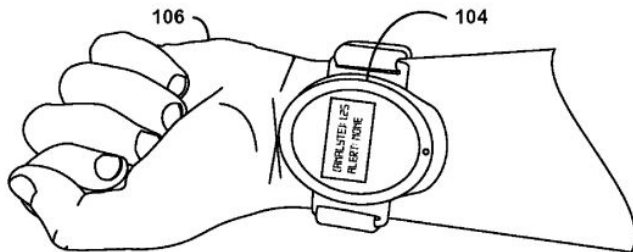


Drawing blood needle-free is topic of patent filed by Google

7 December 2015, by Nancy Owano



Credit: Needle-Free Blood Draw, United States Patent Application

A "needle-free blood draw" is the title of a patent that was filed in May 2014 by Google and was made known earlier this month.

Inventors named on the patent filing are Eric Peeters and Peter Smith.

The patent abstract described a system for needle-free drawing of [blood](#) which can include "an evacuated negative-pressure barrel with a membrane sealing an aperture at a distal end, and a housing affixed to a proximal end. An accelerator barrel can be positioned within the negative-pressure barrel and fixed to the housing, with an open proximal end in a chamber in the housing, and an open distal end aligned with the aperture. The chamber can be filled with pressurized gas, and a trigger valve can hydrostatically separate the chamber from the open proximal end of the accelerator barrel. A micro-particle positioned within the accelerator barrel can be accelerated to high speed by an abrupt surge of gas by releasing the trigger valve. The micro-particle can attain enough momentum to pierce the aperture membrane and penetrate adjacent dermal tissue. A resulting micro-emergence of blood can be drawn into the negative pressure barrel."

How would the system be used and what would be the form factor? Stacy Lawrence, senior editor, *FierceMedicalDevices*, said, "Google envisioned that this tiny quantity of blood could be used in a wide variety of diagnostic tests. It could also be incorporated into a handheld device similar in size and shape to a pencil or conventional hypodermic needle-carrying barrel. Or it could even go into a [wearable](#), wrist-worn device that could draw blood as well as connect to the cloud for data analysis, storage and communication. That specific version seems to be of a wrist-worn blood glucose monitor based upon these micro blood samples that could operate automatically."

Once more as with other patent development stories, it was pointed out that prospective product announcements should not necessarily be inferred from patents. Lawrence noted that a Google spokesperson cautioned that not every patent comes to fruition: "'We hold patents on a variety of ideas—some of those ideas later mature into real products or services, some don't,' she said."

Seth Augenstein, reporter, *Laboratory Equipment*, described the needle-free device in the form of a watch drawing a minute drop through a tiny particle shot at hyperspeed through the [skin](#).

The Inquisitr said, "The system uses a barrel that sucks blood using a negative [pressure](#) system."

Arielle Duhaime-Ross in *The Verge* described it as "a blood draw system that works by sending a surge of gas into a barrel containing a micro-particle that pierces the skin. Once blood is released from the skin, it's sucked up into the negative pressure [barrel](#)."

Earlier this year, *The Next Web* said that "Google has a longstanding interest in diabetes, and has been working on other technologies, such as contact lenses that monitor glucose [levels](#)."

More information: Needle-Free Blood Draw,
United States Patent Application, [20150342509](#)

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