

D-mannose Study

What is D-mannose? D-mannose is a naturally occurring sugar that is present in many fruits and vegetables, like cranberries, apples, and broccoli. It can also be taken as a supplement, which is widely used for the prevention of urinary tract infections (UTIs). When taken orally as a supplement, D-mannose is absorbed by the body where it is used as a nutrient by our internal organs. Ultimately, some may be filtered by the kidneys and finally excreted in the urine.

Role of D-mannose in preventing urinary tract infections In order for bacteria in the urine to cause a recurrent UTI, they need to attach to the bladder wall and be internalized; In an animal model, it has been shown that D-mannose binds to the bacteria, thus preventing their ability to attach to the bladder wall and penetrate it deeply to create chronic reservoirs of infection. Such a mechanism is probable in humans but has never been clearly demonstrated. We have developed a urine assay to measure D-Mannose in the urine (D-mannosuria) which allows us to measure the D-mannose urinary response to an oral intake of D-mannose within 1-2 hours after D-mannose ingestion.

What is the purpose of this study? Dr Zimmern is studying the amount of D-mannose recovered in the urine after you take your D-mannose pill orally. If after taking D-mannose orally, the concentration of D-mannose in the urine does not increase, it may indicate that a higher dose is needed or perhaps that D-mannose will not work for you. Once we have established the dose at which D-mannose reliably goes up in your urine, the goal of the study will be to determine if such a daily dose of oral D-mannose can be effective in preventing UTI recurrence when taken continuously over 6-12 months.

Why have you been invited to take part in this study? You have had recurrent UTIs and are willing to start, already have started, or are thinking about taking D-mannose to prevent further UTIs.

What will you do in the study? The first visit will be about an hour. We will have you bring your D-mannose pill to the office. We are not providing D-mannose in this study because there are many D-mannose products in the market and we want you to take the one that you prefer. We will record the dose of D-mannose listed on the bottle. When you arrive, you will provide a baseline urine sample and then take your usual dose of D-mannose. After an hour, you will provide a second urine sample. We will compare the concentrations of D-mannose in the urine between baseline and one hour later. If the concentration goes down or does not go up much, we will invite you to return for a second visit during which we will ask that you increase your D-mannose oral intake, and we will repeat the same urine sampling at baseline and one hour later. Ultimately, we will determine the dose of D-mannose that you need to take daily to ensure the presence of D-mannose in the urine where it is supposed to protect you from another UTI.

What are the risks of this study? D-mannose is known to be safe and well-tolerated; however, common side-effects are bloating and loose stools.