

# BIORHYTHMS

\ 'bī-ō-,ri-thəm \

An innately determined rhythmic biological process or function (as sleep behaviour); also : the internal mechanism that determines such a process or function.

## Rhythm is Organization

**“It don’t mean a thing if it ain’t got that swing”**

A collection of individual notes is not music, its just sound. **Music** relies on the organizing nature of rhythm to turn a series of notes into something magical for the listener!

## Rhythm Controls Us



### **circadian**

rhythms with a 24 hour period.

### **diurnal**

rhythms linked to day/night.

### **ultradian**

rhythms **shorter** than 24 hours, such as feeding cycles.

### **infradian**

rhythms with a cycle **longer** than 24 hours, such as the human menstrual cycle.

### **internal**

Our internal biological clock controls these **endogenous** rhythms. For example, the body temperature cycle.

### **external**

Some cycles synchronize with **external stimuli**. The day/night cycle of our environment controls the rhythm of our sleep/wake cycle.

### **zeitgebers**

External stimuli that cue biorhythms.

### **sunlight**

**food**

**noise**

**socializing**

## Rhythm isn't Rigid

### **Working at Night**

20% of the USA's workforce work outside of "normal business hours. Circadian rhythms can only shift an hour or two per day when we change our sleep schedules. Entrainment is the process of resynchronizing our rhythms to match our schedule. This can take several days.

### **Breathing Patterns**

Short shallow breaths,  
• raise heart rate  
• reduce gas exchange in the lungs  
• inhibit peristalsis

Long slow, deep breaths,  
• lower heart rate  
• improve gas exchange in the lungs  
• improve digestion

### **Social Jet Lag**

When we stay up late, and then sleep in on the weekends, the body experiences circadian disruption equivalent to taking a 2-3 hour "flight" westward on Friday night only to "fly" back on Sunday night, waking earlier than we'd like to on Monday morning.

**“Travel from West to East produces more jet lag due to the loss of night time”**

