

Preparation of Hair Samples for Drug Analysis

REFERENCE: Chiarotti M, Strano-Rossi S: Preparation of hair samples for drug analysis; *Forensic Sci Rev* 8:111–128; 1996.

ABSTRACT: Toxicological hair analysis has attracted substantial attention because of its promising diagnostic power. Analysis of drugs in hair, even though widely studied since 1970, is still not standardized; many different sample preparation and analytical procedures are practiced. To obtain reliable results, hair analysis requires preparation steps that are not necessary for conventional biological samples such as blood or urine. Pretreatment procedures are mainly conducted to decontaminate hair samples and to isolate drugs from the solid hair structure before instrumental analysis. Many types of sample preparation procedures have been reported in the literature. Selecting an appropriate one can be difficult because the choice depends on different factors, including decontamination efficiency, analytical recovery, and chemical stability of the target drug and its metabolites. This review discusses the main aspects of hair sample preparation procedures through a critical evaluation of literature data, focusing on the procedures, reliability, advantages, and result interpretation.

KEY WORDS: Drug abuse, hair analysis, sample preparation.
