

# Amphetamine

## General:

Amphetamines are powerful psychostimulants, producing increased alertness, wakefulness, insomnia, energy and self-confidence in association with decreased fatigue and appetite as well as enhanced mood, well-being and euphoria. From a clinical pharmacokinetic perspective, amphetamine-type stimulants are rather homogeneous. Their oral bioavailability is good, with a high distribution volume (4 l/kg) and low binding to plasma proteins (less than 20%). The elimination half-life is 6-12 hours. Both hepatic and renal clearance contribute to their elimination from the body. Hepatic metabolism is extensive in most cases, but a significant percentage of the drug always remains unaltered. Amphetamine and related compounds are weak bases, with a pKa around 9.9, and a relatively low molecular weight. These characteristics allow amphetamine-type stimulants to diffuse easily across cell membranes and lipid layers and to those tissues or biological substrates with a more acidic pH than blood, facilitating their detection in alternative matrices (e.g. saliva, hair, nails, sweat).

The following tests are available:

- **Amphetamine group test in serum, quantitative**

Indication: Intoxication

Material: 2 ml serum

TAT: 7-10 days\*

Method: GCMS

- **Amphetamine group screening in urine, qualitative**

Indication: Intoxication

Material: 10 ml urine

Stability: Urine specimen can be stored at 2 to 8°C prior to assay, For prolonged storage specimen may be frozen and stored below -20°C.

TAT: same day, FML

Method: EIA

- **Amphetamine group test in urine, quantitative**

Indication: Intoxication, confirmatory test for positive urine screening test

Material: 10 ml urine

TAT: 7-10 days\*

Method: GCMS

- **Amphetamine in hair**

Material: hair

Preanalytics: Human hair grows an average of 1 cm/month. Testing laboratories generally require between 2 and 3 cm length for testing, the tuft should be 1 cm in diameter. This represents approximately 30 to 90 days of drug use. In the absence of the required amount of hair on the scalp, body hair can be used as an acceptable substitute in the order of chest, arm pit, leg, and face hair.

TAT: 7-10 days\*

Method: GCMS

For complete list of laboratory test offered at Freiburg Medical Laboratory, please visit <http://www.fml-dubai.com/parameter-listings/>