

**\*This test MUST be ordered by an authorized provider – we will not accept test requests directly from patients. The ordering authorized provider will be billed directly for services\***

### Urine Specimen Requirements for Trimethylaminuria (TMA) with Creatinine Testing

CPT code: 83789 and 82570

For trimethylaminuria testing, this laboratory recommends two urine specimens (pre- and post-choline load), but one post-choline specimen is sufficient:

- 1.) For a pre-choline load specimen, a volume of 1 – 5 cc of morning void urine, collected when the patient is eating an unrestricted diet and odor is present. Clearly label the container “Pre.” Acidify the specimen (if possible), freeze immediately, and store frozen until shipped with the second specimen. See shipping requirements below.
- 2.) For a post-choline load specimen, with a volume of 1 – 5 cc of morning void urine, should be collected about 12 hours after the patient has ingested choline bitartrate with a glass of orange juice or water [5 gm (5000 mg) of choline bitartrate for patients > 12 years and weighing more than 54 kg (120 lbs); 2.5 gm (2500 mg) for patients aged > 12 years and weighing 54 kg (120 lbs) or less.]. Ingestion of a choline load may cause stomach upset in some patients and is not recommended for patients age < 12 years\*. For patients in the United States, this laboratory recommends the use of choline bitartrate from Douglas Laboratories, provided in 500 mg capsules (10 capsules = 5000 mg), which is readily available at an affordable price in many U.S. stores or on the internet. Clearly label the container “Post.” Acidify the specimen (if possible), freeze immediately, and store frozen until shipping. See shipping requirements below.

Please note:

- Very dilute urines cannot be accurately tested
- Menstruating patients should avoid collection of urines during, or within a few days of, their period
- Acidification of the urines to pH = 4 is preferred, although not necessary
- Fill containers to no more than 2/3 of capacity (to account for expansion of the urines when frozen)
- Clearly label each of the specimens (and their requisition forms) “pre” and “post.”
- Freeze urines immediately after each collection and store specimens frozen until shipment. Both the pre-choline and post-choline specimens should be shipped together, frozen on dry ice.

An authorized physician's order on a test requisition form is a requirement for testing. A requisition must be completed for each individual patient sample (one for pre-choline and one for post-choline); the completed form must be enclosed with the specimens. The urine trimethylaminuria test is listed on the requisition form as “Trimethylamine [TMA] and TMA n-oxide [TMAO], urine (quantitative);” along with options to choose pre or post choline load based on sample. Please include all of your (authorized provider) contact information on the form, and include any additional contact information we may require for billing & reporting results. ***Please note that we do not provide billing directly to the patient or their insurance, all testing will be billed to the institution or physician sending the sample. Please enclose all documents in a sealed plastic bag to protect against moisture.***

**Specimens are required to be shipped overnight, frozen on dry ice, to the following address:**

**\*Please use ONLY FedEx or UPS – DO NOT SHIP VIA POSTAL SERVICE\***

Children's Hospital Colorado  
Clinical Lab – Biochemical Genetics  
13123 East 16<sup>th</sup> Avenue, LL – Rm B0200  
Aurora, CO 80045

\* For patients age < 12 years, a heavy meal of choline-rich foods may substitute for the dietary choline load described above.