

Legacy Laboratory Services

Improved and Streamlined Medical Drugs of Abuse Testing

July 2014

Drugs of abuse patterns have changed- prescription drugs are as prevalent as street drugs!

Our modernized panels are easy to order, with self-explanatory names.

Upgraded specimen validity testing is included when indicated.

Laboratory panels for abused drugs have traditionally been modeled after the U.S. Federal Workplace Drug Testing program, which focuses entirely on illegal drugs and largely ignores prescription drugs. This approach is not ideal for medical purposes, because many prescription drugs not included in the federal drug test panel, such as methadone, hydrocodone, and oxycodone, are now abused as frequently as illegal drugs.

Accordingly, we have reconfigured our urine drugs of abuse panels to include the classes which best represent current patterns of use and abuse in Oregon and SW Washington. In many cases, we have improved sensitivity and/or lowered cutoffs. We have also simplified the number of panels and the test names to make ordering easier. Unless otherwise noted, each panel includes screening by immunoassay to specified cutoff levels, specimen validity testing, and automatic drug confirmations by chromatography/mass spectrometry to the lab's Limit of Detection.

New and Improved Drug Panels & Test Offerings

Standard Drugs of Abuse Panel, Urine

- Includes 8 classes of common illegal and prescription drugs

Intermediate Drugs of Abuse Panel, Urine

- Includes 14 classes of common illegal and prescription drugs

For technical information, contact:

David K. Roberts, PhD
Manager Toxicology
Legacy Laboratory Services
Laboratory
503-413-5030



Juan C. Millan MD
Vice President of Diagnostics
Legacy Health
503-413-5049

Comprehensive Drug Panel, Urine

Includes all components of the other panels plus:

- Salicylates
- Tricyclic Antidepressants
- Broad spectrum (full scan GC-MS) to detect hundreds of additional prescription drugs

Emergency (STAT) Drug Panel, Urine

- Includes 14 classes of abused and prescription drugs, including tricyclic antidepressants.
- Provides rapid turnaround time for presumptive drugs of abuse. Specimen validity testing and automatic confirmatory testing are not included.

Endangered Child / Neonatal Drugs of Abuse Panel, Urine

- Detects the lowest concentrations of the most prevalent and harmful drugs
- This panel is designed specifically for testing neonates and drug endangered children for exposure to drugs of abuse.
- Do NOT use this panel for adults.

Serum Drugs of Abuse Panel

- Detects the lowest concentrations of the most prevalent and harmful drugs
- This panel is intended only for kidney transplant patients or other patients who are unable to produce urine.
- Do NOT use this panel if the patient can produce urine.

Single Drug of Abuse, Urine

- Screening and confirmation for individual drug classes
- See list below

Specimen Validity Testing (SVT) is included for most panels

Unlike other medical conditions, aberrant drug behaviors frequently involve the patient attempting to circumvent the drug testing analysis. Our advanced SVT protocol includes the following:

- Tests for diluted or abnormally dilute urine (dilution can cause negative results)
- Tests for adulterants (chemicals added to interfere with the test)
- Substituted specimens (urine look-a-likes submitted instead of urine)
- Synthetic urine (available on internet- lacks many normal urine constituents)

For technical information,
contact:

David K. Roberts, PhD
Manager Toxicology
Legacy Laboratory Services
Laboratory
503-413-5030



Juan C. Millan MD
Vice President of Diagnostics
Legacy Health
503-413-5049

Drugs of Abuse Panel - Standard, Urine

Drug Class	Cutoff	Drugs Confirmed
Amphetamines	500 ng/mL	Amphetamine Methamphetamine
Benzodiazepines	200 ng/mL	Nordiazepam Oxazepam 7-Amino-flunitrazepam 7-Amino-clonazepam 2-OH-ethyl-flurazepam α -OH-alprazolam Lorazepam Temazepam α -OH-triazolam
Cocaine	150 ng/mL	Benzoyllecgonine
Ethanol	20 mg/dL	Alcohol
Heroin	10 ng/mL	6-Acetyl-morphine
Marijuana	20 ng/mL	THCA
Opiates	300 ng/mL	Morphine Codeine Hydrocodone Hydromorphone
Oxycodone	100 ng/mL	Oxycodone Oxymorphone
Specimen Validity		Creatinine pH Oxidants Tests for Synthetic Urine

- Screen by immunoassay or enzyme assay; confirmation by chromatography/mass spectrometry
- CPT Codes: 80101 x 8 for screen; specific confirmation codes as indicated

For technical information,
contact:

David K. Roberts, PhD
Manager Toxicology
Legacy Laboratory Services
Laboratory
503-413-5030



Juan C. Millan MD
Vice President of Diagnostics
Legacy Health
503-413-5049

Drugs of Abuse Panel - Intermediate, Urine

Includes all components of Standard Panel (see above), plus:

Drug Class	Cutoff	Drugs Confirmed
Barbiturates	200 ng/mL	Amobarbital Butalbital Pentobarbital Phenobarbital Secobarbital
Buprenorphine	20 ng/mL	Buprenorphine
MDMA	500 ng/mL	MDMA MDA MDEA
Methadone	150 ng/mL	Methadone EDDP (methadone metabolite)
Phencyclidine	25 ng/mL	PCP
Propoxyphene	300 ng/mL	Propoxyphene Norpropoxyphene

- Screen by immunoassay or enzyme assay; confirmation by chromatography/mass spectrometry
- CPT Codes: 80101 x 14 for screen; specific confirmation codes as indicated

Drug Panel - Comprehensive, Urine

Includes all components of Intermediate Panel, plus:

Drug Class	Cutoff	Includes
Broad Spectrum Screen (Full Scan GC-MS)	Varies	Antidepressants Antihistamines Cardioactive Drugs Hundreds of other prescription drugs
Salicylates	20 mg/dL	Salicylates
Tricyclic Antidepressants	300 ng/mL	Amitriptyline/ Nortriptyline Imipramine/Desipramine Doxepin/Nordoxepin

- Screen by immunoassay, enzyme assay or colorimetry; confirmation by chromatography/mass spectrometry
- CPT Codes: 80100, 80101 x 16 for screen, and specific confirmation codes as indicated

For technical information, contact:

David K. Roberts, PhD
Manager Toxicology
Legacy Laboratory Services
Laboratory
503-413-5030



Juan C. Millan MD
Vice President of Diagnostics
Legacy Health
503-413-5049

Drugs of Abuse Panel – Emergency Department, Urine

Provides a rapid unconfirmed result (Not Detected or Presumptive) for the following drug classes:

Drug Class	Cutoff	Drugs Detected
Amphetamines	500 ng/mL	See listings for Standard, Intermediate, and Comprehensive Panels
Barbiturates	200 ng/mL	
Benzodiazepines	200 ng/mL	
Cocaine	150 ng/mL	
Heroin	10 ng/mL	
Marijuana	20 ng/mL	
MDMA	500 ng/mL	
Methadone	150 ng/mL	
Opiates	300 ng/mL	
Phencyclidine	25 ng/mL	
Oxycodone	100 ng/mL	
Tricyclic Antidepressants	300 ng/mL	

- Screen by immunoassay or enzyme assay
- Specimen Validity Testing is NOT included.
- Confirmation by chromatography/mass spectrometry is NOT included but may be ordered individually if desired
- CPT Codes: 80101 x 12 for the screen; confirmation codes are applied only if the physician orders a specific confirmatory test

For technical information,
contact:

David K. Roberts, PhD
Manager Toxicology
Legacy Laboratory Services
Laboratory
503-413-5030



Juan C. Millan MD
Vice President of Diagnostics
Legacy Health
503-413-5049

Drug Panel -Broad Spectrum, Urine

Detects therapeutic and overdose levels of a wide variety of abused drugs and prescription drugs.

Drug Class	Included
Broad Spectrum Screen (Full Scan GC-MS)	Antidepressants Antihistamines Cardioactive Drugs Plus hundreds of other prescription drugs

- Does not include immunoassays for abused drugs and may not detect recreational drug use.
- This test is included in the Comprehensive Drug Panel and may be added to any other panel, but is not orderable as a stand-alone test.
- CPT Codes: 80100 for GC/MS full scan screen

Drugs of Abuse Panel- Neonate / Endangered Child, Urine

- Intended only for neonates or drug endangered children only
- Highest sensitivity for most potentially harmful and prevalent drugs
- Includes automatic confirmation to the lab's limit of detection

Drug Class	Cutoff	Drugs Confirmed
Amphetamines	50 ng/mL	See listings for Standard Panel
Benzodiazepines	50 ng/mL	
Cocaine	50 ng/mL	
Heroin	10 ng/mL	
Marijuana	20 ng/mL	
Methadone	50 ng/mL	
Opiates	50 ng/mL	
Oxycodone	50 ng/mL	

- Screen by immunoassay or enzyme assay; confirmation by chromatography/mass spectrometry
- Does not include Specimen Validity Testing
- CPT Codes: 80101 x 8 for screen; specific confirmation codes as indicated

For technical information,
contact:

David K. Roberts, PhD
Manager Toxicology
Legacy Laboratory Services
Laboratory
503-413-5030



Juan C. Millan MD
Vice President of Diagnostics
Legacy Health
503-413-5049

Drugs of Abuse Panel, Serum

- For Kidney transplant patients or other patients who are unable to produce urine
- Highest sensitivity for most potentially harmful and prevalent drugs
- Includes automatic confirmation to the lab's limit of detection

Drug Class	Cutoff	Drugs Confirmed
Amphetamines	50 ng/mL	See listings for Standard Panel
Benzodiazepines	50 ng/mL	
Cocaine	50 ng/mL	
Heroin	10 ng/mL	
Marijuana	20 ng/mL	
Methadone	50 ng/mL	
Opiates	50 ng/mL	
Oxycodone	50 ng/mL	

- Screen by immunoassay or enzyme assay; confirmation by chromatography/mass spectrometry; does not include specimen validity testing
- CPT Codes: 80101 x 8 for screen; specific confirmation codes as indicated

For technical information,
contact:

David K. Roberts, PhD
Manager Toxicology
Legacy Laboratory Services
Laboratory
503-413-5030



Juan C. Millan MD
Vice President of Diagnostics
Legacy Health
503-413-5049

Automated Single Urine Drugs of Abuse Screen with Reflex Confirmation

Drug / Analyte	Mnemonic
Alcohol (Ethanol)	U M ETOH
Amphetamine / Methamphetamine	U M AMPH
Barbiturates	U M BARBS
Benzodiazepines	U M BENZO
Buprenorphine (presumptive screen only)	U M BUPRE
Cocaine	U M COC
Heroin	U M HEROIN
Marijuana	U M THC20
Methadone	U M METHA
Opiates	U M OPIAT
Phencyclidine (PCP)	U M PCP
Tramadol	U M TRAM

- Screen by immunoassay or enzyme assay; confirmation by chromatography/mass spectrometry if needed; no Specimen Validity Testing.
- CPT Codes: 80101 x 1 for screen; specific confirmation codes as indicated

Rehabilitation / Compliance Monitoring for Marijuana cessation

- Normalized Marijuana for Rehabilitation Monitoring which involves THCA confirmation normalized to urinary creatinine.

For technical information,
contact:

David K. Roberts, PhD
Manager Toxicology
Legacy Laboratory Services
Laboratory
503-413-5030



Juan C. Millan MD
Vice President of Diagnostics
Legacy Health
503-413-5049

Medical Drug Testing Panel Comparison Chart

Service	Routine				Specialty	
	Standard	Inter- mediate	Emergency	Comprehensive	Neonate/ Endangered Child	Serum
Specimen	Urine	Urine	Urine	Urine	Urine	Serum
Screening Cutoffs	Standard	Standard	Standard	Standard	Low	Low
Amphetamines	X	X	X	X	X	X
Barbiturates		X	X	X		
Benzodiazepines	X	X	X	X	X	X
Broad Spectrum				X		
Buprenorphine		X	X	X		
Cocaine	X	X	X	X	X	X
Ethanol	X	X	X	X		
Heroin	X	X	X	X	X	X
Marijuana	X	X	X	X	X	X
MDMA		X	X	X		
Methadone		X	X	X	X	X
Opiates	X	X	X	X	X	X
Oxycodone	X	X	X	X	X	X
Propoxyphene		X		X		
Salicylates				X		
Tricyclic Antidepressants			X	X		
Specimen Validity	X	X		X		
Automatic Confirmation	X	X		X	X	X

See individual panel descriptions for cutoff concentrations, confirmed drugs, and other details

For technical information,
contact:

David K. Roberts, PhD
Manager Toxicology
Legacy Laboratory Services
Laboratory
503-413-5030



Juan C. Millan MD
Vice President of Diagnostics
Legacy Health
503-413-5049

Medical Drug Test Panel Ordering Guidelines

Drugs of Abuse Panel	Recommendations
Standard, Urine*	<ul style="list-style-type: none"> To detect most common drugs of abuse
Intermediate, Urine*	<ul style="list-style-type: none"> To detect widest variety of abused drugs (e.g. OB mothers with at risk newborns)
<i>*Add on: Broad Spectrum Drug Screen</i>	<ul style="list-style-type: none"> <i>If the Standard or Intermediate has already been ordered and a more comprehensive screen that includes a variety of prescribed medications is indicated.</i>
Comprehensive, Urine	<ul style="list-style-type: none"> To detect widest variety of drugs of abuse <i>and</i> prescription medications
Emergency (STAT), Urine**	<ul style="list-style-type: none"> To detect wide variety of abused drugs and selected prescription drugs when rapid results are needed and confirmation is not required
<i>**Add on: Broad Spectrum Drug Screen</i>	<ul style="list-style-type: none"> <i>Order this combination when STAT presumptive results are indicated for ED treatment and a more comprehensive evaluation of possible prescribed medications is indicated for follow-up care.</i>
Endangered Child / Neonatal, Urine***	<ul style="list-style-type: none"> To detect drugs of abuse in neonates To monitor children living in “Meth Houses” or otherwise exposed to drugs in their home. Do NOT order this panel on adults; it is designed specifically for detecting low level drug exposure and not routine testing
<i>***Add on: Broad Spectrum Drug Screen</i>	<ul style="list-style-type: none"> Add on this test if the child or neonate may have been exposed to a variety of prescription meds that are not included in a drugs of abuse panel
Serum	<ul style="list-style-type: none"> Order ONLY if patient cannot produce urine (e.g., renal transplant patients). Urine is the recommended matrix for drug abuse detection
MedManager*	<ul style="list-style-type: none"> For patients receiving long term DEA controlled opioids to manage chronic pain
MedManager Quick*	<ul style="list-style-type: none"> For routine monitoring of chronic pain patients when rapid results are desired and confirmatory testing is not needed

* See separate publication for details on MedManager and MedManager Quick in testing programs for pain management.

For technical information, contact:

David K. Roberts, PhD
 Manager Toxicology
 Legacy Laboratory Services
 Laboratory
 503-413-5030



Juan C. Millan MD
 Vice President of Diagnostics
 Legacy Health
 503-413-5049

Conversion Chart for Current vs. New Drug Test Panels

Urine Drugs of Abuse Panels:

Current Panel	New Panel	Mnemonic
U MDP2	Standard	U DP STD
U MREHAB2	Standard	“
U MDP4	Standard	“
U MREHAB4	Standard	“
U MDP3A	Standard	“
U MREHAB3A	Standard	“
U MDP5	Standard	“
U MREHAB5	Standard	“
U MDPDAS	Intermediate	U DP INT
U MREHABDA	Intermediate	“
U MDP6	Intermediate	“
U MREHAB6	Intermediate	“
U MDP10	Intermediate	“
U MDP10A	Intermediate	“
U MDP10A3	Intermediate	“

Specialty Drugs of Abuse Panels:

Current Panel	New Panel	Mnemonic
U MDPPAH-Baby	Neonatal / Endangered Child	U MDP NEO
U MDPNEO- Baby	Neonatal / Endangered Child	U MDP NEO
U MDPNEO - Mom	Intermediate	U DP INT
DS RENAL	Serum Drugs of Abuse	DRUG PAN S
U MDPED2	ED Panel*	U DP ED
U MDPEXP	Comprehensive	U DP COMP

*Legacy Medical Center Emergency Departments Only.

Optional Add On Panel – available for all panels with the following exceptions:

- NOT available for the Serum Drugs of Abuse
- Do NOT add on to the Comprehensive Panel- as it is already a component

Current Panel	New Panel	Mnemonic
NA	Broad Spectrum Drug Screen	U DS BSPEC

For technical information,
contact:

David K. Roberts, PhD
Manager Toxicology
Legacy Laboratory Services
Laboratory
503-413-5030



Juan C. Millan MD
Vice President of Diagnostics
Legacy Health
503-413-5049