MEMORANDUM

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To: All Primary Care users
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Subject: Vitamin testing (Vitamin D, B12 and Folate)
Date: *13th December 2022*

Urgent ☐ For Information √ Please comment ☐ Please reply ☐

If you have any further queries, please contact the department or the number inserted above.

Dear Colleagues,

We announce below a change to testing, for **Vitamin D, B12 and Folate** aimed at encouraging the judicious and appropriate use of these expensive and resource intensive tests. This change is particularly necessary against our year-on-year increase in the volume and complexity of patients and associated test volumes (76% in 5 yr from 2016) for which laboratory resource and capacity cannot sustain. In 2019, we piloted a process to help encourage appropriate B12 and Folate testing and we will now be applying the same process for Vitamin D testing. Vitamin D testing has received much attention especially in the Covid era and a causal relationship between low vitamin D status and increased risk and severity of Covid-19 infection, further justify the national recommendation for Vitamin D supplementation in Ireland, notwithstanding widespread deficiency across the Irish population, especially during the winter months, and the consequent significant adverse health effects. However, there is no such recommendation for accompanying Vitamin D testing. In general, asymptomatic, at-risk people should be prescribed supplements without testing. Vitamin D testing is also considerably more expensive than vitamin D supplementation!

The current **indications** for Vitamin D, B12 and Folate are enclosed overleaf and upon any such requests from **19th December** we encourage use of the relevant **Vitamin clinical indication form**. This will be the subject of audit from which process review and mandatory use of such forms will take effect for all such testing.

Vitamin clinical indication forms are available from the hospital website (www.mater.ie/healthcare-professionals/gp-referrals/, select "Pathology/Blood Tests" and scroll down to form, click and download).

We ask that you will support this necessary change of practice, to enable appropriate testing and help release laboratory resource and capacity to support all growing clinical activity. Please contact the laboratory as above if you wish to discuss any of the aforementioned changes.

1. Joint Committee on Health Report on addressing Vitamin D deficiency as a public health measure in Ireland April 2021

Guide to Vitamin D Testing (and Retesting)

Routine **vitamin D "testing", ("health") screening** (or other screening e.g. "tiredness") **is NOT indicated for asymptomatic individuals**, including those with risk factors (only). Hypercalcaemia due to Vitamin D toxicity is very rare, therefore testing should NOT be considered initially but only after excluding other more common causes.

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Routine **vitamin D "retesting"** (repeating/monitoring) is generally not required before or after starting supplementation. e.g. low dose vitamin D treatment. Monitor with serum calcium e.g. at 1 month after loading doses. For patients on high doses, patients should be checked at ≥12 weeks (and not earlier) after commencement, to assess response to treatment. Once corrected, monitoring may be advisable thereafter at 1 year for the groups indicated below.

Appropriate Indications for vitamin D testing (adults, non-pregnant) include:

Metabolic Bone Disorders (where outcomes can be improved with vitamin D treatment):

- Osteoporosis, osteopenia, low bone density, rickets or osteomalacia, Paget's disease
- Before commencing anti-resorptive treatment for osteoporosis (obtain baseline calcium). Note: Correction of vitamin D deficiency is required before such treatment, to avoid hypocalcaemia.
- Hyperparathyroidism (any type)
- Low trauma/pathological fractures
- Unexplained low calcium, raised ALP (hyperphospatasaemia) or persistently low fasting phosphate.

Patients with other relevant clinical conditions that could be attributed to or lead to vitamin D deficiency:

- Proximal myopathy (quadriceps and glutei) or clinically significant muscle weakness (i.e. difficulty climbing stairs, waddling gait, difficulty rising from a chair)
- Older adults with a history of falls
- Malabsorption due to any cause e.g. coeliac disease, inflammatory bowel disease, short bowel syndrome, chronic pancreatitis, gastrectomy, bariatric surgery, cystic fibrosis)
- Chronic Kidney Disease, Nephrotic syndrome
- Hepatic failure
- Chronic inflammatory or granulomatous disorders (e.g. rheumatoid arthritis, sarcoidosis, TB)
- Drugs: cholestyramine, rifampicin, glucocorticoids, anticonvulsants, antiestrogens, antiretrovirals, antifungals.

Other appropriate indications include:

- Pre-surgery in patients undergoing thyroidectomy
- Patients with multiple sclerosis (initial diagnosis)
- Patients with melanoma (initial diagnosis)
- Clinical features (e.g. myopathy/weakness [as above], bone pain/tenderness, swelling, tenderness and redness at pseudo-fracture sites, myalgia ([non-specific with raised CK] or myalgia if on statin) AND the following risk factors:
  -Black and minority ethnic patients with darker skin
  -Routine covering of face or body or habitual sunscreen use
  -Elderly patients in residential care or housebound
  -Vegetarian or vegan diet
  -Obesity (BMI>30)
  AND other causes of symptoms have been excluded e.g. myeloma, polymyalgia rheumatica and hypothyroidism

Routine Retesting (Monitoring) of Vitamin B12 for those on parenteral treatment or folate supplements is usually not necessary unless FBC parameters or neurological features fail to improve.

Appropriate indications for Vitamin B12 and Folate testing include:

Which patients to test?

- Patients with unexplained **haematologic** abnormalities:

>unexplained anaemia/other cytopenias, unexplained macrocytosis and haemolysis

- Patients with unexplained **neurologic** abnormalities:
- sub-acute combined degeneration of the cord, peripheral neuropathy, dementia, unexplained neuropathy/neurology, paraesthesia, numbness and gait problems.
- Patients with existing **malabsorption** conditions (due to GI disease or surgery) or features thereof e.g. pale stool,
- Patients **diet** poor in vitamin B12 and/or folate (long term strict vegans, vegetarians, elderly ["toast and tea" diet], anorexia and alcoholism).
- Patients on long term **drug therapy** (>6 months) that affect vitamin B12 absorption (e.g. Metformin, Anti-histamines and proton pump inhibitors) or folate absorption (Anticonvulsants, Methotrexate)
- Patients with **increased requirement** e.g. Pregnancy, peripheral red cell destruction, abnormal haemopoiesis, haemolytic anaemia or thrombocytopenia.
- Patients on **dialysis** (serum folate pre-dialysis only)
- Patients with other supportive signs e.g. glossitis or mouth ulceration