

Biotin: Potential for interference in Immunoassay tests

In the last few months there has been increasing awareness of the potential for biotin to interfere with certain immunoassay tests. Biotin (vitamin B7) has long been a component of multi-vitamin supplements but has gained recent popularity in supraphysiological doses (>5 mg/day) as a cosmetic aide (purported to improve hair and skin growth) and as a potential treatment for multiple sclerosis. Patients with inborn errors of biotin metabolism and/or recycling are also likely to receive high dose biotin therapy.

The majority of immunoassay tests in use in NHS Lothian should not be affected by biotin interference, but some are at risk. The degree of interference is both assay and dose dependent, and the diagnostic manufacturer (Roche) makes a specific recommendation that any patients taking a biotin dose >5 mg/day should not have blood taken for at least 8 h post dose. This may not be adequate for patients on the highest doses (100-300 mg/day).

Locally, if there is any concern over result reliability, please discuss this with the endocrine biochemist (0131 242 6880) who can arrange for consistency checking using an alternative assay.

Tests likely to be falsely **elevated** with biotin interference:

TSH Receptor Ab (TRAb)

Thyroglobulin Ab (TgAb; *post* change to Roche method end of 2018/early 2019)

Tests likely to be falsely **decreased** with biotin interference:

Parathyroid hormone (PTH)

Adrenocorticotrophic hormone (ACTH)

Growth hormone (GH)

Anti-mullerian hormone (AMH)

Thyroglobulin (Tg; *post* change to Roche method end of 2018/early 2019)

For those that currently work in other health regions or undertake outreach clinics please note that this applies in NHS Lothian only, and other centres may be more greatly affected.

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