



TM Frequently Asked Questions

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What is TM?

TM (tetrathiomolybdate) is a drug that has been studied over the last 11 years, and found to stabilize the growth of various cancers. It is felt that copper is involved in turning on the process of "angiogenesis" (growth of new blood vessels) which cancerous tumours depend on for growth. TM works by removing copper from the body, preventing tumours from forming blood vessels, and stopping their growth.

Does it really work?

Researchers at the University of Michigan "successfully stopped the growth and spread of cancer by depriving the tumors of the copper supply they need to form new blood vessels" (*Clinical Cancer Research, Vol 6, 1-10, Jan 2000*).

In this preliminary human study, TM was used to treat patients with several types of cancer (melanoma, angiosarcoma, nasopharyngeal, kidney, breast, colon, lung, prostate, and pancreas). The treatment was successful in lowering the copper levels in 6 out of 18 patients (33%). From those 6 patients, 5 patients (28%) had no tumor growth or new tumors for over 4 months (the duration of the study).

Other preliminary research also shows that TM may enhance the effects of chemotherapy (*Neoplasia 4(2):164-70, Mar-Apr 2002*) and radiation therapy (*Molecular Cancer Therapeutics, Vol 2, 617-622, July 2003*).

One human study was done at the University of Michigan with TM in liver cancer. They enrolled 13 patients with hepatocellular carcinoma. Four patients completed 5 months of treatment (30%). These patients had reduction or stabilization of AFP (tumour marker), and also a reduction of vascularity (blood supply) in the tumours.

Is it safe?

TM has been used in humans to treat a disease of copper excess called "Wilson's disease", and found to have some mild side effects. TM is likely safe to use in cancer patients, based on preliminary human research (noted above), provided it is used under close medical supervision.

TM can cause the body's copper level to go too low resulting in low white and red cell counts (temporary). This can cause fatigue, dizziness, and susceptibility to infection. Low cell counts can be rapidly corrected by adjusting the dose of TM. Other known side effects include bad breath, diarrhea, and rash. In our experience, mild drops in cell counts are common, and most patients have little or no side effects from the drug itself.

Patients who receive TM must be closely monitored for drug side effects with routine check-ups and comprehensive lab tests.

Why is TM not being used more?

Until TM clears Phase 3 trials, it will not be routinely available for prescribing. Presently, there are no Phase 3 TM trails. Also, the TM itself is an unstable chemical with a very short shelf life unless correctly prepared. Most pharmacies are not equipped to properly prepare, store, and dispense TM. Proper TM capsule formulation requires thorough research of TM preparation techniques and the assistance of a licensed compounding pharmacist who has all the necessary special equipment available.

Do I qualify for TM treatment?

Patients with a documented diagnosis of cancer (any type) under the following categories qualify for treatment:

- a. failed conventional, scientifically proven treatments
- b. told by their doctor that there is no safe or effective treatment for their cancer
- c. waiting to start conventional treatment, and would like to do something in the interim
- d. treated for cancer, and would like to prevent recurrence

Presently, there is some evidence that TM can enhance the beneficial effects of chemo or radiation. For patients who wish to combine TM with these conventional therapies, please ask your oncologist to review the literature posted on our website. There is additional risk of low cell counts if TM is combined with chemotherapy.

What is the duration of treatment?

In order to determine if TM is effective in treating your cancer, we recommend at least 3 months of treatment. If a patient responds to the drug, their therapy may continue indefinitely.

I have heard TM is cheaper at some pharmacies, why is that?

The cost of *raw TM powder* is cheaper than the cost of TM capsules. TM cannot be safely consumed in this form, and will not be effective. Note that TM should not be formulated by simply inserting TM powder into capsules, as this inferior method results in a short shelf life. We are aware of several pharmacies using this method.

Medicor's partner pharmacy produces TM which has a higher cost because:

- it is pharmaceutical grade, and of very high purity (99.98% pure)
- the costs of special storage and compounding are included (storage in an oxygen-free environment is necessary to maintain the purity of TM and preserve the shelf life)

Note that due to the special compounding techniques of Medicor's partner pharmacy, the TM produced at other pharmacies is not equivalent, and is therefore not interchangeable. Other TM capsules are likely weaker (even though the capsules are labeled as the same strength).