

CLIENT TECHNICAL INFORMATION

Drug & Alcohol Testing CI07.01

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1. ABOUT LEXTOX

Thank you for instructing or considering Lextox for your drug and alcohol testing needs.

Established in 2011 by experts from within the UK hair testing industry, at Lextox our mission then remains the same now – to provide the most responsive, client oriented service and reliable results.

Fully focussed on family law, we provide the complete range of testing services for child care proceedings including **hair drug and alcohol**, **blood alcohol**, **SCRAM Continuous Alcohol** and **DNA** testing.

ISO 17025 UKAS Accredited Testing Laboratory (No. 7516), we follow strict quality assurance procedures to deliver Analysis Results and Expert Reports in an average of 5 working days.

Today we are trusted by more than 14,000 family law solicitors and local authorities to deliver a responsive service and reliable results.

Lextox is a member of the SYNLAB Group, the leading medical diagnostic services provider in Europe.

For more information on Lextox, [please visit our website](#).

2. LEXTOX RESULTS

If you have a court filing date or other deadline we will do our utmost to help you meet it.

Our average turnaround time is approximately 5 working days for analysis results and Expert Reports from receipt of the sample into our UK laboratory. We recommend ensuring the sample reaches the laboratory at least 5 to 10 working days before you need the results.

3. LEXTOX IS 17025 UKAS ACCREDITED FOR HAIR DRUG AND ALCOHOL ANALYSIS

The United Kingdom Accreditation Service (UKAS) is the sole national accreditation body recognised by government to assess, against internationally agreed standards, organisations that provide certification, testing, inspection and calibration services. UKAS accreditation demonstrates the laboratories competency in testing to ensure reliability of the analysis results and delivers confidence in the service of the testing laboratory.

ISO 17025 UKAS Accredited Testing Laboratory (No. 7516), Lextox is accredited to test for a wide range of drugs in hair and was the first independent UK owned laboratory that attained UKAS ISO 17025 accreditation for hair alcohol testing. Lextox works to right first time quality assurance procedures to minimise delays and ensure reliability. Please refer to our Service Level Agreement for details of our ISO 17025 UKAS accreditation.

4. LEXTOX HAIR DRUG TESTING

Hair drug testing to determine historic drug use.

4.1 IDENTIFYING AN APPROXIMATE TIME PERIOD OF DRUG USE

Scalp hair grows at an average rate of approximately 1 cm per month, so a 3 cm section of scalp (head) hair can provide a retrospective profile of drug use covering approximately 3 months.

4.2 SEGMENTAL MONTH BY MONTH ANALYSIS OR OVERVIEW

Segmental analysis of scalp (head) hair samples can provide a month by month profile of drug use. This is useful when trying to assess a trend in use, for example either to obtain an indication of increasing or decreasing use.

An overview analysis looks at a section of hair of up to 3 cm in length covering up to approximately 3 months and will provide an indication of drug use within that 3 month period. An overview analysis is beneficial when you just need an indication of usage or when cost is a constraint. However an overview analysis will not indicate decreasing use over a period or show drug use within a particular month. A month by month segmental analysis also provides a greater chance of detecting lower level and more recent use.

4.3 DETECTION OF METABOLITES TO INDICATE DRUG USE

When a drug enters the body it is broken down (metabolised) into metabolites. Blood flow deposits traces of the metabolite in the hair shaft in a similar way to the drug itself. The detection of metabolites indicates that a drug has entered the body. For example, Lextox's cannabis test also analyses the hair sample for two metabolites, 11-Hydroxy-delta-9-THC and 11 Nor-delta9-THC-9-carboxylic acid. The presence of the metabolites helps to indicate drug use whereas the detection of just the parent drug only allows a statement of positive association with the drug.

We follow the Society of Hair Testing consensus in testing for metabolites wherever practicable and recommend you always choose a laboratory that does likewise.

4.4 BODY HAIR DRUG TESTING

Body hair is useful if no scalp (head) hair is present. Body hair such as axillary (underarm) or leg hair has a different growth cycle to that of scalp hair and grows for a number of months. The approximate time period covered by a body hair sample is assessed at our laboratory upon sample receipt and the analysis is undertaken on the whole sample. As such, a body hair sample is unable to cover a specific time period however, a maximum approximate time period will be calculated and reported.

Body hair samples are unsuitable for sectional month by month analysis. As the time period covered by body samples is normally many months, low level or infrequent drug use may not be detected.

4.5 SOCIETY OF HAIR TESTING (SoHT) CONSENSUS

Our hair drug testing looks for drugs and metabolites in accordance with the Society of Hair Testing Recommendations for Hair Testing in Forensic Cases to ensure we provide the best possible evidence for your case.

4.6 DRUG DETECTION LIST

- / Antidepressants
- / Anti-Epileptics (Pregabalin and Gabapentin)
- / Benzodiazepines (including Diazepam)
- / Buprenorphine
- / Cannabis
- / Cathinone (Khat)
- / Cocaine (including Crack Cocaine)
- / Ecstasy (MDMA)
- / Fentanyl
- / Ketamine
- / LSD
- / Mephedrone (M-Cat)
- / Methadone
- / Methamphetamine (including Amphetamine)
- / Opiates (including Heroin)
- / PCP
- / Pethidine
- / Psychoactive Substances ('Legal Highs')
- / Steroids
- / Spice (Synthetic Cannabinoids)
- / Tramadol
- / Zolpidem (Hypnotic)

We can detect a wide range of drugs; please contact us if you require a drug that is not listed.

4.7 HAIR TESTING FOR PSYCHOACTIVE SUBSTANCES ('LEGAL HIGHS') AND SPICE (SYNTHETIC CANNABINOIDS)

Our Laboratory Director, Dr Robert Kingston, has been developing and implementing methods for the detection of substances in hair specifically for family law and child care proceedings for

over 12 years. His knowledge and expertise have allowed Lextox to develop a test which is able to detect over 45 psychoactive substances in hair, including synthetic cathinones (bath salts) and spice (synthetic cannabinoids).

5. LEXTOX HAIR ALCOHOL TESTING – ETHYL PALMITATE (ETPa) & EtG

Hair alcohol testing to help assess chronic excessive alcohol use.

5.1 ETHYL PALMITATE (ETPa) & EtG HAIR ALCOHOL BIOMARKERS

Our hair alcohol test detects two types of alcohol biomarkers, the Fatty Acid Ethyl Ester; Ethyl Palmitate (ETPa) and ETG (Ethyl Glucuronide), as standard to help in the assessment of chronic excessive alcohol consumption. This ensures that there is a greater degree of certainty of the results and helps in the mutual confirmation of the results.

The combination of both Ethyl Palmitate (ETPa) and EtG is in line with the guidance of the Consensus of the Society of Hair Testing on hair testing for chronic excessive alcohol consumption.

It is important to note that the alcohol in hair test can only be used to help assess chronic excessive alcohol consumption. It should not be used to determine alcohol abstinence. This is due to the wash out effect that can occur with EtG. EtG is soluble in water and normal hygiene practises can remove some of the EtG marker from the hair. Hair dyes and bleaching can damage the hair and reduce or remove the levels of EtG and Ethyl Palmitate (ETPa). Due to these factors a negative result does not prove abstinence from alcohol consumption.

The frequent use of hair products containing high concentrations of ethanol may elevate the levels of Ethyl Palmitate (ETPa) detected. Aggressive chemical treatments may reduce or remove the levels of Ethyl Palmitate (ETPa), and so a not detected result is not a definite indication of abstinence.

5.2 CHRONIC EXCESSIVE ALCOHOL USE EXPLAINED

Currently, the Society of Hair Testing defines chronic excessive alcohol consumption as an average of 60 grams of pure ethanol (alcohol) per day, each day, over several months. In the UK, 1 unit of alcohol is defined as 8 grams or 10 millilitres of alcohol, so 60 grams of alcohol equates to 7.5 units.

The amount of alcohol consumed depends on the strength of the drink. A single shot of spirits is usually 1 unit, a standard glass of wine (175ml) and a pint of lower strength lager is usually 2 units and a bottle of wine at 12% ABV can be 9 units.

5.3 BODY HAIR ALCOHOL TESTING

Body hair is useful if no scalp (head) hair is present. Body hair (chest, leg and arm hair) can be used to help in the assessment of chronic excessive alcohol use. Body hair has a different growth cycle to that of scalp hair and grows for a number of months. The approximate time period covered by a body hair sample is assessed at our laboratory upon sample receipt and the analysis is undertaken on the whole sample. As such, a body hair sample is unable to cover a specific time period however, a maximum approximate time period will be calculated and reported. Body hair samples are unsuitable for sectional month by month analysis.

5.4 CORROBORATIVE EVIDENCE

We recommend that the alcohol in hair test is used in conjunction with other forms of evidence such as blood alcohol tests (liver function, CDT or PEth), clinical assessments and history of alcohol abuse to help obtain a more comprehensive picture of an individual's alcohol use.

5.5 SOCIETY OF HAIR TESTING CONSENSUS

The Society of Hair Testing suggests that Ethyl Palmitate (EtPa) and EtG analysis should be used in either a 0-3 cm or a 0-6 cm scalp hair section, covering approximately the past 3 or 6 months respectively. Upon special instruction we can analyse smaller sections of hair (i.e. less than 3 cm or 6 cm) for the presence of Ethyl Palmitate (EtPa) and EtG, however the results should be interpreted with caution. This service is only available after consultation with one of our experts.

6. BLOOD ALCOHOL TESTING

Blood alcohol testing to help in the assessment of chronic excessive alcohol consumption – in partnership with an approved laboratory

6.1 CARBOHYDRATE DEFICIENT TRANSFERRIN (CDT)

A carbohydrate deficient transferrin test measures the percentage of carbohydrate molecules that are bound to transferrin (a protein that transports iron around the body) in the blood. Alcohol consumption can interfere with the binding of carbohydrate molecules to transferrin, causing elevated levels of transferrin that are missing the carbohydrate molecule.

Excessive alcohol consumption over the past 2-4 week period or longer can elevate the total percentage of transferrin that is carbohydrate deficient and thus is a good marker to help assess more recent alcohol use.

6.2 LIVER FUNCTION TESTING (LFT)

A liver function test is used to help assess liver damage and consists of a number of tests that are run at the same time. Any damage to the liver alters the biomarkers in the blood stream allowing any impairment to be highlighted.

A liver function test will provide a snap shot in time of liver damage which could be caused by excessive alcohol use. Elevated levels of the biomarker glutamyltransferase (GGT) can be due to liver enzyme stimulation by alcohol, whereas elevated levels of the biomarkers aspartate aminotransferase (AST) and alanine aminotransferase (ALT) may indicate liver cell injury or death. However elevation of these biomarkers may also be due to other medications or health problems.

6.3 PHOSPHATIDYLETHANOL TESTING (PEth)

A PEth blood test measures the level of phosphatidylethanol, a direct alcohol biomarker which is found in human blood following alcohol consumption. Phosphatidylethanol is an abnormal phospholipid formed in the presence of ethanol. PEth is formed in the presence of ethanol and bonds to the membrane of red blood cells.

PEth blood testing is useful in detecting prolonged or heavy 'binge' drinking, when tested for regularly.

Typically, the detection period for PEth is 4 weeks. Because PEth is only formed in the presence of ethanol, it is a reliable test method for determining alcohol use. This also means that it has a high sensitivity due to its direct relation to alcohol consumption.

6.4 CORROBORATIVE TESTING

We recommend that blood alcohol testing is not used in isolation but should be combined with hair alcohol testing for EtG and Ethyl Palmitate (EtPa), and other evidence as previously mentioned, to provide a more comprehensive picture of possible chronic excessive alcohol use.

6.5 SAMPLE ANALYSIS

The blood samples for Liver Function, CDT and PEth testing are sent to and analysed by an approved laboratory.

6.6 INTERPRETATION OF RESULTS

The results of the blood alcohol testing will be provided in the format of a Certificate of Analysis with an interpretation of the results. An Expert Report is not available for blood alcohol testing.

7. HAIR STEROID TESTING

Hair steroid testing to help determine anabolic steroid use

7.1 STEROID AND TESTOSERONE ESTERS TESTING

The hair steroid test can be useful to determine historic anabolic steroid use over a period of months. The test looks for a number of anabolic steroids as well as testosterone esters to help profile steroid abuse.

7.2 SAMPLE ANALYSIS

The hair samples are sent to and analysed by a laboratory in France, who hold ISO 17025 Accreditation from COFRAC (French Committee of Accreditation).

The analysis results will be issued in approximately 15 working days from sample receipt.

7.3 INTERPRETATION OF RESULTS

The results of the hair steroid testing will be provided in the format of a Certificate of Analysis. An Expert Report is available however this will be prepared by the expert team in France.

8. EXPERT REPORT

Sample Analysis Results and Expert Reports in 5 working days on average.

8.1 BENEFITS OF HAVING A LEXTOX EXPERT REPORT

Our Expert Report provides details of the sample analysis, the results and an interpretation of those results and is suitable for use as evidence in court. Our Expert Reports are prepared in accordance with the LAA codified rate.

Our Expert Reports are prepared by our own UK experts at our UK laboratory and are useful for court in detailing the chain of custody procedures and considers case specific information such as the use of medications and hair treatments.

8.2 CERTIFICATE OF ANALYSIS

If an Expert Report is not required, you will receive a summary of the results in a covering letter and the Certificate of Analysis, which lists the substances that have been analysed and whether the substances have been detected or not detected, with a concentration value. No interpretation of the results is provided with a Certificate of Analysis. A response to questions on the analysis results will be charged in accordance with the LAA codified rate. Please note that an Expert Report is unavailable for blood alcohol testing.

8.3 COURT ATTENDANCE

Our Expert Reporting Scientists are able to attend court to explain the testing results as expert witnesses, including the sample analysis and chain of custody. We are Bond Solon trained and are able to use our knowledge and collective experience of over 50 years in hair drug and alcohol testing, to provide sound toxicology evidence for your case. Please note that we require five working days' notice for court attendance.

Our Expert witness court attendance booking form can be found at <https://lextox.co.uk/our-services/expertreports/>

9. UK WIDE SAMPLE COLLECTIONS

Responsive hair and blood sample collections are undertaken by our UK network of trained healthcare professionals and qualified phlebotomists.

9.1 BENEFITS OF USING A LEXTOX COLLECTOR

We can usually attend sample collections within 48 hours of being notified or even quicker if required. Our sample collection officers are also qualified phlebotomists and will ensure that the hair and blood samples are taken correctly adhering to strict Chain of Custody procedures. They will bring all the necessary equipment and the sample collection kit with them to the collection appointment.

Using a Lextox Collector ensures independence of all parties involved in the case and the sample analysis. A Lextox collector ensures the correct sample collection and adheres to strict chain of custody procedures.

9.2 REQUIREMENTS FOR SAMPLE COLLECTION

We recommend you ask your client to read our Guide to Sample Collections prior to attending the sample collection appointment, this can be found [here](#).

9.3 BODY HAIR

Our sample collection officers are able to take body hair samples from the donor (e.g. chest, underarm, leg) in the absence of head hair.

9.4 CANCELLATIONS

Please provide us with 24 hours' notice to cancel the sample collection appointment. Any sample collection cancelled within 24 hours of the collection appointment will incur the full cost of the sample collection.

9.5 RE-ARRANGING THE SAMPLE COLLECTION

Please inform us at your earliest convenience if the sample collection appointment needs to be re-arranged. A sample collection that is re-arranged the same day as the allocated collection time may be charged at the full quoted cost.

9.6 DONOR FAILED TO ATTEND

If the donor fails to attend the allocated sample collection appointment the full quoted cost of the sample collection will be charged.

In the event that the donor is not present for the allocated sample collection appointment, our sample collectors reserve the right to wait for 15 minutes from the start time of the appointment before leaving. This is to ensure that our sample collectors have sufficient time to meet their next scheduled appointment.

9.7 HOME COLLECTIONS

Our sample collectors are able to attend the donor's place of residence to collect the hair and blood samples. We do require our sample collectors to be accompanied by a professional representative such as a solicitor or social worker, who can witness the sample collection.

10. SAMPLE COLLECTION BY NON-LEXTOX COLLECTORS

10.1 NOTIFICATION

Please ensure that the GP surgery is informed that the sample collection kit will be dispatched to them for them to collect the sample.

10.2 SAMPLE COLLECTION PROCEDURE

Instructions on how to take the sample will be provided with the sample collection kit. We are available to provide assistance to the GP during the sample collection if required. Please call us on 029 2048 4141.

10.3 RETURNING THE SAMPLE COLLECTION KIT TO THE LABORATORY

The sample collection kit includes a pre-paid envelope for the GP to send the kit back to our UK laboratory for analysis.

10.4 RETURN OF AN UNUSED SAMPLE COLLECTION KIT

If the sample collection kit is not required, please ensure that the pack is returned to us unused. Any sample collection kit that is not returned to us or not used and returned in an unusable condition will incur a charge.

10.5 ALTERNATIVE SAMPLE COLLECTION

Our healthcare collection professionals are able to attend hair and blood sample collections in a professional setting with 48 hours' notice and often less. Using a trained healthcare collection

professional ensures correct sample collection and can reduce delays which may arise from an incorrect collection.

11. INVOICING

Split invoicing free of charge for your convenience where costs are to be shared between the respective parties.

11.1 QUOTATION

The quotation reflects the cost of the services being split between each party based on the % share that has been agreed to be paid by each party. Your quote details the % share that you are taking responsibility for.

11.2 AUTHORISATION TO PROCEED WITH ANALYSIS

Before we can proceed with the analysis each party is required to accept their quotation detailing their share of the cost of the sample analysis.

11.3 INVOICING

Once the analysis has been completed each party will be invoiced for their respective share. On occasion we may request payment in advance from one or more parties such as private individuals before the sample analysis can proceed.

11.4 ADDITIONAL CHARGES

Any additional charges such as (and not limited to) collection fees in respect of late cancellation of collection appointments, failure to attend the sample collection appointment by the donor, or failure of the GP in returning the unused sample pack to us will be split between each party in the % share they are responsible for.

11.5 ANALYSIS REQUIREMENTS

We take direction from the instructing party in relation to the analysis requirements. Amendments to the requested sample analysis must also come from the instructing party in writing. If the sample analysis requirements change, and thus the cost for the analysis changes, each party will receive a revised quotation detailing the amended cost.

11.6 TEST RESULTS AND EXPERT REPORT

The results and the progress of the analysis will only be discussed with the party that has been designated to receive the results and has been detailed in the results address section of the Quotation Request form.

The results will be issued to the results addressee and it is the responsibility of the recipient to distribute the results to other parties. We will only forward on results to other parties after receiving written instruction and authorisation to do so from the instructing party.

12. CONTACT DETAILS

Call us on 029 2048 4141

Email us at experts@lextox.co.uk

Information on the other services we offer, including DNA and SCRAM Continuous Alcohol testing, can be found on our website www.lextox.co.uk.



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