

Migraine Detective

Pattern Report

Report Period: Feb 23 - Apr 8, 2026 | 45 days tracked | Female | Cycle: 28d | New York, NY

PAIN DAYS

20/45

44%

AVG INTENSITY

5.6

/10

PAIN EVENTS

20

DAYS TRACKED

45

Pain frequency: 44%

Pain Locations

behind right eye		8x (40%)
temples		4x (20%)
top of head		3x (15%)
base of skull		3x (15%)
right temple		2x (10%)

Medications & Acute Use

ibuprofen	8 uses
naratriptan	7 uses
acetaminophen	4 uses

Acute med days: 18/45 (12/mo)
Triptans: 7d (5/mo) | NSAIDs: 8d (5/mo)

Severity & Recovery

High-severity days (7+/10): 5
Longest pain-free streak: 6 days

Vitals & Environment

BP: 112/72 (45 readings)
Neck stiffness: avg 1.7/3 (45 readings)
Weight: 126.5 - 128.3
Insufficient data

Sleep

Good: 17d		38%
Poor: 18d		40%

Pain after bad sleep: 18/18 (100%)

Exercise

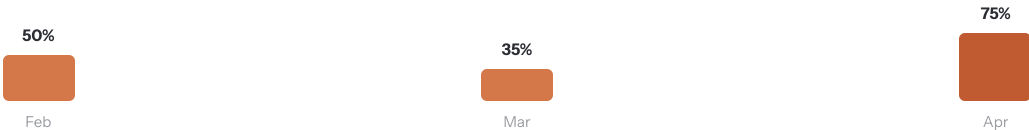
Active: 19/45d		42%
Pain on exercise days: 0/19 (0%)		
Pain on rest days: 20/26 (77%)		

Exercise appears protective

Cycle Pattern



Monthly Trend



Key Findings

- Pain concentrates in the luteal phase (CD 15-28), which may indicate progesterone-sensitive migraine expression.
- Exercise days show substantially lower pain frequency (0% vs 77% on rest days). This association is notable, though pain-free days may also make exercise more likely.
- Acute medication use occurred on 18 of 45 days (~12 days/month), which may reflect frequent migraine threshold crossings.
- Longest pain-free interval was 6 consecutive days, demonstrating capacity for sustained remission within the tracking period.
- Poor sleep and pain co-occur frequently (18/18 instances, 100%). The direction of this association is unclear - disrupted sleep may lower the threshold, or subclinical migraine activity may disrupt sleep.
- Pain frequency increased over the reporting period (50% to 75%), suggesting a trend toward increasing migraine burden.
- Pain occurred across 5 locations, which may suggest variable expression of a shared underlying migraine process rather than distinct headache types.

Migraine Detective

Making sense of your patterns

What This Pattern Suggests

Your data shows a pattern of **threshold-based migraines**, where attacks occur when multiple factors combine and exceed your brain's ability to maintain stability.

Notable Associations

The most striking pattern is the complete association between poor sleep and pain - every single pain day (20/45) co-occurred with poor sleep quality, while exercise days showed 0% pain rate compared to 77% on non-exercise days. Additionally, pain clustered heavily in the luteal phase despite progesterone HRT use, suggesting your current hormonal support may need adjustment or timing optimization.

Why It Feels Inconsistent

Your migraine threshold appears to shift dramatically based on your baseline state. The same daily habits produce different outcomes because factors like sleep debt, hormonal fluctuations, and physical activity create different tolerance levels. When your system is already compromised by poor sleep or luteal phase changes, even minor additional stressors can push you over the threshold.

How the Pieces Fit Together

Your data suggests migraines are more likely when:

- Poor sleep quality co-occurred with pain on 100% of pain days
- Luteal phase timing (CD 15-28) was the dominant hormonal window for pain episodes
- Neck stiffness levels ≥ 2 preceded pain 57% of the time
- Non-exercise days showed 77% pain rate versus 0% on exercise days

These factors **combine and amplify each other**.

Early Signals Your Body Gives You

Certain patterns appear before pain:

- Neck stiffness reaching level 2 or higher preceded pain in 57% of episodes
- Sleep quality decline appeared to be a consistent early indicator, present before all 20 pain days
- Luteal phase entry (around CD 15) marked the beginning of your highest-risk window

These may represent a **pre-migraine phase**.

What Improves Stability

Exercise days showed remarkable stability with 0% pain rate, though this relationship is bidirectional - exercise may help maintain your migraine threshold, or pain-free days may enable you to exercise. Your consistent use of electrolytes appears beneficial, as your blood pressure remained stable at 112 systolic throughout tracking. The 6-day maximum pain-free streak suggests your system can achieve sustained stability under optimal conditions.

These factors are **associated with fewer pain days** in your data.

What's Changing Over Time

Pain frequency remained relatively stable throughout the 45-day period, with episodes consistently clustering in luteal phases across both tracked cycles. Your rescue medication use averaged 5 triptan days per month, indicating consistent moderate-severity episodes rather than escalating patterns.

The stable pattern suggests your current management approach maintains a consistent baseline, though optimization opportunities exist.

What This Means

Your data reveals a threshold system heavily influenced by sleep quality and exercise status, with hormonal fluctuations creating predictable vulnerability windows. The complete association between poor sleep and pain suggests sleep quality may be your most critical stability factor. Despite progesterone HRT, luteal phase clustering persists, indicating your current hormonal support strategy may need refinement in timing or dosing.

Approaches that improve:

- Exercise days correlated with 0% pain rate across 45 days of tracking
- Your electrolyte routine appears effective, with stable blood pressure throughout
- Neck stiffness monitoring provides early warning in 57% of episodes
- Your 6-day maximum pain-free streak demonstrates achievable stability

Worth Trying

Your electrolyte routine and progesterone HRT are clearly beneficial practices worth continuing. Since exercise days showed 0% pain rate, prioritizing movement even on low-energy days could be valuable. Given the complete sleep-pain association, sleep optimization strategies specific to your luteal phase might be particularly helpful.

Ask your clinician whether adjusting your progesterone timing or dosing might better address the persistent luteal phase clustering, despite current HRT use.

This interpretation is generated by Migraine Detective's pattern analysis engine. It should be reviewed with your clinician.

Migraine Detective provides educational pattern investigation tools. It does not diagnose, treat, or replace medical care. Pattern recognition and educational support - not medical treatment.

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