

The Time of Your Life

By Terri Saunders

The cycles of nature are evident all around us. The sun greets us with morning light, and the moon ushers in the evening stars. As the seasons change temperatures rise and fall and life adapts. Flowers bloom, fruit ripens, and trees drop their leaves. Animals migrate, reproduce and hibernate. Our ancestors were acutely aware of these natural rhythms and lived their lives in harmony with them. They observed the cyclic patterns of the planetary bodies and used them as a guide for planting and harvesting food. They rose with the morning light, worked and played under the sun's rays, rested in darkness, and ate natural foods as they became available. Life was simpler and more physically demanding, yet enriched with the vibrant nurturing energies upon which healthy life depends.

Today, humans spend most of their time indoors in temperature controlled artificially lit environments, eat commercially grown and processed foods out of season, and stay up long after sunset. While natural cycles may no longer dictate our daily activities, our bodies and minds still respond to the call of nature just as the plants and animals do. Through an internal timing mechanism called the bodyclock, our brain, endocrine system and organs were designed to operate in response to cues from nature. The more we cut ourselves off from nature, the more imbalanced we become.

Chronobiology (from *chrono* meaning "time") is the field of science that studies the effects of nature's cycles on living organisms. The movement of the earth on its axis and around the sun creates the seasonal changes and cycles of day and night. These rhythmic natural forces of nature program our DNA to direct all physiological functions with precise timing and accuracy. A sunrise outside triggers a sunrise in our body, awakening us for the day's activity. As darkness descends our body slows down and seeks rest. Similarly, the brighter longer days of spring and summer awaken us to action and stimulate growth, while the cooler shorter days of fall and winter compel us to slow down and go within. The spring and autumnal equinoxes when daylight and darkness share equal time are power points which trigger major shifts in energy in nature and in our bodies. These times stimulate a clearing of toxins, resulting in allergies, colds and flu. The moon influences the ocean tides and body fluids, regulating the reproductive and growth cycles of plants, animals and humans.

Biological rhythms have been discovered in all plants, animals and even microbes. Seasonal or monthly cycles of migration and reproduction are called infradian rhythms, while ultradian rhythms refer to shorter cycles such as the 90 minute REM cycle of sleep and 3 hour cycle of growth hormone production. The most significant and widely researched of these rhythms is the 24 hour circadian rhythm (from the Latin *circa*, meaning "around" and *dies* meaning "approximately a day"). 18th century scientist Jean-Jacques d'Ortous de Marianne was the first modern scientist to observe these rhythms in plants during a 24 hour period. The study of circadian rhythms on humans began in earnest in the 1970's and has steadily grown since.

The master bodyclock that regulates 24 hour cycles in our body is a cluster of nerve cells known as the suprachiasmatic nucleus (SCN) which resides deep in the hypothalamus area of the brain. The SCN tells time from external cues such as light and darkness perceived by photoreceptors in the retina of the eyes. As the SCN interprets the light rays, it sends chemical messengers to the endocrine system which secretes hormones

that regulate sleep, metabolism and hormone production. At sunrise the SCN sends a message to the brain to produce the hormone serotonin and to the adrenals to produce cortisol which wakes us up to begin our day. Serotonin creates a feeling of well being, enables us to stay alert and focused, and has a powerful effect on vitality, sexual behavior, memory and appetite. As darkness falls, the pineal gland secretes melatonin to slow us down and induce sleep. Melatonin is essential for deep restful sleep, a strong immune system and longevity. If your body produces enough serotonin from natural light during the day, it will also produce sufficient melatonin at night.

The SCN synchronizes "clock genes" in the organs and glands that carry genetic instructions to produce proteins which rise and fall in rhythmic patterns. These chemical messengers influence the sleep/wake cycle, body temperature, heart activity, hormone secretion, blood pressure, blood sugar, red blood cell production, oxygen consumption, digestion, and metabolism.

Ignoring our natural sleep cycle by staying up late and sleeping late disrupts our circadian rhythms creating a cascade of problems throughout the body including hormonal imbalance, digestive and circulatory disorders, weak immunity, poor cognition, poor coordination and mental illness. Working the night shift and pulling "all-nighters" has a devastating affect on the body and mind and can take several days to recover. Jet lag occurs when a change in time zones disrupts our circadian rhythms, and can be resolved by observing the sunrise and sunset which resets the bodyclock. Freerunning is when, in the absence of sunlight, circadian rhythms operate independently and are reset to "normal" when exposed to natural light.

The eastern traditions of Ayurveda and Traditional Chinese Medicine (TCM) have long recognized the importance of living in harmony with the natural rhythms of the universe. The 24 hour cycle is broken down into segments, during which certain activities are recommended to support health and wellbeing.

Ayurveda, which means the "science of life", recognizes three principal forces of nature called doshas that emit a profound influence on the body and mind for a period of 4 hours each, twice in a 24 hour day/night cycle. These doshas are vata, pitta and kapha. Each dosha supports certain activities and body functions and suppresses others. TCM recognizes 2 hour time segments in a 24 hour period, with each time period directing peak energy to different organs for function and balance. Health depends on when and how we perform our daily activities.

The first **kapha** cycle begins at dawn at around 6 am and lasts until 10 am. During this time metabolism is still slow as we gather strength and stamina for the new day. At 6 am the adrenals secrete cortisol and adrenaline to stimulate the body to awaken. If we arise between 6 and 7 am we set our bodyclock in harmony with our natural circadian rhythm. 6:45 am marks the sharpest rise in blood pressure and at 7:30 am melatonin secretion stops as serotonin production increases with the light of day. Sleeping past 7 am can cause intense dreams and grogginess. Ayurveda calls sleep between 9 am and 11 am "dangerous sleep" due to the negative effects on the body. A recent German study showed that rising late in the morning may contribute to heart attacks. The sex hormones are at their peak at 9 am enhancing sexual activity. This is an excellent period for exercise which helps to eliminate toxins accumulated during the night. TCM recommends a hearty protein rich breakfast when stomach energy peaks at 9 am, while ayurveda

recommends a light breakfast between 7 and 8 am as the digestive juices are gearing up for assimilation. TCM notes that large intestine energy peaks from 5 to 7 am stimulating bowel elimination, and spleen energy is enhanced between 7 and 9 am facilitating lymphatic cleansing. Upon arising, drinking 8 ounces of warm water with 1 tsp. of Himalayan salt water solution (sole) provides trace minerals and balances energy.

From 10 am to 2 pm energy shifts from the slow heavy kapha cycle of the early morning to the hot metabolic **pitta** cycle of midday. The warmth of the sun increases from 10 am to noon when it reaches its highest point in the sky. Our metabolism quickens and we become alert and mentally focused. This is the best time to soak up the sunshine for vitamin D production. (D3 supplements are recommended in the fall/winter and if you stay inside). This is the time to plan and do the bulk of the day's work. The digestive fire peaks between noon and 1 pm inviting us to eat our largest meal of the day. This is when the digestive juices such as bile, hydrochloric acid and enzymes are most active for breaking down food. If we eat a nourishing meal at this time we will have enough energy for the rest of the day. If we wait until after 2 pm to eat, we will feel sluggish in the late afternoon. In TCM from 11 am to 1 pm the heart energy energizes us to get things done and, small intestine energy from 1 pm to 3 pm, optimizes assimilation.

The first **vata** cycle from 2 pm to 6 pm is a time of movement and activity. If we have eaten at midday, the late afternoon hours are spent assimilating and transporting nutrients to the cells for metabolic function and energy. Eating lunch during vata time impedes assimilation as the food will not be broken down well for optimum absorption. Symptoms of indigestion will be more profoundly experienced at this time. In TCM bladder energy is most active from 3 to 5 pm, with kidney energy kicking in from 5 to 7 pm. This period is supportive for mental performance and study due to increased nerve cell activity. Due to increased neural sensitivity this is not a good time to have dental work! Communication is lively and we seek social stimulation. Problems with intestinal absorption and metabolism surface at this time, creating anxiety, irritability, flatulence, fatigue, and cravings for sweets and stimulants such as coffee, tea, chocolate, sodas and cigarettes. Alcoholics start looking for their first drink towards the end of this cycle.

The second **kapha** cycle from 6 pm to 10 pm is marked by a distinct drop in sunlight signaling a decrease in activity as we slow down and prepare for the evening period of rest. Our blood pressure and body temperature are highest between 6:30 and 7 pm. Dinner should be early and light as digestive ability sharply declines after 6 pm, and the most important digestive enzymes are not produced after 8 pm. Food eaten after this time will decompose in the stomach and produce toxins, creating indigestion and restless sleep. The end of the day is a good time to read and meditate. In TCM pericardium (heart protector) energy is activated from 7 to 9 pm inspiring us to be social, and San Jiao energy from 9 to 11 pm prepares the body for sleep. Mental activity slows down as serotonin levels fall and melatonin begins to rise at 9 pm making us feel drowsy. A sudden drop in endorphins and corticosteroids occurs at 9 pm which weakens immunity if we stay up much longer. It is important to go to bed before 10 pm. If we are still awake at 10 pm, the adrenals start secreting cortisol which will make it difficult to fall asleep. Repeatedly ignoring the body's urge to sleep can upset the melatonin cycle. This is the case for "night owls" who no longer feel sleepy between 9:30 and 10 pm. Magnesium deficiency can leave one feeling on edge making it

harder to fall asleep. Taking 400 mg of magnesium or applying magnesium oil topically at night can relax the body and mind.

The second **pitta** cycle is from 10 pm until 2 am. From 10 pm to midnight we experience our deepest most restorative sleep of the night, often referred to as "beauty sleep". While the brain is resting, energy is used for cleansing and rebuilding the body. During the day mental activity causes proteins to build up in the synapses of the brain. During sleep, reduced brain activity allows blood from the brain to circulate to the liver, which cleans the buildup of proteins and returns the refreshed blood to the brain for the next day's activity. Remaining awake during this important cycle interferes with this rejuvenative process and accelerates aging.

TCM gallbladder energy is activated from 11 am to 1 am and liver energy is most active from 1 am to 3 am. During this cycle the liver is very busy supplying vital nutrients and energy to the entire body, breaking down toxins and cleaning the blood. It produces bile for fat digestion the following day and synthesizes proteins for building cells, hormones and blood. Waking up between 1 and 3 am is often due to excessively low blood sugar which naturally drops to its lowest point at 2 am. Awakening during this time may be a sign of adrenal fatigue and poor insulin regulation which can lead to diabetes. If you stay awake or eat this time the liver does not receive enough blood to perform its vital functions, resulting in an accumulation of toxic waste. Toxins in the blood as a result of a poorly functioning liver damage the blood vessels and heart.

The second **vata** cycle from 2 am to 6 am is a time for transporting waste from the liver and cells of the body to the organs of elimination including the lymphatic system, kidneys, lungs and colon. Sleep during this period allows us to dream and process issues of the day through communion with the subconscious and higher self. Body temperature drops to its lowest point at 4 am, then begins to rise. Blood pressure is lowest just before waking and rises shortly thereafter. If blood pressure does not sufficiently drop during this cycle the heart becomes stressed. This is why most cardiovascular events tend to occur in the early morning. TCM lung time is 3 to 5 am.

The adrenals pump cortisol into the bloodstream towards the end of this vata cycle stimulating us to wake up at daybreak. In a healthy system urination and bowel elimination occur shortly after waking. Toxins released through the skin should be washed off in the morning. Poor elimination creates a backup in the entire system and is the primary cause of respiratory congestion and allergies, prompting most asthma attacks to occur in the early morning. At dawn the life force or prana is most pure, making this an auspicious time to meditate. It is said that the highest spiritual states can be achieved at this time. Spiritual practices performed during this cycle stay with us for the rest of the day.

Adopting a lifestyle in accordance with the natural energies around and within us can make a huge difference in health. Synchronizing our daily activities with nature entrains our bodies to function in harmony with our internal bodyclock, allowing us to experience the joyful life that nature intended.

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