BIO-FEEDBACK AND STRESS

How to measure Stress?

Highly Stressed ?  Very Relaxed!!
Biofeedback is the process of obtaining information about psycho physiological or mind-body interactions and “feeding it back” for training.

These interactions are measured via heart rate, breathing, CO2 breath measurement, skin temperature, sweat gland activity, muscles tension and brain wave activity.
In Biofeedback, the physiological measures are monitored and transformed into simple auditory or visual information. The patient learns to control and modify the physiological response being measured – bringing it back to a healthy level of functioning.

Biofeedback is a safe, effective, cost-effective, procedure.
We can learn to control these parameters and this gives us a chance to change our conditionals, our inner habits, which may have lead to too much stress or even to psycho symptomatic disorders.
This training helps to increase a person’s awareness first of their body and second, of the mind-body connection.

Awareness of Breathing

Awareness of Thoughts

Awareness of muscle tension

self-regulation skills are learned and then applied to daily life.
Biofeedback is used to treat such disorders and health problems as chronic pain, headache, hypertension, problems, Attention Deficit Disorder and stress-related disorders.

- Multi channel equipments
- Very expensive
- Use limited to Big Hospitals
- Difficult to use
- Operated by Highly trained Personnel
• Portable equipments
• Simple yet reliable
• Easy to use
• No elaborate training required for its use
• Affordable
• Computer Interface
• Multi media Relaxation Games
• Used with Relaxation techniques
Galvanic Skin Resistance (GSR)

- Electrical resistance of your skin measured in Ohms.
- Measured at the finger tips
- GSR values range from 25 to 3000 Kilo Ohms
- Different Persons have different GSR values
- The GSR value is not fixed. It changes all the times.
- The GSR value changes with your thoughts and emotions
Galvanic Skin Resistance (GSR) Contd

GSR is an effective measure of your Stress and Relaxation responses.

With the increase in your stress levels, the GSR value goes down.

With the increase in your relaxation levels, the GSR value, increase too.
Applications of GSR Bio Feedback

- To check the Concentration Span
- To find out the Confidence Level
- To find out which technique is effective for a person and find out whether a person is able to follow a particular exercise
- As a Relaxation Technique
- To find out the Thinking pattern of a Person
Thought Stream, the world's first personal galvanic skin response (GSR) biofeedback training system, It comes with a unique palm-of-the-hand sensor, headphones, informative manual, and attractive, small carrying case so it travels light, - everything you need to get started!
Features:
Unique four-color visual display shows you exactly how you are doing
Eight sensitivity levels for beginning to advanced training
Exceptionally smooth audio feedback
PC interface option
Mental games software for training
Highly Stressed Person

Low base value of GSR

Short Span
Person with an good ability and ability to relax
Person with a continuous internal dialogue

Upward lines correspond to thoughts
Person is focusing on breathing but mind is not calm
Person is able to relax but shows residual stress in office environment

GSR value drops when person thinks of office environment
Successful Person with High Stress levels
(Not able to switch off internal dialogue)

Thoughts are stimulating the nervous system
Effect of Distraction/ lapse of concentration

Response to distraction
Blank and Focused Mind

Not a single ripple
Effects of Neural Sound Tracks

Very High GSR: 2600
You can play Psycho interactive relaxation Games on computer using the Thought stream equipment
The Mental Games CD-rom is a radical new concept in personal biofeedback training. With it you can learn how to:

Quickly shift from relaxed to highly focused states of mind/body integration and back again. "fine-tune" your ability to pay close attention to selected tasks.

Stay calm in difficult/stressful situations.

Achieve sustained states of Zen-like mental clarity.

Plus much more
The small, hand-held and self contained GSR2 TM is a Galvanic Skin Response monitoring device for home biofeedback. The GSR2 TM precisely monitors your stress levels by translating tiny tension-related changes in skin pores into a rising or falling tone. By resting two fingers on the sensing plates you learn to lower the pitch and your stress level.
CALMLINK SOFTWARE
for GSR2 System

Full feature graphics display;
Multiple tone and musical instrument sound feedback;
Changing shapes and pictures tied to relaxation;
Full feature recording and viewing of past sessions;
Export data to Excel;
Pacman style game that speeds up and slows down as you relax
Software and cable included (GSR2 signal outputs to your sound card's microphone input.)
Calmlink has 3 main modes - Graph, Animation and Game. There are six types of graphs that Calmlink displays on the screen.

You can learn relaxation techniques in Animation and Graph modes. The Game screen provides an opportunity to learn relaxation techniques in stress environment while the user plays a Pacman like style game.
Calmlink GSR2 Biofeedback Software for Windows, is designed to run with GSR2 and GSR2/TempX2 devices. Calmlink works in Windows 98/98SE, ME, 2000 and XP. The main requirement for PC connectivity is a SoundBlaster compatible sound card. The GSR2 connects to a computer Sound card via the Microphone Input jack. Features include: Graph, Game and Animations mode, event markers, printable reports to compare biofeedback session, MIDI music support and tone feedback and more! The CD-ROM includes tools to develop your own animations to run with Calmlink.
The most advanced inner-active biofeedback game to combine ancient breathing and meditation exercises with modern biofeedback GSR and Heart Rate monitoring technology for total mind-body wellness.
Applications in HR

- can be installed in the Training institute
- Biofeedback Trained HR person
- Tool for Relaxation Training
Low GSR values: Age 21 plus Less than 200KOhms
Low self esteem/ confidence

Ability to concentrate
“can he stay focused on a particular task?”
Take GSR values with reading /writing
While reading, the GSR values should increase.

CDs, Stress Cards, Thoughtstream for top executives
First signs of stress
(Tense Muscles)

- Face, eye muscles, forehead: tense
- Back of the Head: tense
- Palms: contracted and tense
- Toe and calf muscles: tense
- Breathing becomes shallow and fast
- Pulse becomes faster
- Dry mouth
- Sweating of palms
- Focus turns internal
On-Line Approach
(features)

- Techniques and exercises which can be done in office, car, in a meeting
- Just before the work, during lunch break, while driving
- Invisible, effective in long term and more successful
On line strategies

Focus Control Exercises

- Counting objects
  - Count and focus on 10 objects around you

- External sounds
  - Focus on the sounds moving from near to far and near you again
  - Keep your mind blank
Quick Relaxation Technique

- Tense up all the muscles
- Hold for 2-3 seconds and release
- Travel from toe to head

✓ Quick way of stress release
✓ Afternoon or evening
Relaxation Imagery

- Look down
- Try to see the images
- Relaxing Images such as visiting a temple, beach, face of your children/loved ones, memorable vacations
- GSR value increases with visualization of imagery
Our Products: Audio CDs
(For Effective Stress Release)

Music for Breathing Rhythms
- Breath in & out with rhythmic ringing bells

Neural Soundtracks for Relaxation
- Relaxing sound to induce peace and calm

Autogenics Relaxation Course
- Set of autosuggestions and images for inducing heaviness and warmth in limbs which is a physical state of relaxation
Neural Sound tracks

The most effective Audio tracks for relaxation

Based on the Sound Therapy

It induces deep relaxation in the listeners mind by generating specific frequencies of relaxation

These can take the listener to Alpha and Theta levels of Brainwaves through the technology of Brain Wave Entrainment (BWE)

Professionally produced by Transparent Corporation USA, Patented product
White Noise
Induces relaxation

Brainwaves

Neural Soundtracks

Beta Waves
Alpha Waves
Theta Waves
Neural Sound tracks
(How to Listen)

- Use headphones
- Sit down in a relaxed position
- Close your eyes throughout the track length
- Sounds comprise of three types: White noise to attract attention, Background Sounds such as beach or night sounds and Slowly reducing frequency track.
- Give yourself 5-10 minutes to get used to the track.
Autogenics
(features)

- The most effective Relaxation Technique
- Learn auto-suggestions for inducing a Physical state of Relaxation in the body
- Originated in the Eastern European countries and then used in USA.
- Aims at inducing heaviness and warmth in hands
- With this exercise, mind becomes calm and focused, all tension is released
Stress

- Palms: cold, sweaty
- Breathing: shallow
- Stomach: light
- Forehead: warm
- Pulse: fast, uneven
- Feet: cold

Relaxation

- Palms: warm
- Breathing: deep, slow
- Stomach: warm
- Forehead: cool
- Pulse: steady
- Feet warm