Continuous Transdermal Alcohol Monitoring:

A Primer for Criminal Justice Professionals

Executive Summary

Research

- Ensuring offender compliance with court orders of abstinence has been an elusive goal and a notoriously difficult condition to enforce using standard alcohol testing devices.
- New technology that permits continuous monitoring of alcohol consumption provides a means to overcome this problem.
- After more than 70 years of research and 22 peer-reviewed studies into the science underpinning this new technology, it has been clearly established that ingested alcohol can be validly measured in perspiration through the process of transdermal alcohol testing, i.e., testing of alcohol that is excreted through the skin.
- Research studies over the past 10 years have demonstrated that transdermal alcohol readings or results are correlated to blood alcohol concentrations. There is a recognized and measurable delay in the absorption and elimination of alcohol, so *simultaneous breath or blood and transdermal alcohol readings should not be expected to produce similar results at a specific point in time.*
- Transdermal alcohol testing is a valid way of determining whether an individual has consumed a small, moderate, or large amount of alcohol, and is designed to be used as a screening device to determine alcohol use. This testing method is not designed to produce a specific blood alcohol concentration (BAC) reading.
- Research studies conducted by the University of Colorado Health Science Center, the Michigan Department of Corrections, and Alaska Justice Statistical Analysis Center, involving testing with probation officers and offenders, conclude the SCRAM device is a valid and reliable way of testing for alcohol consumption and is a "fast-acting deterrent".
- While preliminary findings from these latter studies are promising, more research involving large scale quantitative surveys and case-control studies are needed to corroborate these initial findings.

Technology

- The SCRAM device is a passive, non-invasive tool that reliably and continuously monitors and measures alcohol consumption 24/7 for an extended period.
- The SCRAM device is a tamper- and water-resistant bracelet, containing an electrochemical sensor that is attached to the offender using a durable strap. The device captures transdermal alcohol readings from continuous samples of vaporous or insensible perspiration collected from the air above the skin.
- The SCRAM device has a number of anti-circumvention features including: a tamper clip or strap, obstruction sensor, temperature sensor, and communication monitoring to ensure that the bracelet is functioning normally and capturing and transmitting information related to the designated offender.

TRAFFIC INJURY RESEARCH FOUNDATION
A DRIVING FORCE FOR SAFETY

- The bracelet transmits testing information daily on a pre-determined schedule to a modem installed in the offender's residence or place of work using a radio-frequency (RF) signal. This information is encrypted and transferred via a standard analog phone line to a secure central website (SCRAMNET) managed by Alcohol Monitoring Systems (AMS).
- Criminal justice professionals can access SCRAMNET at their convenience, using a standard internet browser, to obtain a variety of progress reports specific to their caseload, and receive customized notifications of events and alerts.
- As with any alcohol testing device, some substances containing alcohol in sufficient quantities can act as an environmental interferant and produce a positive alcohol reading. AMS staff can generally distinguish between readings due to interferants and readings due to alcohol consumption (true alcohol readings) based on a comparison between the curve produced and the standard alcohol curve, and a comparison of absorption and elimination rates.

Program Applications

- Continuous transdermal alcohol monitoring is primarily intended to deter offenders from violating the terms of court-ordered abstinence through the constant monitoring of alcohol consumption and swift notification of violations.
- Criminologists and criminal justice practitioners are currently designing implementation guidelines to assist courts, probation, treatment, and correctional agencies with the use of SCRAM technology. These guidelines will emphasize accountability, streamlined practices and procedures, good communication and information exchange, and contain a structured evaluation that will assist agencies in developing evidence-based practices.
- Most challenges to the SCRAM device have occurred in evidentiary hearings in lower courts and resulted in unpublished opinions. SCRAM evidence and testimony have been ruled admissible in cases where AMS was permitted to provide evidentiary support, and SCRAM testimony has met the Frye standard of admissibility in Florida and Georgia and the Daubert standard in Louisiana. In general, the SCRAM technology has been and continues to be validated in bond and probation-revocation hearings.
- SCRAM technology is used to supervise a variety of offender populations including: impaired driving and domestic violence offenders, offenders actively tested for drugs, underage drinking offenders, adult offenders who supervise minors, and licensed, practicing professionals. Goals of implementation include: supervision of offenders and licensed professionals, and prison depopulation.
- SCRAM is relevant to a number of programs including: pre-trial, probation supervision, specialty courts, treatment, and re-entry and parole.
- Costs include an installation fee ($50.00-100.00) and daily monitoring fees ($10.00-12.00). This is less than the costs of incarceration and home arrest systems incorporating alcohol monitoring. Funding arrangements are generally offender-pay and often include some accommodation of indigent offenders.