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Multi-Night Sleep Trends Summary powered by Airway.Dental VTP™

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Patient	Sample patient (identifiers removed)
Testing window	23 nights over one month (8 baseline, 6 at KEY 0.0, 9 at KEY -1.0) - titration window complete
Device	SleepImage PO2 ring
Prepared	September 2026

What this is. This summary explains what your at-home sleep tests measured across several nights. It is **not a diagnosis**. Testing over multiple nights gives a truer picture than any single night. Dr. Bishara will review these results with you.

Overview

The record is complete: twenty-three nights over one month - eight baseline nights (N1-N8), six at KEY 0.0 (N9-N14) and nine at KEY -1.0 (N15-N23). One KEY -1.0 night (N16) was a feverish night and is set aside, and one night was lost to an app failure. The sleep journal also carried a blood pressure and pulse reading on waking every morning of the month, and those are part of this report. The short version: breathing and oxygen were near normal before the appliance and stayed there at both settings; what changed with KEY -1.0 was sleep length, sleep continuity and, above all, jaw comfort. Morning blood pressure ran high throughout and did not move with the appliance.

What the terms mean

Hypoxic Burden	How much your oxygen dipped during sleep - both how far it fell and how long it stayed low. It reflects the strain low oxygen places on your heart and body. Lower is better.
Heart Rate Through the Night	The lowest, average, and highest your heart rate reached while you slept. Sleep should be the calmest stretch of your day. The gap between the low and the high matters as much as the high itself - a wide gap means your heart was speeding up and slowing down a lot overnight rather than resting steadily.
Breathing Disturbance (sAHI)	The average number of times each hour your breathing paused or became shallow while asleep. Lower is better.
Periodicity	A repeating, wave-like rise and fall in your breathing rhythm through the night, rather than a steady pattern. A small amount is normal - 2% or less is the expected range. Higher values are worth discussing.
Sleep Quality Index (SQI)	A single 0-100 score for how healthy and restful your sleep was overall. Higher is better - above 55 is the goal.
Sleep Fragmentation	How broken up your sleep was - the share of the night spent surfacing out of deeper sleep instead of staying settled in it. Under 15% is the goal; lower is better.
Total Sleep Time	The actual hours you spent asleep - not just time in bed. Most adults need about 7-8 hours.
Appliance Key Setting	How far forward your appliance was holding your jaw on a given night. Testing several nights at each setting is what lets us tell which setting genuinely suits you, rather than guessing from one night.

Jaw Comfort (TMJ)

How your jaw felt when you woke, as you reported it each morning: **Green** means it felt comfortable, **Amber** slight symptoms, **Red** uncomfortable. We track it against every appliance setting so that any improvement in your breathing is never bought at the cost of your jaw. A hollow dot on the chart means you gave a colour rather than a number, so it is drawn in the middle of that colour band.

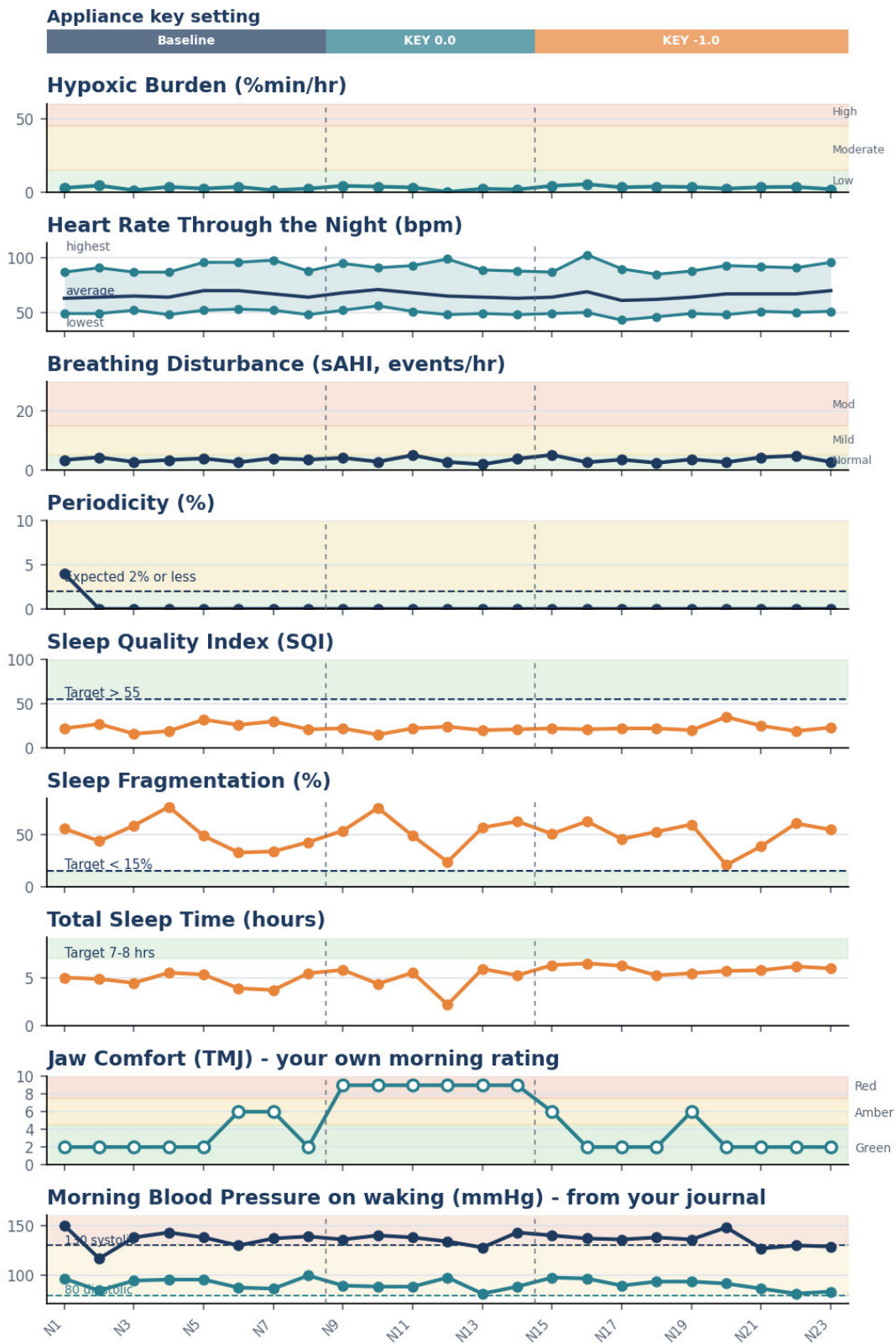
Your most recent night (Night 23 - the last of the titration window)

This is the twenty-third night in the record. The patient wore KEY -1.0 (the ninth night at that setting) and rated the jaw Green in the morning; waking blood pressure was 129/84, pulse 71. Sleep was reasonably long and efficient - 5h 58m asleep out of 7h 02m in bed, efficiency 90%, 40 minutes awake after sleep onset across 11 surfacings - and breathing and oxygen measures were among the quietest on file: 2.7 disturbances per hour at the 3% threshold, 0.0 at 4%, oxygen never below 96%, Hypoxic Burden 1.9. Sleep structure, however, stayed unsettled: stable sleep 7%, fragmentation 55%, Sleep Quality Index 23.

Measure	Last night	Goal
Sleep Quality Index (SQI)	23 (was 19)	above 55
Breathing disturbance (sAHI 3%)	2.7 per hour (was 4.8)	lower is better
Sleep fragmentation	55% (was 61%)	under 15%
Periodicity	0% (0% on the last 22 nights)	at or under 2%
Total sleep time	5h 58m (was 6h 11m)	7-8 hours
Time awake after falling asleep	0h 40m (was 1h 01m)	lower is better
Times you surfaced from sleep	11 (was 10)	lower is better
Longest single breathing pause	32 seconds (was 33)	lower is better
Hypoxic Burden	1.9 %min/hr (was 3.5)	lower is better
Lowest oxygen level	96% (was 95%)	at or above 90%
Time spent below 90% oxygen	0h 00m (0% of the night)	lower is better
Heart rate through the night	51 low / 70 average / 96 high	a narrower gap is calmer
Signal quality of the recording	96%	recording was reliable

Recording quality was 96%, so these numbers can be read at face value. Breathing disturbance was 2.7 per hour at the 3% threshold and 0.0 at 4%, both Normal, entirely obstructive with no central events. Oxygen never dropped below 96% - the highest minimum on file - and Hypoxic Burden was 1.9 %min/hr, the lowest since the KEY 0.0 period. The longest pause, 32 seconds, sits inside the baseline range (28-36). Heart rate averaged 70 with a peak of 96, slightly higher than the six preceding nights (means 61-67, peaks 85-93). Sleep took 17 minutes to arrive; total sleep was 5h 58m with efficiency 90%, the highest efficiency at any appliance setting. The sleep itself remained unsettled: 7% stable (about 23 minutes), 71% unstable, REM 22%, fragmentation 55%.

Your trends at a glance



Titration proof - how each key setting performed

Each of your appliance settings is compared below using every night recorded at that setting. Values are the average for that setting. The small coloured figure is the change against your own baseline nights before the appliance - green means the measure moved the way we want, red means it moved against us. This is the comparison your sleep physician will want to see, because it shows which setting actually suited you rather than which one we hoped would.

Key setting	Nights	Hypoxic Burden	sAHI 3%	SQI	Sleep hrs
Baseline	6	2.8	3.5	22.8	5.1
KEY 0.0	5	3.0 +8%	3.5	20.0 -12%	5.4 +5%
KEY -1.0	9	3.4 +24%	3.5	23.2 +2%	5.9 +16%

Nights shorter than 4 hours of sleep are left out of this comparison because a short night understates these numbers and would not be a fair test of a setting (3 excluded: N6, N7, N12).

On oxygen strain - the measure that matters most for long-term heart and vascular health - your best-performing setting so far is KEY 0.0. That is an observation from your own nights, not a recommendation; Dr. Bishara will weigh it against your jaw comfort and how you feel.

How to read this. These nights were not randomly assigned to settings, and later settings had more time for your jaw to accommodate, so this is strong supporting evidence rather than formal proof. It is exactly the kind of multi-night, single-patient record that is hard to get any other way.

Your morning blood pressure

Waking blood pressure ran high on most mornings, at every setting. Across the thirty-two mornings of the month the readings averaged 137/91 with a pulse of 69. Twenty-two of the thirty-two were at or above 140 systolic or 90 diastolic, and thirty-one of thirty-two were at or above the 130/80 line used for home readings. The diastolic number was the more consistent: 90 or higher on nineteen mornings.

Key setting	Mornings	Systolic	Diastolic	Pulse	At or above 130/80
Baseline	8	136 (117-150)	93 (85-100)	68	8 of 8
KEY 0.0	6	136 (128-143)	90 (82-98)	68	6 of 6
KEY -1.0	9	136 (127-148)	91 (82-98)	69	9 of 9

The appliance did not move it. On the nights that also have a ring recording, baseline mornings averaged 136/93, KEY 0.0 mornings 136/90 and KEY -1.0 mornings 136/91. Those differences are inside the night-to-night scatter (systolic 117-150 across the record), so on this evidence neither setting raised or lowered blood pressure. That is consistent with the sleep record: breathing and oxygen numbers were already near normal before the appliance, so there was little apnea-driven strain for it to relieve.

What this is worth. A consistent set of waking readings in the high 130s over the low 90s, taken the same way every morning for a month, is exactly the kind of record a physician can act on - far more useful than a single office reading. This section goes to the patient's physician. It is not something the appliance is expected to treat, and it does not change the appliance decision.

How to read this. These are your own home readings, taken on waking, as written in your Sleep Journal. Home readings are usually read against 130/80 rather than the 140/90 used in a clinic. A dentist does not diagnose or treat blood pressure; this section is here so your physician can see the pattern alongside your sleep record.

What is staying consistent

Sleep quality has been below the expected range on all twenty-three nights, at every setting. Sleep Quality Index averaged 24 across the eight baseline nights (16-32), 21 across the six KEY 0.0 nights (15-24), and 23 across the nine KEY -1.0 nights (19-35), against a target above 55. N20's 35 is the highest on file. Fragmentation has run 21-77% against a target under 15%; the newest three nights were 39%, 61% and 55%. Stable sleep exceeded 25% on one night only (30% on N20); the three nights since were 6%, 3% and 7%.

Breathing disturbance has stayed low in absolute terms and entirely obstructive, at every setting. sAHI at the 3% threshold ran between 1.9 and 5.1 per hour across twenty-three nights: baseline average 3.5, KEY 0.0 average 3.4, KEY -1.0 average 3.5. Central events were 0.0 on every night. Twenty-two readings were flagged Normal; one (N15) was Mild.

Sleep duration stayed under six hours on nineteen of twenty-three nights. Total sleep averaged 4h 47m at baseline and 4h 51m at KEY 0.0. The nine KEY -1.0 nights averaged 5h 56m (5h 15m to 6h 30m) - every one of them longer than the baseline average, and none under five hours, where baseline had two nights under four. N23: 7h 02m in bed, 5h 58m asleep, 40 minutes awake after sleep onset, efficiency 90% - the highest efficiency of the appliance era.

Oxygen saturation held up on average throughout. No night recorded measurable time below 90%, 88% or 80%. Lowest single readings were 90-96% on twenty-two nights and 88% on one (N15). The four newest nights' minimums were 93%, 93%, 95% and 96%. Average saturation was 97-98% throughout.

Periodicity was 0% on twenty-two of twenty-three nights. The only non-zero reading was 4% on the first night.

All twenty-three recordings were technically reliable. Average signal quality ran 93-97% on every night.

What is varying night to night

Jaw comfort is the clearest change in the whole record. Mostly Green at baseline (Amber on two of eight ring nights), Red on all six KEY 0.0 mornings (with 'teeth feel misaligned' and 'teeth hurt' in the journal), then at KEY -1.0 Amber on the first night and on N19, and Green on the other seven - including N23.

Hypoxic Burden settled in the middle of the record. The twenty-three readings run from 0.1 to 5.3 %min/hr. The high of 5.3 on N16 came with a fever and is set aside. Since then: 3.2, 3.7, 3.4, 2.3, 3.3, 3.5 and finally 1.9 - all inside the range seen at baseline (1.2-4.4) and at KEY 0.0 (0.1-4.2). No setting separated from the rest of the record on this measure.

The longest single breathing pause came back inside the baseline range on the newest nights. Baseline nights ranged 28-36 seconds. Nine of the fifteen appliance-era nights exceeded that range (up to 46 seconds); the three newest did not (30, 33 and 32 seconds).

The exceptional sleep structure of N20 did not recur. Stable sleep went 2%, 1%, 30% (N20), then 6%, 3% and 7%; fragmentation went 53%, 60%, 21%, 39%, 61%, 55%. N20 looks like a single unusually good night rather than a change in pattern.

Heart rate rose slightly on the newest night. Means of 61-67 with peaks of 85-93 on the six preceding nights; N23 was mean 70, peak 96, low 51. That is within the baseline range (means 63-71).

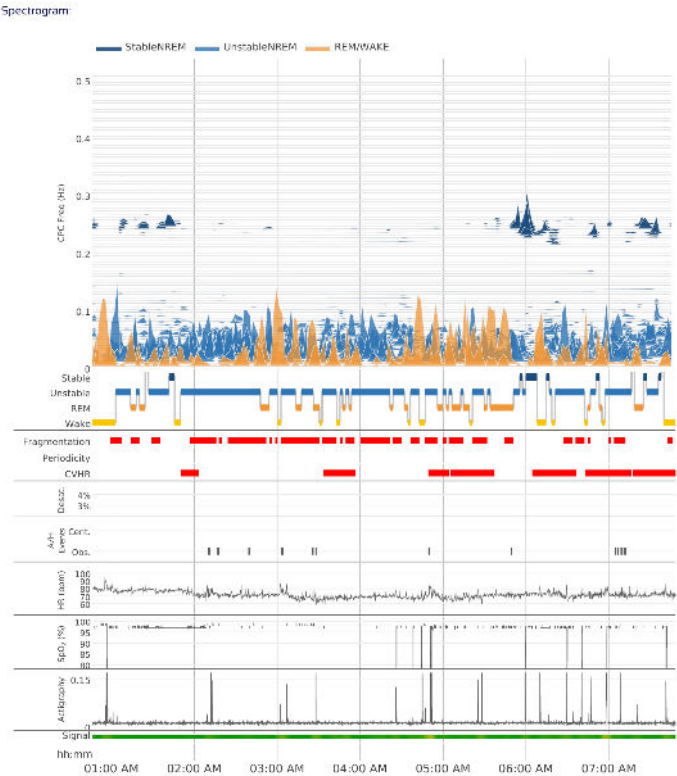
The oxygen picture (Hypoxic Burden)

Across all twenty-three nights, oxygen saturation stayed in a reassuring range on average. N23: lowest reading 96%, average 97%, no measured time below 90%, 88% or 80%, and Hypoxic Burden of 1.9 %min/hr on 2.7 events per hour at the 3% threshold and 0.0 at the 4% threshold. Disturbances were entirely obstructive (2.7) rather than central (0.0), as on every night. The longest pause was 32 seconds, mean event 18 seconds. No desaturation events were scored. Heart rate ran 51 to 96 with a mean of 70. N22 for comparison: lowest 95%, Hypoxic Burden 3.5, sAHI 3% of 4.8, longest pause 33 seconds.

Your sleep spectrogram - a map of the night

The spectrogram below is a picture of your entire night, minute by minute (this one is from night 23, the last night of the titration window (KEY -1.0)). Each color tells you what kind of sleep you were in:

Tall dark-blue peaks	Stable, deep, restorative sleep - the most valuable, healing sleep. The taller and more solid, the better.
Light-blue choppy bands	Unstable, lighter sleep that is easily interrupted and less restorative.
Orange bands	REM (dreaming) sleep and brief awakenings.
Red marks below	Moments of fragmentation and breathing-related heart-rate changes (CVHR) - small interruptions to your sleep.



What your map shows. The N23 spectrogram shows the pattern seen on most nights in the record: a broad scattered band of unstable sleep filling 71% of the night (about 4h 16m), a thin trace of stable sleep (7%, about 23 minutes), and REM at 22% (about 1h 18m). Wake breaks total 40 minutes across 11 surfacings. Fragmentation of 55% is well above the 15% target. The oxygen and event tracks are nearly flat - no scored desaturations - which matches the low Hypoxic Burden. The tight stable band that stood out on N20 is absent.

Bottom line

The titration window is complete: twenty-three nights - eight baseline, six at KEY 0.0, nine at KEY -1.0 (one feverish night set aside, one night lost to an app failure). Breathing and oxygen were near normal before the appliance and stayed near normal at both settings; on those measures no setting separated from the others. KEY 0.0 was not tolerated - Red every morning. KEY -1.0 was: Green on seven of nine mornings, with the longest and most efficient sleep of the record (average 5h 56m, no night under five hours) and somewhat less fragmentation. Sleep structure - stable sleep, fragmentation, SQI - stayed poor at every setting and is the part of this patient's sleep the appliance has not touched. Waking blood pressure averaged 137/91 across the month and did not change with the appliance; that record belongs with the physician. On this evidence, KEY -1.0 is the setting to stay on: it is the one the patient can wear comfortably, it costs nothing on the breathing measures, and it gives more sleep. Dr. Bishara reviews the complete record with the patient and decides whether to hold this setting and where to look next for the sleep-quality problem.

This report is an educational interpretation of your SleepImage data prepared by Airway.Dental. It does not constitute a medical diagnosis and does not replace evaluation by a qualified healthcare provider. Trend values are read from the SleepImage trend graph and represent approximate nightly readings. Questions? Dr. Bishara will review every result with you personally.