

# Urinary Metabolites of Anabolic Steroids

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REFERENCE: Chan SC, Nolan SL: Urinary metabolites of anabolic steroids; *Forensic Sci Rev* 5:53–66; 1993.

ABSTRACT: Anabolic steroids are abused for performance enhancement by athletes, and for appearance alteration by others. Urine drug testing is an effective deterrent in reducing their abuse. We have reviewed the current status of published information on the urinary metabolites (neutral fraction) of 17 anabolic steroids. The steroids are separated into five groups based on their structures: 17 $\alpha$ -methyl steroids, 19-nor steroids, steroids with A-ring modifications, steroids with an extra ring, and steroids with B-ring and C-ring modifications. Common metabolic pathways are noted and summarized.

KEY WORDS: Anabolic steroids, urine drug testing.

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