Scientific literature investigating saliva drug testing for >20 years

1999 - First commercial saliva drug testing kit available - Cozart® RapiScan

Since 1999 - significant advances in research and development of on-site saliva tests

2004 - Committee formed to develop AS4760 for workplace saliva based drug testing

2006 - Pilot project for random roadside saliva drug testing in Victoria completed. Expansion of testing announced due to success. Other states to follow.
Oral Fluid (Saliva) Testing

Main features/advantages...

- Non-invasive collection
- Easy to supervise
- No adulteration or substitution
- Short windows of detection*
- Recent drug use
- Oral Fluid testing detects drugs that are in the blood at the time of testing
- Detects many drugs in the parent form eg: d9-THC
Oral Fluid (Saliva) Testing

Limitations...

- Volume of saliva is low
- Can be slow to collect on occasion
- Drug levels tend to be lower in saliva
- Short windows of detection* (esp THC)
- Less scientific research/validation available
- Until now, no Australian Standard
How do drugs get into Saliva?

Drug

Intranasal Smoking
Oral, SL

Blood & Liver

Saliva

Brain

Muscle & Fat

Effect or Response

Intravenous Intramuscular

Urine
How does saliva testing work?

1. Saliva collection swab with volume adequacy indicator

2. A disposable test cartridge which evaluates the oral fluid sample for the presence of drugs

3. A hand held instrument which interprets and digitally displays the results eliminating user error and subjectivity
Safety Issues

Saliva testing is a relatively clean and safe process, however…

- Oral Fluid should be handled in accordance with safety precautions for all body fluids. (Eg: Gloves must be worn by collection staff)
- Collection swab should be sterile and not contain saliva stimulating agents.
- Design of collection device should ensure a hygienic process.
Applications

✓ Detection of recent drug use
✓ “Fitness for Duty” workplace drug policies
✓ Roadside Drug Testing
✓ Law enforcement eg: Home Office Offenders
✓ Methadone compliance monitoring
✓ Some abstinence monitoring eg: cocaine, opiates, amphetamines
✘ Abstinence monitoring when cannabis is the key drug of interest
✘ Detection of historical drug use eg: Weekly testing
Random Roadside Drug Testing has been underway in Victoria since Dec 04
2 years of rigorous evaluation prior to implementation
13,000 tests conducted so far
High positivity rate – 1/45 drivers
Excellent results for Cozart – good detection of THC
Under evaluation in NSW & SA
Qld Uni of Technology conducting research trials with Cozart RapiScan in relation to roadside testing in QLD
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THANK YOU!