

Quadrant II – Transcript and Related Materials

Programme	: Bachelor of Science (First Year)
Subject	: Zoology
Course Code	: ZOG 102
Course Title	: Animal Behaviour
Unit	: Biological clocks
Module Name	: Chronomedicine, chronotherapy
Name of the Presenter	: Ms. Swizel Quadros

Notes

Chronomedicine

Chronomedicine deals with the prevention, causation, diagnosis and treatment of diseases in humans. It particularly focuses on the role time plays in our physiology, endocrinology, metabolism and behaviour. Chronomedicine is defined as the application of chronobiology in order to understand the pattern of disease, which can be related to disturbances of circadian rhythm. The field of chronomedicine explores the interaction between biological rhythms, medicine and drugs. To make sure that the body has effective amount of drug the medications should be taken regularly. Taking medicines regularly means: taking medications at the proper intervals during the day and taking all the doses every day. Blood pressure medicines are taken at bedtime to lower the blood pressure during night and early morning. Thyroid replacement drugs are recommended to be taken in the morning (dosage adjusted based on the levels of hormones in the blood and the consistency of the medicine being taken). Phosphonates which are given to treat and prevent osteoporosis are recommended to be taken in the morning to ensure the medications work more efficiently.

Chronotherapy

Chronotherapy is a behavioral technique in which bedtime is systematically delayed, which follows the natural tendency of human biology. It can be used for people having delayed sleep phase disorder. Here the bedtime is delayed by 3-hour increments each day, by establishing a 27-hour day. This process is done till the person's desired bedtime is reached or the normal schedule is established. Chronotherapy is effective when a person sleeps for several hours. It requires no drugs. The prediction of chronotherapy is easy because it possess beginning, middle and end stage. Chronotherapy provides the patient a period to adjust psychologically if their sleep is disturbed. To avoid the side effects the person needs to regularly consult the doctor and sleep specialists. Sometimes the patient experiences sleep deprivation and the degree of risk is unknown. Chronotherapy can also be used in the treatment of various diseases like hypertension, bronchial, asthma, peptic ulcer, myocardial infarction, arthritis, cerebrovascular accidents and hypercholesterolemia.