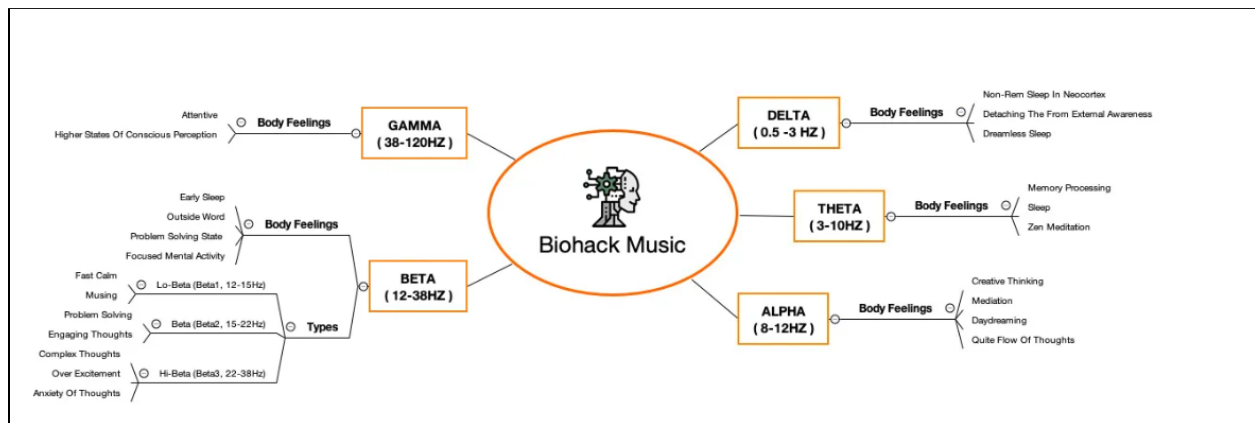


BIOHACKING: A STUDY

Bio-Hacking is a “do it yourself” scientific approach to experiments on the body, including the food we eat, the music we listen to, and the lifestyle we follow. It involves monitoring what happens in the body and creating takeaways of “what is working” and “what is not working”.

BIOHACK MUSIC



Music is a crucial biohacking avenue that can transform your moods in more ways than one. If you’ve known or heard about binaural beats and wonder how it works, it has a simple philosophy.

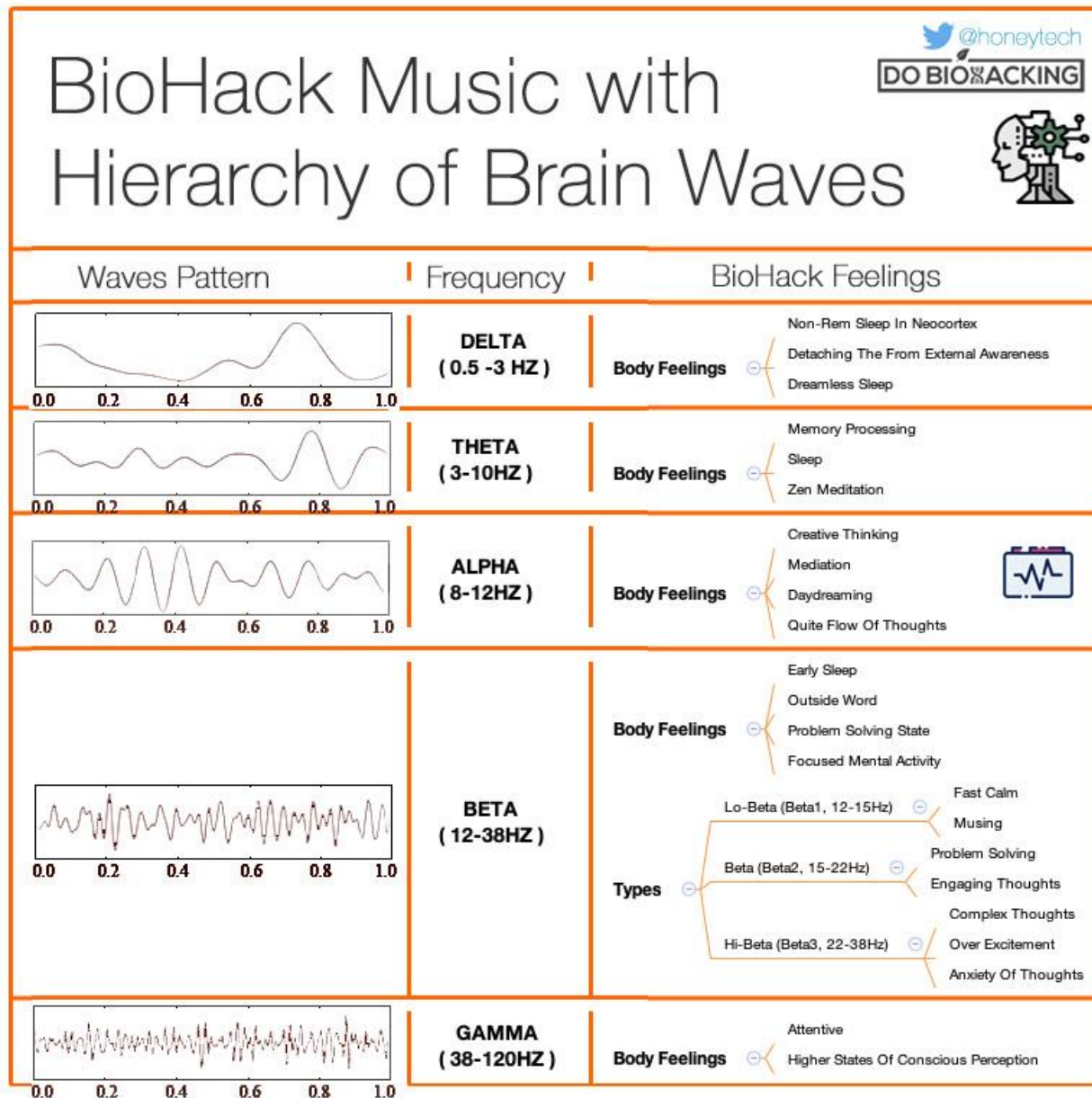
For instance, the brain synthesizes binaural beats naturally. When you listen to this special music, your left and right ears receive different sounds and tone frequencies. When your brain captures these different frequencies from both your ears, it produces a consistent and rhythmic frequency known as binaural beats, which is what you are perceiving.

And using this scientific principle, you can now induce specific states into your body such as healing, transcendental meditation and awareness by listening to binaural beats and even chanting the sacred ‘OM’, Tibetan chanting or meditation.

More and more scientific studies are showing conclusive and definite research on brain wave entrainment and its effects through the powerful use of binaural beats, chakra meditation and Tibetan chants. Scientific research conducted in 2018 revealed the changes in the bioelectrical brainwave activities of participants' brains that took place while they were listening to specific types of music. For instance, it was seen that Sonata K 448 was instrumental in improving spatial performance.

From binaural beats and isochronic tones, gamma frequency music has the potential of awakening, energising, recharging and heighten your moods. Further, it can also induce you into a relaxed state of focus, improve your learning and solving problems, accelerate your studying and concentration techniques and improve your peak mental states.

What are brain waves?

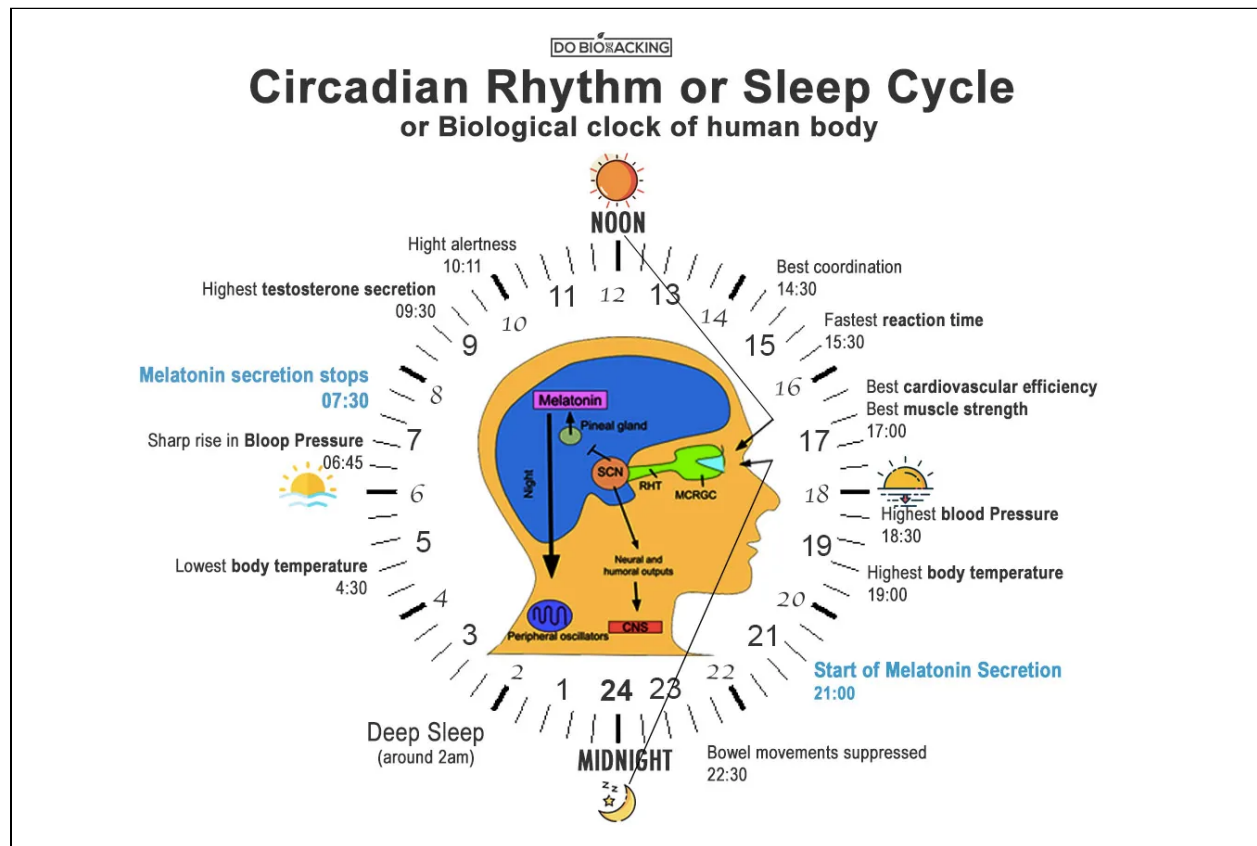


Brainwaves are rhythmic, repetitive patterns of neural activity (neural oscillations) in the central nervous system. Brainwaves can be produced by synchronized electrical pulses

from different masses of neurons communicating with each other. Neural tissue can generate oscillatory patterns in many ways, driven either by mechanisms within individual neurons or by interactions between different masses of neurons.

So ideally, you would customize the music according to the task you are performing. If you're looking for the right music to study and focus on, remember to opt for beta and alpha frequencies. Experiment and see what you find comfortable. If you're looking to use binaural beats to induce deep and quality sleep, look for Delta and theta frequencies. If you're looking to introduce biohacking music, you could begin with small sessions of music therapy and increase your exposure to various kinds of positive mood enhancement tunes to build into your daily lifestyle.

BIOHACK SLEEP



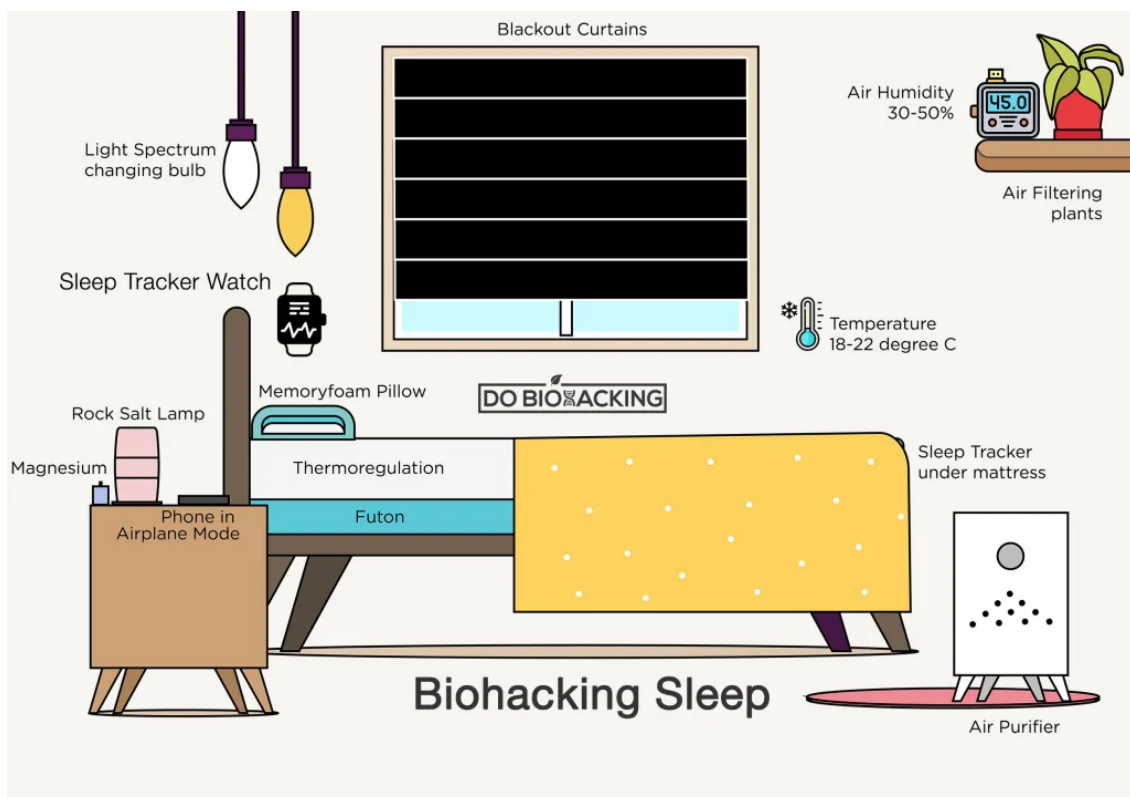
Our body, Just like any machine, has a manual to perform under ideal conditions. During our sleep, our body goes through very critical biological processes related to our brain, organs & chemicals responsible for immunity(Cytokines).

Our brain resets when we go to deep sleep by getting rid of toxic waste. Our body generates various hormones & chemicals when we sleep, this repairs cell and restore energy. Our brain generates various oscillations in different frequency (Delta waves (. 5 to 3 Hz), Theta waves (3 to 8 Hz), Alpha waves (8 to 12 Hz), Beta waves (12 to 38 Hz) & Gamma waves (38 to 42 Hz) to communicate with the body.

What counts as sleep?

If you were to analyze sleep and break it down into technical components, typically, there are four pillars of sleep in the order of importance. These must be aligned to get the right quality of sleep.

- The Mind
- Your Circadian Rhythm
- The Environment Around You
- Your Mitochondria, also known as “the powerhouse of the cell & body”.
Mitochondria are a part of a eukaryotic cell, responsible for energy for the body. They consist of adenosine triphosphate (ATP), a molecule that cells use as a source of energy.



How to Biohack Sleep?

Ideally, the best way to ensure a good night's sleep is to calm your mind. An overactive mind could make it almost impossible to sleep and result in poor quality sleep. If you find it difficult to calm your mind, here's what you can do.

1. Practice deep abdominal breathing

As an incredible tool at your disposal, deep breathing can relax you and cut down your stress. Scientifically speaking, practising deep abdominal breathing is known to activate the vagus nerve which is a crucial component of fostering a sense of safety and grounding to enable you to fall asleep.

2. Get Some Sun

Look at the sun during crucial moments in a day. Pick out the sunrise, midday, and sunset to expose yourself to the sun for 15 to 20 minutes.

3. Avoid blue light exposure

When you are not exposed to the sun, consider wearing blue-blocking glasses. The specific type of lens helps filter out as much artificial blue light around you as possible while helping you retain your healthy vision. All artificial light produces a good deal of blue light that prevents your body from producing accurate amounts of melatonin.

Note: If you don't already know. Blue light is not good for humans, it can damage light-sensitive cells in the retina. Long exposure to blue light may increase the risk of macular degeneration.

4. If possible, use candles or red lights during sunset.

Once the sun has completely set, you can fire up your circadian rhythm with the help of candlelight or red light. Since fire emits very little blue light, it can be key in triggering your circadian rhythm.

5. Eat your last meal before the sunsets

Did you know that your digestion functions optimally when the sun is still up? This means that as the sun begins to set, your body naturally and biologically gets ready to rest and sleep. Hence, if you eat a big meal, especially a meal high in carbohydrates, it can significantly affect your sleep.

6. Use blackout curtains or wear a sleep mask

Even the tiniest amount of artificial light from the street outside could spike your cortisol levels and negatively impact your body's melatonin production. So, to avoid that you can either wear a sleep mask or the best option is to use blackout curtains, which I recommend.