

## Bulley, Margaret

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**From:** labclientservice  
**Sent:** Monday, October 15, 2018 5:28 PM  
**To:** GME PC; Ortolf, Barbara; Salvatore, Alicia; Regional Physicians Group Directors of Operations; Regional Physician Group Practice Managers; Regional Physician Group Physicians; CPUP DOO's; CPUP Business Administrators; CPUP Managers; Allen, Kathleen; Viola, Kathy; Redmond, Cassandra I; Khemraj, Darci; Major, Katherine  
**Cc:** Fogt, Franz; Atweh, Mahmoud (Michael); Hunt, William; Gualtieri, Roseann; Murphy, Alice M; Shaw, Leslie; Milone, Michael; Gardiner, JoAnn; Milano, Joe; Nachamkin, Irving; Mincarelli, Deborah; Bulley, Margaret; Danoski, Daniel; McLaughlin, Cara; \_Leonard, Sarah; Vespasiani, Lynn; Long, Jeff; Acker, David; Agront, Sarita; Bahar, Wael Y; Mcaleer, Diane S; Macchione, Gerald; Kim, Sharon; Metheny, Robert  
**Subject:** PENN MEDICINE - New Pain Management Drug Analysis test procedure  
**Attachments:** Pain Management testing program communication to UPHS clinical staff v2.docx



**Penn Medicine**

University of Pennsylvania Health System

**To:** Members of UPHS Clinical Staff

**From:** Leslie M Shaw, PhD and Michael C Milone, MD, PhD

**Date:** October 22, 2018

**Re:** New Pain Management Drug Analysis test procedure

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### New Pain Management Drug Analysis procedure effective October 22, 2018

The Toxicology laboratory has validated and implemented a new Pain Management Drug Analysis test procedure using liquid chromatography-tandem mass spectrometry (LC-MSMS) that will detect the presence of 44 drugs and metabolites in urine including 11 drugs of abuse, 17 opioids and 16 benzodiazepines (see table below).

This testing procedure replaces and expands upon the current Pain Management tests that includes a combination of urine drug testing using 10 immunoassays(DA10), the Opiate confirmatory testing by LC-MSMS and additional confirmation testing by GC-MS. The new Pain Management Drug Analysis procedure has a high degree of specificity and sensitivity, for all of the 44 drugs and metabolites and uses a single LC-MSMS test methodology.

Result reporting includes the cutoff concentration values for each of the 44 analytes. The 11 drugs of abuse are reported as qualitative results similar to the current immunoassay-based screening approach. Opioids and benzodiazepines will be reported with quantitative concentration results which should aid in result interpretation. Ethanol testing is done as in the past using a specific alcohol dehydrogenase enzyme assay and the report will include ethanol presence or absence as well as its cutoff value. For many of the analytes, standardized interpretative comments will also be provided.

The enhanced sensitivity of the LC-MSMS methodology provides for lowered cutoff concentrations for most of the 44 analytes as compared to the immunoassay-based cutoffs. These lower detection thresholds may result in changes to typical urine drug screening results for some patients undergoing monitoring when compared with the immunoassay-based screening approach.

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**EPIC Ordering information:**

**TEST CODE is DAPM; TEST NAME is DRUG ANALYSIS, PAIN MANAGEMENT**

Please feel free to contact us regarding the new Pain Management Drug Analysis testing procedure.

**Contact information:**

Clinical Chemistry resident: 215-980-9770

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The Table below includes the tests for 11 Drugs of Abuse, 17 Opioids & metabolites and 16 Benzodiazepines & metabolites included in the new Pain Management Drug Analysis procedure.

DOA	OPIOIDS		BENZODIAZEPINES	
Benzoyllecognine	Buprenorphine	Naloxone	Alprazolam	Desalkylflurazepam
Amphetamine	nor-Buprenorphine	Naltrexone	$\alpha$ -hydroxyalprazolam	2-Hydroxyethylflurazepam
Methamphetamine	Codeine	Oxycodone	7-aminoclonazepam	$\alpha$ -Hydroxytriazolam
MDMA	Dihydrocodeine	Oxymorphone	Chlordiazepoxide	Lorazepam
MDA	Fentanyl	Tapentadol	Clobazam	Midazolam
6-MAM	nor-Fentanyl	N-desmethyltapentadol	Diazepam	$\alpha$ -hydroxymidazolam
Phentermine	Hydrocodone	cis-tramadol	nor-Diazepam	Oxazepam
PCP	Morphine	N-desmethyltramadol	Estazolam	Temazepam
THC	Hydromorphone			
Methadone				
EDDP				