

Listen To Your Heart.



Vitality, inner balance, well-being

Information about HRV-based Herzklang-Therapy



The path to a healthier
future begins with
self-knowledge
and self-awareness:

Herzklang – Cardiofeedback

Herzklang-Therapy was developed at the Swiss Paracelsus Klinik Lustmühle in the year 2004. The heart rate of the patient and its variability are converted directly into music. The medium of music thus creates a direct access to one's own autonomic regulation: by raising awareness for the signals of their body, the patient learns to relax and to create physical and emotional balance.

In close cooperation with the HRV therapist Michael Falkner of the Paracelsus Klinik Lustmühle, we have now developed the Herzklang-Client-Software for clinics, doctors and therapists, a differentiated auditory system for the musical/auditory display of heart rate variability.

With this brochure we would like to inform you in-depth about the possibilities, which Herzklang offers to help you to successfully walk the path of health and well-being.

HRV – every person's individual rhythm

What is heart rate variability?

Simply considered, heart rate variability (HRV) is the natural rise and fall of your pulse rate as a response to your breathing, blood pressure, hormones, stress and emotions.

The greater your HRV, the better the regulation and thus health of your heart and nervous system. In this way, HRV reflects your entire psycho-physiological (mind, soul and body) inner balance and health.

What restricts heart rate variability?

If you face a stressor, your body must respond with an appropriate answer. This performance and stress response takes the form of increased heart rate and blood pressure, release of specific hormones, tensing of the muscles, etc. All these activities are natural and necessary.

Problems arise if your body responds too often in this way and is not given enough time to recover between challenges and thus return to balanced equilibrium. The result is consistently elevated heart rate, reduced HRV, persistent and extreme levels of damaging stress hormones, suppressed immune activity and the development of stress related symptoms and disease.

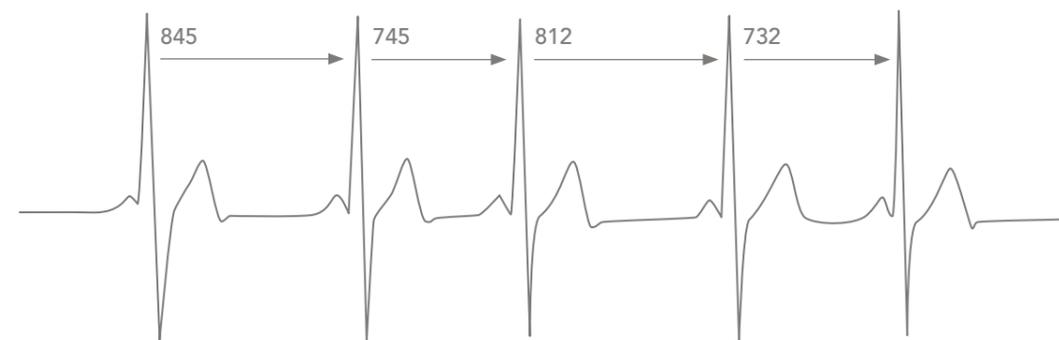


Fig. 1: Schematic diagram of the heart rate variability (HRV)

A high heart rate variability is a mirror of inner balance and health.

Why is the topic of HRV so important?

Scientific studies show that HRV is a reliable indicator of a variety of risks of chronic diseases, behavioral disorders and even mortality.

HRV measurements give important feedback about the state of the autonomic nervous system (ANS) and its individual reactions to stress and disease. HRV represents a reliable gauge of the ANS regulatory ability, particularly with regard to regeneration after stress and diseases.

Everything that strengthens the balance and resilience (energy) of your ANS – reflected in the HRV – improves immune regulation and consequently the overall state of health.

Find access to the language of your body.

Herzklang-Therapy

HRV is often used only for purely diagnostic and analytical purposes. Important therapeutic potentials remain thereby unused.

Herzklang goes beyond pure analysis and puts the patient in a cardio-feedback situation, in which he learns to perceive and influence his heart rate variability. Herzklang-Therapy has become, after over a decade and more than 10 000 therapy sessions, an important component in the range of treatments at the Paracelsus Clinic in Switzerland and is now one of their standard therapies.

Current patient studies on the regulation of behavior related to cardiosensitivity – or heart awareness – indicate that sensitive persons process their somatic signals and emotional stimuli faster and more intensively and, in times of physical and emotional stress, are better able to listen to their needs.

Herzklang uses the strong emotional persuasiveness of the medium of music for the psycho-emotional activation of patients.

An instrument for your Herzklang

Herzklang extends the previous offers in this segment and provides a differentiated auditory system for therapists and patients for the musical representation of HRV.

Herzklang sees the heart as an instrument which is played on – in a metaphorical sense – by the composer, the ANS, which regulates between the spiritual, intellectual, emotional and physical levels of the body.

Music, like no other medium, is able to trigger immediate and deep emotions in humans. Herzklang is based on this.

Cardiosensitivity – listen to yourself

The thus generated personal Herzklang creates a direct access to the otherwise abstract data and allows the listener to recognize themselves in it. Our clinical experiences confirm how sensitive and subtle the organism perceives this musical representation as familiar. We intuitively recognize this transformation of our own processes and rhythms and can thereby relax.

This ability to auto-detect is a crucial aspect of Herzklang-Therapy: the organism treats its own Herzklang as a familiar dimension and harmful elements are recognized and corrected.

Herzklang in detail:

Herzklang-Therapy is carried out in three stages:

1. The recording of the HRV data
2. The processing of the HRV data
3. Listening to and discussing your personal Herzklang

Here the steps in detail:

1. The recording of the HRV data

An HRV measurement of the patient provides all the necessary information in the first step and is a prerequisite for the creation of your personal Herzklang.

The recording is made via a standard HRV recording software and is carried out by a recognized doctor, naturopath or therapist by means of an ear or finger sensor in a length of at least 15 minutes.

Of course, similar HRV data can also be obtained from the measurements of Holter ECGs and used for the Herzklang-Therapy.

The recording is done in sitting, usually while listening to relaxing music.

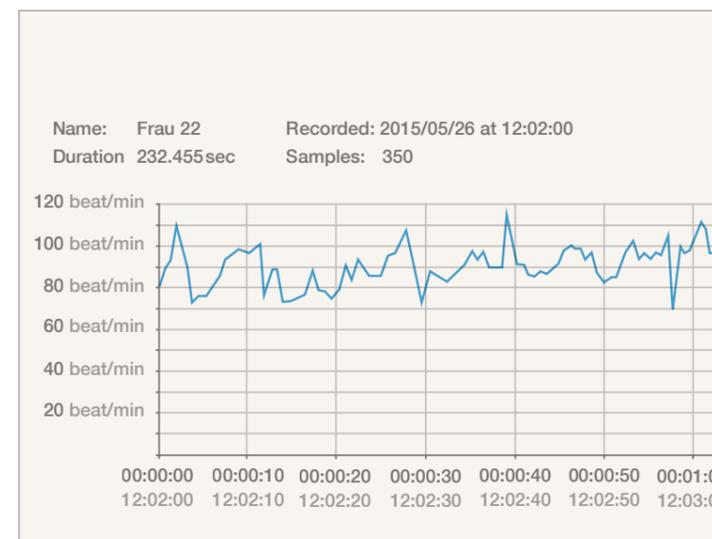


Fig. 2: View of the HRV (Analysis Suite) in the Herzklang-Client-Software

2. The processing of the HRV data

The experiences gained in the Paracelsus Clinic during the last ten years of HRV patient work are incorporated in the basic developments of Herzklang and continue now impressively, the idea of an acoustic representation of HRV data and internal dynamics.

First, we collect basic information on the patient such as gender, size, age, weight, but also illnesses, operations, drugs and the current total psycho-physical state. This information is absolutely necessary for Herzklang. Only after collecting this basic data, can we produce your individual Herzklang.

On this basis, we transform the relevant elements of an individual's HRV into the basic components of sound and music: rhythm, melody, and harmony.



HRV data can be obtained via finger sensor.

The Herzklang-Client-Software

The development of Herzklang and the browser-based Herzklang-Client- Software now allows therapists and patients, for the first time together, to take advantage of the possibilities of a musical cardiofeedback.

In addition to listening to your personal Herzklang as a whole, the four individual components (Heartbeat, Melody, Harmony, Spectrals) can be isolated and played individually.

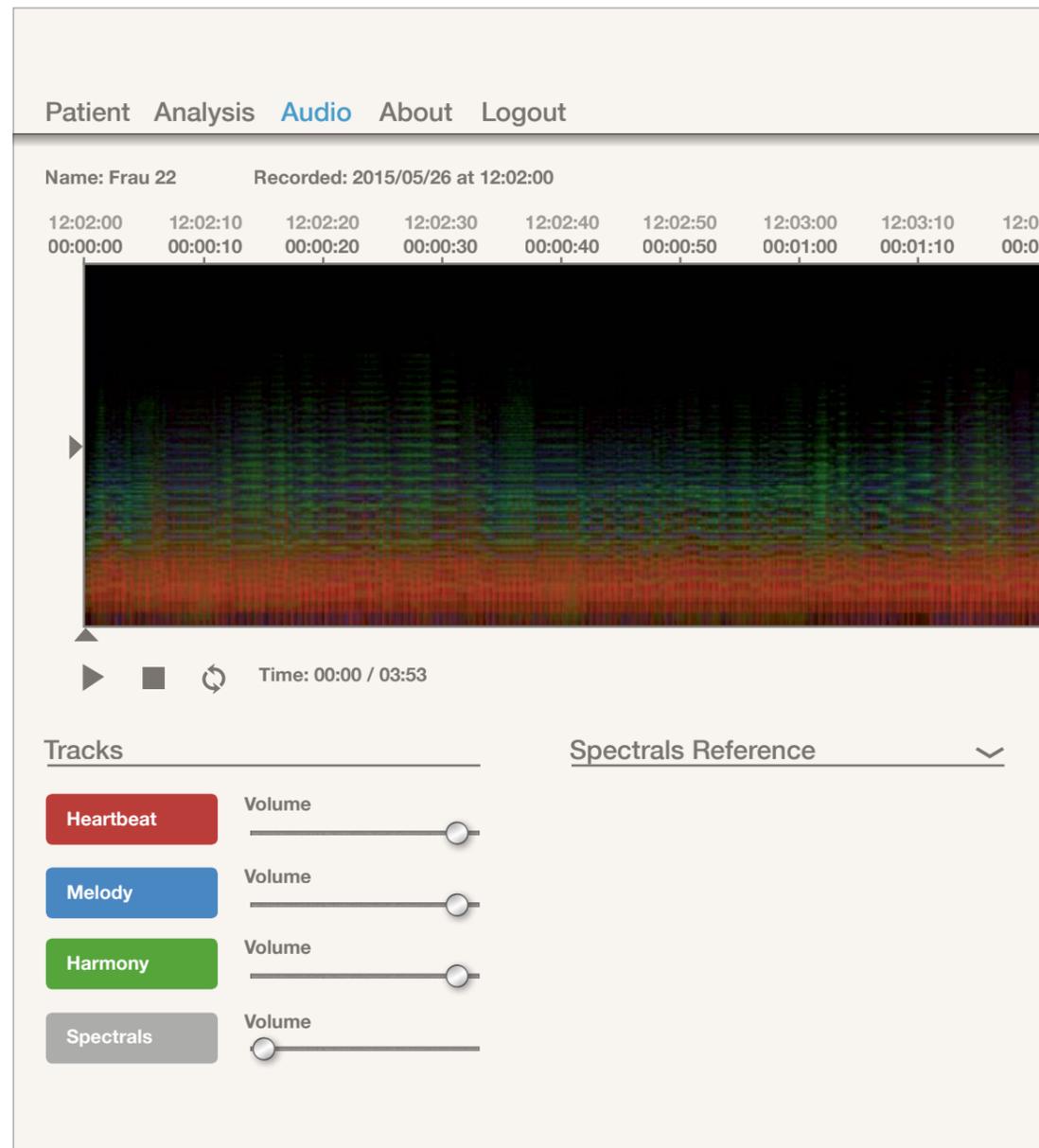


Fig. 3: View of the audio suite in the Herzklang-Client-Software

3. Listening to and discussing your personal Herzklang

With Herzklang, we can now, for the first time, consciously listen to the rising and falling wave of our own internal dimensions, understand the instantaneous rhythmic changes in heart rate – our own rhythm of life – as a highly sensitive indicator of the ability to adapt to the requirements of life and learn to literally listen to ourselves and thus create a completely new understanding of the complexity of our own organism.

After mutually listening to and discussing the patients' personal Herzklang, therapist and patient together set therapy goals for improving the perception of the heart and the HRV.

The patient receives their personal Herzklang CD bundled with an additional link for a digital download, as well as more information about HRV and a range of selected music to help to slow down and to relax.



Patient and therapist consult after the intensive experience of your personal Herzklang.

How Herzklang works for the therapist:

Only the Herzklang-Client-Software lets you play the entire Herzklang session. Here are the main components of the software:

The *Analysis Suite* shows a clinically relevant analysis of HRV data. The graphics, such as the view of the frequency domains, allow a rapid assessment of the individual's condition of their ANS.

In the *Audio Suite*, you can play your patients' personal Herzklang. The four components of the Herzklang can be individually isolated and played.

The *spectral analytical print* of your personal Herzklang, allows a look at the course of Herzklang and visually helps the patient intuitively understand their internal dynamics.

This graphic of the so-called *spectral domains* also gives valuable clues to the relationship and history of sympathetic and parasympathetic activity in the body during the measurement.

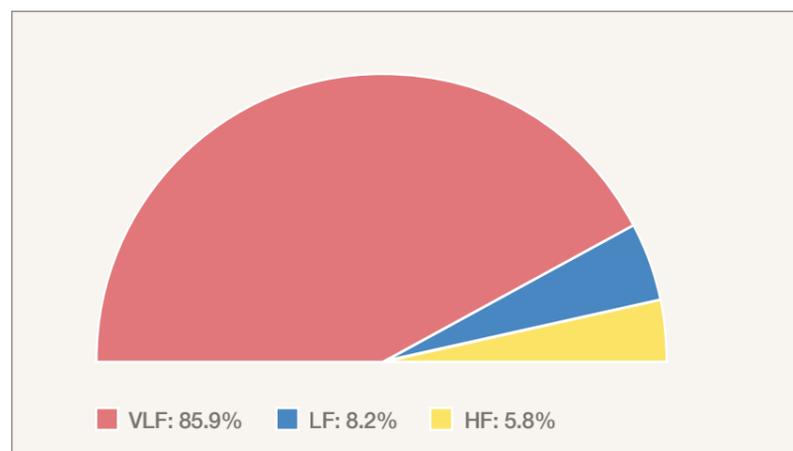


Fig. 4.1: Frequency domain type "sympathetic dominance"

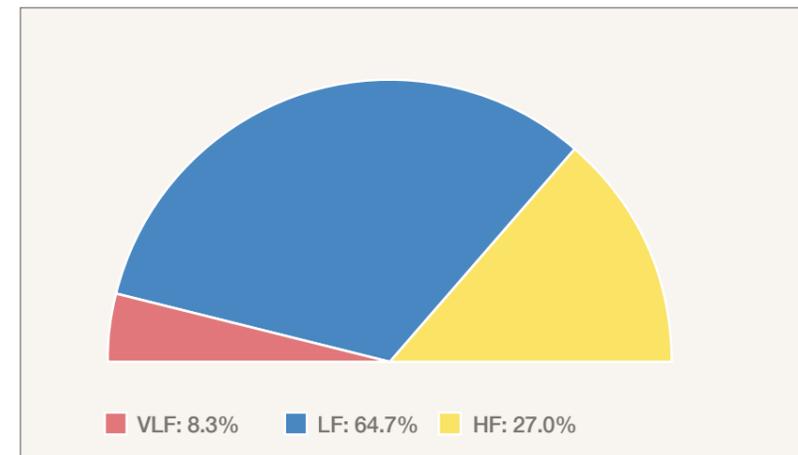


Fig. 4.2: Frequency domain type "balanced"

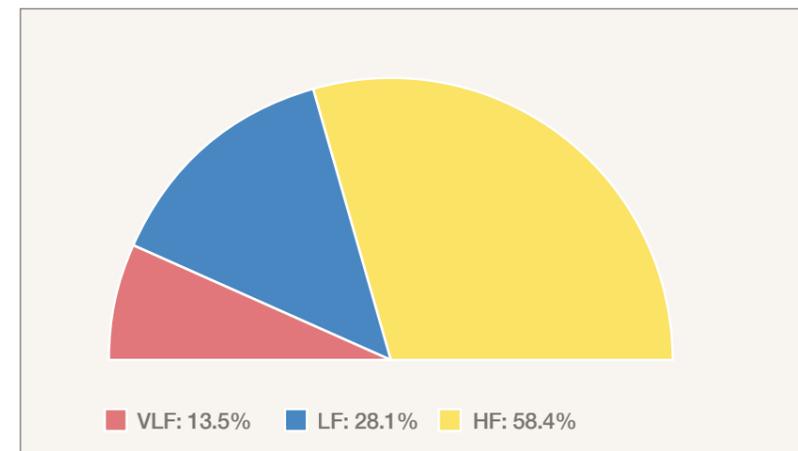


Fig. 4.3: Frequency domain type "parasympathetic dominance"

The use of Herzklang and the browser-based Herzklang-Client-Software by medical practitioners, naturopaths or therapists requires a detailed introduction to the subject and technology of Herzklang through Herzklang- Services.

Your registration as a Herzklang-Client on our server enables the data exchange between your computer and the Herzklang-Server as well as access to the Herzklang-Database. No software installation is necessary, other than a typical internet browser e.g. firefox, chrome or safari.

Your upload of a patient file on our Herzklang-Server can now be processed. Within a short time and after consultation with us, we will provide your personal Herzklang-File ready for use in your account.

Sound and Music

Music is the medium in our lives which can evoke immediate and deep emotions within us.

Music moves us to deep thoughtfulness, to joy, to inner reflection or physical activation – and with Herzklang, we can reach virtually every person with music.

Music can create great confidence, your personal Herzklang allows for an entirely new *look* on oneself and one's own inner dimensions.

Herzklang does not try to classify normative in *sick* and *healthy*, but to help make the uniqueness of each individual, in its most diverse forms of vitality, be heard and thus tangible.

Herzklang wishes you
a vital and healthy life
in balance.



herzklang®



Herzklang Services GmbH & Co KG
Eggersallee 15
22763 Hamburg
Germany

fon + 49 (0) 40 556 201-181
fax + 49 (0) 40 556 201-188

info@herzklang-services.com
www.herzklang-services.com

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