INVISIBLE INK™

Sleep Architecture Hidden in “Normal” Lab Work

Reading Timing Inside Routine Panels — Dr. Dee Wells, ND

→ INVISIBLE INK™ PRINCIPLE:

Normal does not mean synchronized. Chronic disease begins as desynchronization — not as abnormal values.

WHEN YOUR PATIENT PRESENTS WITH:

- Afternoon energy crash
- 2–4 AM waking
- Non-restorative sleep
- “Normal” labs

SCAN THIS RELATIONAL CLUSTER — These values together describe timing instability, not isolated disease.

METABOLIC & GLUCOSE	INFLAMMATORY & CELLULAR	KIDNEY, LIVER & ELECTROLYTE
Triglycerides >150 Sustained insulin exposure; hepatic lipid accumulation	**CRP >1** IL-6 peaks at night, disrupts slow-wave sleep, increases nighttime cortisol variability	**Sodium 135–137** Blunted morning cortisol rise; flattened circadian amplitude; reduced sympathetic transition
HDL <45 Reduced reverse cholesterol transport; inflammation signal	**Ferritin rising (no saturation shift)** Hepcidin-driven iron sequestration. Affects dopamine, mitochondrial ATP, thyroid peroxidase	**BUN <10** Reduced morning activation. Low BUN + low sodium = weak HPA amplitude
A1c 5.2–5.5 + fasting glucose 99–105 Sleep disruption raises glucose variability before A1c moves. Discordance reveals rhythm instability.	**Platelets >350 + RDW rising** Cytokine-driven inflammatory state affecting sleep depth	**ALT drifting upward** Liver exposed to prolonged nocturnal metabolic signaling. The liver did not downshift overnight.

Routine labs do not diagnose sleep disorders. They reveal physiologic states **incompatible with stable sleep architecture.** None of these alone diagnose disease. Together, they describe **timing instability.**

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The Relational Physiology of Sleep — What the Numbers Mean Together

THE RELATIONAL PHYSIOLOGY — This is not about isolated numbers. It is about how they behave together.

SODIUM 135–137	BUN <10	CRP >1
Cortisol supports renal sodium retention and vascular tone. Low-normal sodium may reflect blunted morning cortisol rise and flattened circadian amplitude. **Sodium 136 alone** → irrelevant **Sodium 136 + BUN 8 + afternoon crash** → reduced HPA amplitude **Sodium low-normal + CRP elevated** → inflammatory hypercortisol pattern	Cortisol influences protein catabolism and urea production. Context determines direction. **Low BUN + low sodium** → reduced morning activation **Low BUN + ALT elevated + TG elevated** → hepatic metabolic stress *A1c 5.2–5.5 + fasting glucose 99–105: sleep disruption raises glucose variability before A1c moves. Averages comfort us. Discordance reveals rhythm instability.*	IL-6 peaks at night. Disrupts slow-wave sleep. Increases nighttime cortisol variability. Stimulates hepcidin. **CRP 1–2 in a fatigued patient** is not incidental. **CRP + ferritin rising + platelets high-normal** = cytokine-driven sleep instability. **Ferritin rising (no saturation shift):** Hepcidin drives iron sequestration. Iron is required for dopamine synthesis, mitochondrial ATP, and thyroid peroxidase activity.

ALT DRIFT + TRIGLYCERIDES >150

ALT reflects hepatocyte stress. Triglycerides reflect sustained insulin exposure.

Sleep fragmentation may cause persistent nighttime cortisol, hepatic gluconeogenesis, compensatory insulin, and de novo lipogenesis.

ALT 18 → 26 → 30 + TG rising = liver exposed to prolonged nocturnal metabolic signaling.
The liver did not downshift overnight.

GLYMPHATIC FUNCTION & SLOW-WAVE SLEEP

The glymphatic system clears metabolic waste from the brain. Most active during deep slow-wave sleep (N3), low norepinephrine states, and low neuroinflammation.

We have no glymphatic lab test. But we have markers of physiologic states incompatible with optimal glymphatic flow:

● CRP >1 ● Ferritin rising ● Platelets elevated ● Triglycerides elevated ● HDL suppressed

Cytokines increase microglial activation. Inflammation alters astrocyte aquaporin-4 polarization. Insulin resistance impairs endothelial pulsatility.

CLINICAL REFRAME — What the pattern means, not what the number means alone.

SODIUM CONTEXT	CRP CONTEXT	TRIGLYCERIDE CONTEXT
Low sodium does not diagnose adrenal dysfunction. But **low sodium + low BUN + afternoon crash** suggests weak morning amplitude.	CRP 1.4 does not diagnose inflammation. But **CRP + ferritin + platelets** suggests cytokine-shaped sleep.	Triglycerides do not diagnose metabolic syndrome. But **TG + ALT drift + fasting glucose 102** suggests the liver did not sleep.

"Desynchronization precedes disease. The body whispers before it screams. These patterns are the whisper." — Dr. Dee Wells, ND