Pitting Edemas

Causes of pitting edema

A variety of factors can lead to pitting edema, including:

- flying
- poor circulation
- **obesity** (Links to an external site.)
- pregnancy
- **dehydration** (Links to an external site.)
- low levels of protein
- trauma or injuries

Alternatively, any of the following conditions may be responsible:

- **high blood pressure** (Links to an external site.)
- **diabetes** (Links to an external site.)
- psoriatic **arthritis** (Links to an external site.)
- kidney problems
- lung diseases
- liver diseases
- **deep vein thrombosis** (Links to an external site.), which involves a blood clot, often in the leg
- chronic venous insufficiency, which occurs when the veins are inhibited
- complications of the heart valve
- congestive **heart failure** (Links to an external site.)
Pitting edema may also be a side effect of medications such as:

- steroids
- nonsteroidal anti-inflammatory drugs (NSAIDs (Links to an external site.))
- medications that supplement estrogen (Links to an external site.)
- medications for high blood pressure
- thiazolidinediones, a class of drugs used to treat type 2 diabetes (Links to an external site.)

**Grading: Pitting Edema**

Pitting edema is classified based on the depth and duration of the indentation. The following scale is used to rate the severity:

**Grade 1:** The pressure applied by the doctor leaves an indentation of 0–2 millimeters (mm) that rebounds immediately. This is the least severe type of pitting edema.

**Grade 2:** The pressure leaves an indentation of 3–4 mm that rebounds in fewer than 15 seconds.

**Grade 3:** The pressure leaves an indentation of 5–6 mm that takes up to 30 seconds to rebound.

**Grade 4:** The pressure leaves an indentation of 8 mm or deeper. It takes more than 20 seconds to rebound.
0+ No pitting edema
1+ Mild pitting edema. 2 mm depression that disappears rapidly.
2+ Moderate pitting edema. 4 mm depression that disappears in 10–15 seconds.
3+ Moderately severe pitting edema. 6 mm depression that may last more than 1 minute.
4+ Severe pitting edema. 8 mm depression that can last more than 2 minutes.