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TECH NOTES

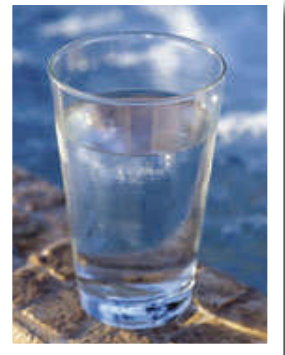
The Detection of Pharmaceutical Compounds



Pharmaceutical compounds in effluent waste streams and even in drinking water continue to be an increasing problem for municipalities. Many pharmaceuticals are used in doses in which some amounts find their way into waste streams. Improper disposal of unused medications, surface application of manure, concentrated animal feeding operations, and landfill leachate sent to waste water plants are a few ways pharmaceuticals enter our streams, rivers & lakes. Perhaps the primary way these compounds reach waste streams is through prescribed patient use. For both prescription and over-the-counter medications, when taken, some is absorbed within the body, the rest is passed on eventually reaching the waste water treatment plant and on to the receiving waters.

proving that conventional treatment at water treatment facilities does not completely remove the drug residue.

So much is unknown about the long-term effects these compounds could pose to human health. Many researchers are skeptical of any harmful effects because the concentration levels detected are far below therapeutic prescribed levels. Even though the human health effects of these concentrations of pharmaceuticals are unknown, public perception of the consequences has prompted much concern from consumers and legislators. The bottom line is - consumers do not want pharmaceuticals in their drinking water no matter what the concentration levels are.



To alleviate pharmaceuticals in the environment, a number of changes must be made in when and how medicine is prescribed and used; how pharmaceuticals are designed and engineered to prevent persistence once released into the environment; how unused medications are disposed of; and technology at waste water and drinking water treatment plants.

As a proven leader in environmental testing, [McCoy & McCoy Laboratories, Inc.](#) has once again recognized a need and reacted by establishing a working method to detect many prolific pharmaceutical compounds in drinking water. Our current focus has been over-the-counter remedies, popular prescription drugs, illegal recreation drugs, and other screening compounds such as nicotine and caffeine. Many more compounds will be forthcoming. Utilizing an Applied Biosystems HPLC-MS/MS and complex extraction processes, MMLI has the ability to provide accurate, defensible data in the detection of pharmaceutical compounds.

