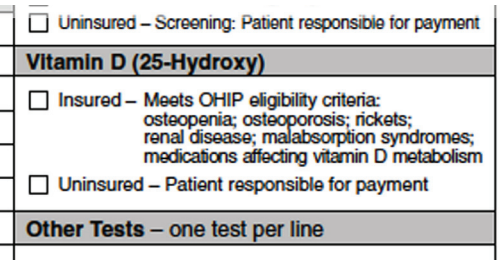
LifeLabs® Medical Laboratory Services

Inside Diagnostics

OHIP LABORATORY REQUISITION CHANGES: VITAMIN D TESTING


☐ Uninsured – Screening: Patient responsible for payment

Vitamin D (25-Hydroxy)

☐ Insured – Meets OHIP eligibility criteria: osteopenia; osteoporosis; rickets; renal disease; malabsorption syndromes; medications affecting vitamin D metabolism

☐ Uninsured – Patient responsible for payment

Other Tests – one test per line

Effective December 1, 2010 OHIP will change testing for 25-Hydroxy Vitamin D to an insured service for those meeting the eligibility criteria included on the OHIP requisition (osteopenia and osteoporosis; rickets; renal disease; malabsorption syndromes; and medications affecting Vitamin D metabolism). For all other requests, measurement of 25-hydroxy Vitamin D will be an uninsured service. The OHIP Laboratory Requisition was revised to correspond to this change.

As per the OHIP INFOBulletin #4522 issued on November 12th, it is the client's responsibility to clearly indicate on the requisition if the Vitamin D test is required for your patient who has met the identified medical conditions or is for routine testing.

If the requisition does not indicate that the Vitamin D test is for insured indications, then OHIP cannot be charged for this test. In these cases, the patient will be responsible for payment of the test.

Supplies of the revised OHIP Laboratory Requisition may be obtained by downloading through the Ministry's website: **www.forms.ssb.gov.on.ca.**

For more information about the changes to OHIP coverage of Vitamin D testing, visit our website at www.lifelabs.com.

HOLIDAY LABORATORY CLOSURES

Taking the time to provide advice to patients who require regular elective testing in anticipation of the holidays in December will facilitate management and possibly patient safety. It is inevitable that some patients will generate results, such as INR values, which indicate the need for therapy change. Communication of critical or alert level patient results has proven to be more difficult over the holiday period.

We recommend that patients who require elective testing be advised to visit a LifeLabs patient service center (PSC) no later than Monday, December 20th.

Please note: LifeLabs PSCs will be closed on:
Saturday, December 25th
Monday, December 27th
Saturday, January 1st
Monday, January 3rd

Some regional PSCs will be open a half day on Friday, December 24th (morning) to provide patient access over the extended holiday weekend. To verify the PSC hours of operation over the holiday period, please call the Customer Care Center at 416-675-3637 or toll free 1-877-849-3637.

We hope you have a safe and happy holiday season.

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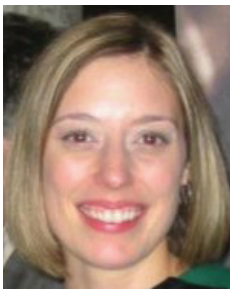
ANNOUNCEMENT: DR. VIRGINIA WALLEY, MEDICAL DIRECTOR, ONTARIO

LifeLabs is pleased to announce that Dr. Virginia Walley will be joining LifeLabs as Ontario Medical Director effective January 4, 2011. In this role, Dr. Walley will lead our Medical-Scientific team, regional medical lab directors and consultant physicians throughout the province.

Dr. Walley is an anatomic pathologist with a previous academic specialty interest in cardiovascular pathology; for the last 10 years she has worked in a community hospital general surgical pathology and cytology practice. Dr. Walley obtained her medical degree and anatomic pathology residency training at the University of Western Ontario and has a Masters degree in health administration from the University of Colorado. Currently, Dr. Walley holds the position of Chief & Medical Director, Laboratory Medicine at the Peterborough Regional Health Centre. She is also an Adjunct Professor in the Department of Pathology, Queens University in Kingston, Ontario.

Dr. Walley is very active in the medical community. She sits on a number of committees and boards, including the Ontario Medical Association (OMA) Board, where she is a Director as well as the Chair of the Diagnostic Assembly. She also participates in the OMA's Quality Management Program – Laboratory Medicine (QMP-LS) Conjoint and Advisory Committees.

ANNOUNCEMENT: DR. MIRANDA WOZNIAK, DIRECTOR OF HEMATOLOGY (ONTARIO)



LifeLabs is pleased to announce that Dr. Miranda Wozniak joined LifeLabs on November 1st as Director of Hematology in Ontario.

Dr. Wozniak is hematopathologist certified by Royal College of Physicians and Surgeons of Canada and comes to LifeLabs from the University of Ottawa where she was Hematopathology Chief Resident. She completed her Family Medicine Residency and medical degree at the University of Ottawa. Dr. Wozniak has been actively involved in research and has been published for her work.

As a member of the Ontario Medical-Scientific team, Dr. Wozniak will provide consultation to clients on results and support our testing teams across the province. She can be reached at 416-675-4530 ext.2040.

THE SKIN BIOPSY, PART 2

This is the second article of a two-part series on the skin biopsies. In the last issue of Inside Diagnostics we discussed the clinical indications for biopsy. In this issue, we focus on best practices for performing the biopsy and submitting the tissue specimen to LifeLabs.

SELECTING THE AREA TO BE BIOPSIED

It is important to select a good site for the biopsy. The lesion to be biopsied should be typical of the eruption and should be a fully-developed lesion. With the exception of the vesicular eruptions, there is no point in selecting early lesions since this often hinders the histologic interpretation. However, secondary lesions such as crusts and excoriations should be avoided. The biopsy should be taken from the center of the lesion, or, if it is of an annular configuration, from the active edge of the lesion. Normal skin should not be included intentionally because if this is done there is a danger that histological sections will contain only the normal tissue and a misleading result will be reported.

In the case of vesicular and pustular eruptions, histological interpretation is usually the most accurate if an early lesion is biopsied, preferably with the intact vesicle in the center of the specimen. A note should be made of this fact on the requisition form and the pathologist will then ensure that special efforts are undertaken to obtain a histological section through the vesicle itself. In cases where there are widely distributed lesions of varying morphology, it is often advisable to obtain several biopsies from different anatomic sites, since the disease in question may histologically appear to be more diagnostic in some sites as compared to others. When a granulomatous or a neoplastic process is suspected, one should biopsy the most infiltrated part of the lesion. Obviously, a portion of subcutaneous fat must be included with the biopsy if a panniculitis is suspected. It is surprising how often a superficial biopsy is submitted with a provisional diagnosis of erythema induratum or erythema nodosum, diseases in which the diagnostic histologic abnormalities are largely confined to subcutaneous fat.

PERFORMING THE BIOPSY

The area to be biopsied is first cleaned with an antiseptic solution and a sterile solution of xylocaine is then injected into the subcutaneous tissues. Local anesthetic agents containing epinephrine may be used in highly vascular areas such as the scalp but are best avoided in areas where vasoconstriction can cause local tissue necrosis, e.g., in the fingers, toes, penis and ears. A 25-gauge needle is suitable and is inserted subcutaneously at the site of the area to be biopsied. The needle is then progressively advanced so the whole biopsy site can be undermined by a bleb of local anesthetic. No attempt is made to inject the anesthetic solution directly into the dermis of the region to be biopsied or excised, since this may distort the histologic appearance of the tissue sample. Three instruments are generally used for removing the biopsy: the punch, the scalpel, and the curette.

1. Punch Biopsy

A cylindrical hollow punch either 3 or 4 mm in diameter is applied to the area to be biopsied, and with a firm to-and-fro motion the cutting edge of the instrument is advanced until it has penetrated the dermis. The incised cone of skin must then be elevated gently by using either the point of a hypodermic needle or else by very gentle application of fine forceps to the underside of the dermis at the edge of the cone. Using a pair of iris scissors, one can undermined the cone quite simply and remove it by snipping-off its slender base. It is very important that forceps should not be applied directly to the center of the cone of skin because mechanical force applied to the unfixed tissue produces marked distortion which will hinder the histological interpretation and occasionally lead to gross errors in the microscopic diagnosis.

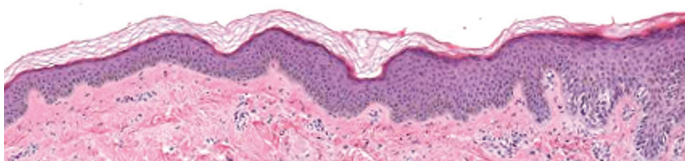
2. Excisional Biopsy Using a Scalpel

An alternative method of biopsy is to remove an ellipse of skin with the use of a scalpel. Again, great care must be taken not to apply forceps to the actual lesion that is being removed for histologic examination. As in the case of all other surgical incisions, the biopsy ellipse should be made parallel to the crease lines of the skin. In order to complete the biopsy incision so as to remove small skin lesions, a fine pair of iris scissors is sometimes preferable to the scalpel.

3. Curettage

The curette is frequently used to remove seborrheic keratoses, actinic keratoses, and basal cell carcinomas. The distorted material that is obtained using this technique is adequate for histopathologic confirmation of the diagnosis; however, this method is not suitable for obtaining a biopsy sample for the purpose of histologically diagnosing an inflammatory dermatosis such as psoriasis or lichen planus, for example.

SPECIMEN PRESERVATION, REQUISITION AND IDENTIFICATION



All biopsy specimens should be placed into 10% neutral buffered formalin solution immediately after removal. While immersed in an appropriate volume of fixative solution, tissues can be preserved almost indefinitely and will not be damaged by movement or mailing. In the winter, if the specimen is liable to be frozen during transportation to the laboratory, a special fixative containing a mixture of formalin, glacial acetic acid and ethyl alcohol must be employed. Last (but not least), a brief clinical summary as well as information regarding the anatomic site of the biopsy should be provided on the requisition form, and both the patient's name and the anatomic site of the biopsy should be written on the label attached to the bottle that contains the biopsy. These measures are crucial in preventing any potential mismatching of specimens and in enabling the pathologist to arrive at an accurate and clinically useful histologic diagnosis.

Requisitions and containers with fixatives are available from LifeLabs.

Author: Dr. Henry Jakubovic, MD, FRCPC is a dermatopathologist for LifeLabs and pathologist and dermatologist at St. Michael's Hospital. He is also Assistant Professor in Laboratory Medicine and Pathobiology, University of Toronto.

TESTING FOR *CHLAMYDIA TRACHOMATIS* AND *NEISSERIA GONORRHOEAE:* NUCLEIC ACID AMPLIFICATION TECHNOLOGY UPDATE PLANNED FOR 2011

In 2011, LifeLabs will implement a change in amplification technology currently used for detection of *Chlamydia trachomatis* and *Neisseria gonorrhoeae*.

Optimal specimen types are first catch urine for males and endocervical swabs for females. Other acceptable specimens include urethral swabs for males and vaginal swabs or urine for females.

The new methodology will still be a nucleic acid amplification test. The change in methodology does however require a change in collection devices. Process planning to facilitate exchange of current swabs with replacement swabs required by the new technology is in development.

Additional client communications in the New Year will provide you with the exact time and process for implementation.

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CHANGES IN OMEGA FATTY ACID TESTING: OMEGA SCORE™ FOR OMEGA-3 STATUS

Uncover the hidden risk for cardiovascular disease (CVD)

Effective **December 1, 2010**, a change in specimen type and result reporting for Omega Fatty Acids will be implemented. After this date, the analyses will be completed on whole blood specimen using gas chromatography-mass spectrometry (GC-MS).

Omega-3 Fatty acids summary

The fatty acids in biological tissues play an important role in regulation of blood pressure, lipid levels, inflammation, blood clotting, immune response and cell function. The body is able to produce most of the fats it requires with the exception of two essential fatty acids, Alpha-linolenic acid (omega-3) and Linolenic acid (omega-6).

The long-chain omega-3 polyunsaturated fatty acids, Eicosapentaenoic acid (EPA), Docosapentaenoic acid (DPA) and Docosahexaenoic acid (DHA) are introduced to the body from dietary sources including fish oils and some nut oils. They have been identified as independent risk factors for cardiovascular disease (CVD).

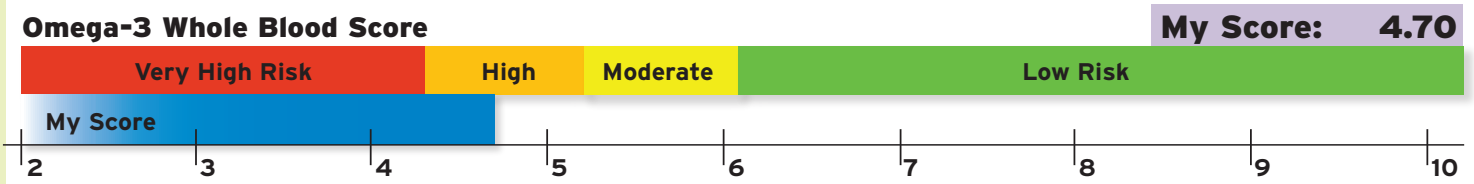
Measurement of the *Omega-Score™* includes the "Omega-3 whole blood score" (EPA + DHA + DPA) as an estimator of sudden cardiac death and the "Omega-3 index" (EPA + DHA) which is a predictor of patients at risk for cardiovascular disease. Published data supports use of omega-3 as modifiable risk factor in terms of primary and secondary prevention of CVD.

Levels of omega-3 fatty acid vary as a function of diet, BMI and gender.

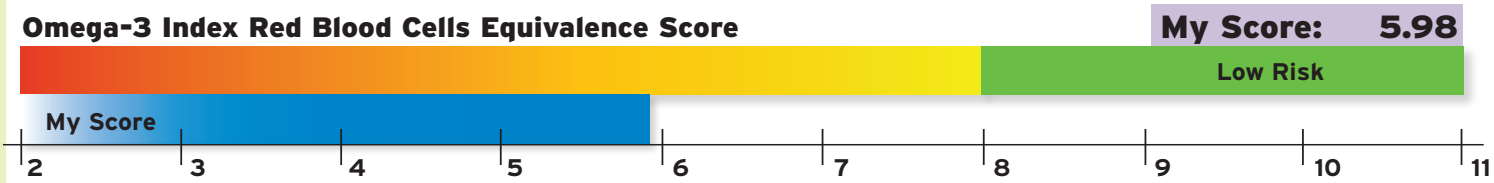
How are Omega-Score™ results reported and interpreted?

The relative concentrations of EPA, DPA and DHA are presented as % weight of the total fatty acid content. The omega-3 whole blood score (vs. total fatty acids) and omega-3 index (vs. total fatty acid in the RBC) are calculated and presented on the report.

The individual's Omega-3 Whole Blood score can be compared to the following graphic. Patients with an Omega-3 whole blood score in the highest quartile (6.1%-10.2%) are associated with an 80% lower risk of sudden death due to CVD compared to individuals with whole blood scores in the lowest quartile (2.1%-4.3%). [1]



Similarly, the following colour chart facilitates interpretation of the Omega-3 index. Patients with an Omega-3 Index RBC equivalence score between 8%-11% appear to have superior protection against sudden myocardial infarction. [2, 3]



Specimen Collection

A lavender top (EDTA) tube should be collected and transported to the laboratory at room temperature as soon as possible. Fasting is not required. A turnaround time of 10 business days may be expected.

To request this test for your patient, please record *"Omega Score"* in the "other tests" section of the OHIP requisition.

The Omega Score™ test is not OHIP insured and partients will be billed for the test. Some or all of this cost may be covered by supplemental health insurance plans.

REFERENCES

1. Albert, CM *et. al.* Blood levels of long chain n-3 fatty acids and the risk of sudden death. New England Journal of Medicine, 2002: 346(15); 113-1118.
2. Harris, WS and von Schacky C. The omega-3 index: a new risk factor for death from coronary heart disease? Preventive Medicine 2004: 39(1); 212-220.
3. Harris WS The omega-3 index as a risk factor for coronary heart disease. Am. J. Clin. Nutr: 2008: 87 (6); 1997S-2002S.