CLP 013
NOVEMBER 1996

Guidelines for the Use of Urine Screening Tests for Drugs of Abuse

1. Background

In screening for drugs of abuse, the ordering physician should take into account the specific clinical situation being assessed. The physician screening for an incidental or accidental episode of drug abuse will follow a different protocol than the physician whose caseload includes habitual abusers of multiple drugs or who is monitoring patients for compliance with a treatment program.

The present guideline addresses each of these situations and physicians are advised to refer to the recommendations which apply to the specific clinical situation.

Drugs of abuse testing will usually be performed on urine specimens. Results reported will be qualitative or semi-quantitative.

Although the present guideline may be more generally applicable, it is directed at physicians treating patients in the community.

A) Target Drug Testing

2. Indications:

When the patient is known to have a drug or drugs of choice, **target drug testing** may be the appropriate testing protocol.

3. Limitations:

The laboratory will report only the results of those assays ordered. **Target drug testing** will usually be performed on urine specimens. The testing methodology will generally be immunoassay.

4. Recommendations:

When the patient is known to have a drug or drugs of choice or if the patient is being monitored for compliance with a treatment program, the physician should order testing for the specific **target drug(s)**. The most commonly found drugs include opiates/morphine, methadone, cannabinoids, cocaine and benzodiazepines.

B) Drugs of Abuse Screen

2. Indications:

If the patient is a known multiple drug user and no drug of choice has been identified, a **drugs of abuse screen** may be the appropriate testing protocol.

3. Limitations:

The **drugs of abuse screen** will include, at a minimum, screening for opiates/morphine, cocaine, cannabinoids, benzodiazepines and barbiturates. Other drugs may be added to the drugs of abuse screen on the request of the physician.

4. Recommendations:

If the patient is a known multiple drug user and no drug of choice has been identified, the physician should order a **drugs of abuse screen.**

It is recommended that the physician consult with the Laboratory Director before adding tests for additional drugs to the drugs of abuse screen or to request confirmatory testing in medico-legal situations.

C) Broad Spectrum Toxicology Screen

2. Indications:

The physician in the community may encounter patients who, unusually, manifest clinical symptoms of drug abuse and the physician may wish to determine the specific drug(s) abused or the physician may wish to monitor patient compliance with a treatment program by testing for drug metabolites. In such situations, the physician is advised to order a **broad spectrum toxicology screen.**

3. Limitations:

Typically chromatographic methods currently available can be used efficiently to screen for between forty and five hundred different drugs and their metabolites. Because of the varying chemical properties of these compounds (acidic, neutral, alkaline), it is necessary to combine different testing principles; e.g., chromatography and immunoassay.

The physician may wish to consult with the Laboratory Director to determine the specific methodology used, the compounds screened and the necessity for confirmatory testing. The **broad spectrum toxicology screen** will not include acetaminophen, salicylates, methanol and other alcohols, where the specimen of choice is serum.

List of Drugs to be Tested on Broad Spectrum Toxicology Screen. At a minimum, laboratories should provide screening for the following drugs:

- Antihistamines
- Antidepressants (Amitriptyline, Desipramine, Imipramine, Nortriptyline)
- Cardioactives (Lidocaine, Quinidine/Quinine)
- Barbiturates
- Benzodiazepines
- Cannabinoids
- Cocaine/Benzoylecgonine
- Narcotics (Codeine, Hydrocodone, Hydromorphone, Meperidine, Methadone, Morphine, Pentazocine, Propoxyphene)
- Pencyclidine (PCP)

- Phenothiazines
- Sympathomimetic Amines (Amphetamine, Ephedrine/Pseudoephedrine, Methamphetamine and Methylenedioxyamphetamine [MDA], Phentermine, Phenylpropanolamine)

The laboratory will report to the physician the parent drugs, their metabolites and the limitations of the system being used.

4. Recommendations:

The physician screening for drugs of abuse in patients who are not known drug abusers or for whom it is not possible to target a specific drug or drugs of abuse, should order **a broad spectrum toxicology** screen.

5. References:

Kapur, BM, Drug-testing methods and clinical interpretations of test results, *Bulletin on Narcotics*, XLV, 2, 1993, United Nations International Drug Control Programme Vienna, New York, 1994, pp. 115-154.

The OAML gratefully acknowledges the contributions of the members of the Guideline Panel and others who have contributed their expertise, advice and technical support to the development and review of this guideline. This guideline has been reviewed by and comments have been received from the members of the OAML's Professional Advisory Group, and representatives of the Laboratory Medicine, Addiction Medicine, General & Family Practice and Geriatrics sections of the Ontario Medical Association and of the Laboratory Proficiency Testing Program of OMA.

The Ontario Association of Medical Laboratories

The Ontario Association of Medical Laboratories (OAML) represents the community-based laboratory sector in Ontario.

Its mission is to promote excellence in the provision of laboratory services and, as an essential component of the health care system, to contribute to shaping the future of health care in Ontario.

The OAML encourages the highest level of professional and ethical integrity and technical excellence among laboratory owners, operators and staff in the provision of laboratory services for the benefit of the people of Ontario.

Guidelines for Clinical Laboratory Practice

The OAML, through its Quality Assurance and Clinical Laboratory Practice Committee, co-ordinates the development and dissemination, implementation and evaluation of Guidelines for Clinical Laboratory Practice.

A proposed Guideline is developed by a working group of the Committee with the participation of outside experts. The proposed guideline is then submitted to the Committee as a whole and to a Professional Advisory Group who provide an overall review of the document. The comments of the Committee and the Professional Advisory Group are incorporated into a revision of the guideline and this draft is submitted to laboratory Medical Directors, professional associations and other representatives of end users for additional comment. The document is revised in light of these comments and submitted to the OAML Board of Directors for approval.

Approved guidelines are distributed to Community-based Laboratories and by them to their client physicians.

There may be additional educational materials produced, if it is thought that they might be useful, and these are distributed with the guideline.

The comments of end users are essential to the development of guidelines and will encourage adherence. You are strongly encouraged to submit your comments on this or on any other OAML Guideline to:

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CLP013 Issued: November1996