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#### The hypothyroidism conundrum in thought bubbles

Hypothyroidism is common and affects one in seven patients over the age of 50. The standard treatment is thyroxine (T4) therapy which restores health to the majority of patients. But a subgroup, estimated variably to be 5% to 20% of all hypothyroid patients, continue to experience distressing symptoms despite having normal T4 and TSH levels. These cases represent the conundrum of hypothyroidism.

Some of these patients show delayed relaxation of tendon reflexes, a positive Woltman's sign as usually seen in florid hypothyroidism. They will respond dramatically to combination therapy, that is the addition of low-dose triiodothyronine (T3). These patients should be categorised as having 'T3-hypothyroidism'.

Another subset of dissatisfied hypothyroid patients shows predominantly autoimmune symptoms. These include fatigue, reduced quality of life, cognitive difficulties or 'brain fog', depression and anxiety, generalized aches and muscle pain. They have elevated anti-TPO antibodies and they will respond to total thyroidectomy. The non-surgical treatment of this set of patients requires urgent research. They could be called patients with 'anti-TPO-toxic hypothyroidism'.

By exclusion, the third group has symptoms of psychogenic or psychosomatic origins. These patients require support, counseling, and even cognitive behavioural therapy. They could be identified as having 'hypothyroidism-in-denial'.

Future guidelines must include recognition of these subgroups. Importantly, it is time for clinicians to resume testing reflexes in their hypothyroid patients.

#### Biography

Prof. Timothy Alexander Welborn AO is a renowned Australian endocrinologist with extensive expertise in diabetes, obesity, metabolism, and cardiovascular risk. He is Clinical Professor of Medicine at The University of Western Australia and Emeritus Consultant Endocrinologist at Sir Charles Gairdner Hospital. Throughout his distinguished career, he has made significant contributions to diabetes research and public health through major epidemiological studies, including the Busselton Health Study and the Australian Diabetes, Obesity and Lifestyle Study (AusDiab). A former President of the Australian Diabetes Society, Prof. Welborn was appointed an Officer of the Order of Australia (AO) in recognition of his outstanding contributions to medicine, diabetes research, and healthcare in Australia.