



E22 Laboratory Support in Child Protection Litigation

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After attending this presentation, attendees will have a better understanding of the support that laboratorians, in particular toxicologists, can provide to children, families, investigators, advocates, and the courts who have to deal with the emotionally fraught issues implicit in child protection cases. Attendees will also appreciate the need for high quality scientific support in such cases and the problems that can arise from a “one size fits all” approach.

This presentation will impact the forensic science community by emphasizing the need for an individual approach to each and every case when child protection issues are before the court.

Questions frequently arise about current misuse of drugs and/or alcohol by caregivers. Continuing alcohol misuse may be investigated in some cases by simply asking for a liver function test profile and mean cell volume (MCV) despite the known lack of sensitivity and specificity of these tests for detecting continued alcohol misuse. At the other end of the scale, measurement of urinary ethyl glucuronide (EtG) on a Monday may be sensitive enough to detect the ingestion of alcohol by an Episcopalian taking holy communion on a Sunday. Other approaches to detecting continued alcohol misuse by a caregiver, such as the measurement of fatty acid ethyl ester (FAEE) in hair are also imperfect. The direct commissioning of such tests by social workers from commercial laboratories, sometimes located in other countries outside the jurisdiction of the case, may lead to a less than critical assessment of the significance of the results being presented to the trier of fact.

When issues of continued drug misuse by the caregiver arise, the issues surrounding the interpretation of laboratory investigations is usually better understood by advocates and the courts, given the experience that jurists and advocates inevitably acquire of drug abuse related issues. Even so, over-interpretation of unconfirmed and non-specific screening tests can still occur. Advocates often seem to be unaware of the form of words such as, “The assay provides only a preliminary analytical test result. A more specific alternative chemical method must be used to obtain a confirmed analytical results” are universally incorporated in the packet inserts of reagents immunological screening tests for abused drugs in urine. A numerical result printed on a piece of paper is all too frequently naively over interpreted by professionals of all disciplines who do not have a laboratory background. An understanding of the imprecision inherent in laboratory testing and the inherent limitations of tests is a necessary precursor to being able to assess the probative value of such tests in context. The way in which reports are written ought to aid, but sometimes hinders, the interpretation of test results by the courts.

A particular class of cases where difficulties can arise is the investigation of allegations of drug administration to young infants. Such cases are often confounded by the mother’s use of drugs during pregnancy. This is particularly the case when hair samples are collected from an infant in the first few months of life. There is still much basic research to be done on hair growth and the deposition of drugs in hair *in utero* and in early post-natal life. At present, in such cases, professional opinions can often only be based on anecdote, either personal or case reports in the peer-reviewed literature.

This presentation will highlight the need for a critical approach to the results of laboratory investigation and the need to interpret them together with all of the other evidence available to the trier of fact.

Child Protection, Toxicology, Holistic Approach