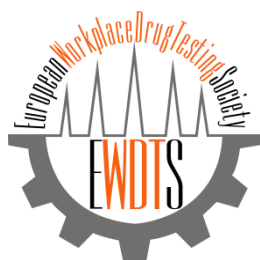




8th Symposium of the European Workplace Drug Testing Society

26-27 September 2013

Hotel Mercure Wien Westbahnhof
Felberstrasse 4
1150 Wien



European Workplace Drug Testing Society

Dear Colleagues and Friends,

Welcome to Vienna!

We are very happy that you could join us for the celebrations of the 15th anniversary of the European Workplace Drug Testing Society which was founded in Stockholm, Sweden in 1998.



The board of the EWDTS has done everything within their power to organise this Symposium as well as possible.

It may seem strange for the EWDTS to have a symposium in a country with no specific legislation on workplace drug and alcohol testing, yet in Europe, Austria is not alone in this fact. As a continent, we have a mixed approach to regulating substance misuse issues within the workplace. Over the next two days we will explore some of the approaches through case studies, employee support programmes, new technology, our guidelines and accreditation.

The social element is a travel back in time on a vintage Austrian tram as it tours the city on its way to "10er Marie", our chosen restaurant for the evening.

I hope you will enjoy this scientific and social gathering, and that your stay in Vienna will be memorable.

Helen Vangikar
EWDTS President 2011-2013

The Board and Committees 2011-2013

President: Helen Vangikar, helen@helenvangikar.com

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Committees:



Education chaired by Per Björklöv

Guidelines chaired by Leendert Mostert

Elections chaired by Anya Pierce

Website chaired by Helen Vangikar

Sponsoring chaired by Leendert Mostert

Platinum	
	<p>The Greiner Bio-One International AG consists of two business sectors: Greiner Bio-One Preanalytics with headquarter in Kremsmünster, Austria and Greiner Bio-One BioScience with headquarter in Frickenhausen, Germany.</p> <p>Based on customer specifications and the requirements of the diagnostics market, the Preanalytics division develops specimen collection systems for blood, urine and saliva, which make daily routine procedures in hospitals, laboratories and doctors' offices easier and safer. With a production and distribution network in more than 100 countries worldwide and approximately 1500 employees, the company has been extremely successful in both product divisions.</p> <p>Greiner Bio-One revolutionises saliva analytics due to a new, unique collection and quantification system. The new GBO Saliva Collection System allows a standardised saliva collection by using defined media, thereby preventing discrimination of analytes.</p> <p>With the Greiner Bio-One Saliva Collection System, saliva is collected on the basis of a liquid extraction solution. By rinsing the mouth cavity with the saliva extraction solution, saliva is mixed with the saliva extraction solution. The saliva extraction solution contains a dye as internal standard, with which the saliva quantity can be determined. Tamper-evident transfer tubes prevent unauthorized access. Standard enzyme immunoassays as well as instrumental analysis methods can be used to determine narcotics and psychotropic substances.</p>
Gold	
	<p>Alere Toxicology is a world leading provider of drug and alcohol testing solutions. We perform 10 million laboratory tests each year for 8500 customers in over 90 countries, as well as supplying over 100 million point of care tests. Our UK laboratories are independently audited and accredited to the highest standards and our US laboratories hold SAMHSA and US DOT certifications. We benefit from a global network of fixed sites and collecting officers, giving us unrivalled worldwide coverage.</p> <p>As well as an unparalleled breadth of testing solutions, from point of care to laboratory analysis of urine, oral fluid and hair samples, we offer a full range of supporting services including policy advice; programme management; training and education; background checks; pre-employment medical examinations; medical review officers; expert witnesses, and Employee Assistance Programmes. Our workplace drug and alcohol testing service is employed across an extensive range of industry sectors including construction, logistics, transport, manufacturing, utilities and occupational health.</p> <p>Our other dedicated divisions specialise in family law, clinical diagnostics, law enforcement, drug treatment and the maritime sector. This combination of skills, services, testing products and international reach means we can provide our customers with bespoke testing solutions tailored to fit their unique needs.</p>
	<p>Randox employs over 1,000 people including 200 scientists, with 25 international offices and distribution agreements in 130 countries worldwide. Randox is the leading global developer and manufacturer of multi-analyte Biochip Array Technology, now optimised for Drugs of Abuse Testing, with the ability to test for 23 different drugs in one test from one sample. The multi-analyte capability allows us to provide a custom Biochip to suit customers' individual requirements.</p> <p>Randox Testing Services offer a complete drug & alcohol testing service tailored to your organisations' Workplace Drug and Alcohol policy. We have a dedicated laboratory with state-of-the-art medical and forensic testing equipment, where we perform a wide variety of tests ranging from alcohol and commonly abused drugs to more unusual substances. We have a wide and innovative portfolio of products and services, assuring a complete and comprehensive solution. We follow strict Chain of Custody procedures in order to protect the integrity of donor samples. Accredited to ISO/IEC 17025:2005 and to UKAS standard, Randox Testing Service is founded on quality both in terms of service and the provision of results that you can rely on. We are fully compliant with the guidelines set out by the European Workplace Drug Testing Society and all our tests are aligned to their established cut off values.</p>
	<p>At Siemens, we are passionate about answers. Answers that help advance drugs-of-abuse testing. Answers that support thorough workplace testing. At EWDTS, discover our answers for helping you achieve excellence in your drug testing program.</p> <p>For more than 45 years, the Syva® product line and Emit® assays from Siemens Healthcare Diagnostics have been trusted and reliable resources for drug-of-abuse testing, therapeutic drug monitoring and alcohol testing</p> <p>Our commitment to our customers doesn't stop at the sale of an instrument. We view our customers as our partners, and as such, we continue to find ways to support your needs. Our latest exemplification of this commitment was brought to life in the form of a new educational online campus.</p>

Silver	
	<p>DIPROmed GmbH is an Austrian based manufacturer in compliance with the in-vitro Medical Device Directive 98/79/EC and reseller of medical devices. DIPROmed offers a wide range of in-vitro diagnostic tests and pretests for professional and home.</p> <p>Our drugs of abuse test systems were developed to work with urine, saliva, sweat and substances. With our DRUGLAB[®] buffer based testing systems and our DIPRO WIPE[®] test, we offer the most reliable substance pretesting systems for drugs of abuse suitable for surfaces, herbal samples, powders, pills and several forensic issues. All DIPROmed test systems were designed to operate without any harmful, poisonous or dangerous chemicals and are reliable, very easy to use and are able to detect nearly all common drugs of abuse.</p> <p>Since 1945, Intoximeters has been a leader in the breath alcohol detection field. Early on, law enforcement, probations and correction agencies were the primary customers for this type of equipment. However, as the extent of alcohol abuse in society became more recognized, other markets for breath alcohol testing products developed - most notably in the workplace.</p> <p>Although initially driven by federal mandates, the costs associated with alcohol abuse in the workplace have encouraged more and more employers to institute alcohol testing on their own to reduce absenteeism, worker's compensation costs, accident insurance costs and to improve overall safety in the workplace.</p>
	<p>nal von minden GmbH specializes in the development, production and professional sales of in-vitro diagnostics. We supply our global customers with innovative and high quality products, focusing on the areas of drug analysis and medical diagnostics.</p> <p>Our portfolio includes rapid tests (POCT: nal von minden Drugscreen[®], NADAL[®]) and laboratory tests (ELISA, EIA: LUCIO[®]) for reliable diagnosis across the areas of pediatrics, gynecology, urology, infection diseases, bacteriology, serology and toxicology; innovative POCT reading devices and unique alcohol measurement systems as well as unique rapid-test parameters, individually tailored to customer needs. In addition we offer laboratory diagnostic services in cooperation with partner laboratories.</p> <p>Our experienced specialists always ensure a smooth process across departments including product development, selection of products, production, sales, key-accounting, quality assurance, technical support or logistics – optimum customer satisfaction is our most important goal. We therefore communicate with our customers in their native language whenever possible – currently 11 languages are available. Furthermore we have local sales teams in Germany, the Netherlands, Belgium and France. 30 years of experience are the basis for successful partnerships with, doctors, laboratories, government agencies, industrial companies and many more.</p>
	<p>Neogen Corporation (Nasdaq: NEOG) has 30 years of experience in developing and manufacturing products to provide laboratories with simple sensitive testing solutions.</p> <p>Neogen's drug detection products are used worldwide to detect abused and therapeutic drugs in human forensic toxicology applications, race animals and raw materials for feed.</p> <p>Our extensive range of quality drug detection ELISAs includes over 100 kits which can be used to screen more than 300 drugs and/or metabolites in a wide range of matrices. Neogen is also the world's largest supplier of kits for specialist hair testing.</p> <p>Our commitment to the supply of products for workplace drug testing continues out of our European head office in Scotland. This commitment spans our research and development department right through to after sales support, and with a number of new ELISA kits released this year already, Neogen's product line continues to grow. Recent releases include two new kits for the detection of Synthetic Cannabinoids and kits for Zopiclone/Eszopiclone, Salicylates, and Meprobamate. We are also very excited about the imminent release of our new oral fluid collector, which we are confident will be a strong addition for any workplace drug testing enterprise.</p>
	<p>Hair analysis has become a powerful tool for the detection of chronic and past drug consumption and is now a routine technique in forensic toxicology laboratories that offers a wide range of applications.</p> <p>The advantages of hair over traditional matrices, like urine and blood, are obvious: collection is non-invasive, relatively easy to perform, and in forensic situations it may be achieved under close supervision of law enforcement officers to prevent adulteration or substitution. Most importantly, hair analysis extend the window of drug detection dramatically to weeks, months or even years and provides a historical profile of an individual's exposure to drugs and other substances of interest.</p> <p>Although the number of analytical methods and tested substances continue to increase, quality control materials with reliable values and homogeneity are not available for the most part and often with concentration levels much higher than the cut-offs proposed by the international Society of Hair Testing (SoHT), the European Workplace Drug Testing Society (EWDTS) and others.</p> <p>For that reason MEDICHEM started to develop new techniques for the preparation of hair reference materials, with special emphasis on preserving the structural integrity of the hair by avoiding any form of pulverization, which is important for method development and validation, internal quality control and proficiency tests.</p> <p>For information about this precisely cut hair reference material (fiber length 1 mm each) and our reference material in classic matrices such as serum, urine, whole blood and water please stop by our booth # 10.</p>

 	<p>Psychemedics Corporation is the world's largest provider of hair testing for drugs of abuse and has been successfully operating for over 25 years. Thousands of corporations, nationally and internationally, rely on the patented Psychemedics drug testing services. Psychemedics' clients include over 10% of the Fortune 500, many of the largest police departments both domestic and global and six Federal Reserve Banks. In addition, the Company serves schools and colleges around the world.</p> <p>TruTouch Technologies, Inc. develops, manufactures and sells patented noninvasive alcohol detection and biometric testing systems which provide companies with the only realistic, truly effective deterrent system available for unobtrusive verification of sobriety on a daily or routine basis. Inspired by the potential to place its passive, durable systems virtually anywhere, TruTouch's vision is to create a world where alcohol consumption is routinely intercepted before it does harm.</p>
	<p>Established in 1995, Securetec Detektions-Systeme AG develops leading edge technology to facilitate the detection of drugs, explosives and hazardous substances. Securetec's rapid tests are able to identify immediately and reliably a wide range of substances in body fluids (such as saliva, sweat and urine) or on surfaces.</p> <p>The DrugWipe® product line of drug screening devices can detect even the smallest traces of Cannabis, Amphetamines, Methamphetamines (Ecstasy), Benzodiazepines, Cocaine and Opiates and has proven to be of great value to authorities such as customs and border control, drug enforcement, traffic control as well as workplace safety throughout the world.</p> <p>Workplace safety is vital. In contrast to the signs of alcohol consumption, reliable signs of drug use in the workplace are usually more difficult to notice. Obtaining proof is often a tricky matter that requires a great deal of attention. In addition, drug screening may infringe on the personal rights of individuals; thus it is therefore often essential that local laws are abided.</p> <p>DrugWipe® saliva tests can reliably detect recent consumption for the most widely used drug substances. DrugWipe® surface tests offer an alternative option for discrete testing in case of suspicion.</p> <p>We detect to protect – Securetec is proud to play a part in making today's world a safer one.</p>
	<p>Thermo Fisher Scientific is the world leader in serving science. The company enables its customers to make the world healthier, cleaner and safer by providing analytical instruments, equipment, reagents and consumables, software and services for research, analysis, discovery and diagnostics.</p> <p>With annual sales of \$13 billion, Thermo Fisher Scientific has over 39,000 employees and serves more than 350,000 customers in pharmaceutical and biotech companies, hospitals and clinical diagnostic labs, universities, research institutions and government agencies, as well as environmental, industrial quality and process control settings.</p> <p>The company delivers the industry's broadest selection of analytical instruments, equipment, consumables and laboratory supplies. Its growing portfolio of products includes innovative technologies for mass spectrometry, elemental analysis, molecular spectroscopy, sample preparation, informatics, fine and high-purity chemistry production, cell culture, RNA interference analysis and immunodiagnostic testing, as well as air and water quality monitoring and process control. The company also gives its customers the most convenient purchasing options, including a direct sales force of 7,500 professionals, catalogs and e-commerce.</p>
Tram Wine	
	<p>ACQ Science GmbH develops, produces and distributes reference materials. Our products are used by laboratories in Germany and Europe for analyses in toxicology and clinical chemistry.</p> <p>We offer quality control material for each request like our drug confirmation test DCT ±25%. The target values lie ±25% above/below the defined cut-off values of the EWDTs (European Workplace Drug Testing Society). The control material consists of urine on a human basis to which narcotics, drugs, and alcohol consumption markers have been added. The target values will be carried out by laboratories accredited according to DIN ISO/IEC 17025 by means of GC/MS and LC/MS/MS. They are controlled in a checking cycle consisting of 15 values. Checking lists are available on www.acq-science.de. We acquire modifications and special developments in a flexible way and in close cooperation with you.</p> <p>The products of ACQ Science are mainly used in the forensic toxicological field and for clinical applications. Therefore, our stated aim is to create reliable solutions in cooperation with our customers. ACQ Science GmbH is certified according ISO 9001:2008 and ISO 13485.</p>

Programme

Wednesday 25 September 2013		
19:00: Welcome Reception sponsored by DISA at the Symposium Hotel		
Thursday 26 September 2013		
09:00 Official Welcome		
Session 1: European Updates; Many Countries, Many Approaches		
Session chairs: Helen Vangikar and Sanna Taskinen		
09:15	Opening Presentation	Justice Tettey UNODC, Austria
09:50		
10:10	Workplace drug testing in Italy: Statistical and epidemiological findings about second level survey	Claudia Vignali University of Pavia, Italy
10:30 – 11:15: Coffee Break, Sponsors' Exhibition		
11:15		
11:35	The Dutch experience of workplace drug testing	Tessa Bosch MaasstadLab, Netherlands
11:55	U.S. based company challenges and how to deal with them in Europe	Colin Woods DISA Global Solutions, US
12:15 – 14:00: Lunch, Sponsors' Exhibition		
13:15 – 13:45: Greiner Bio-One Workshop: "In saliva veritas"		
Session 2: Policies, Procedures and Proof		
Session chairs: Leendert Mostert and Nadia Fucci		
14:00	Challenging aspects of policies	Lindsay Hadfield Alere Toxicology, United Kingdom
14:20	Random testing programmes; who's got it right?	Per Björklöv DISA, Sweden
14:45	Guidelines update, what's new	Ronald Agius Labor Krone, Germany
15:20	Accreditation: letters vs numbers	Helen Vangikar Toxicology Consultant, United Kingdom
15:30 – 16:00: Coffee Break, Sponsors' Exhibition		
Session 3: More Than Testing		
Session chairs: Lindsay Hadfield and Thomas Keller		
16:00	,On-site' Analysis of (new) synthetic drugs in the music event scene: The Viennese ,Check iT' drug prevention project	Rainer W. Schmid Medical University, Austria
16:20	SUN+ Alcohol and drug prevention program at VOEST alpine company	Anton Feuerstein VOEST alpine, Austria
16:40	A day in the life of an MRO in Sweden	Stefan Nicolaidis ADELAS Consulting AB, Sweden
17:00	Thresholds, sensitivity and specificity, should PoCT devices be used in safety critical occupational testing programs?	Simon Davis Imperial College, London, UK
18:15: Gather at tram stop for the tram ride to the restaurant, prompt 18:30 departure		
19:00: Conference Dinner at 10er Marie		

Friday 27 September 2013		
Session 4: New Technology		
Session chairs: Anya Pierce and Per Bjorklov		
09:00	Dried blood spots (DBS) and dried urine spots (DUS) for monitoring of alcohol markers and new psychoactive substances	Wolfgang Weinmann University of Bern, Switzerland
09:20	Enhanced occupational drug screening using high resolution accurate mass LCMS	Simon Hudson LGC Health Sciences, United Kingdom
09:40	The sweat matrix: A new chance for workplace drug testing	Nadia Fucci Catholic University - Sacred Heart, Italy
10:00	Oral fluid, the upcoming matrix for drug of abuse testing	Michaela Neuhofer Greiner Bio-One, Austria
10:20 – 11:05: Coffee Break, Sponsors' Exhibition		
11:05	Oral fluid as an alternative matrix in workplace drug testing: which drugs at which cutoff concentration	Michael Böttcher MVZ Labor Dessau GmbH, Germany
11:25	Utility of cosmetically treated hair for the detection of drugs and alcohol	Ronald Agius Labor Krone, Germany
11:55	Hair analysis in pre-employment in the UK and in Brazil: worldwide harmonization required?	John Wicks Cansford Laboratories Ltd, United Kingdom
12:20 – 13:45: Lunch, Sponsors' Exhibition		
Session 5: Alcohol		
Session chairs: Ronald Agius and Helen Vangikar		
13:45	The detection of ETG in urine: could this marker be useful in workplace control?	Cristiana Stramesi University of Pavia, Italy
14:05	Workplace EtG Testing – the American Experience	Faye Caldwell Caldwell Everson PLLC, USA
14:25	TruTouch – a new possibility for quick modification of alcohol behavior in the workplace	Torsten Winkler nal von minden, Germany
14:50: Coffee Break, Sponsors' Exhibition		
15:15: EWDTS Business meeting		
16:00: END		

Justice N. Tetley, B.Pharm (Hons), M.Sc., Ph.D., MPSGh, FRSC, FHEA

Chief, Laboratory and Scientific Section, United Nations Office on Drugs and Crime
justice.tetley@unodc.com

Opening Presentation

Short Biography

Ph.D. Pharmaceutical Sciences, University of Strathclyde 1998; M.Sc. Pharmaceutical Analysis, University of Strathclyde 1995; B.Pharmacy, University of Science & Technology, Ghana, 1991.

Dr. Justice Tetley joined the United Nations Office on Drugs and Crime in 2008 as Chief of the Laboratory and Scientific Section, Division of Policy Analysis. The section is responsible for the development and implementation of the office's Global Scientific and Forensic Services Programme which seeks to ensure that member states have access to, and use quality forensic science services in their fight against drugs, crime and terrorism.

He started his career in medicines regulation as a Drug Control Officer (1991-1995) with the Ghana Pharmacy Board. Following his postgraduate studies in the pharmaceutical sciences, he was awarded a Glaxo-Wellcome Postdoctoral Fellowship for research in chemical toxicology at the Department of Pharmacology and Therapeutics, University of Liverpool Medical School. He accepted a lectureship in Pharmaceutical Sciences at the University of Strathclyde in 2000 and was promoted to Senior Lecturer in 2006. He has published extensively in a wide range of scientific disciplines including pharmaceutical and analytical chemistry, bioanalysis, drug metabolism and chemical toxicology and served as an invited adjudicator of research grants, reviewer of scientific papers and the award of higher degrees. He is author/co-author of over 50 scientific articles and book chapters and has directed 13 PhD theses.

Justice Tetley is a Fellow of the Royal Society of Chemistry of the United Kingdom; Fellow of the United Kingdom Higher Education Academy; Member of the Pharmaceutical Society of Ghana; Member of the British Pharmacopoeia Commission Expert Panel on Biological and Biotechnology Products (2003 to date) and has served as Visiting/Honorary Lecturer at the Department of Pharmacology and Therapeutics, University of Liverpool Medical School (2000-2006) and Strathclyde Institute for Biomedical Sciences, University of Strathclyde, Glasgow (2008-2010)

Claudia Vignali

University of Pavia – Department of Public Health, Experimental and Forensic Science
claudia.vignali@unipv.it

Workplace drug testing in Italy: Statistical and epidemiological findings about second level survey

Introduction: WDT in Italy includes two levels of survey: a first tier concerning drug testing on urine samples and a second involving both urine and hair analysis. The second level is performed only on workers tested positive to the first level: they are referred to an Addiction Treatment Unit in order to verify drug addiction.

Methods: We analyzed urine (4 in a month) and hair specimens (1 taken - when available - during the first medical examination) from 120 workers undergoing second-level survey from 2009 to 2012. 80% of the 120 workers had tested positive for cannabinoids to the first level analysis, and 15.8% for cocaine. Both urine and hair samples have been analyzed in order to find the following drugs of abuse: amphetamines, buprenorphine, cannabinoids, cocaine, methadone, methylenedioxyamphetamines and opiates. Urine analysis were performed by immunological screening (EMIT); urine confirmation analysis and hair analysis were performed by GC-MS.

Results: As regards second-level analysis of urine samples, 71.3% of workers were always negative, whereas 23.7% tested positive at least once for cannabinoids and 1.7% for cocaine. Hair analysis produced surprising results: 63.9% of hair samples were negative, only 5.2% tested positive for cannabinoids, whereas 25.8% tested positive for cocaine.

Conclusion: In the first place, our results confirmed the widespread use of cocaine in Italy. Moreover these findings confirm that second-level surveillance, which includes hair analysis, is very useful because it allows to highlight the use of drugs of abuse – sometimes heavy – that cannot be revealed through few urine analysis. The employees for whom drug addiction is proved can begin rehabilitation, while keeping their job.

Short Biography

Claudia Vignali (Pavia, Italy 12.11.1963, Degree in Biological Science) works at University of Pavia, Department of Public Health, Experimental and Forensic Medicine – Laboratory of Forensic Toxicology since 1989. She develops analytical methods and performs toxicological analysis in biological (especially blood, urine and hair) and non-biological samples by GC-MS. She carries out qualitative and quantitative analysis of legal and illegal drugs on post-mortem samples, on blood samples for DRUID, on hair and urine samples for driving license renewal, workplace drug testing, and substance abuse monitoring. Her professional experience is supported with articles, also published on international journals.

She is a member of TIAFT, SOHT, EWDTS and GTFI.

Tessa Bosch

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WorkPlace Drug testing in the Netherlands

The Netherlands is a country with a relatively mild drug-administration. Hard drugs are prohibited and soft drugs are tolerated. What is the consequence of this policy for the workplace drug testing in the Netherlands? The presentation will be illustrated with cases from daily practice.

Short Biography

Ms. T.M. Bosch PhD is a hospital pharmacist and clinical pharmacologist in the Maasstad Hospital in Rotterdam, The Netherlands. The MaasstadLab, part of the Maasstad Hospital, is a medical laboratory for Clinical Chemistry, Microbiology and Clinical Pharmacology & Toxicology with more than 200 employees. Ms. Bosch is clinical director of the unit Clinical Pharmacology & Toxicology of the MaasstadLab. This department is specialized in Therapeutic Drug Monitoring (TDM), Toxicology, Pharmacogenetics, Biological Monitoring, Environmental Monitoring and Drug Screening for addiction clinics and work place drug testing.

Colin Woods

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U.S. Based Company Challenges and How to Deal with them in Europe

The presentation will address challenges and obstacles that U.S. based companies face when trying to implement testing programs throughout European countries. These challenges include international labs and panels, collection sites and trained collectors, as well as country-specific laws.

Short Biography

Mr. Woods is the Vice President of Sales & External Operations for DISA Global Solutions, Inc. Mr. Woods has been with DISA for 11 years and has focused on business development across multiple geographies and industries heavily focused on the Energy and Transportation markets. He has also been directly involved in new product development for DISA. DISA specializes in employee screening and compliance services including: Drug & Alcohol Testing, Background Screening, Safety Training, Occupational Medical Tracking, and Transportation Compliance.

Lindsay Hadfield

Alere Toxicology

Lindsay.hadfield@concateno.com

Challenging Aspects of Policies

Developing and implementing a policy on drugs and alcohol generates concerns and objections amongst the workforce that the policy will apply to. This presentation will look at some of the predictable challenges and some of the more unusual concerns that UK companies have had to address.

Short Biography

Lindsay has worked with many companies across a wide range of industry sectors to help them develop appropriate drug and alcohol policies. Through this she has acquired a wealth of knowledge and experience from talking to managers, employees and trade unions, which she uses to support the introduction and implementation of workplace drug testing programmes. Lindsay is a Board Member of the European Workplace Drug Testing Society.

Per Björklöv

DISA

Per.bjorklov@telia.com

Random testing program – different set up in different countries

Why do companies implement random testing programs? What is the idea behind random testing programs? Does it work? Random testing program differ in Sweden from random programs in USA and UK. Is it legal in all countries?

Short Biography

Per Björklöv, CEO and founder of DrugtestScandinavia and Senior director, International Operations at DISA Global Solutions. Per is a past president and co-founder of EWDTS. Per is also chairman and founder of International Forum for Alcohol and Drug testing (IFDAT). Per lives in Stockholm Sweden.

Dr Ronald Agius

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The EWDTS Guidelines; what's new

On 19Sep as a representative of the EWDTS, I met with the European co-operation on Accreditation (EA) in Brussels to present an overview of the EWDTS activities.

At this meeting the EA also planned to review the EWDTS documents and publications on the EA website.

This presentation is an update on the meeting and the impact it may have on the guidelines and our relationship with the EA.

Short Biography

Dr. Agius has been employed since 2005 at Labor Krone as Quality Manager, since 2007 as Authorisation Scientist at the Department of Forensic and Clinical Toxicology. He obtained his Ph.D. in Physical Chemistry in 2004 from the University of Bielefeld in Germany. Ronald's first project for the EWDTS was the formulation of Guidelines for Drug and Alcohol Testing in Hair. He is a board member of EWDTS, SoHT and ICADTS and author of a number of publications concerning drug and alcohol testing in urine and hair.

Helen Vangikar

Independent Toxicology Consultant
helen@helenvangikar.com

Accreditation; letters vs numbers

This presentation aims to look at the various accreditation standards operating in the field of workplace drug testing. Both numbers 17025, 15189, 22870, 9001 and letters CAP, NIDA, SAMHSA play a significant role on sourcing appropriate service providers.

Frequently there is confusion between terms of reference such as accreditation, certification, international standard and guidelines. With examples of each these terms will be explained along with their degree of importance.

An attempt will be made to answer the frequently asked questions; why do American companies insist on testing in the US? What's wrong with European labs? A potential solution will also be offered.

Short Biography

Helen Vangikar is an Independent Toxicology Consultant who has worked in the field of analytical chemistry and toxicology since 1988.

Since 1990 Helen has commissioned two laboratories from concept to accreditation, successfully gaining United Kingdom Accreditation Service (UKAS) accreditation to ISO 17025. Both laboratories complied with the United Kingdom Laboratory Guidelines for Legally Defensible Workplace Drug Testing to which she contributed as a founder member.

2009 saw Helen become an Independent Assessor for UKAS. Her range of laboratories includes many of the workplace and forensic drug testing laboratories for hair and oral fluid analysis. Other quality standards Helen assesses are ILAC documents for forensic and horse racing and WADA ISL for athletes.

Rainer W. Schmid

The 'checkit!' Prevention Project
rainer.schmid@meduniwien.ac.at

'On-site' Analysis of (new) synthetic drugs in the music event scene: The Viennese 'Check iT' drug prevention project.

In previous years more and more New Synthetic Psychoactive Drugs (NPS) have appeared in Europe which are commonly consumed instead of 'Speed' or 'ecstasy' in the setting of music events or techno-music parties. Their major risk of consumption is not only their (unknown) pharmacological actions but the missing information on the identities, their concentrations or their purity. The drug prevention project 'checkit' has been founded by the City of Vienna with the intention to provide credible (and thus efficient) drug prevention information on drugs to (potential) drug users at music events. An important aspect is that event attendants may have their drugs tested anonymously and differentially by the 'checkit' project. This allows drug counselors, besides of other general drugs related information, to provide concrete and specific drug related information to potential drugs users at the spot. Besides of a detailed overview, which of the NPS are actually consumed, it is a measure to provide efficient risk minimization for those who are actually decided to consume synthetic drugs at music events.

Short Biography

Mr. Rainer Schmid is actually working at the Dept. of Laboratory Medicine, University Hospital of Vienna and is responsible for the Section of TDM and Drug Analysis. Furthermore he is Scientific Head of the ongoing drug prevention project 'checkit!' of the City of Vienna, which provides drug analysis and drug related information to music event attendants.

Dr. Anton Feuerstein

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anton.feuerstein@voestalpine.com

SUN+ Alcohol and drug prevention program at voestalpine company

In the voestalpine company, alcohol and drug addiction prevention is considered to be especially important, therefore the department of occupational health developed a special program named "SUN- Sicher, Unfallfrei und Nüchtern" (translated: safe, accident-free and sober). A work's agreement between the enterprise and the work council gave rise to the program in 1996. It is essential to know that the purpose of the SUN program is not to prohibit alcohol in general, but to change the drinking culture and the way of thinking, and to improve the health, safety and performance for alcohol-endangered and dependent people within the voestalpine. SUN instructs the management to participate in training and consulting courses, thus everybody is able to cope with a situation concerning alcohol or drug addiction appearing at work. Another part of the SUN program is the public relations work, specifically letting everybody know that the voestalpine is engaging in such a vital program, according to the motto "do good and make it known". As a result it could be measured that the consumption of alcohol of workers in the voestalpine company is about 95% less than in the year 1996 due to the program SUN.

Short Biography

Dr. Anton Feuerstein is a specialist in occupational health in the voestalpine Steel Division since 1990. In 2001 he became head of the department of occupational health in the enterprise. He is also a member on the managing board of the Austrian Society of Occupational Health and of the Austrian Umbrella Association of the Occupational Health Centers. He joined the SUN program in 2001 and has been a driving force in alcohol and drug addiction prevention ever since. He often engages in public relation work, for example he gave a speech at the 7th Austrian Prevention-day of the Austrian Health Fund in the year 2005.

Dr. Stefan Nicolaidis

ADELAS Consulting AB
stefannicolaidis@gmail.com

A Day in the Life of a MRO in Sweden

Discussion of a day (or some days) with the questions that arise in meeting different customers.

Short Biography

Dr Stefan Nicolaidis was educated at University of Lund, Sweden. Trained at Karolinska for MRO. Founded ADELAS Consulting AB, a firm that specializes in employee screening, policy development, including drug testing and background screening, and drug testing marketing and sales consulting as well as conservational biology and ethical policy development.

Simon Davis

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Thresholds, sensitivity and specificity, should PoCT devices be used in safety critical occupational testing programs?

A review of the current scientific knowledge of PoCT sensitivity and specificity provides a good measure of the rate of false positive and negative results you are likely to encounter in an occupational testing program. These predictions are used to discuss how a testing program, employing PoCT devices, should be designed and:

1. Whether it is appropriate to use PoCT devices in isolation (without GC-MS confirmation) and if so, in what circumstances?
2. Whether it is appropriate to use PoCT devices as a screening tool (with GC-MS confirmation) and if so, in what circumstances?
3. Whether the use of PoCT devices is ever appropriate in safety critical roles?

The effect of thresholds (positivity criteria) on false positives and negative rates is also discussed along with the limitations of qualitative analysis. Do safety critical testing programs require threshold flexibility and quantitative reporting?

Short Biography

Dr Davis is a researcher in mass spectrometry techniques with a particular interest in the detection of drugs of abuse and doping control. Dr Davis currently manages the mass spectrometry facilities in the faculty of Earth Science and Engineering at Imperial College London. Dr Davis previously worked on analytical development at Berkeley University and in the private sector as a development engineer at Micromass UK (now Waters inc).

Tour to „10er Marie“

*Who does not know the oldest wine tavern of Vienna
which is located in Alt-Ottakring and which dates back to 1740?*



260 years ago...

When in 1740 the wine tavern in Alt-Ottakring no. 10 belonged to the family Haimböck, it was already a well-known and well-frequented tavern.

Many famous celebrities frequented the wine tavern „10er Marie“: Prince Royal Rudolf and his carriage driver Bratfisch, Franz Schubert, Johann Strauß father, the Schrammel brothers, Franz Lehar, Josef Weinheber, Emmerich Kálmán, Robert Stolz and the Viennese composer Karl Föderl.

Today...

Classy wine tavern traditions are still being cultivated and many celebrities have spent enjoyable hours there – this wine tavern still is the meeting point for famous artists and politicians.



Today the „10er Marie“ is the oldest wine tavern of Vienna!

What awaits you:

Noble wines,
from their own production and
a delicious buffet, that offers
homemade specialities such as

- ham pasta
- vegetable gratins
- grilled chicken
- cooked ham
- lean carree
- roast pork
- black pudding
- divers salad,...

price
25 €
drinks included



How to get there?

You will be transported by a tram
made between 1913 and 1963.
(Limited space on tram, max 60 people.
Extra people can join the meal at the restaurant)

- Departure: 18:30
- Meeting point: Tram stop Westbahnhof,
line 18 direction Urban Loritz-Platz at 18:15
- Return by own: walk for about 3 minutes and take the undergroundline
„3“ from the final tube station Ottakring to Vienna center
or the railway station west.

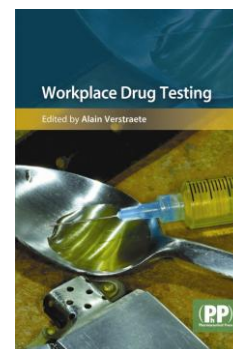


Workplace Drug Testing

ISBN: 978 0 85369 694 0 **Hardback** **Pub date:** April 2011 **Extent:** 456 pages
Format: 234 x 156mm **Price:** £75.00

PRODUCT SUMMARY:

This comprehensive text provides clear explanations of the effects of drugs on human performance and the need for workplace drug testing. It provides essential information and guidance on the regulatory and legal frameworks around the world, how to set policies and coverage of all aspects of drug analysis and the associated interpretation of results.



REVIEW:

‘For those who are interested in workplace drug testing, or who are about to set up such a system, this is the book for you. With clear explanations of the effects of drugs on human performance and the need for such testing, the book goes on to give the regulatory aspects and how to set policies. Then follows chapters on how to take samples, analyse them and interpret the results. International mandatory guidelines are fully explained and compared. It concludes with examples of case studies and how different countries test for drugs. The book has been written by internationally acknowledged experts in their fields and the result is an exceptionally well written and informative book.’

Professor A Moffat, School of Pharmacy, London 2010

DISA GLOBAL SOLUTIONS, INC.



EXECUTIVE SUMMARY

DISA has been providing innovative employee screening and safety solutions for over 25 years. Our company is a full-service, global provider of drug and alcohol testing, background screening, occupational health screening, transportation compliance, and training services. We manage Department of Transportation (DOT) and corporate policy programs, and we operate the largest contractor compliance program of its kind, which serves the oil and gas and construction industries. We specialize in providing unique employee screening and qualifications tracking services to safety-sensitive employers.

DISA's headquarters are located in Houston, Texas, and the company owns and operates a network of occupational health and safety centers strategically located in various regions of the U.S. These include five along the Texas-Louisiana Gulf Coast, one in south Texas, two in northern California, one in Washington State, and one in North Dakota. The company currently has over 300 employees.

Our international center in Stockholm, Sweden (formerly Drugtest Scandinavia), provides drug and alcohol testing services across Europe, operating in accordance with the guidelines established by the European Workplace Drug Testing Society (EWDTS). Our collectors provide onsite collections services and have managed multiple onsite projects for maritime vessels.

DISA serves nearly 11,000 clients companies. Our online management system, DISAWorks® houses over 2,500,000 individual employee records. Over 600,000 of these employees are currently active in our system.

Dried Blood Spots (DBS) and Dried Urine Spots (DUS) for Monitoring of Alcohol Markers and New Psychoactive Substances

This paper will give an overview on a less invasive blood sampling technique and advantages of Dried Blood Spots and Dried Urine Spot sampling for the detection of Drugs of Abuse, New Psychoactive Compounds (NPS) and alcohol markers such as ethyl glucuronide (EtG) and Phosphatidyl ethanol (PEth).

Introduction: Usually urine and oral fluid or hair samples are used for detection of drugs of abuse and alcohol markers such as ethyl glucuronide in workplace testing. These body liquids can be obtained easily, in contrast to blood samples, which need medical assistance. Due to the fact, that Dried Blood Spots (DBS) sample collection is less invasive than venous blood sampling, techniques have been developed to analyse xenobiotics and metabolites in DBS. Furthermore, ethyl glucuronide has been shown to be prone to bacterial degradation, when stored uncooled (during transportation) for 24 -48 hours, and thus a dried urine spot (DUS) technique has been tested as alternative method for sample collection, and bacterial degradation could be avoided by DUS.

For phosphatidyl ethanol, which is an upcoming alcohol marker found in erythrocytes, a dried blood spot technique has been developed, and also EtG and EtS can be analysed using the same DBS sample device.

New Designer drugs – also called New Psychoactive Compounds (NPS) which have become available world-wide by distribution by the internet – and are often misused by persons under abstinence control, the DBS technique offers a fast sample collection method for subsequent blood analysis using LC-MS/MS. More than 100 NPS have been listed in Switzerland in the last two years as “controlled substances”. Especially some Designercannabinoids are often misused by people under abstinence control for THC in Germany.

Methods: Dried blood or dried urine spots have been collected and analysed after profound method validation for EtG/EtS, PEth (in blood), NPS (blood) by LC-MS/MS. Procedures discussed have been published or submitted for publication: 1) A. Hernández Redondo, C. Korber, S. König, A. Längin, A. Al-Ahmad, W. Weinmann. Inhibition of bacterial degradation of EtG by collection as dried urine spots (DUS). *Anal Bioanal Chem.* **2012**, 402, 2417; 2) A. Hernández Redondo, A. Schroeck, B. Kneubuehl, W. Weinmann. Determination of ethyl glucuronide and ethyl sulfate from dried blood spots. *Int J Legal Med.* **2013**. 3) A. Schröck, A. Hernández Redondo, S. König, W. Weinmann. Phosphatidylethanol (PEth) as alcohol marker in blood samples from driving under influence cases. TIAFT-conference **2012** at Hamamatsu, Japan, 03.06.-08.06.2012, Oral presentation No. 22; 4.) L. Ambach, A. Hernández Redondo, S. König, W. Weinmann. Rapid and simple LC-MS/MS screening of 64 novel psychoactive substances using dried blood spots. Submitted to *Drug Test Anal.* **2013**.

Results: An overview about the sampling techniques will be given. Application of phosphatidylethanol (PEth) for detection of recent alcohol abuse – in combination with EtG - and proposal of a threshold for differentiation of social drinking and alcohol abuse will be given. The post-sampling formation of PEth from blood with positive blood alcohol concentrations is hindered by DBS sampling. Bacterial degradation of EtG in urine was stopped by DUS.

Conclusion: For some compounds DBS or DUS technique offer advantages (less invasive than venous blood sampling, easy transportation, higher stability of compounds) – however, due to low volume of sample (less than 50 microliter per spot- highly sensitive instrument is necessary for analysis of DBS. For DUS and EtG analysis, instrumentation as used for urine testing (LC-MS/MS) is sufficient. For new designer drugs, DBS is applicable, however, urine analysis seems to be advantageous, when metabolites are included in the analytical procedures.

Short Biography

Prof. Wolfgang Weinmann is Forensic Toxicologist at the University of Bern. Milestones of his career were pioneer work with LC-MS/MS analytics in 1997 in forensic toxicology, tandem-mass spectra databases of drugs for screening in body fluids, early work in workplace-monitoring for EtG in U.S. workplace monitoring programs (2002) and psychiatric abstinence monitoring. This work was followed-up by studies on kinetics of EtG and identification and detection of ethyl sulfate. Currently the direct blood marker "phosphatidyl ethanol" and dried blood spots analytics is one focus of his group at university of Bern. His team also focuses on hair analysis, oral fluid and alternative specimen, analysis on common drugs of abuse and new psychoactive substances (NPS) (designer stimulants and designer cannabinioids).

Enhanced Occupational Drug Screening using High Resolution Accurate Mass LCMS

Introduction: Standard urine-based occupational drug screening is a two-stage process, involving initial immunoassay screening to identify possible positive samples followed by more detailed and targeted gas or liquid chromatography coupled with mass spectrometry to confirm and often quantify the materials present. This combination provides a cost-effective means of conducting large scale testing, but means that materials which do not trigger the initial immunoassay will not be detected.

Current urine-based workplace drug testing schemes cover a relatively limited range of illicit substances which can be broken down into the following groups:-

Opiates	Amphetamines
Benzodiazepines	Cannabis
Cocaine	Other targeted analytes

There is limited coverage for many of the designer drugs and so called 'legal highs' that are now widely abused.

Methods: An alternative approach to the traditional immunoassay based screen is the use of high resolution accurate mass (HRAM) LCMS. A multi eluate solid phase extraction methodology to prepare both an acid/neutral and a basic fraction where the extracts are then combined. The combined extracts are subsequently analysed using full scan HRAM LCMS and the resulting data file processed against a database of over 1300 analytes using accurate mass, retention time, isotopic profiling and in source generated qualifier fragment ions as determinands.

Results: Samples obtained from targeted cohorts of employees have been analysed using the enhanced workplace screen. Initial findings have included the expected 'traditional' drugs including benzoylecgonine, morphine, MDMA and amphetamine. In addition to these findings, we have to date identified various cathinone variants including cathinone, methcathinone, 4-methylmethcathinone and beta ethyl methcathinone (pentedrone); several piperazines including 1,4 trifluoromethylphenylpiperazine, benzylpiperazine and methylphenylpiperazine; various other analytes including ketamine 4-fluorephedrine 6-APB, methoxetamine and methiopropamine.

Other related analytes have been seen, including various cutting agents such as levamisole and benzocaine.

When new compounds are identified on the market it is straight forward to either analyse a standard and add the information to the screening database, or when no standard is available, it is possible with certain limitations to screen on the basis of accurate mass alone.

Conclusions: An extremely broad coverage workplace drug test that can rapidly be adapted to new threats and industry requirements.

Short Biography

Simon Hudson is currently technical manager in LGC Health Sciences with over 25 years in human and animal doping control developing and using methods based primarily on GCMS and LCMS. More recently he was responsible for the introduction of high resolution accurate mass LCMS screening to HFL Sport Science. Current interests/work beyond the daily delivery of a comprehensive anti doping service include the analysis and identification of street drugs and synthetic cannabinoids, pooled urine testing for drugs of abuse in various human sub populations and the development of data processing strategies for HRAM LCMS.

Nadia Fucci

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The sweat matrix: A new chance for workplace drug testing?

Sweat is an alternative biological matrix useful to detect drugs of abuse intake. It is produced by eccrine and apocrine glands originating in the skin dermis and terminating in secretory canals that flow into the skin surface and hair follicles. Since many years it has been demonstrated that endogenous and exogenous chemicals are secreted in this biological sample hence its collection and analysis could show the past intake of xenobiotics.

In the recent years sweat testing developed a noninvasive monitoring of drug exposure in various contexts as forensic investigation, criminal justice, employment and outpatient clinical settings. This alternative biological matrix could be a good chance to apply the technique to some particular situation such as workplace drug testing. The applications of this biological matrix are still uneven in different countries (Europe, USA), and the lack of guidelines make it sweat a matrix yet to be investigated.

Short Biography

Ms. Nadia Fucci is a forensic toxicologist, she is a Doctor of Research in Forensic Science since the year 1991. Since the early years of training attention was focused on topics concerning the development of analytical techniques for chemical and toxicological investigations on biological and non biological matrices. In the last period of research a special attention was given to the toxicological analysis of alternative matrices including saliva and sweat applying innovative methods. For many years dealing with issues related to the checks on workers at risk in the workplace drug testing.

Oral fluid, the upcoming matrix for drug of abuse testing

Oral fluid mainly consists of a mixture of glandular salivas. Additionally it contains crevicular fluid and serum constituents. The contribution of the various salivary glands results in a wide range of concentration of all components. For drugs of abuse testing and within other settings oral fluid as a sample matrix is beginning to attract increasing attention.

The significant advantages over urine as a test matrix can be shown below:

1. Simplicity of sample collection:

Sample collection will be performed under direct observation with less risk of adulteration and a decrease substitution of sample by patient.

In case of manipulation suspicion the determination of biomarker Amylase and Cortisol will prove the sample authenticity.

2. Enrichment of drugs in oral fluid:

Drugs generally appear in oral fluid by passive diffusion from blood. Often it is assumed that stimulation during the saliva collection as well as due to its pH will decrease the drug concentration.

Due to the mostly alkaline pKa of used drugs, an increase of S/P-ratio is shown which leads to enrichment in saliva. When the pH remains acidic the drugs will be "trapped" almost as stabilized for further analysis.

3. Easy method development:

Compared to urine, the parent drug not the metabolites will be determined in oral fluids.. For the development of new testing methods it is necessary to look for parent drugs. New trends of drugs of abuse can be detected more easily and faster. Urine can be replaced by Oral fluid for clinical and workplace drug testing.

As a result, the collection of oral fluid for diagnostic issues should be standardized. Within the EWDTS guidelines for oral fluid, the most important items for standardized collection are discussed.

Short Biography

After completing her education as medical assistant, Michaela spent about 20 years working in the field of molecular biology and microbiology in laboratories of clinical hospitals. There she established molecular diagnostics and adopted research protocols for routine diagnostic. In 2003 she started her Social Economics studies at the Johannes Kepler University in Linz where she received her MBA. Her diploma thesis "Integration of temporary workers in the company" focused on organizational sociology and human resources. Since 2008 she is product manager for Saliva Systems at the company Greiner Bio-One GmbH (Austria).

Oral fluid as an alternative matrix in workplace drug testing: which drugs at which cutoff concentration?

Introduction: Screening for drugs of abuse with immunoassay in urine samples can be regarded as standard practice to test drugs of abuse in the workplace, drug treatment and other settings. Oral fluid (OF) is increasingly accepted as a suitable alternative matrix. This is mostly because of ease of collection and less risk for adulteration. In addition OF allows a more easy extension of the standard screening panel for "modern" drugs within chromatographic methods. However, little is known about the required sensitivity in OF to reach similar detection times like in urine or in blood. This presentation will report from our own studies where the positive rates from standard urine testing of substituted outpatients were compared to the results of OF testing with a sensitive chromatographic method at different cutoffs. Furthermore the positive prevalence rates of "modern" drugs will be discussed.

Methods and Patients: OF was collected using the liquid based Greiner Bio-One SCS pH 4.2 device according to the manufacturer. Quantitative multi-target drug screening was performed with an UPLC-MS/MS method. The samples were fortified with the corresponding deuterated standards at 0.5 ng/mL (n = 54) prior preparation. The following 55 analytes were screened: amphetamines (11), benzodiazepines (13), cocaine, benzoylecgonine, lidocaine, opiates including 6-acetylmorphine (6), opioids (9), THC, methadone, EDDP, buprenorphine, norbuprenorphine, "others" (8). Cutoffs applied in OF: 1 ng/mL, 10 ng/mL and 0.1 ng/mL for certain analytes. Urine screening was conducted with immunoassays at these cutoffs: amphetamines 500 ng/mL, benzodiazepines (with enzymatic hydrolysis) 100 ng/mL, cocaine 50 ng/mL, opiates 100 ng/mL, EDDP 100 ng/mL, buprenorphine 2 ng/mL, THC-COOH 25 ng/mL. Clinical routine samples from patients in addiction therapy were investigated from two consecutive 3 month periods (>2000 patients, >6000 OF samples, >9000 urine samples) .

Results and Conclusion: The positive rates for OF and urine were comparable at the 1 ng/mL OF cutoff suggesting that OF is of equal value. Increasing the cutoff from 1 to 10 ng/mL resulted in reduction of the positive rates by 25.1% to 40.6%. However, workplace drug testing may demand even higher cutoffs if only spotting of individuals under the influence at the workplace is needed. Future studies must therefore compare OF and blood screening. The positive prevalence rates of opioids (4.5%) and "others" (5.5%) demonstrated the requirement of including these substances into our routine OF screening method.

Short Biography

Dr Michael Boettcher is the head of toxicology department of MVZ Labor Dessau GmbH. The department is working in all kinds of drug and alcohol testing eg: employee and pre-employment screening, clinical drug screening, intoxications, therapeutic drug monitoring etc. They are also performing confirmation and specialized analysis in different body fluids and hair for other labs and forensic institutes in Germany and Europe and are accredited for forensic drug testing.

Utility of cosmetically treated hair for the detection of drugs and alcohol

Aims: To assess the utility of cosmetically treated hair for the detection of drugs and alcohol in a large statistically significant population.

Methods: The positivity rate, the 1st, 5th, 50th, 95th and 99th percentiles of five amphetamines, cannabinoids, cocaine, four opiates, methadone, buprenorphine, seven benzodiazepines and ethyl glucuronide (EtG) in 9488 non-treated and 1026 cosmetically treated authentic hair samples was compared. Analytical methods used were accredited for forensic purposes at the cut-offs defined by the German driving licence re-granting medical and psychological assessment (MPA) guidelines.

Results and Discussion: Considering only the drug classes for which at least 10 positive samples were detected, the positivity rate in non-treated hair was highest for alcohol (4.50%; measured using EtG at concentrations ≥ 7 pg/mg hair), followed by THC (2.00%), cocaine (1.75%) and amphetamine (0.59%). While the 1st to 99th percentile range was significantly lower for drugs in cosmetically treated hair, compared to non-treated hair, no significant change was observed for EtG. Additionally, no significant difference in the positivity rate was observed between cosmetically treated hair and non-treated hair for both drugs and EtG.

Conclusion: Although this study needs further investigation, it is the first attempt to study the influence of cosmetic treatment on the positivity rate in hair for both drugs and EtG. Furthermore, this study is the first to indicate that cosmetically treated hair is not necessarily useless to detect drugs and/or alcohol consumption. Moreover, particularly for alcohol abstinence monitoring, as for the MPA in Germany, it seems that EtG in hair presents a much better alternative than urine testing, even when cosmetically treated hair is analyzed. Moreover, segmentation is an additional advantage of hair testing.

Short Biography

Dr. Agius has been employed since 2005 at Labor Krone as Quality Manager, since 2007 as Authorisation Scientist at the Department of Forensic and Clinical Toxicology. He obtained his Ph.D. in Physical Chemistry in 2004 from the University of Bielefeld in Germany. Ronald's first project for the EWDTS was the formulation of Guidelines for Drug and Alcohol Testing in Hair. He is a board member of EWDTS, SoHT and ICADTS and author of a number of publications concerning drug and alcohol testing in urine and hair.

John Wicks

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Hair analysis in pre-employment in the UK and in Brazil: worldwide harmonization required?

John Wicks^{1,2}, Lolita Tsanaclis^{1,2}, Maristela Andraus¹

¹ Chromatox Ltda (São Paulo, Brazil) www.chromatox.com.br

² Cansford Laboratories Ltd (Cardiff, UK) www.cansfordlabs.co.uk

Introduction: Hair analysis provides a retrospective window of detection able to show changes in use over time and identify what drugs were used. In the workplace, hair analyses are commonly requested in cases where it is necessary to evaluate drug-use history, such as pre-employment and workplace testing, for monitoring compliance, on police investigation cases or to assess drug use or abstinence for medical legal purposes. Where safety and security really matters, hair analysis has proven to be a preferred choice over urine and oral fluids tests in both employment and pre-employment contexts because of its much longer window of detection.

The recruitment of Military and Civil staff for the Police and Fire Brigades in Brazil follows a series of rigorous exams and tests and hair analysis is now integrated into most recruitment programmes. The analysis of drugs in hair is a useful tool, enabling exclusion of drug users whose drug use would be incompatible with their activities were they to be employed.

Methods: Hair samples were analysed by Laboratórios Chromatox in Sao Paulo Brazil (N=3.320) and by Cansford Laboratories in Cardiff, UK (N=574), extracted and analysed by LC-MS/MS using methods accredited to ISO/IEC 17025.

Results: Most samples analysed were body hair as head hair was usually not sufficiently long to be able to cover the window of detection required by each tender or perhaps body hair is easier to collect. Between 1 and 3% of the samples were positive for at least one group of drugs, following the usual pattern of detection found in the workplace.

The main finding, however, is the realisation that different Forces from the different States within the large country of Brazil, have dissimilar requirements in terms of period covered by the hair samples and the suite of drugs tested. In addition, the standards Forces required in their tenders were unrealistic with regards the window of detection and ill-advised regarding drug panel selected.

Conclusions: The window of detection requested varied between the different states of the Federation and some requested of a window of detection of 365 days. The assertion of a window of detection of 365 days using hair samples is misleading to the customers, unless body hair is sufficiently long, probably not less than 6 centimetres. The growth rate of body hair is similar to head hair but because the greater proportion of resting phase (telogen), body hair may represent a longer window of detection than the simple assumption of 1 month per centimetre of growth.

In conclusion, different countries or services initiating the use of hair testing as a tool to prevent recruitment of drug users would benefit from standard criteria and realistic drug panel representative of the general population in which the candidates live. Regulated procedural guidelines regarding substance abuse testing in hair could improve the service provided by drug testing laboratories.

Finally, an interesting finding was the high frequency of detection of cocaine below cut-off level. There could be further benefits if the Forces were to monitor new employees randomly throughout their probationary period. Hair, urine or oral fluid testing could be used for this random testing programme.

Short Biography

John Wicks is the Managing Director of Cansford Laboratories in Cardiff, UK and a Director of Laboratories Chromatox in Sao Paulo, Brazil. He has worked in the field of Analytical Toxicology for over 40 years. He spent 5 years in Riyadh, Saudi Arabia where he set up an Analytical Toxicology Laboratory for the Saudi Military as they were commencing drugs of abuse testing for soldiers. He returned to the UK in 1989 and was responsible for the introduction of Hair testing for drugs into the UK, with the formation of TrichoTech Limited in 1997. He is a recognised expert in drugs of abuse testing and has appeared in many Courts in support of analyses done and Witness statements written.

Cristiana Stramesi

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The detection of ETG in urine: could this marker be useful in workplace control?

Urine ethyl glucuronide (EtG) is considered as a specific marker of recent ethanol consumption. It is used as reliable indicator of recent drinking during outpatient treatment of people with alcohol-related problems and in all cases in which "zero" tolerance is requested.

In this study a new enzyme immunoassay for determination of the EtG in urine samples was validated and applied on different types of real samples. This study would be a critical overview on the possible use of EtG in Workplace alcohol test.

Evaluation was done using the kit calibrators (range 0-1.0 mg/L) and controls, taking into account matrix effect, precision and accuracy. Real samples were analysed both by immunochemical screening and confirmation LC-MS-MS validated method. At first method was tested on real samples (n=100) that in routinely screening had an immunochemical results between 300 and 1000 ng/ml, then samples coming from patients monitored in Public Treatment Unit and normal population were analysed.

Immunochemical screening shows a good linearity ($R^2 > 99\%$), the limit of quantification was < 70 ng/ml and intraday imprecision was $< 5\%$ (CV%). This test has a high specificity (no false negative) and a good sensitivity ($> 90\%$).

EtG in urine is a reliable marker in cases which "zero" tolerance was requested, could be an useful tool when follow up of patient is needed, e.g. to demonstrate a period of total abstinence after a positive test. As regard to the use of this marker for the first screening at the workplace some critical aspects have to be discussed, first of all the right cut-off to give a correct interpretation of results.

Short Biography

Ms. Cristiana Stramesi works in the Laboratory of Forensic Toxicology, Department of Legal Medicine, at the University of Pavia-Italy as Graduated Technician since 2000. She has a Degree in Pharmaceutical Chemistry, and a Ph.D. in Toxicological and Forensic Sciences. She attends to analyses of different drugs and metabolites in biosamples (hair, urine, blood) for WDT, Driving licence regranting, Forensic cases from analyses to data interpretation. She is the Quality Manager of the Department. She is member of Group of Italian Forensic Toxicology (GTFI), TIAFT, SOHT and EWDTS.

Faye Caldwell

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Workplace EtG Testing – the American Experience

The presentation will cover the use of urine EtG testing in the workplace in the U.S. from its introduction in 2004 to the present, focusing on:

Appropriate categories of donors

Changes in testing methodologies, cutoffs and reporting

Challenges to results, including interpretation of results, incidental exposure and in vitro formation

Current best practices

Short Biography

Faye Caldwell is the managing partner of Caldwell Everson PLLC, a law firm based in Houston, Texas. Faye represents clients across the drug testing industry, including collectors, employers, MROs, TPAs, and laboratories, and appears as legal counsel across the U.S., frequently speaking on legal issues affecting drug testing industry participants.

Faye offers legal representation in all areas of this law, including pre-litigation disputes, trial and appeals, and administrative proceedings. She provides legal guidance and representation to clients regarding third-party requests for testing information and records.

Faye consults with laboratories regarding drug testing compliance, providing expertise and eliciting testimony in federal and state agency proceedings, and conducting pre-inspection audits of laboratories. She regularly provides advice regarding SAMHSA, DOT, and state law substance abuse testing.

Torsten Winkler

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TruTouch – a new possibility for quick modification of alcohol behavior in the workplace

Alcohol is still the top-ranking “drug of abuse” and causes many avoidable accidents in the workplace every day. Especially in sensitive industries such as public transport, logistics, nuclear power plants, oil platforms or air traffic, accidents can lead to serious consequences. With the new TruTouch technology, everyday alcohol testing takes only seconds. This allows high throughput testing of the whole staff whether for pre-employment, random, reasoned or daily testing requirements. The screening will lead to a quick and long term change in alcohol behavior among employees. Using near infra-red (NIR) light the application method is completely non-invasive, self-administrable and without any consumables. No breath or bodily fluid samples are required. In addition, the device can perform biometric screening, which enables distinct personal identification. Thus, if connected to the attendance clock and/or access control system, TruTouch can be used as an intelligent door handle, permitting access only to authorized, sober employees

Short Biography

Torsten Winkler studied biochemistry at the University of Bayreuth, Germany. After his diploma he joined the group of Axel Ullrich at the Max-Planck-Institute of Biochemistry in Martinsried (near Munich), Germany to do his PhD in the field of translational cancer research and anti-cancer drug development. Afterwards, Dr. Winkler started at the in-vitro diagnostics company nal von minden in Regensburg, Germany. Currently, he is in the position of the “Chief Product Manager Laboratory Diagnostics” and thus, responsible for the management of the in-house laboratory as well as in-vitro diagnostic devices of the company, used in or with close contact to a laboratory.