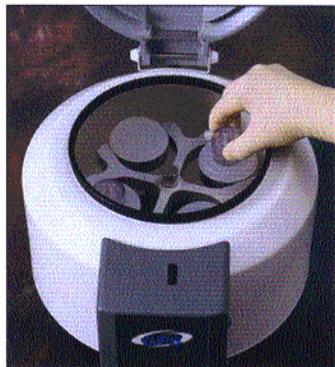


The Right Plastic Builds a Better Platelet Concentrator

A new platelet concentrator uses Cyrolite Med 2 from **Cyro Industries**, Rockaway, N.J. (www.cyro.com), to improve the separation of platelets from a blood sample. The GPS concentrator, from **Biomet Inc.**, Warsaw, Ind. (www.biomet.com), requires only 55 ml of blood and 12 minutes to produce about 6 ml of platelet-rich plasma. The concentrator delivers an eight-fold increase in platelets over whole blood.

"Older concentrators need two cycles over 30 minutes, and then produce only five to six times platelet concentrations," says Joel Higgins, director of re-sorbables engineering at Biomet. And the process required drawing a full unit of whole blood. Other materials considered for the application, such as polycarbonate, were too rigid and did not perform consistently in a centrifuge.

The single-spin technique works by separating differing densities of blood components. Under *g* loads, a tube or cylinder made of Cyrolite Med 2 expands letting a buoy float in the blood.



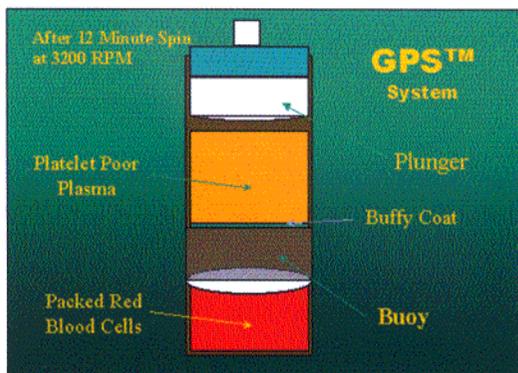
The GPS platelet concentrator from Biomet Inc., Warsaw, Ind., needs only 55 ml of patient blood to extract red blood cells with eight times more platelets than whole blood.

Different components separate as red cells flow through the spacing between the buoy and tube. When the centrifuge stops, the tube returns to its original size, trapping the buoy and preventing cells and fluids from remixing. Consequently, material selection was critical due to the precise tolerances and expansion rates required in the centrifuge.

Material shrinkage is a critical mold factor because the buoy must precisely fit the tube diameter. "Cyrolite compound is easy to work with and consistently holds the mold design without tapering. What's more, platelets don't stick to the material so platelet counts are higher," adds Higgins.

Blood separates into a buffer coat suspended in plasma, a red blood cell pack, and a platelet-poor plasma fraction. "Platelets aid in clotting and contain a number of growth factors that control inflammation and the proliferation phases of wound healing," says Higgins. "By collecting platelet-rich plasma, usually during surgery, growth factors can be isolated and applied at higher concentrations on wounds." ■

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Cylinders are made of Cyrolite Med 2 from Cyro Industries, Rockaway, N.J. Centrifugal force slightly deforms the shape of the cylinder to let the buoy float and let blood cells migrate to the bottom.



For more information, samples or to trial CYROLITE Med 2 compound, call 800-631-5384 or visit www.cyro.com