

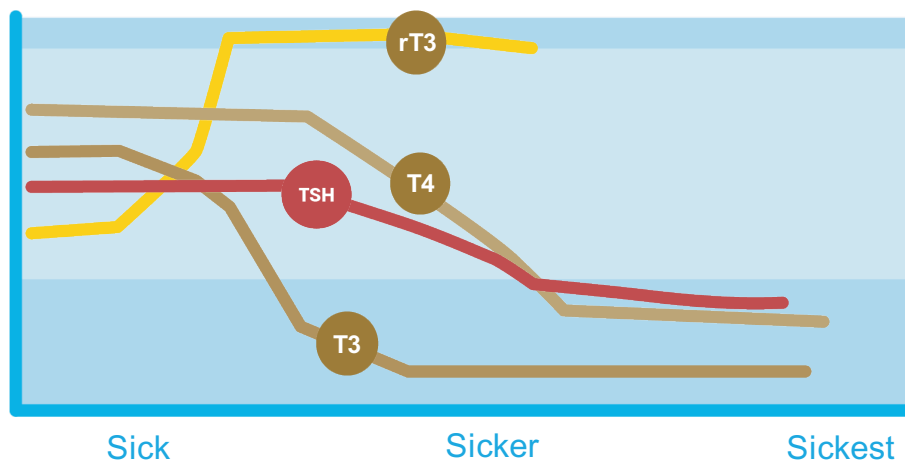
# OTHER CAUSES OF ABNORMAL THYROID LAB VALUES

## Diagnosing non-thyroidal illness

*Critical illness can affect thyroid function through several mechanisms:*

- Inhibition of type 1 deiodinase, which prevents conversion of T4 to T3, leading to low T3 levels and higher rT3 levels.
- Decreased hypothalamic activity, which leads to decreased TSH levels and decreased stimulation of thyroid hormone production, with low TSH, T4 and T3.
- Impaired thyroid binding protein production, which leads to lower total thyroid hormone levels.

*The changes in thyroid labs varies with worsening illness:*



### Further reading

Tibaldi JM and Surks MI. Effects of nonthyroidal illness on thyroid function. *Medical clinics of North America*. 1985. 69(5):899–911.