

Causes, Symptoms, Diagnosis & Treatment

 my.clevelandclinic.org/health/diseases/24171-chyluria

Overview

What is chyluria?

Chyluria (pronounced “kye-lurr-ee-uh”) is a condition in which you have chyle (“kyle”) in your urine (pee). Chyle is fluid from your lymph nodes that looks milky because fats from your intestines have mixed with it.

Your lymph vessels typically send lymph and fats to your bloodstream. Your bloodstream then transports them to different areas of your body. If your lymph vessels aren’t functioning correctly, chyle won’t reach your bloodstream because it has leaked somewhere else into your body. When it leaks into your kidneys, it leaves your body through your pee.

Chyluria may develop from parasitic causes or non-parasitic causes.

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What does it mean when your pee is milky white?

When your pee is milky white, it means chyle has leaked into your kidneys. The chyle mixes with your pee and leaves your body when you use the bathroom.

Who does chyluria affect?

Anyone can get chyluria.

You’re more likely to have parasitic chyluria if you live in or have spent time in South America, sub-Saharan Africa and Southeast Asia, especially India. The parasites that cause chyluria are more common in these areas. It typically affects people between the ages of 20 and 40. However, healthcare providers have also documented parasitic chyluria in children as young as 5.

How common is chyluria?

Chyluria is a relatively rare condition. Even in areas where chyluria is more common, there are still fewer than 100 annual cases.

How does chyluria affect my body?

Chyluria may cause malnutrition and vitamin deficiencies.

Symptoms and Causes

What are the symptoms of chyluria?

The primary symptom of chyluria is milky white pee. Other chyluria symptoms include:

- Peeing a lot.
- Pain when peeing (dysuria).
- Blood in your pee (hematuria).
- Lower back pain.
- Weight loss.
- Below-average growth.
- Feeling tired all the time (fatigue).
- Chills.
- Swelling in your arms and legs (peripheral edema).

What causes chyluria?

Chyluria has parasitic and non-parasitic causes.

Parasitic causes

The roundworm *Wuchereria bancrofti* causes 95% of parasitic cases (filariasis). Causes of the other 5% of cases include:

- *Taenia echinococcus*.
- *Taenia nana*.
- *Ankylostomiasis*.
- Trichinosis.
- Malaria.

Non-parasitic causes

Non-parasitic causes of chyluria include:

- Injury to your abdomen (abdominal trauma).
- Surgery, including partial nephrectomy and scoliosis
- Infections.
- Abdominal lymph node enlargement.
- Tumors.

- Radiation.
- Abscesses.
- Lymphangioma of your bladder or kidney.
- Narrowing (stenosis) of your thoracic duct.
- Pregnancy.

Is chyluria contagious?

No, contagious isn't contagious. You can't spread it to another person through close contact.

Diagnosis and Tests

How is chyluria diagnosed?

A healthcare provider will diagnose chyluria. They'll ask questions about your symptoms and order tests.

How do you confirm chyluria?

Tests will help your healthcare provider confirm their chyluria diagnosis and determine how chyle is entering your pee.

These tests may include:

- **Urinalysis.** You'll provide a urine sample for your healthcare provider. They'll examine the color and appearance of your pee. They'll also send your sample to a laboratory. A lab technician will test your sample for the presence of chyle.
- **Imaging tests.** Imaging tests may include a CT scan, lymphangiogram, MRI, X-ray or ultrasound.
- **Triglycerides test.** Triglycerides are present in all cases of chyluria. In mild cases of chyluria, your pee may not look milky white. However, the presence of triglycerides can confirm chyluria.
- **Laparoscopy.** A laparoscopy is a minimally invasive procedure that can help your healthcare provider determine the source of your lymphatic leak. During a laparoscopy, your healthcare provider makes a small incision in your abdomen. They then insert a laparoscope (a thin rod with a camera attached to it) to look at your organs.

Management and Treatment

How is chyluria treated?

Your healthcare provider may recommend conservative, minimally invasive or invasive treatments.

Conservative treatment

More than 70% of chyluria cases respond well to conservative treatment.

Your healthcare provider may first recommend rest, increasing the amount of fluids you drink and a strict diet. Limiting the amount of fat in your diet helps your body make less chyle.

Your healthcare provider may also recommend parenteral nutrition. You'll receive your caloric and nutritional needs through intravenous (IV) fluids during this treatment.

Certain medications can also help treat chyluria.

Minimally invasive treatment

If you don't respond to conservative treatment, sclerotherapy is a minimally invasive treatment option.

Your healthcare provider will inject a special solution (sclerosant) into the center of your kidney (renal pelvis). The most common sclerosant is silver nitrate, but other common sclerosants include:

- Povidone iodine.
- Sodium iodide.
- Potassium bromide.
- Dextrose.
- Hypertonic solution.

Invasive treatment

If you don't respond to conservative or minimally invasive treatments, your healthcare provider may recommend more invasive interventions, such as surgery.

What should I eat if I have chyluria?

Your healthcare provider may recommend adhering to a strict low-fat, high-protein diet. Your diet should include a lot of leafy greens and vitamins A, D, E and K.

Low-fat, high-protein foods include:

- Fish, especially cod, haddock, halibut and tilapia.
- Skinless white meat turkey and chicken.
- Sirloin steak.
- Lentils.
- Black beans, chickpeas, garbanzo beans, kidney beans and navy beans.
- Tofu.

- Low-fat dairy.
- Seeds and nuts.

You should limit your fat intake to less than 25 grams per day. Most people with chyluria only need to maintain a low-fat, high-protein diet for a few weeks. Your healthcare provider will tell you when you can eat more fat again.

What medications are used to treat chyluria?

Medications that help treat chyluria include:

- **Ezetimibe:** Ezetimibe (Zetia®) blocks your stomach from absorbing cholesterol.
- **Anti-parasitic medications:** Medicines such as ivermectin (Stromectol®), diethylcarbamazine (Hetrazan®), albendazole (Albenza®) and benzathine penicillin can treat a parasitic infection.

How soon after treatment will I feel better?

Depending on your type of treatment, most people feel better within a few days or weeks.

Prevention

How can I reduce my risk of developing chyluria?

The parasites that cause chyluria typically spread through mosquito bites. The best ways to prevent mosquito bites include:

- Wearing long, thick pants and sleeves.
- Sleeping in an air-conditioned room or under a mosquito net.
- Wearing mosquito repellants on your exposed skin.
- Treating your clothing, tents and net coverings with mosquito repellants.

You can also take medicines that kill microscopic worms.

Outlook / Prognosis

What can I expect if I have chyluria?

If you have chyluria, your chances of recovering are good.

Up to 50% of cases resolve on their own without treatment, over 70% of cases resolve with conservative treatment and invasive treatments have a success rate of 95%.

Living With

When should I see my healthcare provider?

See a healthcare provider right away if you notice any changes to the color of your pee, especially if you also notice an increase in how often you have to go to the bathroom or have pain while peeing.

What questions should I ask my healthcare provider?

- How do you know that I have chyluria?
- If I don't have chyluria, what other condition might I have?
- Do I need treatment, or do you think it'll go away on its own?
- Do you recommend conservative, minimally invasive or invasive treatment?
- Can chyluria come back?
- Can you recommend a dietitian?

Additional Common Questions

What is the difference between lymphuria and chyluria?

Lymphuria is a condition in which there's lymph in your pee, but there aren't any fats in your pee.

Chyluria is a condition in which fats and lymph (chyle) are in your pee.

A note from Cleveland Clinic

Chyluria is a condition in which chyle is present in your pee. Chyle turns your pee milky white, which can sometimes cause problems such as vitamin deficiencies and malnutrition. Sometimes, chyluria goes away without treatment. However, conservative, minimally invasive and invasive treatments have high rates of successfully treating chyluria.

It can be shocking to notice your pee turn milky white. If you notice any unusual changes in the color of your pee, especially if you're peeing more than usual or it's painful to pee, talk to your healthcare provider. They can diagnose chyluria and work with you to get the most effective treatment.
