

# Evaluation of Vitamin D Requesting in Primary Care

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## Audit

### Aim:

To assess whether vitamin D requesting in primary care follows the local guidelines.

### Standards / Guidelines:

#### Criterion 1:

100% of patients must:

- Be symptomatic for vitamin D deficiency
  - Have a clinical condition pre-disposing to vitamin D deficiency
  - Have biochemistry suggestive of vitamin D deficiency
- OR
- Follow-up of patients after high dose vitamin D supplementation

#### Criterion 2

All asymptomatic at-risk populations should not be tested and should be given standard dose treatment.

#### Criterion 3

All asymptomatic low risk populations should not be tested.

### Method:

Retrospective data collected from 01/04/19 to 31/03/20. 20 random requests from each month were audited using available data from trust IT systems.

### Summary of results:

73% of requests did not fulfil criterion 1.

>50% of those tested should have been given standard supplementation without measurement. However, 22% of these needed high dose supplementation.

Our data agreed with the UK literature showing an overall prevalence of vitamin D <25nmol/L of ~1 in 5.<sup>1</sup>

78% of those with vitamin D <25nmol/L would not have been tested had the guidelines been followed.

## Discussion

### Are the guidelines fit for purpose?

#### Background

The current guidelines originate from NICE guidance.<sup>2</sup> These are consistent with the Royal Osteoporosis Society 2019 guidelines.<sup>3</sup>

Current advice is for at risk groups to be encouraged to take vitamin D supplementation year round, while the rest of the population should take vitamin D supplementation during the winter months.

However there is evidence that this is poorly complied with, with less than 20% taking vitamin D supplementation, even in the high risk groups.<sup>4</sup>

Currently there is evidence to suggest that adequate vitamin D levels helps prevent osteomalacia and rickets. There has been increased interest in vitamin D and its possible association with a variety of conditions, including immune function. However the evidence remains controversial.

#### Discussion

Vitamin D requesting is often a target for demand management in the laboratory services, due to presence of clear guidelines, and cost.

However, our data was concerning in that there was no

significant difference between patients meeting guidelines versus patients who met the criteria for testing ( $p=0.44$ ). Also of note, 62% with severe deficiency were at-risk but apparently asymptomatic, showing possible limitations of the use of symptoms and non-vitamin D biochemistry for the identification of likely vitamin D deficiency.

#### Further actions

The greatest limitation of this audit was the robustness of clinical data available. It may be there were merely insufficient clinical details on the request forms, influencing results.

In collaboration with GP colleagues, we have set up a pilot project in 3 GP surgeries to use drop down menus when requesting vitamin D. This will allow us to capture more reliable data on why vitamin D is being requested in primary care, facilitating further data collection

This will add to the evidence and determine whether the current guidelines for vitamin D requesting should be challenged.

#### References

- 1) Roberts C, Steer T, Maplethorpe N et al (2018) *National Diet and Nutrition Survey Results from Years 7 and 8 (combined) of the Rolling Programme (2014/2015 to 2015/2016)*.
- 2) <https://cks.nice.org.uk/topics/vitamin-d-deficiency-in-adults/diagnosis/diagnosis/> accessed 13/9/21
- 3) <https://www.guidelines.co.uk/musculoskeletal-and-joints/ros-vitamin-d-and-bone-health-guideline/454558-article> accessed 13/9/21
- 4) Buttriss, J. L., and S. A. Lanham-New. "Is a vitamin D fortification strategy needed?." *Nutrition Bulletin* 45.2 (2020): 115.