Medical Review from the Toxicologists’ Perspective

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Aim

- Familiarisation with MRO process
- Highlight the importance of using MRO
  - Not an added luxury to the analysis
- Partnership with the Toxicologist
Overview

- Drug testing results review process
- Role of Toxicologist
- Medical Review Process
- Role of Medical Review Officer
- Why Both?
- Working in Partnership
- Case Studies
- MRO Training.
Result Review Process

Instrument data reviewed by Analyst

Senior Analyst conducts 2nd review

Toxicologists reviews all results and declared medication

MRO carries out Medical Review
Toxicologists Role

Final check of analytical process

Result review for all analyses carried out on a sample

Provide comment on consistency with declared medication

Evaluation of declared medication

KEEP CALM AND ASK A TOXICOLOGIST
Medical Review

1. Receive result from laboratory
2. Consult with Toxicologist if required
3. Contact donor to discuss result
4. Explore legitimate reasons for result
5. Complete Medical Review Report
Medical Review Officer Role

- Review and interpret positive results
- Validate collection and analytical procedures
- Examine alternative explanations
- Final check on result outcome
Toxicologist **and** MRO – why?

**Toxicologist**
- Expertise in interpreting results
- Expertise in metabolism of illicit drugs and medication

**MRO**
- Contact with donor as medical–in-confidence
- Experience as Occupational Physician
Working in Partnership

1. Toxicologist provides initial interpretation
2. MRO and Toxicologist discuss any uncertainties
3. MRO contacts donor
4. MRO and Toxicologist discuss any further explanations
Donor 37-year-old male

POCT oral fluid screen cocaine non-negative

Laboratory confirmation positive consistent with cocaine use
  - Detected cocaine, benzoylecongonine, anhydroecgonine methyl ester (AEME)

MRO contacted donor

Donor suggested contact with bank notes caused positive

MRO discussed with Toxicologist
  - Toxicologists confirmed that suggested scenario is highly unlikely
  - Presence of AEME indicative of crack cocaine use

MRO completed report
Difficult decision?– Case Studies

- Certificate of Analysis - positive for Opiates
- Aspirin is declared medication
- The toxicologist confirms that result is not consistent with the aspirin declared, but is consistent with codeine based medication: Morphine 410 ng/mL, Codeine 2,400 ng/mL
- The donor says that he said had taken Solpadeine, not aspirin. He says he made the declaration in front of two people
- The Consent Statement on the Chain of Custody form is signed by the donor. The medication declared states “Aspirin this morning”
- The Collecting Officer report states that the collection was standard, and no-one else was present
Case Studies – What not to do

**Analytical Result** – Morphine detected at 4,000 ng/mL
papaverine and noscapine metabolites detected
**Declared Medication** - None

I hit my foot with a hammer a week ago and took 2 cocodamol every 4 hours for 1 day

Toxicologist confirms that the result is not consistent with the explanation

I was given medication in hospital after a previous car accident. My GP confirms that this was a 2mg daily dose of buprenorphine. This is what I took after the foot injury

Toxicologist confirms that the result is not consistent with the explanation

My uncle is an AIDS patient who provided me with some painkillers for my foot – 2 x morphine sulphate tablets

Toxicologist confirms that the result is not consistent with the explanation
MRO Training

- No regulations governing Medical Review in the UK
- Some guidance from the Faculty of Occupational Medicine

No drug testing programme is complete without a medical review of employees who are found to have a positive result.

Guidelines for Testing for Drugs of Abuse in the Workplace FOM 1996

- Good practice to undergo initial training and refresher training
- Training lead by a Toxicologist
Medical Review Officer Role

Final check on result outcome

- Review and interpret positive results
- Examine alternative explanations
- Validate collection and analytical procedures
The role of the MRO
- Including balance between policing the policy and OH role

Chain of custody and specimen collection
- Understanding of C-o-C to whole process
- Awareness of the sample collection procedures
- Awareness of adulteration and substitution issues
- MRO may need to conduct own familiarisation

Analytical procedures and techniques
- Basic understanding of analytical techniques
- Differences between screening and confirmation

Interpretation of Results
- Particularly in relation to more unusual analytes
- If in doubt.....Ask the Toxicologist
Conclusion

- Medical Review works best as a partnership
- Dialogue between MRO and Toxicologist is key
- Provides protection to donor
  - Legitimate use of medication can be verified
- Ensures risk to employer and co-workers due to drug use is minimised
  - False claims by donor can quickly be discounted
- Toxicologist plays a key role in training the MRO