Workplace EtG Testing – The American Experience

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Development of EtG Testing

- 1950s - EtG identified and described.
- Early 2000s - Clinical use of EtG test in urine began in Europe.
- Studies confirmed that testing could reliably detect presence of EtG using LC/MS/MS, indicating exposure to alcohol.
- EtG found to be a more reliable indicator of drinking and abstinence than ETOH.
• 2003-04 urine EtG testing began in U.S.
• Low cut-offs used to extend window of detection - 100, 250, or 500 ng/mL.
• Used primarily for professional monitoring programs – health professionals who agree to abstain from alcohol as a condition of employment and licensure.
Perceived advantages of EtG testing over ETOH (2003-2004)

- Longer detection time (at lower cut-offs)
- Excellent biomarker to determine abstinence
- Not subject to in-vitro formation
• “Any value greater than 250 ng/mL indicated Ethanol consumption within 24 hours of specimen collection.”
• “…negligent not to test for EtG when monitoring recovering alcoholics.”
• Within one year most professional healthcare monitoring programs began testing for EtG.
2004-2005 – Increasing Concerns

- Stability
- Incidental exposure
  - Hand sanitizer
  - Cough syrup
  - Mouthwash
  - Communion wine
  - Non-alcoholic beer
Increasing Dilemma Of Interpretation

- 2005-06: significant number of donors with low level positives claimed the test was faulty.
- 2006: study raised questions of whether use/inhalation of hand sanitizer was creating low level positives.
- August 2006: Wall Street Journal article on problems with EtG testing.
- September 2006: SAMHSA issued warning on use of EtG results.
Late 2006 and 2007, numerous lawsuits filed challenging the use of the test and suing for negligent use and marketing.

While test was accurate (i.e., correctly identified and quantified EtG), donors claimed it was incorrectly marketed and used and was causing them to lose their licenses and jobs.
More Uncertainty

- *In vitro* disappearance and formation of EtG.
Responses To Uncertainties

- Use of EtS as additional biomarker.
- Disclaimers/warnings for clients.
- Use of higher cut-offs.
- Reporting differentials based on increasing or decreasing EtG.
- Criteria for both EtG & EtS to report as positive.
Recent Developments

- Immunoassay screening for EtG.
- Revised SAMHSA advisory on alcohol biomarkers, including EtG/EtS.
Recommended Practices

- Use of both EtG and EtS as biomarkers of alcohol.
- Use of higher cut-offs to lessen the amount of positives due to incidental exposure.
- Effective education of clients as to interpretation limits of the test.
- Employer use of a consent form to have donors avoid contact with alcohol-containing products.
QUESTIONS