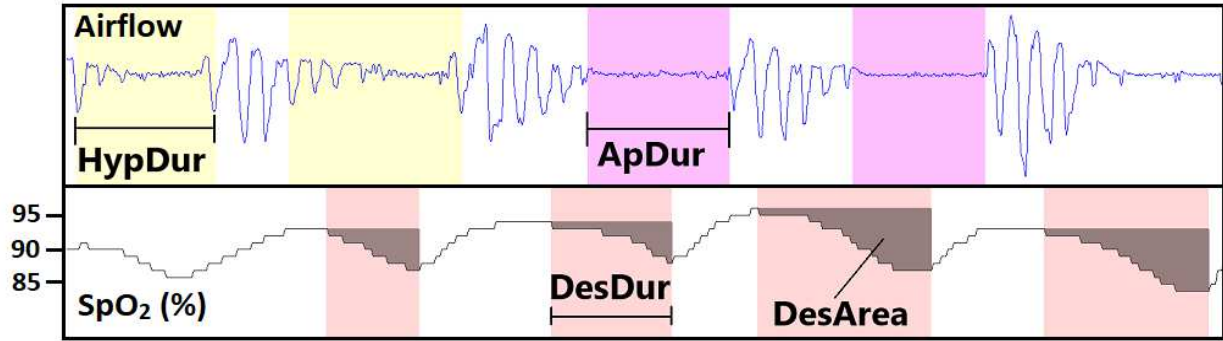**Figure S1**—Schematic representation of the variables related to novel parameters.



Obstruction Duration and Desaturation Duration are defined as the sum of durations of all breathing cessation events (ie, apneas and hypopneas) and desaturation events, respectively, normalized by total sleep time (TST). Desaturation Severity represents the sum of areas of all desaturation events (DesArea) normalized by TST. Furthermore, Obstruction Severity is calculated as the TST normalized sum of multiplication of duration of each individual breathing cessation event with the area of the related desaturation event. ApDur = the duration of an apnea (s), HypDur = the duration of a hypopnea (s), DesDur = duration of a desaturation (s), DesArea = area of a desaturation (s%).

**Table S1**—Definitions of the novel and conventional parameters: Apnea-Hypopnea Index (AHI), Oxygen Desaturation Index (ODI), Obstruction Duration, Desaturation Duration, Desaturation Severity, and Obstruction Severity.

| Parameter name (unit) | EQUATION |
|---|---|
| AHI (1/h) | $\dfrac{L_{apnea} + K_{hypopnea}}{TST}$ |
| ODI (1/h) | $\dfrac{P_{desat}}{TST}$ |
| Obstruction Duration (%) | $\dfrac{\sum_{n=1}^{L} ApDur_n + \sum_{m=1}^{K} HypDur_m}{TST} \times 100\%$ |
| Desaturation Duration (%) | $\dfrac{\sum_{n=1}^{P} DesDur_n}{TST} \times 100\%$ |
| Desaturation Severity (%) | $\dfrac{\sum_{n=1}^{P} DesArea_n}{TST}$ |
| Obstruction Severity (s%) | $\dfrac{\sum_{m=1}^{K}(HypDur_m \times DesArea_m) + \sum_{n=1}^{L}(ApDur_n \times DesArea_n)}{TST}$ |

*ApDur* = duration of an apnea (s), *HypDur* = duration of a hypopnea (s), *DesDur* = duration of a desaturation (s), *DesArea* = area of a desaturation (s%), *L* = number of apneas, *K* = number of hypopneas, *P* = number of desaturations, *TST* = total sleep time computed from PSG.