Non-thyroidal illness (NTI)

Synonyms are: low T₃ syndrome, sick euthyroid syndrome. This syndrome may occur in patients with a higher or more severe basic disease, hepatitis or renal disease, after surgical interventions, or in individuals under stress or starvation. It has also been observed in connection with certain drugs (e.g. amiodarone, glucocorticoids, d-propanolol, very high doses of propylthiouracil) and after application of different iodine-containing contrast media (see iodine-containing drugs). Data about the influence on basal or TRH-stimulated TSH values see TSH - values in NTI and table below by Docter et al., Clinical Endocrinol 1993; 39: 499). Thyroid parameters return to normal after the elimination of extrathyroidal disease or other extrathyroidal conditions. According to current opinions, sick euthyroid syndrome is a protective mechanism of the body. Thyroid-specific therapy is not indicated.

Typical laboratory constellations in NTI are:
1. Isolated high T₄ syndrome (see fT₄, TT₄)
2. Low T₃ syndrome (fT₃, TT₃): Decreased T₃ values are accompanied by increased rT₃ values (exceptions are patients with renal disease, cerebral trauma, acquired immune deficiency syndrome (AIDS)).
3. Low T₃ low T₄ syndrome, see also classification of non-thyroidal illness.

The causes of changes in T₄ (fT₄, TT₄), T₃ (fT₃, TT₃), and TSH values in this syndrome are manifold, complex, and not yet completely clear. New findings on this topic have recently been published by Hennemann et al. (Clinical Endocrinology 1998; 48: 1-8).

Also see:
Classification in non-thyroidal illness
TSH values in non-thyroidal illness.