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## Putting Blood, Sweat and Tears into Clot Prevention

An interview with **Paul Santerre**, Biomedical Engineer  
University of Toronto

So what I've got in my hands here is what we call a catheter product. Catheters are little plastic tubes that we run through lots of different pathways in the body, but quite often through blood.

One of the very first technologies that we developed was a technology that actually changes the chemistry on the surface of the material, and by presenting that diverse chemistry we can actually fool proteins, as they're interacting with this plastic, to think that they're still swimming around in blood.

And if you can do that with proteins that are involved in the clotting pathway, you can stop clots from happening on these foreign surfaces. And a blood clot is a problem because if you create a clot and then the flow comes by and breaks it off, that clot goes down the stream and could plug a very important artery.

So this technology allows patients, for instance who are in chemotherapy, to have one of these catheter lines in feeding the therapeutics for upwards of two years without inducing a clot. It reduces the incidence of infection, because once you form clots, clots are proteins, and bacteria love protein surfaces. You reduce the incidence of infection by 800 percent.

