



PATIENT & CAREGIVER EDUCATION

Metabolic Therapies

This information describes the common uses of Metabolic Therapies, how it works, and its possible side effects.

Tell your healthcare providers about any dietary supplements you're taking, such as herbs, vitamins, minerals, and natural or home remedies. This will help them manage your care and keep you safe.

What is it?

Metabolic therapies do not treat or cure cancer.

Cancer is caused by a combination of genetic and environmental factors. However, most people who promote metabolic therapies stress the environmental component, claiming that cancer is caused by an accumulation of toxins from sources such as food additives, preservatives, pesticides, and industrial pollution. The removal of these toxins through bowel purging and a healthy diet, they claim, allows the body to heal naturally.

Although diet may play a role in cancer prevention and it is true that some cancers are associated with environmental exposures, there are no data to show that toxins can be removed to change the course of cancer. In addition, some aspects of metabolic diets can be harmful. For example, (1) the Gerson regimen restricts diet to an unhealthy point and can cause nutritional deficiencies, (2) over-supplementation in such diets has led to toxicity and hospitalization, and (3) animal extracts were found to be contaminated.

Coffee enemas are also used in several metabolic therapies. There are theories about coffee enemas aiding excretion from the liver and colon, but none of them have been proven. In addition, coffee enemas can cause electrolyte imbalances in the blood, impaired nutrient absorption, inflammation of the colon, and abdominal pain.

What are the potential uses and benefits?

- **To detoxify the body**

Evidence is lacking to support this claim.

- **To prevent and treat cancer**

Most metabolic therapies have not been evaluated by clinical trials. In addition, a study of patients with pancreatic cancer showed a decrease in survival time and poorer quality of life in those who took [proteolytic enzymes](#), which are often used in metabolic therapies, compared with patients who chose standard gemcitabine-based chemotherapy.

What are the side effects?

- Flu-like symptoms
- Nausea, vomiting, diarrhea
- Weakness, dizziness
- Intestinal cramping
- Fever
- Muscle aches and pains
- Rash
- Nutrient deficiencies including calcium, vitamins D and B12, and protein deficiencies
- Anemia
- Malabsorption

- **With coffee enemas:** Electrolyte imbalance resulting in serious infections, dehydration, colitis, constipation, and death. Hard enema insertion devices can rupture the colon.

Case reports

- Two people died from electrolyte imbalances resulting in seizures, coma, and death. One individual used 1–4 coffee enemas per hour for a number of days and the other used 4 per day for 8 weeks.
- Serious rectal burns in two patients following coffee enemas. Bright red blood in the stool, rectal pain, and pain with defecation resolved after stopping the enemas.
- Cases of inflamed rectum and colon after self-administered coffee enemas. Symptoms including bright red blood in the stool, a distressing but ineffectual urge to evacuate the rectum, and spastic anal and lower abdominal pain. Symptoms improved following treatment and stopping the enema.
- Rectal perforation in a 27-year-old woman following the use of coffee enemas. Symptoms improved after discontinuing the enemas.

What else do I need to know?

Patient Warnings:

- The American Cancer Society urges cancer patients not to seek treatment with potentially hazardous metabolic/nutritional therapies, including the Gerson, Manner, and Contreras regimens.
- Excessive use of coffee enemas can cause infections, dangerous electrolyte imbalances, and death, especially when combined with fasting.
- Coffee enema insertion devices should not be shared at the risk of transferring bacteria and infections.

Special Point:

Eating a balanced diet rich in fiber, fruits, and vegetables is known to be an important part of preventing disease, but there is no proof that diet or supplements can treat or cure cancer. Although controlling one's diet may create a greater sense of personal control, especially during cancer treatment, the extreme restrictions advocated by proponents of metabolic therapies can be harmful because they lead to severe nutritional deficiencies. In addition, cancer patients run the risk of abandoning effective conventional therapies when they choose to pursue alternative therapies.

If you have questions or concerns, contact your healthcare provider. A member of your care team will answer Monday through Friday from 9 a.m. to 5 p.m. Outside those hours, you can leave a message or talk with another MSK provider. There is always a doctor or nurse on call. If you're not sure how to reach your healthcare provider, call 212-639-2000.

For more resources, visit www.mskcc.org/pe to search our virtual library.

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