



OptiGym™

Raising The Bar

OptiGym™ – Raising the Bar

In today's modern world, time is at a premium and people demand results – and nowhere is this more true than in their workouts. OptiGym™ can deliver an individually-tailored biological solution so that a person's bioparameters can be as good as they can possibly be during a workout so that the workout delivers the maximum value to the person working out.

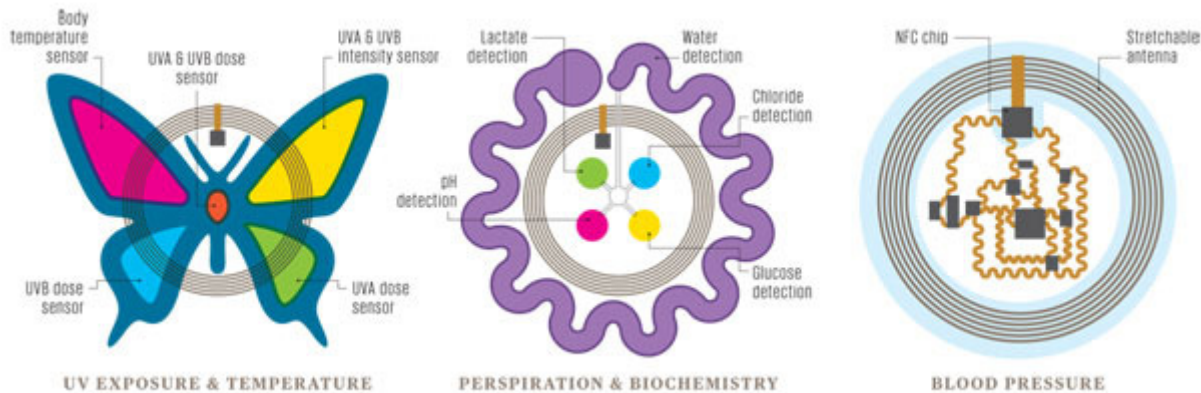
More specifically, people work out or exercise in order to improve their bodies, so we call them Body Improvers or (BIs for short). OptiGym™ uses disposable biostamps (sometimes known as temporary tattoos or biostrips) to monitor the biochemical status of the BIs as they are exercising. We monitor a large number of bioparameters including hydration level, glucose level, lactate, electrolyte level, and pH. The bioparameters are used to prepare OptiDrinks™ for the BIs to drink while working out that optimize the BI's bioparameters so that they can get the most out of their workouts.

OptiStamp™ BioStamps

Several companies make BioStamps that are available on the market today. Here are some articles that talk about current development.

- spectrum.ieee.org/biomedical/devices/a-temporary-tattoo-that-senses-through-your-skin
- <http://www.dailydot.com/debug/sweat-wearable-electrozyme/>
- <http://www.dailydot.com/debug/tattoos-wearables/>
- <http://www.iflscience.com/health-and-medicine/temporary-tattoo-diabetics-could-eliminate-need-finger-prick-tests/>
- <http://www.popsci.com/temporary-tattoos-could-monitor-diabetes-less-invasively>

We use a proprietary biostamp designed by Professor John Rogers at the University of Illinois, Urbana-Champaign. An earlier version of the biostamp is shown in the center below.



For our version, he added a potassium sensor so that we can sense both of the primary electrolytes. Consequently, our OptiStamp™ can sense the hydration level, glucose level, lactate, electrolyte level, and pH of the BI as bioparameters.

As detailed in the articles, the bioparameters are transmitted to the BI's smartphone. From there, our BIs then use an installed app to transmit the bioparameters to our central servers for storage and analysis and to prepare their OptiDrinks™.

OptiBar™ OptiDrink™ Dispenser

The BI's bioparameters are used to prepare OptiDrinks™ for the BIs to drink while working out that optimize the BI's bioparameters so that they can get the most out of their workouts. Ideally, the BI has a preworkout OptiDrink™, a postworkout OptiDrink™, and an OptiDrink™ every 15 minutes as the BI works out.

Each OptiDrink™ can include one or more ingredients designed to counter a bad bioparameter reading. For example, if the hydration level is low, the OptiDrink™ includes additional water and if the glucose level is low it includes sucrose. For lactate and pH, we include carnosine and sodium bicarbonate. For electrolytes we include NaCl and KCl.

For the preworkout OptiDrink™, in addition to the standard added typical ingredients (if needed), we include caffeine, creatine, BCAAs, and beta-alanine.

For the postworkout OptiDrink™, in addition to the standard added typical ingredients (if needed), we include a multivitamin mix, whey protein, creatine, and glutamine.

The OptiDrinks™ are made by an automated OptiDrink™ Dispenser that we call the OptiBar™ that is a modified version of the F-3658 Multi-Flavor Mixing Machine by Curtis (<http://www.wilburcurtis.com/content/multi-flavor-cappuccino>) that uses cold water instead of hot water for the mix. In short, all of the additives above are placed in the machine and the machine just mixes OptiDrinks™ with the right amounts of each additive. The additive amounts are determined by our OptiGym™ analysis server and transmitted to the Dispenser for each BI. The application on the BI's smartphone displays when it is time for the BI to take an OptiDrink™ and the BI just goes to the Dispenser where their personalized drink is made for them in response to their current bioparameters.

When preparing their drink, BIs can always select increased amounts of the various components through the app – and can opt out of an OptiDrink™ if they wish. We can also optimize the OptiDrink™ for a specific type of workout – for example, for a cardio workout we might increase the caffeine and beta-alanine in the pre-workout drink and/or add caffeine and beta-alanine to the during-workout drinks. For a mass workout, we can include whey protein in the pre-workout and intra-workout drinks.

OptiGym™ Analysis Server

The BI's bioparameters that are measured by the OptiStamp™ BioStamps are then sent to the BI's smartphone which uses its internet connection to send the bioparameters to the OptiGym™ Analysis Server. At our server, we have individualized accounts for each BI and we use a model to determine how much of each additive we should add to the OptiDrink™ for that BI in response to the BI's bioparameters.

We start with a base model of a BI that is based on lean weight (total weight minus fat weight as entered by the BI). We then track each BI's bioparameter reactions during their workout and raise or lower the future additive amounts in response to the impact produced in order to try to keep the bioparameters in the optimal zone during the workout.

If possible, we prefer to have the BI perform a standardized calibration workout after they initially register with our system so that we can have them perform standard exercises at 70% of their 1 rep max and then perform 15 minutes of cardio at an age-adjusted target heart rate. We provide our standard drinks during the calibration and we can observe how the BI's body causes the bioparameters to react in response to the calibration workout so that we can adjust the additive levels for the future.

Product Features Under Development

OptiGym™ Mobile

Imagine a personalized butler that followed you during running, biking, or a triathlon – or even during a round of golf! – and provided you with drinks to optimize your bioparameters during the activity. That is the promise of OptiGym™ Mobile. We are working with Piaggio to develop a version of their Gita Cargo Robot that has a built-in OptiDrink™ Dispenser and can follow you during athletic activities to provide you with OptiDrinks™.



Here are links to help explain:

- <http://piaggiofastforward.com/about.php>
- spectrum.ieee.org/automaton/robotics/home-robots/piaggio-cargo-robot

OptiGym™ Overmind™

tDCS (Transcranial Direct Current Stimulation) is a promising technology that is currently being investigated with regard to providing benefits for athletic function and depression treatment. Here are some articles to explain:

- <http://spectrum.ieee.org/the-human-os/biomedical/devices/treating-depression-with-tdcs-startup-ybrain-aims-for-the-mainstream>
- <http://spectrum.ieee.org/biomedical/bionics/olympic-athletes-are-electrifying-their-brains-and-you-can-too>

As you can see, a head-mounted headset allows low-current electrical stimulation of the brain directly and the positioning of the headset can be used for athletic performance increase or depression treatment. We are investigating incorporating tDCS into the OptiGym™. Currently, we are investigating whether we should include just athletic performance tDCS, or just depression treatment, or both – and if we are including depression treatment whether we should tell the BIs. Also we are trying to figure out if the tDCS makes an impact in the additive profile that we should be delivering to the user or if it impacts their bioparameters. If so, we would alter their additive profile to take it into account.

OptiGym™ Raising the Bar™ Workout

We also feature a daily “workout of the day” that we call our Raising the Bar™ Workout. One advantage of this is that when hundreds or thousands of BIs perform the same exercises it can provide a very rich dataset providing statistical insight into how a large number of BIs’ bioparameters will react to specific exercise stimuli. We think that we might be able to use this to identify exercises that are more productive biologically for one reason or another.

Other Patents

The CEO passed on your recommendation to search the PTO's website, so I did. I made a list of the patents below. The CEO says that all of these patents look pretty close to what we came up with. However, the CEO says that you are the best patent attorney around and that you will be able to find a way to get us our patent without infringing on these other patents.

Patents:

US 20160089642 A1

US 20160106137 A1

US 20160098883 A1