Memorandum

To :	All GPs
From :	Dr Graham Lee Consultant Clinical Biochemist/UCD Assistant Clinical Professor Department of Clinical Biochemistry & Diagnostic Endocrinology Mater Misericordiae University Hospital (MMUH) and Cappagh National Orthopaedic Hospital, Dublin Midland Regional Hospital, Mullingar University College Dublin Helen Corrigan Chief Medical Scientist, Clinical Chemistry Dept. MRH, Mullingar
Date :	23rd January 2017
Subject :	Re: vitamin D testing and retesting at MRM Mullingar

Dear Colleagues,

For all vitamin D requests, effective as of **Wednesday 1st February 2017**, we ask that you enclose a completed "**Vitamin D Clinical Information form**" with each patient's sample. This will be a **mandatory** requirement as of **6th March 2017,** in line with national pathology guidance. From 6th March 2017 onward, if samples are received either without ALL requisite details or the form is not enclosed, a report will be issued to the requesting clinician with appropriate advice and instruction. Accordingly, the sample will be retained for 2 weeks from the date of collection. During this time the sample will be analysed ONLY upon receipt of such details by the laboratory OR following communication with the Consultant Clinical Biochemist, otherwise the sample will be discarded without analysis.

Our **requests** for vitamin D have **doubled in 1 year** but without a commensurate change in patient numbers or case mix. Please note the appropriate indications for vitamin D testing (adults, non-pregnant) as shown in **Figure 1** overleaf. In brief:

Testing: Vitamin D testing is indicated for the investigation and management of patients with Metabolic Bone Disorders (primarily) OR conditions that could either be attributed to (e.g. proximal myopathy) or cause vitamin D deficiency e.g. CKD, malabsorption etc#(see overleaf). **Routine vitamin D testing, ("health") screening** (or other screening e.g. "tiredness") **is NOT indicated for asymptomatic individuals**, including those with risk factors (only); if the latter have clinical features of deficiency, testing should only proceed if other causes have been excluded (e.g. myeloma etc.). Hypercalcaemia due to vitamin D toxicity is very rare, therefore testing should NOT be considered initially.

***Retesting (Monitoring)*:** This is generally not required e.g. low dose vitamin D treatment. Monitor instead with serum calcium e.g. at 1 month after loading doses. For patients on high doses, vitamin D 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 above groups).

We ask that you will support this necessary change of practice, to enable appropriate vitamin D testing, reduce medicalization of otherwise healthy individuals, and enable concomitant overall use of hospital and laboratory resource. If you wish to discuss this change further please use the contact details listed below.

Yours Sincerely,

Dr Graham Lee: glee@mater.ie, Telephone: 0353 01 8034983
Helen Corrigan: Helen.horrigan@HSE.IE Telephone: Tel: 00 353 44 9394328
Clinical Chemistry Dept., MRH, Mullingar 044 9394328

[#]In the past decade, awareness of Vitamin D has escalated across the health sector to patients and the general public, with purported clinical relevance beyond calcium and phosphate metabolism to a myriad of non-musculoskeletal processes and conditions (Immunity, Inflammation, Asthma, MS, IBD etc). The current evidence base for vitamin D and non-musculoskeletal health outcomes is mainly observational, with possible findings of reverse causality (consequence) and findings from RCT which are inconsistent. Consequently, Daily Recommended Values for treatment are currently ONLY related to musculoskeletal health outcomes. Testing should be reserved for the investigation and management of patient groups as defined above (Figure 1 overleaf), including those with metabolic bone disorders (primarily) where outcomes can be improved with vitamin D treatment.

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.

.

Routine **vitamin D "retesting"** (repeating/monitoring) is generally not required 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