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URINE DRUGS OF ABUSE SCREEN, THYROID STIMULATING HORMONE, AND VITAMIN B12 ORDERING IN THE EMERGENCY DEPARTMENT: JOINT POLICY STATEMENT

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PREAMBLE

This policy statement is written to provide clarity and guidance on the utility and process for requesting urine drugs of abuse test, Thyroid Stimulating Hormone (TSH), and Vitamin B12 in the Emergency Department. The policy does not apply to toxic alcohol tests (Methanol, Ethanol, Isopropanol, Ethylene Glycol) and therapeutic drugs (Acetaminophen, salicylates, etc).

BACKGROUND

The clinical utility of diagnostic tests in the Emergency Department (ED) is dependent on multiple factors; chief among these is the influence of the test results on the immediate management of the patient. Also, there are instances where these tests aid the management of the patient beyond the ED (management of the patient by a consult service or for the provision of follow-up care in the community).

Urine Drugs of Abuse

Obtaining an urgent urine drug screen to detect the presence of licit or illicit substances in ED patients is discouraged for the following reasons[1–4]:

1. Like all screening tests, the urine drug screen does not have the performance characteristics to act as a rule-in or rule-out test. It is not a diagnostic test.

2. Research and practice has shown that urgent urine drug screens do not alter the management nor obviate the need for other investigations in ED patients.

3. Research and practice has shown that urgent urine drug screens do not alter the management of patients with psychiatric symptoms and is thus not required in patients awaiting psychiatric consultation or admission from an ED.

4. The management of most poisoned patients, whether from licit or illicit substances is supportive care – support and maintenance of airway, breathing and circulation.

5. Drug screens do not direct antidote therapy. The indications for antidotes are:

a. Specific blood concentrations – for a limited group of poisons such as acetaminophen (acetylcysteine).

b. Presence of a specific toxidrome – such as miosis, bradypnea and decreased level of consciousness (naloxone).

Thyroid Stimulating Hormone (TSH)

The clinical utility of TSH in the ED setting is limited to thyroid emergencies, thyroid storm, myxedema crisis, and atrial fibrillation. Although the prevalence of thyroid disease in the general population is between 1.3% (for hypothyroidism) and 3.7% (for hyperthyroidism), in the ED, this number can be high. This is due to the fact that the acute illness can have impact on thyroid function. The non-specific thyroid hormone abnormalities seen in some psychiatric patients are explained by the altered influence of stress-regulating systems on thyroid function[5,6].

Vitamin B12

Evidence-based analysis of literature has found very low quality evidence that suggests a connection between high plasma homocysteine levels (a by-product of B vitamin metabolism in the body) and the onset of dementia. Treatment with vitamin B12 does not improve brain function (moderate quality evidence).

POLICY

The utility of diagnostic tests should always be assessed based on the patient's physical presentation, history, and the clinical need. It is rare that TSH, vitamin B12 or urine drugs of abuse testing change the care provided in the ED. However, there are circumstances where they have value in the follow up care. In this respect, the ordering of TSH, Vitamin B12, and urine drugs of abuse screen tests in the ED patient should occur under the following circumstance:

1. On a non-stat basis.

2. Must be ordered after assessment of the patient by an appropriate ordering healthcare provider*.

3. After review of the patient's medical record to ensure that there is no recent test results available.

4. When deemed clinically relevant by an appropriate ordering healthcare provider*, a urine drug screen should be collected as soon as possible upon presentation.

*defined as an individual authorized to order laboratory tests by the regulated Health Professionals' Act of Manitoba, who is also involved in the clinical management of the patient.

Drugs of Abuse

Drugs of abuse test requests should be done after the assessment of the patient by an appropriate ordering healthcare provider and deemed necessary for the follow-up care of the patient. Should a urine drug screen be deemed necessary, the urine should be collected as soon as possible upon presentation to the ED. The testing of such a sample will on a non-stat (routine) basis.

Thyroid Stimulating Hormone (TSH)

The ordering of TSH in the ED patient should be done after careful scrutiny of the patients medical record for thyroid abnormalities; physical assessment by an appropriate ordering healthcare provider; and ordered by the appropriate ordering healthcare provider if deemed to influence the immediate medical management of the patient in the ED.

Vitamin B12

The ordering of Vitamin B12 in the ED patient is discouraged. The decision to order vitamin B12 in the ED setting should be dictated by the physical assessment of the patient by an appropriate ordering healthcare provider; review of the medical records of the patient; and, ordered by the appropriate ordering healthcare provider if deemed to influence the immediate medical management of the patient in the ED.

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