



Capital Health

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MEMORANDUM

To: Capital Health Physicians, Health Service Managers (inpatient, outpatient, and Emergency Dept),
Nova Scotia District Laboratories

From: Dr. Manal Elnenaei, Dr. Amy Lou and Dr. Bassam A. Nassar, Division of Clinical Chemistry
Dr. Irene Sadek, Division of Hematopathology

Date: March 12, 2014

Subject: **LDH (Lactate Dehydrogenase): New Requesting Requirements and Collection Tube Change
Effective April 6, 2014**

As part of the move towards promoting appropriate utilization of laboratory tests, **effective April 6, 2014**, LDH testing at Capital Health will be performed on serum (not plasma) samples and requests for testing will only be processed if **clinical details are provided in brackets next to the LDH request. The term 'Do not cancel' will not be accepted.**

Collection tube change: Serum sample for LDH will be collected in a Gold SST tube.

This decision is based on the following:

1. LDH is generally a non tissue specific biomarker, which is present in almost all body tissues so its release into the blood stream can be triggered by a wide variety of tissues damaged by injury or disease (muscle, liver, RBC, bone, heart..etc), hence the very high levels observed in, e.g., ischemic injury and sepsis. Moreover, it may be raised in a proportion of healthy individuals, without an underlying pathology e.g. following physical exercise or as a result of incorrect handling of blood samples, which could lead to unwarranted follow-up testing, treatment, and patient anxiety.
2. The advent of more organ specific tests has rendered LDH a redundant marker in this respect. For example, increases in serum LDH are seen following a myocardial infarct and the test has been replaced by the determination of troponin; in liver disease, elevations of LDH are not as sensitive or specific as the increase in alanine aminotransferase (ALT) in particular as well as aspartate amino transferase (AST).
3. Serum LDH levels may be useful in the following conditions, where levels are usually very high:
 - a. Follow up of known hematological malignancies and some forms of solid tumors; either during therapy or to help assess prognosis;
 - b. In the diagnosis and follow up of hemolytic anemia.

In any of these cases however LDH is not to be used in isolation to determine further management.

4. LDH is currently overused by physicians. Our data show approximately 50,000 requests are made yearly, the majority of which come from Primary Care.

We therefore kindly urge you to take these points into consideration since they entail both patient risk and utilization issues. If you have further questions, please contact Dr. Elnenaei at 902 473 5194, Dr Lou at 902 473 1528, Dr. Nassar at 902 473 2225 or Dr. Sadek at 902 473 8471

CC. Ms. Fran O'Brien, Dr. Godfrey Heathcote, Ms. Shauna Thompson, Mr. Eugene Smith