K10 The Analysis of Pain Management Drugs Found in Urine Samples by LC/MS/MS

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After attending this presentation, attendees will learn about a new drug screening test for the analysis of pain management drugs using LC/MS/MS technology.

This presentation will impact the forensic community by providing information that enables toxicologists to easily test for a large list of drugs that are used for management of acute and chronic pain.

A multitude of drugs have historically been used to ease the pain patients suffer with conditions ranging from cancer to arthritis. As a result many labs, both clinical and forensic, have been looking for an application to test for all of the major drugs used during the treatment of these conditions. This application covers the testing of these drugs in urine matrix by "dilute and shoot" type sample prep. The use of LC/MS/MS allows the user to do limited sample prep while still providing adequate specificity to test for more than 40 different pain management drugs in less than 8.5 min from injection to injection.

All drugs were analyzed in a single injection using a LC/MS/MS and were extracted from urine after an enzyme hydrolysis. The Limits of Quantitation differed for each drug but ranged from <5 ng/ml to 200ng/ml when extracted using a 1:10 dilution of urine samples. The linearity for each drug spiked into urine exceeded R correlation of 0.98. Each drug was analyzed using two transitions and the LOQ was based on the least sensitive of the two transitions. Ion Ratios were calculated for each ion and were <40% at the LOQ of each ion.

LC/MS/MS, Pain, Urine

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