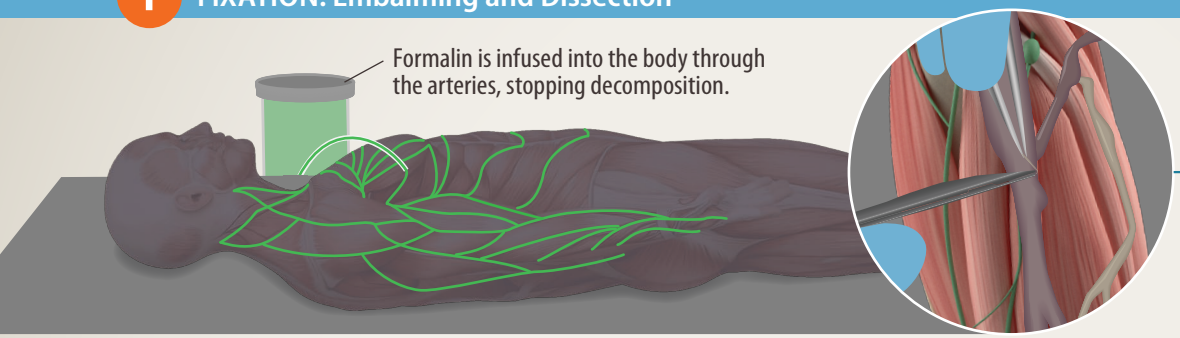
Plastination: A Preservation Process

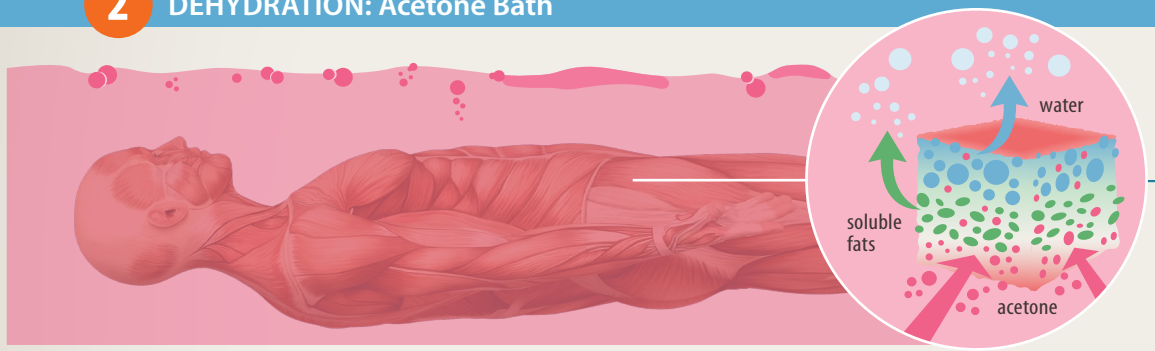
Plastination keeps anatomical tissues from decaying and allows them to be handled by students without exposure to toxic chemicals and pathogens. The process, developed in 1977, preserves most of their properties by replacing water and fat with silicone polymers.

1 FIXATION: Embalming and Dissection



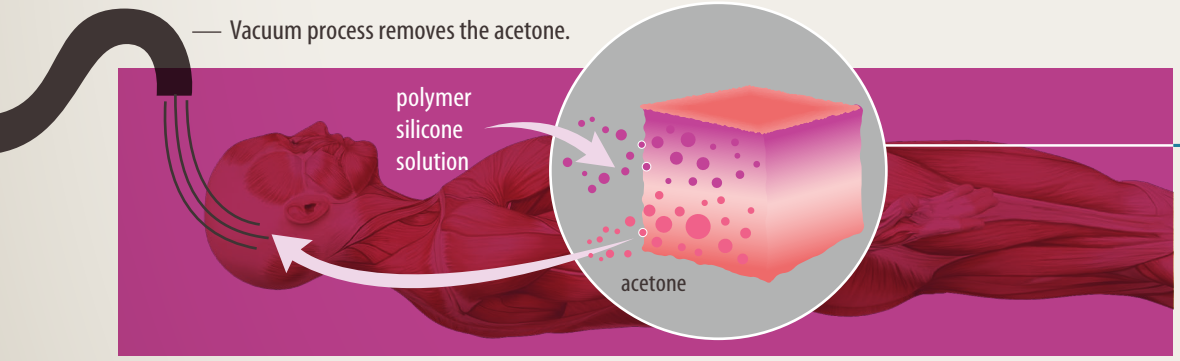
Specimens are prepared by anatomical dissections. Skin, fatty and connective tissues are carefully removed. Finished specimens are used to train and educate students.

2 DEHYDRATION: Acetone Bath



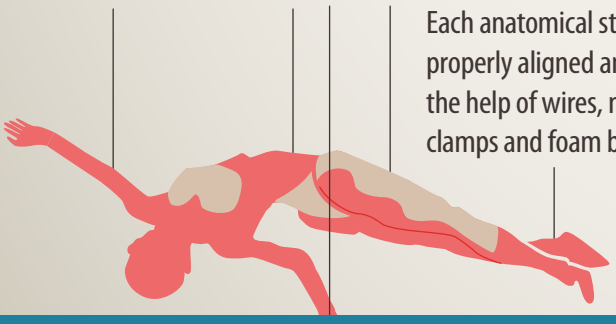
Specimens are placed in an acetone bath. Water and soluble fats are dissolved from the bodies and replaced by the acetone, which readily evaporates.

3 PLASTIC PERMEATION: Acetone to Plastic Exchange



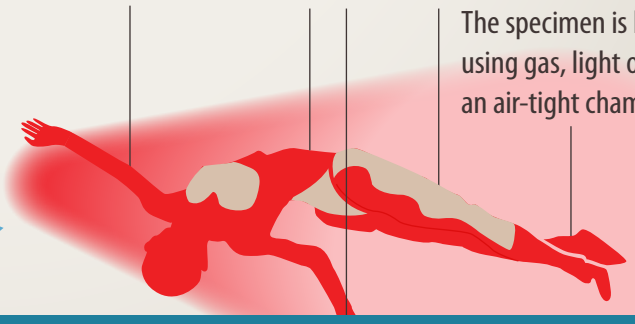
Specimen is immersed in a polymer silicone solution and placed in a vacuum chamber. The vacuum removes the acetone from the specimen and helps the polymer silicone to penetrate cells. This process can take several weeks for a full body.

4 POSITIONING



Each anatomical structure is properly aligned and fixed with the help of wires, needles, clamps and foam blocks.

5 HARDENING



The specimen is hardened using gas, light or heat in an air-tight chamber.

▶ **SEE MORE:** Learn how a heart undergoes the plastination process here. **Source:** Gunter von Hagens' Body Worlds, bodyworlds.com.