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### **T3 Thyroid Hormone to Treat Depression**

If you are tired or depressed much of the time, your doctor will order blood tests for the two thyroid hormones called T3 and T4 and for the brain hormones called TSH and prolactin. If your TSH is high and your prolactin is normal, you are probably hypothyroid and need to take thyroid hormone to give you more energy and prevent heart and blood vessel damage.

Doctors treat people with low thyroid function with thyroid pills called T4 (Levothroid, one brand name is Synthroid). Many doctors think that a person needs only T4 because the thyroid gland makes T4 and then it is converted to T3 in other tissues. However, some people become depressed when they take just T4 and their depression can be cured when they take both thyroid hormones, T3 and T4.

When a depressed patient comes to me and is taking thyroid hormone, T4, I immediately order a blood test called TSH to check if he or she is getting the correct dose. If the TSH is normal, I reduce the dose of T4 by 50% and add a very low dose of T3 (brand name, Cytomel) because it safer to prescribe too low a dose, rather than too high a dose. Overdoses cause shakiness, irritability, irregular heart beats, clots, and osteoporosis. The patient returns in one month for a blood test, TSH, to see if the total thyroid dose is correct. If the TSH is too high, the thyroid dose is too low and I raise the T3 (Cytomel) dose by 5 to 10 m5 each month until the TSH is normal. Then once a year I check TSH blood levels to make sure that the person's requirements for thyroid hormone are being met.

For example, the usual replacement dose for low thyroid function is 100 micrograms per day. If a depressed patient has a normal TSH, I reduce the T4 dose to 50 mcg/day and add 5 mcg of T3 per day. One month later, if the TSH blood is still too high I raise the T3 dose to 10 or 20 mcg and continue to increase the T3 level each month until the TSH is normal.

Exciting research shows that the thyroid hormone called T3 can help treat depression (1,2,3). Psychotherapy often fails to control depression. Sigmund Freud, the father of psychotherapy, proposed theories about depression, that many psychiatrists do not accept because his writings were his opinions and not presented as scientific data supported by controlled experiments. The dominant theory today is that depression is caused by low brain levels of the neurotransmitters, serotonin and norepinephrine. The drugs such as Paxil, Prozac and Zoloft that treat depression are supposed to raise brain levels of these neurotransmitters. Doctors can also raise brain levels of serotonin by prescribing pills containing T3, a hormone produced by peripheral tissue from T4, which is produced by the thyroid gland. (1) They also prescribe T3 by itself or together with antidepressants. Depression is common among people who have too much or too little thyroid hormone. Doctors usually treat low thyroid function with T4 also known as Levothroid and many people become even more depressed. They treat this depression by prescribing T3 as well as T4.

An article in the Journal of Clinical Psychiatry shows that T3 can be used to treat post traumatic stress disorder, commonly seen in soldiers and people who have been through other causes of terrible emotional trauma (13).

Try to balance T3 and T4 so you will not be taking too much thyroid and harm yourself. 1)If you now take 100 mcg of Levothroid (T4): 2) Lower T4 (Levothroid) to 50 mcg and add Cytomel (T3) 5 mcg each day. 3) One month later, have your doctor draw blood for TSH. 4) If it is normal, you are on the correct dose and should get blood tests TSH once a year. 5) If TSH is too high, increase Cytomel to 10 mcg and hold Levothroid at 50. 6) Draw monthly TSH until it is normal. Keep on raising Cytomel by 5 mcg until TSH is normal.

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