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Featured Article

Lunaception

Or how the moon, light & dark affect fertility & reproductive health

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Find out why a dark room and a light bulb could be keys to conceiving, and how to balance Yin and Yang by cycling in harmony with the moon!

What is Lunaception?

The term "lunaception" was originally coined by Louise Lacey, whose goal was to use the connection between female hormones and the phases of the moon as a method of birth control.[1] Lunaception is now thought of as a natural fertility method that predicts ovulation and encourages hormonal balance by synchronizing the menstrual cycle with the phases of the moon.

In the 1970s and 80s, Louise Lacey taught lunaception to predict ovulation times as a natural method of contraception to women who wanted natural birth control without resorting to pharmaceuticals, and to those sensitive to chemical spermicides. Lacey believed that in ancient times when fire or the moon were the only lights at night, women's menstrual cycles were timed by the lunar cycles. Lacey says:

> *"I do believe whole heartedly that almost any fertile woman can get to know her body so well, can be so tuned into her part of the cosmos, that she will be able to make pregnancy a timely option, instead of an inevitability."*

Fertility expert Kate Singer has had great success for the past 20 years helping women both conceive and prevent pregnancy using lunaception and other natural techniques. Along with daily charting of fertility signals, Kate has successfully used lunaception as a method to increase fertility in couples who have difficulty conceiving. She also teaches mother-daughter

groups the method to prevent unwanted pregnancies by helping teenage girls understand when they are approaching ovulation.[2]

Light and ovulation

Can light, and in particular the light of the moon, affect ovulation? According to Lacey, our bodies evolved to be in tune with the cycle of the moon's rhythms – to menstruate in darkness at the new moon and ovulate in bright light when the moon is full. The study of circadian cycles is a relatively new science, but scientific studies done over the past 40 years have proven that moonlight (or a white/blue night light) helps the body shift from preparing the lining of the uterus and the egg follicles to gearing up for ovulation. Interestingly, it seems that red light, like the light of campfires our ancestors gathered around each night, does not have this same effect.

The pineal gland, though in the dark center of the brain, is responsible for our perception of light and dark and thus extremely important for a healthy circadian rhythm. It produces melatonin, the hormone that is well-known for helping us maintain healthy wake/sleep cycles, and ultimately responsible for the quality and duration of sleep. The pineal gland also directs many other daily

rhythmic activities through the hormonal actions of melatonin – including stress levels, appetite, and the onset of puberty.[3] This hormone is primarily secreted at night, and it requires complete darkness to be produced. Conversely, exposure to bright light at night – specifically white or blue light (light with a wavelength under 530 nm) can inhibit the pineal gland's production of melatonin.

Circadian rhythm and reproductive health

Melatonin's role in the circadian rhythm to promote sleep is well-known, but exciting new research underlines the importance of stable circadian rhythms, not only to our sleep/wake cycles, but also to our fertility and reproductive health.

Interestingly, melatonin is also produced in the reproductive organs, including in developing follicles in the ovaries, in the placenta, and in the testes. Melatonin acts to suppress ovulation and reduces the secretion of androgenic hormones from the ovaries. Melatonin is a powerful free radical scavenger and protects the developing follicles from oxidative stress, especially during the rapid growth preceding ovulation. It also protects a developing fetus from oxidative stress, and may preserve the optimal function of the placenta.[4]

Both stable circadian rhythms and cyclic melatonin production are critical for optimal ovarian physiology and placental function. In 2016, researchers asserted that the circadian clock system is deeply integrated in female reproductive physiology, and in fact dictates the timing and amplitude of gene expression in each tissue of the female hypothalamic-pituitary-gonadal (HPG) axis. They posited that disruptions to the circadian clock function at the molecular, cellular or systemic level correlate with significant declines in female reproductive function, resulting in impaired fertility. Disruptions to the circadian rhythm may be due to traditionally recognized reasons such as rotating or night shift work, or frequent travel across multiple time zones, but may also be due to exposure to endocrine disrupting chemicals, environmental toxins, and/or irregular hormone levels during sexual development.[5]

In 2015, researchers asserted that disruptions in the expression of circadian genes, whether due to hereditary or environmental factors is associated with increased incidence of breast, prostate, gastrointestinal and hematologic cancers. Circadian genes are highly expressed in the ovaries where they regulate ovulation, and thus circadian disruption is associated with several ovarian cancer risk factors, including endometriosis. Results from their study suggest that variation in circadian genes may be associated with a risk of ovarian cancer, likely through disruption of hormonal pathways.[6]

Additionally, researchers stated that artificial light at night (particularly white and blue light) should be avoided for optimal reproductive health and fertility because exposure to artificial light after the sun goes down at night disrupts the master circadian clock and suppresses natural elevated nocturnal melatonin levels.

How does Lunaception work?

Back in the 1960s and 1970s, researchers such as Dr. Karuna Dewan began to focus on using light exposure that mimicked the light of the moon to shorten and regularize the menstrual cycle. In 1990, researchers confirmed that women with long and irregular menstrual cycles who slept with a regular white 100-watt light bulb by their bedside from days 13 to 17 of their menstrual cycles succeeded in regulating and shortening those cycles from a mean of 45.7 days to a mean of 33.1 days. This suggested that moonlight (or simulated moonlight) may have promise for treatment of infertility, for contraception, and for other endocrine interventions.[7]
In the late 1960s, Lacey noticed that being on the contraceptive pill upset

her menstrual cycle's natural rhythm. She went off the pill, but then experienced very irregular cycles. She began reading about links between the circadian rhythm and the sexual cycles of some primates, which suggested that peaks of sexual activity were related to the cycle of the moon. Lacey became excited by the early research into light and ovulation, which dovetailed with her emerging understanding that our bodies evolved to respond to the light and dark of the moon's rhythms. In earlier times, menstruation was often called a woman's "moon time". She began to successfully apply the theory to herself and her female friends as a method of natural contraception. By avoiding sexual intercourse on the days they slept with a bedside light (triggering ovulation), Louise Lacey and 27 of her friends were able to keep regular and healthy menstrual cycles, and effectively avoid unwanted pregnancy until they reached menopause.

According to Lacey, women should menstruate during the new moon and ovulate at the full moon. The daily ebb and flow of the tides from the pull of the moon and its monthly waxing and waning are reflected in the monthly ebb and flow of each woman's menstrual cycle. A healthy menstrual cycle (approximately 28 days), roughly corresponds to the 29-day lunar cycle. During the new moon there is very little or no light. During this portion of the cycle melatonin production is high, and ovulation does not occur. By the time the moon is full the development of the follicles should be complete and the full moon's bright light slows the production of melatonin in order to stimulate ovulation.

For modern women in an age of intense nighttime white and blue light-pollution and electronic gadgetry, to reproduce that rhythm all light must be shut out while sleeping except at mid-cycle. This means sleeping with light-blocking drapes and blocking the bottoms of doors with towels to sleep in total darkness every night of the month except three. During the three days surrounding the full moon, the curtains can be opened to allow the light of the full moon to illuminate the room. If the moonlight is not available or the woman's cycle is far off that of the moon, then a small white or blue light night light must be added for three nights to reproduce its effects. Lacey notes that what often happens is that when a woman follows this cycle of light and dark, her body will become synchronized with the actual moon's cycles, and at that point she may be able to simply open her drapes during the full moon to expose herself naturally to the moon's light.

Additionally, research done in 2007 shows that morning exposure to bright light in the follicular phase of the menstrual cycle stimulates the secretion of reproductive hormones from the pituitary, promotes ovary follicle growth, and increases ovulation rates in women with slightly lengthened menstrual cycles. This makes absolute sense, as it is the other half of the equation in terms of promoting a healthy circadian rhythm. Therefore, after sleeping in

complete darkness, it is important for women to then expose themselves to plenty of bright daylight.[8]

What would the TCM perspective be?

In Chinese medicine, what is in the macrocosm of the Earth and the Heavens is always reflected in the microcosm of our human bodies. So Chinese medicine agrees with the idea of the daily ebb and flow of the tides from the pull of the moon and its monthly cycle as it waxes and wanes being reflected in the monthly ebb and flow of each woman's menstrual cycle. The moon itself is Yin - dark, mysterious, associated with night. So the connection between Yin women and the Yin moon is a strong one, in keeping with the natural order in Chinese medicine.

For thousands of years, Chinese medicine gynecologists have recognized that the length of a woman's healthy menstrual cycle should be approximately 28 days, following the waxing and waning of the moon. Menstruation continuously 7 days early, late, or coming at irregular times are all classified as "diseases"; simply an indication that the woman's cycle is out of harmony with the natural cycle.

During the new moon there is very little or no light. In Chinese medicine the first part of the menstrual cycle is considered a time of Yin growth – dark, cool, and devoted to nourishing and building Blood, Yin and Jing-essence. It is a time of dark inner Yin preparation. Thus with the encouraging darkness of the new

moon the developing lining of the uterus thickens with blood and nutrients, and the developing follicles grow healthy and large. The moist cervical fluids are Yin, and thus increase during the Yin time of the cycle, becoming thicker, then creamy, and finally at the height of Yin just before ovulation a copious amount of stretchy egg-white mucus is created.

By the time the moon is full, the development of the follicles should be complete and the full moon's bright light encourages the shift from dark Yin growth to the explosive bright Yang force of ovulation and potential conception. Ovulation is quite literally explosive, an egg bursting out of the ovary, and the warming of the body and particularly of the uterus in preparation of conception is a hot and Yang occurrence. The cervical fluids dry up under the influence of the hot bright Yang.

It is in keeping with Chinese medicine that when practicing lunaception and sleeping in complete Yin darkness, it is important for women to then expose themselves during the day to plenty of bright Yang daylight.

Using imagery that speaks to human beings' connection to and reflection of nature much as traditional Chinese medicine does, Katie Singer says:

> *"Like the earth's surface, a woman of childbearing age moves through cycles of heating and cooling, which in turn create drying and moistening, which in turn provide a fertile environment for life to evolve. Rocks, glaciers, plants and animals (including humans) all evolve in concert with these processes. Just as a meteorologist can observe and measure cycles in the earth's surface to determine weather patterns, a woman can observe her daily waking temperature, cervical fluid and cervix changes to gauge her gynecological health, and to determine when she can and cannot conceive."*

Chinese medicine would abhor our post-industrial nighttime light pollution as being out of balance with nature. It would agree with the assertion that being exposed to artificial lights, from nighttime television to bright computer screens, cell phones and tablets, are an excessive Yang daytime activation at night, when we should be in calm, quiet, dark Yin. Therefore, Chinese medicine would agree that practicing lunaception for several months to regulate the menstrual cycle and align it with the moon cycle would help the body become in synch with its own natural rhythm, thereby increasing fertility and reproductive health.

Bio: *Laura Stropes, M.S., L.Ac. is a licensed practitioner of acupuncture and traditional Chinese medicine, with a great love of Chinese herbology. She has been practicing in the San Francisco Bay Area since 1998. She specializes in Chinese internal medicine, with a strong focus in TCM gynecology, fertility, pregnancy and pediatrics. She has also been an herbal consultant for Mayway for 18 years. Laura was the project manager of the first two Mayway websites, coauthor of the book "A Practitioner's Formula Guide: Plum Flower & Minshan Formulas" - Wrinkle, Stropes & Potts published in 2008, and has been the senior herbal consultant since 2012. Laura may be reached at: BerkeleyTCM@yahoo.com or 510-326-9597.*

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