHETAMINE TYPE SUBS	Not detected	(300 ug/L)
BENZODIAZEPINES CLASS	RFT	(200 ug/L)
CANNABINOIDS	Not detected	(50 ug/L)
COCAINE/METABOLITE	Not detected	(300 ug/L)
OPIATE CLASS	Not detected	(300 ug/L)

RFT - Requires Further Testing by GCMS

This drug screen was performed using CEDIA/ DRI methodologies.

GCMS CONFIRMATION:

OXAZEPAM, TEMAZEPAM and NORDIAZEPAM confirmed as detected.

Consistent with valium use.

Cannabis

- Large number of metabolites - major one is Carboxy-THC
- Lipid soluble, long half life
- Laid down in fat tissue and slowly released
- Heavy use may remain positive for **3 months** after cessation.

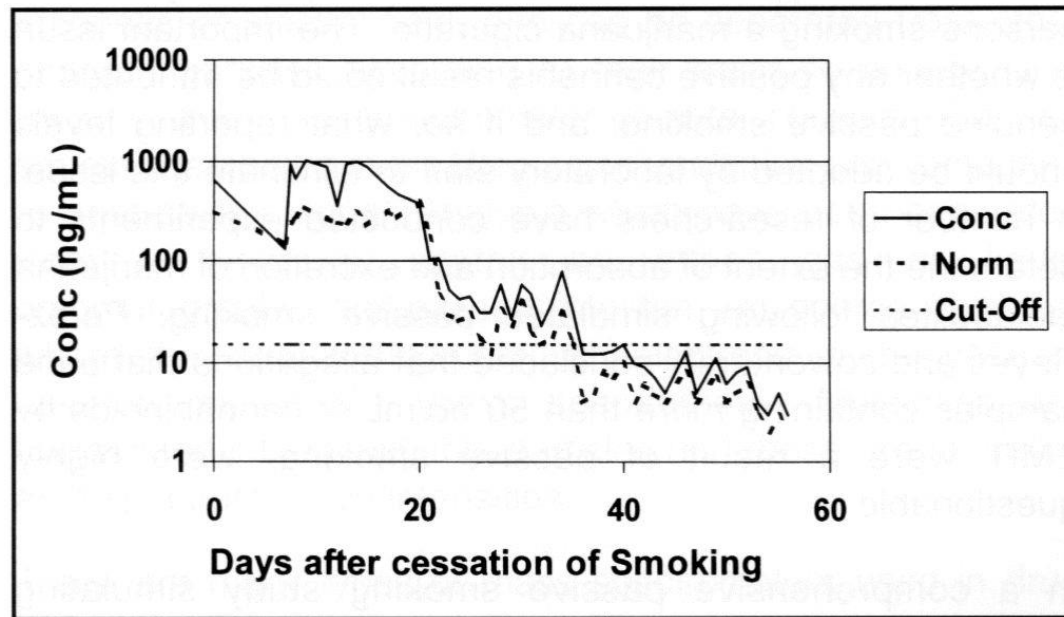


Fig 1. Elimination of Carboxy-THC from a chronic cannabis user (Subject AB).

Report No 5

30 year old, regular cannabis user, none for 5 weeks

IMMUNOASSAY RESULTS	INTERP	CUT-OFF
AMPHETAMINE TYPE SUBS	Not detected	(300 ug/L)
BENZODIAZEPINES CLASS	Not detected	(200 ug/L)
CANNABINOIDS	RFT	(50 ug/L)
COCAINE/METABOLITE	Not detected	(300 ug/L)
OPIATE CLASS	Not detected	(300 ug/L)

RFT - Requires Further Testing by GCMS

This drug screen was performed using CEDIA/ DRI methodologies.

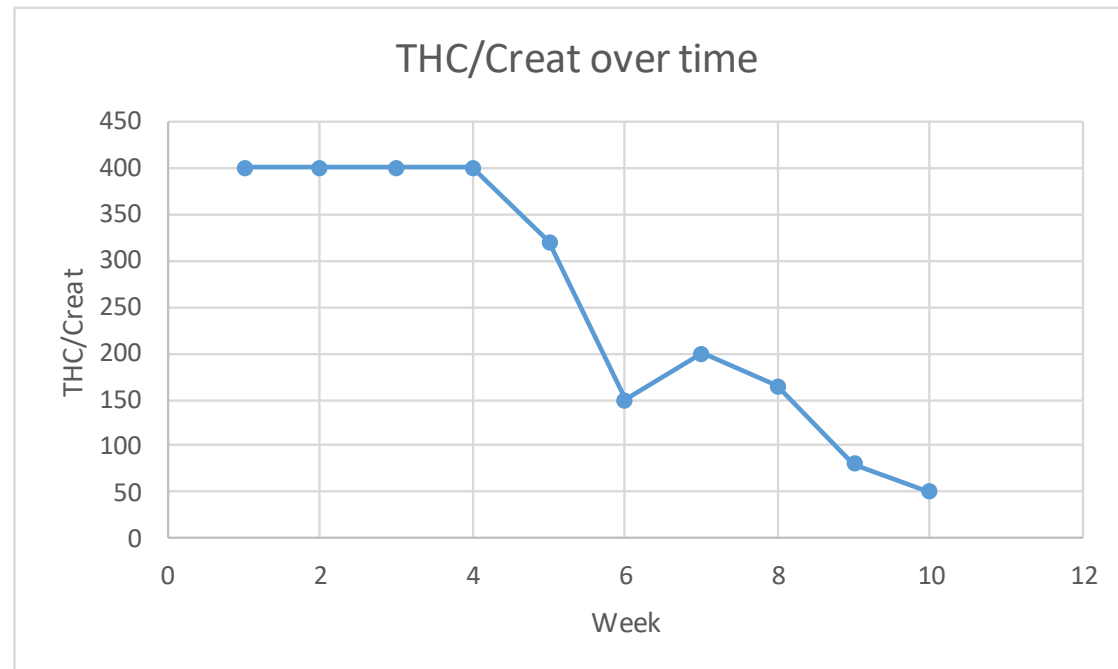
GCMS CONFIRMATION:

CARBOXY-THC CONFIRMATION BY GCMS

Carboxy-THC	20	(< 17)	ug/L
Carboxy-THC/Creat	6.5		ug/mmol

Use of Carboxy-THC/Creat

- Assists to determine if cannabis use has stopped.
- Corrects for variation in urine concentration
- THC/Creat should at least double to confirm re-use.



Cocaine

- Not a common drug to find in Victoria.
- Most positive results seem to come from NSW, often with other positive results.
- Detection Times 2-3 days
- Metabolite seen in urine is
 - benzoylecognine &
 - ecgonine methyl ester

Alcohol

Urine Alcohol

- Alcohol is found in urine as part of normal metabolism
- It is not part of Australian Standard for drug testing
- Reported as Detected / Not Detected with cut off of 0.010 g/100mL
- Concentration does not equate to blood alcohol
- Remains detectable for about 24 hrs after drinking

Urine ETG (Ethyl Glucuronide)

- A metabolite of alcohol.
- Detectable in urine for slightly longer than alcohol.
- Currently reported as Positive or Not Detected

Non-Confirmed Screens

32 year old heroin user.

IMMUNOASSAY RESULTS	INTERP	CUT-OFF
AMPHETAMINE TYPE SUBS	Not detected	(300 ug/L)
BENZODIAZEPINES CLASS	Not detected	(200 ug/L)
CANNABINOIDS	Not detected	(50 ug/L)
COCAINE/METABOLITE	Not detected	(300 ug/L)
OPIATE CLASS	RFT	(300 ug/L)

GCMS CONFIRMATION:

OPIATES not detected.

Possible causes

- cross reactivity with similar substance in the urine
- drug present but below the cut-off level.

Eg codeine level 290 ug/L (Cut-off 334)

Ways to Cheat The System

- Get someone else to take the test
- Dilute your urine
- Add something to the urine
- Obtain clean Urine

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A PERFECT ALTERNATIVE

Contains Uric Acid



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Our urine delivery devices offer wet sex simulation for those looking for a discreet and safe method for urinating on their partner while avoiding the passing of infectious diseases.

The [Urinator](#) is a one of kind, electronic device that maintains urine at body temperature for up to eight hours. The [Wizclear](#) has been developed as an affordable and silent urine delivery device that can be operated with just one hand. The kits come complete with two sticky, miniature heating pads to maintain the urine at body temperature for four hours and two vials of synthetic urines. For those looking for clean synthetic urine please check out our product sections for the best products on the market today. The synthetic urines we offer work for both men and women to protect your lifestyle and your privacy.

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Newest 6.2 Formula Pre-mixed with Urea & Uric Acid

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Lowest price for Quick Fix Urine in Australia!

We have two shipping centers in the U.S. to provide the fastest delivery time to our customers, but there has been such a demand for our products in Australia we have setup a shipping center in Sydney to keep up with our ongoing strategy to provide fast delivery for our customers.

No more waiting six to ten day delays to receive the product from the United States, no unexpected delays from Australian Customs slowing down your shipment, and no surprising taxes and duties when your order arrives that need to be paid.

We now offer an online Quick Fix Urine Batch Verification tool that can verify your batch is good and not expired. No more having to wait for office hours to call in your batch, you can now do this 24/7 online right here.

We've received a lot of questions about urea lately—it's time for us to give everyone an answer. What we're asked daily is, "can labs detect synthetic urine?" The answer is that labs have begun to test samples for the presence of urea. Many other synthetic urine manufacturers have claimed that urea and uric acid are the same thing, but in reality, they're not. Don't be fooled by other manufacturers' claims about uric acid; if some labs don't detect urea in a sample, they will report that the sample is non-human or invalid. Not all synthetic urines contain urea, but you can be assured that Quick Fix Urine will stand up to the test.

Quick Fix Synthetic Urine is the clean, pre-mixed laboratory urine that everyone is talking about!

Instead of generating the urine in a human body, Spectrum Labs has perfected a means of creating urine in a laboratory environment. This laboratory process results in a cleaner, fresher urine that is toxin free and balanced for pH, specific gravity, creatinine, urea, and several other urine characteristics. Quick Fix is also designed to be unisex therefore it can be used by either a man or woman.

Each box of Quick Fix Synthetic Urine contains a bottle of quick fix urine, one heat pack, a flip top cap, and a temperature strip that reads between 90 and 100 degrees.

Once this synthetic urine is warmed between 90 and 100 degrees in a microwave for up to 10 seconds it becomes suitable for use. Attach the heat pack and keep it warm for up to 8 hours!

Batch Verification

Wondering if your product is expired? Enter your batch number from the paper within the box: [\(example\)](#)



Detection Of Substituted urine

- Collection supervision but artificial aids, can be difficult to detect especially in females.
- Astute collector.
- Limited variation in creatinine results.
- Wrong patterns of metabolites seen.

Drugs not covered in AS4308

- Synthetic cannabis & other drugs
- Fentanyl & Pethidine (Medical contacts)
- Gamma Hydroxy Butyrate (GHB)
- LSD
- Inhaled solvents
- Some of these can be specifically requested.

Types of Synthetic Cannabis that can be detected

Mass spectrometry method: MS122 Synthetic Cannabinoids & Metabolites in Urine

Compound	Compound	Compound	Compound
5F-ADBICA	AM-694 & metabolites	JWH-201	UR-144 & metabolites
5F-ADB-PINACA	APICA	JWH-210 & metabolites	URB-597
5F-AKB-48 & metabolite	CP47, 497	JWH-250 & metabolites	XLR-11 & metabolite
5F-PB-22 & metabolite	CP47, 497-C8	JWH-302	JWH-122 & metabolite
AB-FUBINACA	HU-210	JWH-398 & metabolite	JWH-200
AB-PINACA & metabolites	JWH-018 & metabolites	MAM-2201 & metabolites	AKB-48 & metabolites
ADB-Fubinaca	JWH-019 & metabolite	PB-22 & metabolites	AM-2201 & metabolite
ADBICA	JWH-073 & metabolites	RCS-4	RCS-8
ADB-PINACA	JWH-081 & metabolite	RCS-4(C4)	UR-144 & metabolites

Note: There are a much greater number that can't be detected.

What Drug Screens Tell Us

- A person has a specific drug present in their urine.

What Drug Screens Do Not Tell Us

- Method of taking the drug.
- How long ago the drug was taken.
- Degree of impairment.
- Passive use (eg cannabis).
- Legal or illegal use.
- Was it one drug or a combination of similar drugs.

Take Away Messages

- Familiarise yourself with the testing system.
- Familiarise yourself with the terminology eg creatinine, RFT, cutoff level, screening, confirmation, GCMS.
- Know the common findings for Ice, Heroin and Cannabis.
- Know the common methods of cheating.