

**BIOLOGICAL RHYTHMS, ENDOGENOUS PACEMAKERS AND EXOGENOUS ZEITGEBERS,  
CONSEQUENCES OF DISRUPTING BIOLOGICAL RHYTHMS**

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These are the three topics you need to know for exam 2014

<b>Biological rhythms</b>	<ul style="list-style-type: none"> <li>• Circadian, infradian, and ultradian rhythms, <b>including</b> the role of endogenous pacemakers and of exogenous zeitgebers</li> <li>• Consequences of disrupting biological rhythms, for example shift work, jet lag</li> </ul>
<b>Sleep</b>	<ul style="list-style-type: none"> <li>• The nature of Sleep <b>including</b> stages of sleep and lifespan changes in sleep</li> <li>• Functions of sleep, <b>including</b> evolutionary explanations and restoration theory</li> </ul>
<b>Disorders of Sleep</b>	<ul style="list-style-type: none"> <li>• Explanations for sleep disorders, <b>including</b> insomnia, sleep walking and narcolepsy</li> </ul>

All evaluations are in italics

**BIOLOGICAL RHYTHMS**

**Pupil Outcomes: To know**

- Circadian, infradian, and ultradian rhythms, **including** the role of endogenous pacemakers and of exogenous zeitgebers
- Consequences of disrupting biological rhythms, for example shift work, jet lag

Lesson 1: Biological Rhythms	Main	Plenary / Assessment
What is meant by the term <b>Biological Rhythm</b> and the different types of biological rhythms (i.e. Circadian, Infradian and Ultradian).	1. Starter: Lark or Owl; 2. Bio rhythms: 3. 3 different types of bio rhythms	Recap what are Biological rhythms (inc. Circadian rhythm).
Be able to understand the role of endogenous pacemakers and exogenous zeitgebers in the control of biological rhythms (i.e. Circadian Rhythm).	Read and make notes on Circadian Rhythm and role of endogenous and exogenous factors (inc. further studies); Make notes on Michel Siffre's study	Check understanding of Circadian rhythm.  Be able to evaluate Michel Siffre experiment.
Be aware of relevant research studies and their findings, and be able to evaluate them	Evaluate the Michel Siffre study.	<b>HOMEWORK:</b> Give egs of link bet body rhythms & body clock

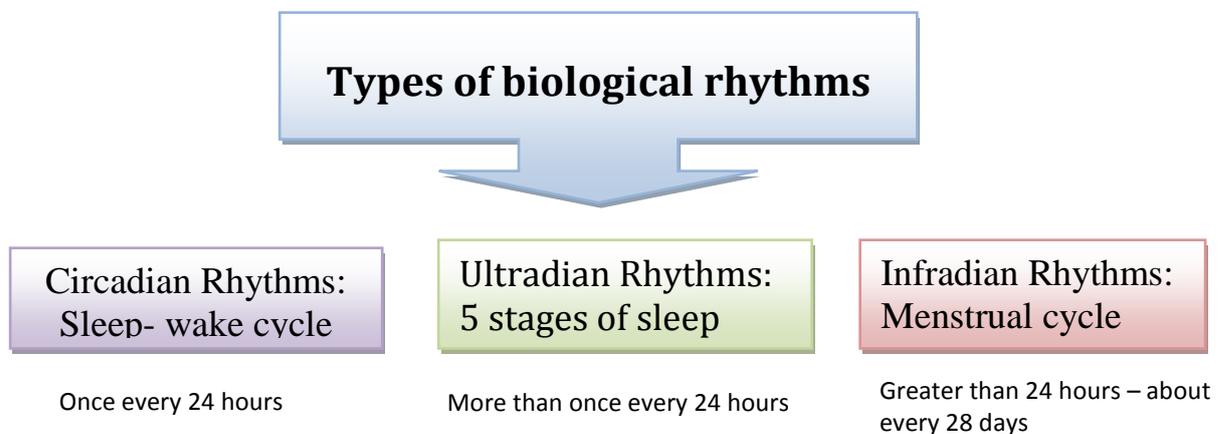
**A biological rhythm is an innate biologically driven behaviour that is periodically repeated**

All organisms, human and non-human animals, experience rhythmic changes alternating over a period of time. They coincide with seasonal or daily environmental changes. Obvious examples include the sleep-wake cycle which repeats over a 24 hour cycle, or the hibernation patterns of some creatures that typically rest through the winter months and awaken in spring.

The major debate, is to what extent biological rhythms are determined by internal clocks (endogenous factors) and by environmental factors (so called zeitgebers)

We will look at:

1. Types of biological rhythms with examples, including the role of endogenous pacemakers and exogenous zeitgebers
2. Sleep/wake cycle, SAD, menstrual cycle and PMS in more detail.
3. Disruption of biological rhythms, jet lag and shift work.



What determines the length of these rhythms?

- Body Size
- Age
- Lifestyle

There are clearly individual differences in Biological Rhythms



Circadian Rhythms

**Rhythms that repeat themselves once every 24 hours** The word comes from the Latin; *circa* (meaning 'about') and *diem* (meaning 'day'). Most people sleep between 7- 8 hours a day.