



Mononucleosis (Mono)

PATIENT EDUCATION SERIES

What is mono?

Infectious mononucleosis is a disease that affects about 1 out of every 50 students at Brown each year. It is caused by the Epstein-Barr virus (EBV) which infects most of the body's systems but particularly causes swelling of the lymph glands which are found in the neck, armpits, abdomen and groin. As many as two-thirds of students may already have had mono by the time they arrive at Brown. Because mono is not usually serious, many of these students will not have realized that they had the illness. A few cases of mono are severe enough to interfere with academic work, but these are the exception, not the rule.

How is it transmitted?

Mononucleosis is hard to catch. The mono virus is transmitted through direct contact with virus-infected saliva that may be present on shared drinking glasses or spread by intimate mouth-to-mouth contact. Roommates rarely get mono from each other. Only one third of people exposed are susceptible to the disease, and not every one of these people would get it if exposed.

The incubation period (time from exposure to the virus to symptoms of illness) is about 2 to 8 weeks. The majority of patients with mono are most likely to give it to someone else just prior to feeling ill. It is not clear how early in the incubation period a person can transmit mono to someone else. It is also unclear how long after an illness a patient remains contagious.

Asymptomatic shedding of the virus by healthy individuals accounts for most of the spread to uninfected members of the population. It is probably wise to avoid contact with the saliva of an infected person for about one month after he/she becomes ill. Individuals who are infected with the mono virus during childhood (even if they had insignificant symptoms of the illness) have lifelong immunity to EBV.

The symptoms and signs of infectious mono may be present individually, in any combination, or sometimes *not at all*.

- Fatigue, a persistent “tired all over” feeling which cannot be accounted for by too little sleep,

improper food intake, cramming, etc. is common. Because fatigue is one of the most frequent complaints that brings students to Health Services, it is not a symptom to rely on when diagnosing mono. Fatigue can be caused by many things, but, when caused by mono, it is usually associated with a sore throat, swollen glands or fever. Some patients also notice feeling “down”, blue or weepy for no apparent reason; this, as well as the fatigue, always passes when you recover.

- Enlarged glands that are usually tender.
- Sore throat, from mild to very severe, with tonsils frequently covered with a whitish-gray material.
- Headache.
- Fever.
- Enlarged spleen and liver.
- Occasionally, a skin rash or jaundice (yellow tint to the skin).

How is it diagnosed?

If a health care provider thinks you might have mono, s/he can order laboratory tests. Sometimes it is best to wait a week before doing a specific blood test for mono because the evidence of mono may not be apparent in blood until you have been ill for 7 to 10 days.

These tests may be done to identify or “rule out” mono:

1. **Throat culture/Strep test.** Your sore throat may be due to a bacterial infection, infectious mononucleosis, or a combination of the two. A throat culture will help to determine this.
2. **Complete Blood Count (CBC).** This blood test may show changes in the type and configuration of white blood cells that are characteristic of mono. The CBC does not determine the severity of mono, nor can it predict how long recovery will take.
3. **Serum (blood) test for mononucleosis.** A positive antibody test establishes the diagnosis of mono. There is no medical reason to repeat a positive test because the result (“titre”) may remain elevated for long periods after complete recovery and it does not reflect the severity of the illness.
4. **Liver function tests.** Since the mono virus becomes temporarily inflamed. This accounts for

much of the fatigue and loss of appetite associated with the disease. Occasionally symptoms are severe enough to warrant liver tests to check the degree to which the liver is affected, but the treatment is the same. They may be repeated at several intervals to help determine how you are recovering from the illness. We advise that all mono patients **abstain from alcohol completely** for at least 1 month or more if your medical provider tells you to abstain longer because your liver function tests are still elevated. Mono hepatitis is not related to hepatitis A, B or C.

How is it treated?

Before adequate lab tests were developed, only the most severe cases of mono were detected and treated, usually by strict bed rest. This is what gave mono its bad reputation. Mono has a spectrum from mild to severe.

If you have a high fever, a sore throat and feel bad, common sense suggests that you go to bed. If, however, you have little or no fever and feel like being up and around, we encourage this as long as you don't overdo it. Rest when you are tired. A nap in the late afternoon or early evening may restore your energy and make you more productive. You should be sure to get as much sleep as your body needs, but there is no indication that getting more sleep will make you get well any faster. While relapses (return to illness) are unusual, it is easy to overdo studying or activity and become exhausted.

Prolonged or strenuous activity, especially contact sports, should not be undertaken until specifically approved by your provider. The spleen (which filters and stores blood) can become enlarged during infection with mono. To prevent bruising or rupture of the spleen, **contact sports should be avoided**; also avoid lifting, running, jumping, diving, outdoor bicycling, straining, bear hugs, roughhousing, or other activities which could produce a sharp blow to the abdomen (increasing intra-abdominal pressure and possibly rupturing the spleen).

Taking ibuprofen or acetaminophen as directed by your medical provider and drinking lots of fluids may be all you need for your fever and sore throat. Gargling with warm salt water or sucking on throat lozenges or popsicles may help ease a sore throat. Running a humidifier in your room may increase comfort.

Rarely, patients may experience extreme sore throat, prolonged high fever and severe discomfort

from swollen glands. If you experience any difficulty breathing, extreme difficulty swallowing or feel that you are exceedingly ill or uncomfortable, contact your provider at Health Services.

Antibiotics are not prescribed for viral infections like mono unless there is a bacterial infection in the throat (such as strep) at the same time. Mono patients should not take ampicillin or amoxicillin because it might cause a skin rash. Other prescriptions, such as pain relievers, are only used if over the counter preparations are ineffective.

How long does it take to recover from mono?

Anyone with mononucleosis can resume daily activities, as they are able to do so. Strenuous activities, contact sports and/or the use of alcohol need to be approved by your medical provider.

You will feel sickest during the first 1 to 2 weeks after diagnosis. By 4 weeks, 90% or people are well. For 2 to 3 years after mono the body seems more susceptible to colds. Take good care of yourself early in the course of the cold to minimize symptoms and duration. Mono occurs only once in a lifetime.