Colloid solutions are used as resuscitative fluids in severe shock states. Two chemists received the Nobel Prize for their pioneering work on these colloidal solutions.

Richard Zsigmondy (April 1, 1865 – Sept 23, 1929): Austrian chemist who received the Nobel Prize for Chemistry in 1925 for research on colloids, which consist of submicroscopic particles dispersed throughout another substance. He invented the ultramicroscope in the pursuit of his research.

While employed in a glassworks (1897) Zsigmondy directed his attention to colloidal gold present in ruby glass, and he discovered a water suspension of gold. He theorised that much could be learned about the colloidal state of matter from studying the manner in which the particles scatter light. To facilitate such study, he and Heinrich Siedentopf developed the ultramicroscope (1903), and Zsigmondy used it to investigate various aspects of colloids, including Brownian motion. His work proved particularly helpful in biochemistry and bacteriology.

Theodor H. E. Svedberg (Aug 30, 1884 - Feb 25, 1971): Swedish chemist who won the Nobel Prize for Chemistry in 1926 for his studies in the chemistry of colloids and for his invention of the ultracentrifuge, an invaluable aid in subsequent studies.

Svedberg’s research was on colloids, in which particles too small to be resolved by ordinary light microscope are dispersed throughout water or some other substance. The particles in colloid solutions are so small that the jostling of the surrounding water molecules keeps them from settling out in accord with gravity. To better study the particles, Svedberg used centrifugal force to mimic the effects of gravity on them. His first ultracentrifuge, completed in 1924, was capable of generating a centrifugal force up to 5000 times the force of gravity. Svedberg found that the size and weight of the particles determined their rate of settling out, or sedimentation, and he used this fact to measure their size. With an ultracentrifuge, Svedberg went on to determine precisely the molecular weights of highly complex proteins such as haemoglobin. In later years he made studies in nuclear chemistry, contributed to the improvement of the cyclotron, and helped his student Arne Tiselius in the development of the use of electrophoresis to separate and analyse proteins.

In the 1970s, a synthetic colloid, hydroxyethyl starch, became commercially available. Starting from waxy starch obtained from grains of maize, Zea mays, the manufacture involves reaction of the amylopectin with ethylene oxide. Also called high molecular weight hetastarch, this colloid may have some clinical advantages over the gelatin, particularly in patients with the capillary leak syndrome (e.g. septic shock). It is also more acceptable to vegetarians.