

## Track Your Temperature: A Quick and Easy Way to Determine Metabolic Health

If you're not feeling quite up to par, take your temperature. Not to determine if you've got a fever – rather, temperatures reflect an individual's metabolic energy state. The average daytime temperature of a healthy individual is 98.6°F or 37°C thus making 98.6°F or 37°C the optimal (as opposed to normal\*) temperature. Lower than optimal temperatures reflect a lower than optimal metabolic state which is usually controlled by the thyroid mechanism. Wide variability of temperature reflects an unstable or fatigued adrenal system. Thus, on the road to health, one wants to go from low and/or unstable temperatures to 98.6°F or 37°C and stable if possible.

*\*Optimal as opposed to Normal. The frequently used term of 'normal' refers to a mathematical or statistical situation. Thus, a 'normal' state of health probably means you have some medical problems. It may be normal to die at 76 yrs of age, but at 75 years old, you may decide that what you really want is 'optimal' health as opposed to 'normal'. Normal is not the same as optimal, whether it relates to longevity of life, a body temperature or a lab test result.*

## **Recognizing Adrenal and Thyroid Correction Patterns**

### Adrenal Pattern

Below is a typical temperature pattern showing what we might see in a person receiving proper adrenal support, having an average to good response.

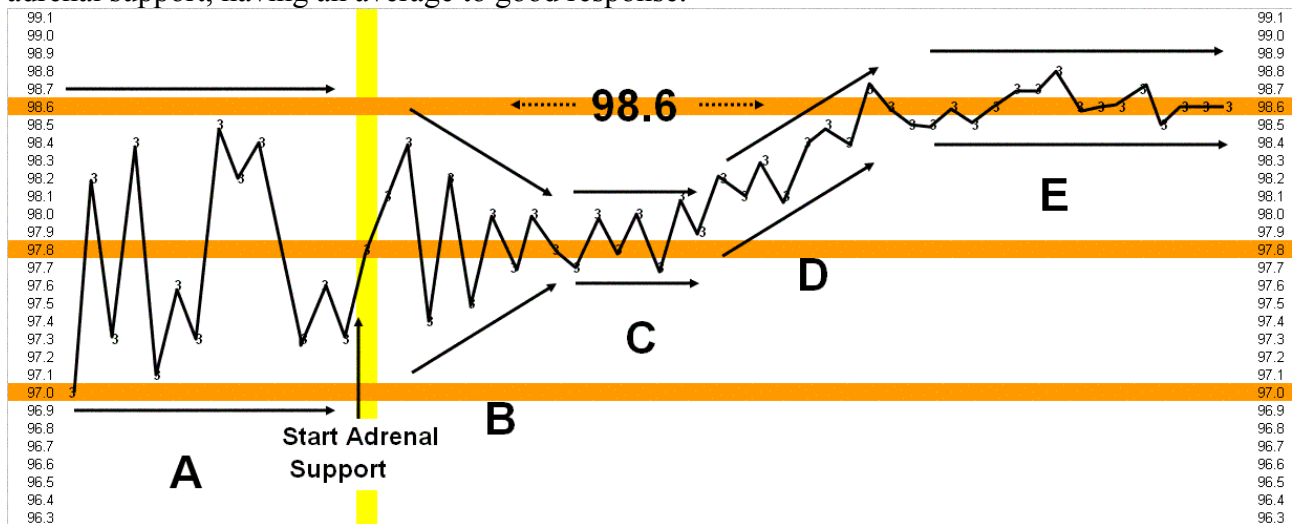


Diagram Key and Explanation:

- Unstable temps:** adrenal fatigue. Core temperatures have wide variations. They tend to rise in warm weather and fall in cold weather.
- Decreasing variability:** with adrenal support, as the adrenal gland function improves, variability decreases (temps become more stable)
- Low but stable:** after the temperatures have stabilized they still remain low but relatively stable.
- Stable and rising:** after a period of being stable, the next phase of improvement is a gradual rise in average core temperature.
- Stable 98.6° F (37°C):** This is typical of a healthy metabolic state.

If the adrenal support is working well, phases A through D can each last from one week to several months depending on the individual. In any given individual each of the phases seems to last approximately the same length of time (i.e. short period vs. long period). Some phases can blend together. For example, A and D can combine into an upwardly stabilizing pattern without C being present. Some people even go directly from A to E. To go from A to E can take as little as 1-2 weeks or as long as a few months. Hopefully, phase E will be permanent. If the adrenal fatigue is more severe (usually of longer duration), each of phases A through D tends to last longer and phase E tends to be less secure. If no progress is seen in 2-3 months, there is usually another problem present, such as toxicity etc.

## Thyroid Pattern

Below is a typical temperature pattern showing what we might see in a person receiving proper thyroid support, having an average to good response. When there are only problems with the thyroid, the pattern is amazingly stable and we tend to see straight line patterns.

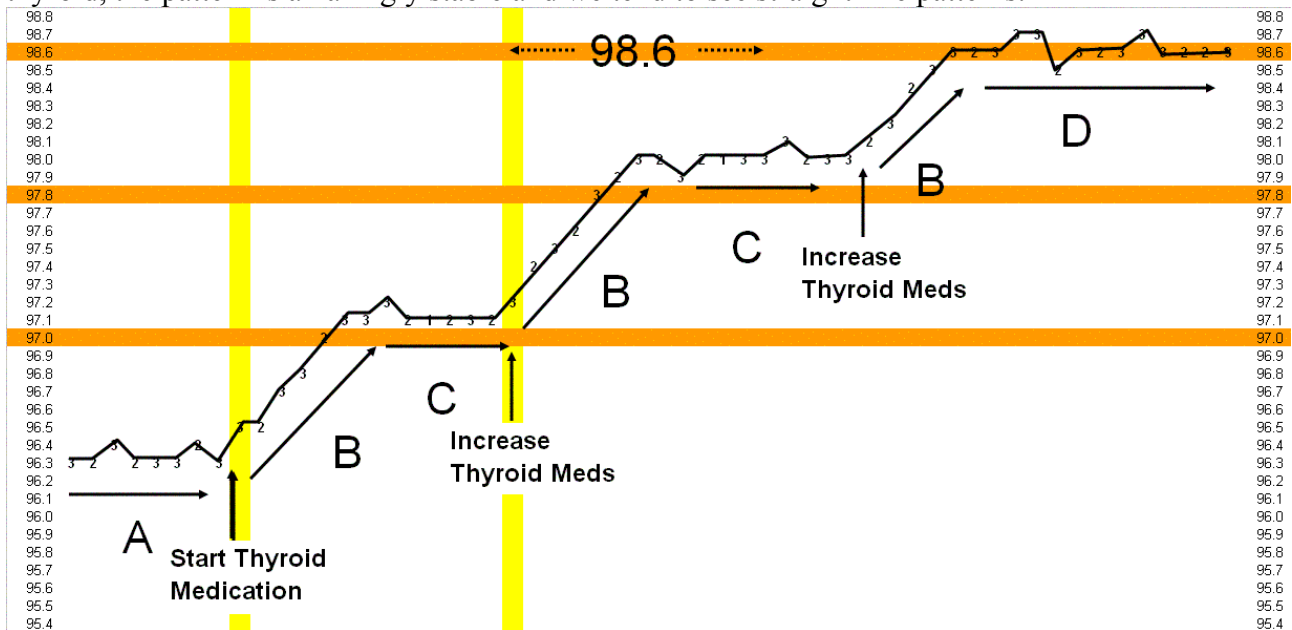


Diagram Key and Explanation:

- Stable at Low:** Baseline temperatures. Low temperature reflects lower than optimal thyroid activity
- Stable and Rising:** After starting or increasing the dose of thyroid hormone replacement medication, the temperature steadily rises.
- Stable but Plateaued:** The temperatures plateau at the metabolic level to which the current dosage of thyroid replacement medication can take it.
- Stable 98.6°F or 37°C:** Eventually when the proper dose of thyroid replacement medication is reached, the temperature is stable at 98.6°F or 37°C. Note that if the adrenals can not handle this level of energy, we tend to see an expansion pattern followed by a drop in temperature (see typical temperature patterns)

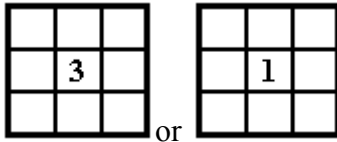
## How to Take and Plot Temperatures

### How to measure temperatures

Temperatures are measured orally. Make sure the thermometer is placed deep under the tongue. Take three temperatures approximately three hours apart, starting approximately three hours after waking up. For example, if one wakes up at 6 AM, measure temperatures around 9AM, 12 Noon, and 3 PM. Try to avoid taking temperatures after activity or eating and drinking for at least 20 minutes. Even climbing a flight of stairs can raise one's temperature for short period of time. Taking one's temperature several times in a row will yield temperatures that rise each time. This is usually due to the muscular activity of the tongue and mouth. So, take only one reading. Digital oral thermometers are the most appropriate for monitoring metabolism. Mercury thermometers expose you and the environment to toxic mercury when they break; they are too slow; and, the accuracy depends on leaving them in your mouth the same length of time each time you measure. Under arm (axillary) temperatures are relatively cooler and more variable in people with stressed adrenals. Ear thermometers are the least accurate of all.

## How to plot the temperatures

- 1) Plot only the daily **average** on a graph. Write clearly, use black ink if possible (it copies and faxes better).
- 2) Instead of using a dot or 'x' in graph cell, **use a number** that reflects the number of temperatures you took that day. Thus, if you took three temperatures, write a 3 in the cell that reflects the average of those three temperatures. Or if you only took one temperature, write a 1 in the cell that reflects that one temperature. They should look like this, respectively:



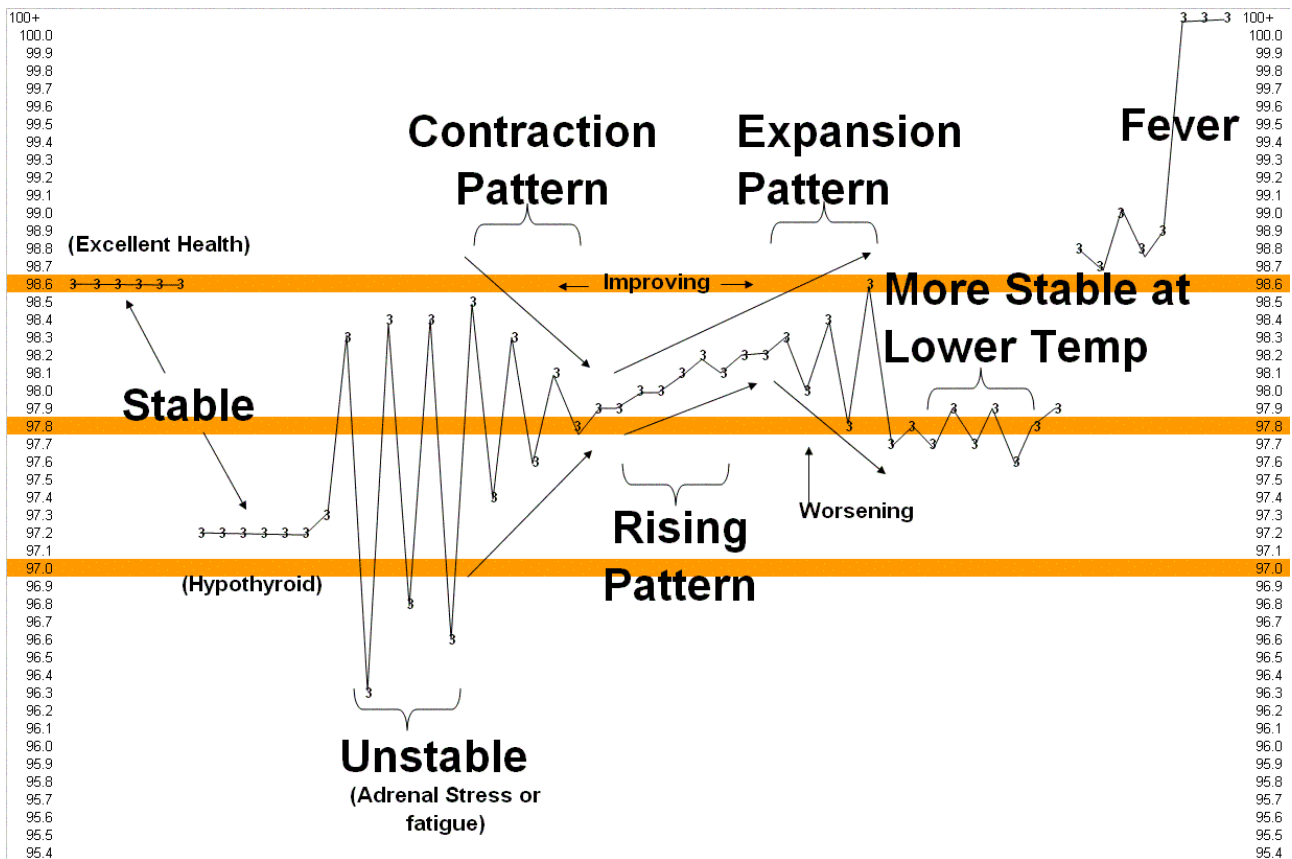
- 3) Indicate on the chart, where appropriate, any **meaningful events**. For example, starting a new medication or supplement, changing a dose, illness, stress, "had a great day", "felt tired...depressed today", menses, "worked all night", "slept more than usual" etc. These are very important when interpreting the graph. In cases where there is a change in temperature pattern, it is helpful to consider any possible events or changes in hindsight that may provide value in the interpretation.
- 4) Connect the numbers with a line. If you miss taking temperatures for a given day, do not run the line through that day. Simply stop and restart the line. **Colour highlighting** makes the graph easier to analyze (see colour sample).

Use the Unmarked and Sample graphs to get started. Remember that the Metabolic Temperature Graph is really a navigational map in disguise. The more accurately you fill it in, the more detailed and helpful the map. It will help you navigate toward 98.6°F or 37°C and better health. *Note that it is better to do a temperature graph that is imperfect with fewer than three temperatures daily, too much or too little time between temperatures, and too close to physical activity or rest than to not do one at all.*

## **Interpreting Results**

Interpreting the collected data is both a science and art. These are a few of the basic principles.

- **Thermal activity reflects metabolic activity.** A low temperature means low metabolism and vice versa. For example, the temperature typically found in someone who is old, frail, pale and weak is low and typically ranges from 95 to 97°F (35 to 36°C) if no infection is present. A healthy person will have an average temperature of 98.6°F (37°C), but may have a 100°F (37.8°C) or higher temperature in a hyperthyroid state or as high as a 104 to 105°F (40 to 40.6°C) temperature if there is a fever present - these are high metabolic states.
- Wide **variability** in daily temperatures indicates a **weak adrenal function** since the adrenal glands help the body maintain stability. Good adrenal function produces a stable temperature. As adrenal function improves, the temperature variability decreases and vice versa. As adrenals get stressed (either from emotional stress, excess metabolic stimulation such as excessive thyroid stimulation, or for other reasons), the variability increases.
- In a **hypothyroid state**, the day-to-day averages are **low and very stable**. In a **hypoadrenal state** including adrenal exhaustion or adrenal stress, the temperatures are **low and unstable** -- one day they may average 96°F (35.6°C) and one to two degrees higher the next day.
- If the temperature graph is the road map, the explanatory notes are the road signs. Without them, the pattern changes become very difficult to interpret. These notes provide context for the temperature data. They also reveal what components of the treatment program are working and what components or other factors are not.
- Descriptions for typical patterns that one can observe include:

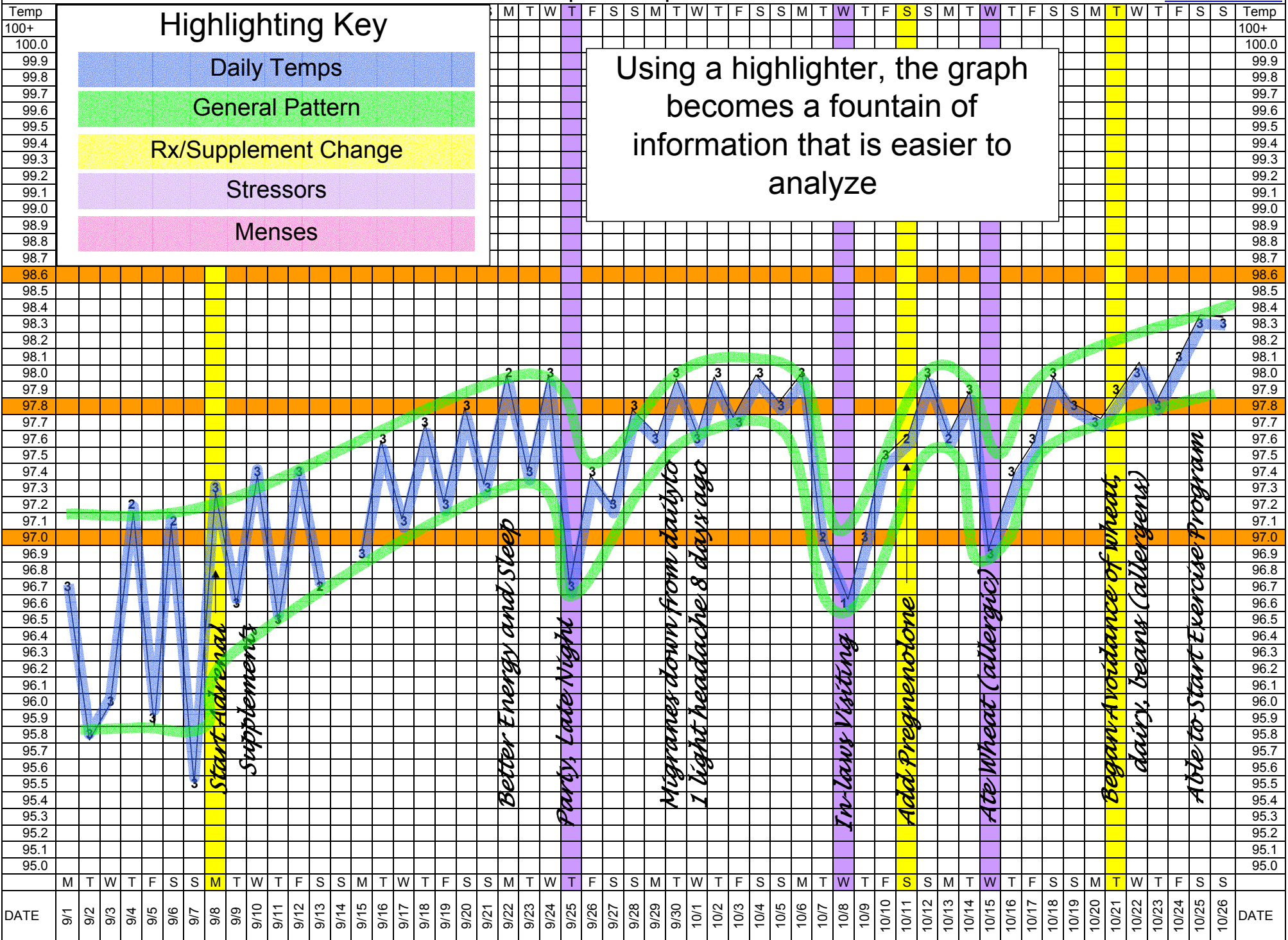


**Diagram Explanation:**

- **Stable.** Seen in excellent health or hypothyroid.
- **Unstable.** Poor adrenal function.
- **Contraction pattern.** The temperature variability decreases in a cyclic fashion that encompasses one or more days per cycle. It shows a pattern that is stabilizing, implying that the adrenals are not as stressed as before. This happens either because they are stronger or because a burden has been lifted from them such as less thyroid stimulation or a successful end to a stressful situation.
- **Rising pattern.** This pattern is seen when there is improvement in the metabolic energy. The pattern can be stable or unstable, but the movement is in an upward direction.
- **Expansion pattern.** The variability increases. It shows a pattern that is becoming less stable implying greater stress on the adrenals and a decreased ability to handle the current (adrenal) burden. It is often seen within the onset of stress (e.g., ‘the in-laws are moving in for a month’) or increased metabolism beyond adrenal tolerance (e.g. taking slow-release T-3, 30 mcg taken twice a day when the patient can only tolerate 15 mcg twice a day safely, or plain T-3, such as Cytomel, 25 mcg taken once a day which causes wildly fluctuating T-3 blood levels that are high in the morning and drop rapidly during the day producing a unstable metabolic state and thus a challenge to the adrenals) .
- **More stable and lower temperature.** This is often the end result of an expansion pattern and is seen at the end of the expansion pattern. The body temperature drops to lower level that is more easily sustained or tolerated by the adrenals.
- **Fever pattern.** A sudden rise in the temperature usually lasting one or more days and then dropping back down to the original baseline. A prolonged infection can produce a long lasting temperature elevation.



Mary - 57 yrs old, Adrenal Fatigue  
Metabolic Temperature Graph



*Start Adrenal Supplements*

*Better Energy and Sleep*

*Party, Late Night*

*Migraines down from ibuprofen  
I light headache 8 days ago*

*In-law Visiting*

*Add Pregnenolone*

*Ate Wheat (allergic)*

*Began Avoidance of wheat,  
daily, beans (allergens)*

*Able to Start Exercise Program*