



DNA Legal

YOUR QUESTIONS
ANSWERED

FINGERNAIL
DRUG & ALCOHOL TESTING

INTRODUCTION

Family Courts rely heavily on Drug & Alcohol expert evidence. When testing is accurately interpreted the results help provide a clear picture of previous use. Until now the only option to provide a long period detection has been hair testing. Unfortunately if the client is unwilling or does not have hair there has been no alternate and commercially viable option.

As a leading provider of drug and alcohol testing the DNA Legal forensic labs have been testing nail samples for over 20 years. Primarily used in criminal matters DNA Legal, recognising the need for alternative sample types, now bring this expertise to the Family Courts in a cost effective manner.

Fingernails, being made from Keratin, the same material as hair testing provides a stable, simple to collect and easy to transport sample. Offering a long window of detection a fingernail test provides a 3-6 month history of drug and/or alcohol abuse.

Fingernail testing is at the cutting edge of the drug & alcohol industry.

HOW CAN DRUGS AND ALCOHOL BE DETECTED IN NAILS?

As the fingernail grows, substances (drugs and their metabolites) pass from the blood vessels located directly below the nail into the keratin fibers where they are trapped. Fingernails grow not only in length but also in thickness.

Fingernails are four times thicker than the typical strand of hair, which means you can often capture more of a substance than within hair.

The metabolites are locked into the keratin fibers along the entire length of the nail providing a detection period of between 3-6 months after drug of alcohol abuse.

As with hair testing the exact time period during which drug or alcohol ingestion can be detected depends on the substance used, the amount used and the participants metabolic rate.

HOW DO YOU COLLECT THE SAMPLES?

Fingernail samples are collected, by the donor, in front of a trained collection technician working under strict chain of custody guidelines.

A 2-3mm long clipping from all ten gives provides around 100mg of sample, the ideal amount for our screening and confirmation method.

Large screens may require more samples. Unless experienced we recommend the specimen is weighed on a jeweler's scale.

WHEN WOULD YOU USE NAIL TESTING OVER HAIR TESTING?

If the donor has no head and limited body hair then nail testing may be the answer. As with body hair it is not possible to provide a month-by-month breakdown from fingernail testing but you are provided with a clear overview.

Situations that have resulted in the need for nail testing include;

- Male participants that;
 - Have short hair
 - Have limited or no body hair
 - Have chosen to bleach or chemically treat their hair
 - Have concerns about their appearance after the hair samples have been collected

- Female Participants that;
 - Have cosmetic hair treatments
 - Have limited or no body hair
 - Have concerns about their appearance after the hair samples have been collected

DNA Legal aim to collect hair samples as discretely as possible this does depend on the clients hair style.

FINGERNAIL DRUG TESTING PANELS

To ensure a simple effective testing process the following drug panels have been put together.

DRUG GROUP	9 PANEL	11 PANEL	14 PANEL	17 PANEL
Amphetamines	✓	✓	✓	✓
Methamphetamines	✓	✓	✓	✓
Cannabinoids	✓	✓	✓	✓
Cocaine	✓	✓	✓	✓
Crack Cocaine	✓	✓	✓	✓
Opiates (inc Heroin)	✓	✓	✓	✓
Benzodiazepines	✓	✓	✓	✓
Barbiturates	✓	✓	✓	✓
Phencyclidine	✓	✓	✓	✓
Methadone		✓	✓	✓
Propoxyphene		✓	✓	✓
Oxycodone			✓	✓
Meperidine			✓	✓
Tramadol				✓
Fentanyl				✓
Sufentanil				✓
Ketamine				✓

Additionally Buprenorphine, High-Potency Opioids (6-β-Naltrexol (naltrexone metabolite), butorphanol (e.g. Stadol®), nalbuphine (e.g. Nubain®), naloxone (e.g. Narcan®), naltrexone (e.g. Revia®)) and Propofol Glucuronide (e.g. Diprivan®) can be added to any of the panels above.

FINGERNAIL ALCOHOL TESTING

The detection of alcohol abuse using fingernails provides a reliable alternative to head or body hair. The EtG (Ethyl Glucuronide) alcohol markers are trapped in the fingernail as it grows.

Alcohol testing using nails can be carried out stand alone or combined with drug testing.

It is always advised to combine fingernail testing with blood testing. This is the same recommendation of the importance of combining hair alcohol testing with blood testing. DNA Legal provide both CDT, LFT & FBC testing as well a new less invasive blood drop testing method.

CONSIDERATIONS WITH FINGERNAIL TESTING

1. It is possible that someone will test positive in fingernails because of passive of environment exposure vs ingestion. This issue must be resolved when the drug test results are interpreted. Discussing possible situations of exposure with the donor in advance will be important.
2. Each sample type (hair, nails, blood, urine) has a different detection period and drugs are incorporated differently. Testing multiple sample types may result in varying results from each and must be interpreted carefully.
3. One-time drug use does not guarantee a positive fingernail test result. The number of doses required to generate a positive result is highly variable between donors (in the same way as other sample types).
4. Studies have shown that Nail Varnish, Nail Varnish remover and manicures do NOT affect the results of testing.

HOW MUCH DOES FINGERNAIL TESTING COST

DNA Legal is pleased to provide fingernail testing at the same low rates of leading hair testing providers. This ensures there is no extra burden for private clients or the LAA.

