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## Endocrine aspects of obesity in men: New links and consequences

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**E**pidemiological studies in last ten years have shown that 30-50% of obese men have lower testosterone levels for age. Pathophysiological mechanisms of so called dysmetabolic hypogonadism are complex and they involve cytokine (TNF, IL 1, IL 6) and adipokine (leptin) secretion, insulin resistance, abnormal turnover of many hormones due to an endocrine axis changes (GHRH-LH-testosterone, GH-IGF-1, TSH-T4,T3, ACTH-cortisol) and obstructive sleep apnea with disturbed REM sleep phase. Low testosterone level causes body composition changes with higher total body fat percentage and loss of muscle mass. High body fat worsens insulin resistance which increases weight gain and obesity, creating a vicious cycle. Consequences of low testosterone level in obese men are higher risk of type 2 diabetes, metabolic syndrome and cardiovascular diseases, cancer, infertility, erectile dysfunction, bone loss, bone marrow changes depression, alzheimer's disease and higher overall mortality. The dilemma is whether to treat these patients with hormone replacement therapy or not. Recent studies have

shown positive results in metabolic response such as better lipid status and increased insulin sensitivity, weight loss and body composition changes with a decrease of fat mass and increase of muscle mass in patients treated with testosterone replacement therapy. Further studies are required to prove if this kind of treatment decreases mortality risk.

### Biography

Nevena Ilic has completed her Sub Specialization in Endocrinology at Belgrade University Medical School in 2009 and Master's Degree in Thyroid Diseases in Italy 2014. She completed Internal Medicine Specialization at Military Medical Academy Hospital, Belgrade in 2002. Since 2014 she works as Prime Endocrinologist at Euromedik General Hospital, Belgrade where, she organized endocrinology service and several symposiums in Belgrade and Rome where she was a speaker. She spoke at several international congresses. She has published 23 papers in reputed journals. She is a member of European and Italian Endocrinology Society.

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