The Role of Melatonin
Melatonin is synthesized within the pineal gland from tryptophan during the dark phase of the day. With its unique ability to pass through all blood barriers in the body, melatonin acts as the central hub of physiological function. Its role is to:

• Orchestrate the complex interactions between the mind, body and environment
• Influence most of the autonomic, hormonal, and behavioral functions of the human organism
• Advance sleep time and duration
• Modulate annual and circadian biorhythms (thereby reducing symptoms of jet-lag)
• Regulate body temperature
• Regulate cardiovascular function
• Regulate immune function, with a possible role in fighting cancer
• Act as an antioxidant
• Regulate female reproductive hormones

With the far-reaching influence of melatonin over so many bodily functions, it is not surprising that imbalances have been associated with a wide array of health problems, including:

• Sleep disorders
• Depression
• Seasonal Affective Disorder (SAD)
• Chronic progressive multiple sclerosis
• Menstrual irregularities

Melatonin's synthesis and secretion can be strongly influenced by day length, artificial illumination, electromagnetic energy, exercise, seasonal changes, impairment in methionine metabolism and aging. Since synthesis and secretion are easily disrupted, accurate assessment of levels and circadian rhythm is critical.

Melatonin Testing
Genova Diagnostic’s Comprehensive Melatonin Profile offers many distinct clinical advantages. This test:

• Analyzes three saliva specimens taken at morning, noon, and midnight. Testing allows for evaluation of melatonin activity over a complete light-dark cycle
• Measures salivary levels which correlate well with serum testing. It offers a safe, economical, and noninvasive way of assessing pineal function and melatonin secretion patterns

Once imbalances have been identified, results can be used to design and implement successful therapeutic programs, including timed application of bright light, removal of interfering factors, and melatonin administration.
This test reveals important clinical information about:

- **Melatonin**, a powerful free radical scavenger and regulator of the sleep-wake cycle that can also influence mood, immune function, and other health conditions.
- **Circadian rhythm** with evaluation of three easily gathered saliva samples over a 24-hour period.
- **Efficacy of therapies to balance melatonin**, such as bright light exposure, nutritional support, and exercise.