**What are the Four Stages of Human Decomposition?**

According to Dr. Arpad A. Vass, a Senior Staff Scientist at Oak Ridge National Laboratory and Adjunct Associate Professor at the University of Tennessee in Forensic Anthropology, human **decomposition begins**[**around four minutes**](http://www.archeo.uw.edu.pl/zalaczniki/upload617.pdf)**after a person dies** and follows four stages: autolysis, bloat, active decay, and skeletonization.

**Stage One: Autolysis**

The first stage of human decomposition is called autolysis, or self-digestion, and **begins immediately after death**. As soon as blood circulation and respiration stop, the body has no way of getting oxygen or removing wastes. Excess carbon dioxide causes an acidic environment, causing membranes in cells to rupture. The membranes release enzymes that begin eating the cells from the inside out.

[Rigor mortis](http://health.howstuffworks.com/diseases-conditions/death-dying/dying4.htm) causes muscle stiffening. Small blisters filled with nutrient-rich fluid begin appearing on internal organs and the skin’s surface. The body will appear to have a sheen due to ruptured blisters, and the skin’s top layer will begin to loosen.

**Stage Two: Bloat**

Leaked enzymes from the first stage begin producing many gases. The sulfur-containing compounds that the bacteria release also cause skin discoloration. Due to the gases, the human body can [double in size](http://www.compoundchem.com/2014/10/30/decompositionodour/). In addition, insect activity can be present.

The microorganisms and bacteria produce extremely unpleasant odors called putrefaction. These odors often alert others that a person has died, and can linger long after a body has been removed.

**Stage Three: Active Decay**

Fluids released through orifices indicate the beginning of active decay. Organs, muscles, and skin become liquefied. When all of the body’s soft tissue decomposes, hair, bones, cartilage, and other byproducts of decay remain. The cadaver loses the most mass during this stage.  **Stage Four: Skeletonization**

Because the skeleton has a decomposition rate based on the loss of [organic (collagen) and inorganic components](http://www.archeo.uw.edu.pl/zalaczniki/upload617.pdf), there is no set timeframe when skeletonization occurs.

**Body Decomposition Timeline**

**24-72 hours after death**— the internal organs decompose.

**3-5 days after death**— the body starts to bloat and [blood-containing foam](http://www.enkivillage.com/how-long-does-it-take-for-a-body-to-decompose.html) leaks from the mouth and nose.

**8-10 days after death**— the body turns from green to red as the blood decomposes and the organs in the abdomen accumulate gas.

**Several weeks after death** — nails and teeth fall out.

**1 month after death** — the body starts to liquify.