



## Test Specification Sheet

### Saliva Hormone – Melatonin Cortisol Index

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|---|---|
| <b>Test Name</b>  | Melatonin-Cortisol Index (MCI): bedtime cortisol and 3 AM melatonin are measured. Melatonin-Cortisol Index is calculated by dividing the 3AM melatonin by the bedtime cortisol  |
| <b>Clinical Utility</b>                                 | Used to assess breast cancer risk and immune function. Low melatonin and high bedtime cortisol (low MCI) are also associated with age-related weight gain, depression & bone loss.  |
| <b>Patient Preparation</b>                              | Collect first sample at bedtime prior to brushing teeth. Set alarm for 3 AM, or for 4 hours after retiring, whichever is later. Keep penlight or flashlight by bed to aid in collection of 3AM sample.  |
| <b>Clinical Info Required</b>                           | Symptom rating scale, hormone use, sleep questions.   |
| <b>Specimen Requirements &amp; Special Instructions</b> | A minimum of 1 mL of saliva is required (excluding bubbles) in each tube. Choose a typical day, do not chew gum, brush teeth or eat immediately before testing. Do not exercise for 3 hours prior to collection. Avoid exposure to light during sleep, although indirect light or a small flashlight may be used to assist in providing the 3AM sample. |
| <b>Collection Vessel</b>                                | 2 x 10 mL polypropylene screw top test tubes  |
| <b>Timing of Collection</b>                             | Evening sample should be taken immediately before bed, and before brushing teeth. Teeth may be brushed after bedtime sample is collected. Second sample to be taken at 3AM or four hours after retiring, whichever comes later.   |
| <b>Reasons for Sample Rejection</b>                     | Insufficient quantity of sample for analysis. Blood or foreign matter in sample. Sample received more than 3 days after collection and sample not frozen before mailing. Sample frozen more than 30 days. Sample crushed/broken/spilled in transit. Incomplete patient or provider information.   |
| <b>Sample Stability &amp; Shipping Instructions</b>     | Sample stable for up to 3 days at room temperature or 30 days if frozen. Ship kit box with frozen samples inside white foam container with cold pack. Send in prepaid Xpresspost mailer for return to laboratory and mail only on Mondays or Tuesdays. Ensure requisition and test label are completed and sent.  |
| <b>Report/Turnaround</b>                                | Report issued approximately 2 weeks after sample received (as more samples come in, turnaround times improve). Report includes results for melatonin and cortisol individually, the Melatonin-Cortisol Index and an interpretation based on patient symptoms and hormone levels.  |

## REFERENCE RANGES\*

### Melatonin-Cortisol Index

| <b>Cortisol Range</b>   | <b>Hormone Status</b>    | <b>Low</b> | <b>High</b> |
|---|--------------------------|------------|-------------|
| Cortisol                      ng/mL                               | Endogenous               | 0.2        | 1.3         |
| <b>Melatonin Ranges</b>   | <b>Hormone Status</b>    | <b>Low</b> | <b>High</b> |
| Melatonin                      pg/mL                              | Endogenous      ≤40 yrs  | 8          | 50          |
| Melatonin                      pg/mL                              | Endogenous      > 40 yrs | 8          | 30          |
| <b>Melatonin-Cortisol Index**</b>                                 | <b>Hormone Status</b>    | <b>Low</b> | <b>High</b> |
| MCI= $\frac{\text{Melatonin in pg/mL}}{\text{Cortisol in ng/mL}}$ | Endogenous               | 15         | 120         |

\*Note: ranges subject to adjustment