

SomnoTrak™

Nightly Oxygenation Report

Overnight oxygen event and burden analysis

Patient: Test Patient
Study Date: 07/05/2026
Device: Circul+ Ring
Recording Time: 09:14
Total Sleep Time: 08:30

SUMMARY

Oxygenation shows intermittent and sustained desaturation with increasing hypoxic burden overnight.

The patient experienced a hypoxic burden of 19.62 %·min/hr with 36.45% of sleep time below 90% SpO₂. Despite an improving ODI trend, hypoxic burden and T90 have worsened, indicating increased duration and severity of desaturation events overnight.

Primary Summary Metrics

ODI (3%)

9.41 /hr

Classic $\geq 3\%$ desat index

Burden Events

53

Burden $\geq 3\%$ events

Hypoxic Burden (3%)

19.62 %·min/hr

$\geq 3\%$ events

Median SpO₂

90.8 %

Sleep-only median

Nadir SpO₂

69.3 %

Lowest observed value

T90

185.9 min

36.45% of sleep time

Total Desaturation Area

166.8 %·min

Integrated event burden

Largest Event Contribution

33.5 %

Percentage of total burden

Pattern

Intermittent + Sustained
Desaturation

■ SpO2 ■ 3% Events — 90% Reference

SpO₂ Stream

33,292 samples



Oxygen Exposure Summary

Mean SpO2	90.32%
Median SpO2	90.84%
Nadir SpO2	69.31%
T90 (<90%)	185.9 min (36.45%)
T88 (<88%)	81.9 min (16.07%)
Longest Continuous <90%	361 sec
Longest Continuous <88%	90 sec

Event Morphology and Distribution

Event Statistic	Value
Mean Event Duration	39.3 sec
Median Event Duration	30 sec
90th Percentile Duration	61 sec
Mean Event Depth	9.2%
Median Event Depth	8.2%
90th Percentile Depth	15.4%
Mean Event Nadir	79%
Deepest Event Nadir	69.3%

Interpretive Notes

- Desaturation burden is concentrated, with the top 10% of events contributing 33.5% of total hypoxic burden.
- Events show moderate depth with a mean nadir SpO2 of 79.01% and a deepest nadir of 69.31%.
- Sustained low oxygen exposure is evident with a longest continuous time below 90% SpO2 of 361 seconds.

Trend Comparison

Metric	Prior Study	Current Study	Trend
ODI (3%)	7.9/hr	9.4/hr	↑ worsening
Hypoxic Burden (3%)	17.9 %·min/hr	19.6 %·min/hr	↑ worsening
Time < 90%	46.3 min	185.9 min	↑ worsening
Nadir SpO2	70.7%	69.3%	↓ worsening

Methodology

- Signal inputs: SpO2 stream and sleep stage stream
- Event detection uses a local pre-event baseline
- Threshold scoring includes both $\geq 3\%$ and $\geq 4\%$ drops
- Minimum event duration: 10 seconds
- Event closure requires recovery toward baseline
- Hypoxic burden is calculated as integrated event area below baseline
- ODI and HB normalized to total sleep time
- Wake time excluded from sleep-normalized summary metrics