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## Optimize the performance of your managers- with biofeedback

According to the Center for Studies on Human Stress, "Almost 500 000 Canadians are absent from work each week due to health problems related to stress, and stress due to absence from work increased by 316% since 1995. "

Managers and professionals are frequently exposed to high levels of stress, pressure, and performance requirements. Their reality is similar to that of elite athletes. To maximize their performance, a growing number of them have embraced biofeedback.

Our personalized **performance optimization program** provides a comprehensive assessment, a psychophysiological profiling and training sessions with professionals (M.D., Ph.D.). Adapted to the specific needs of each participant, this program is a natural complement to our existing product line.

### Performance optimization Stress reduction Decrease absenteeism

Based on numerous scientific studies this method has led to significant improvements of users in the fields of sports, arts and business.

Elite athletes already have their personal trainer, why not your high potentials!

Stress is a determining factor in the poor performance of employees. Recognizing the growing need, our team of professionals with over 20 years of experience in this area has created a personalized **performance optimization program** using biofeedback (EEG and peripheral measures).

Used in the United States and Europe for over forty years, biofeedback is the learning of psychophysiological self-regulation, which helps reduce stress and improve quality of life. This inevitably leads to the attainment of full potential.

This issue presents biofeedback, its measures and applications.

Happy reading!

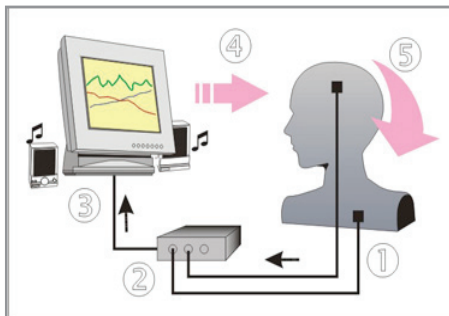
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## A pictorial illustration

Would you like to know and even literally see how your body reacts under stress?

It is then easier to develop effective strategies to change our attitudes and behaviors.

Numerous scientific studies on biofeedback have demonstrated that control of our reactions tends to increase productivity while providing a state of wellness.



This is exactly what biofeedback illustrates. When we are stressed, our heart rate accelerates, we sweat, our muscles contract, etc. The realization of the changes occurring in our body helps us to become conscious of the effects of stress.

These changes are measured using sensors placed on the surface of the body. The physiological signals are transmitted to a computer that converts them into visual and auditory information, making it easily interpretable.

Training takes place on an individual basis and is guided by a professional. However, with practice, participants will learn to repeat the experience by themselves, without using equipment or a guide.

It is important to note that once the participant has learned a new behavior, he will retain it.

### A little history

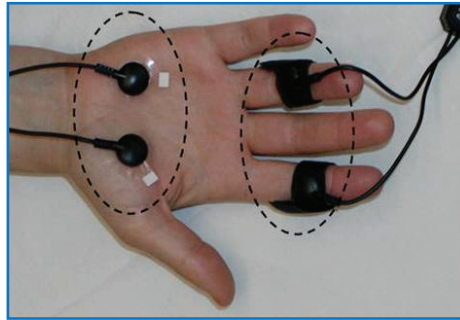
The term biofeedback was coined in 1969 to describe experiences that began in the forties. Subjects trained to alter their brain activity, blood pressure, muscle tension, etc., activities that we believed involuntary, until then.

# Measurements

**Biofeedback** measures different physiological signals.

- Sensors placed on the fingers, the palm of the hand or the earlobe measure the following signals:
  - Temperature
  - Peripheral blood volume
  - Skin conductance
  - Heart rate.
- A belt placed around the chest or the abdomen measures changes in breathing.

**Psychophysiological coherence**, one dimension of biofeedback, is increasingly



used to manage stress and reduce anxiety.

Our heart rate accelerates while inhaling and decelerates when exhaling. The gap between heartbeats varies slightly, but steadily: this is heart rate variability. It can be regular or erratic. This will be discussed in detail in our next issue.

**EEG biofeedback** (or **neurofeedback**) is an application of biofeedback and used to measure brain activity applying sensors on the scalp.

EEG biofeedback helps to enhance brainwaves that correspond to a relaxed state (alpha waves). Moreover, it reduces the waves responsible for constant thoughts that keep us awake at night (beta waves).

In a forthcoming issue, we will explain in detail all the fascinating facets of EEG biofeedback.

# Applications

Many scientific studies have clearly demonstrated the effectiveness of biofeedback in the reduction or treatment of a multitude of health issues. Here are some examples:

- Hypertension
- Severe stress and anxiety
- Attention deficit disorder (child / adult)

This approach is regularly used as a training method by athletes, professionals and managers in order to:

- Optimize their performance
- Manage their stress
- Improve their cognitive capacities

In the summer of 2008, India won its first Olympic gold medal in the air shooting competition. Abhinav Bindra trained to control his breathing, heart rate, etc., and learned to shoot only when the ideal combination was present.

AC Milan, the Italian soccer team, has invested \$40 million installing a mindroom equipped with 11 stations to allow players to train using biofeedback, before and after matches. In addition to their victories, the team has reduced injuries by 90%.

For over 20 years, NASA astronauts have used biofeedback for training on issues such as air sickness and isolation.

Not to mention Alexandre Bilodeau, gold medal winner at the Vancouver 2010 Winter Olympic Games declared that biofeedback helped him increase his concentration in helping him to win his medal.

## Conclusion

Biofeedback is an excellent tool to optimize your performance, whatever your level or area of expertise. However, you are solely responsible for your success through your active participation in the training.

### To learn more

- about our services: [www.matteic.com](http://www.matteic.com)
- on biofeedback: [www.aapb.org](http://www.aapb.org)



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