

# Respiratory Rules

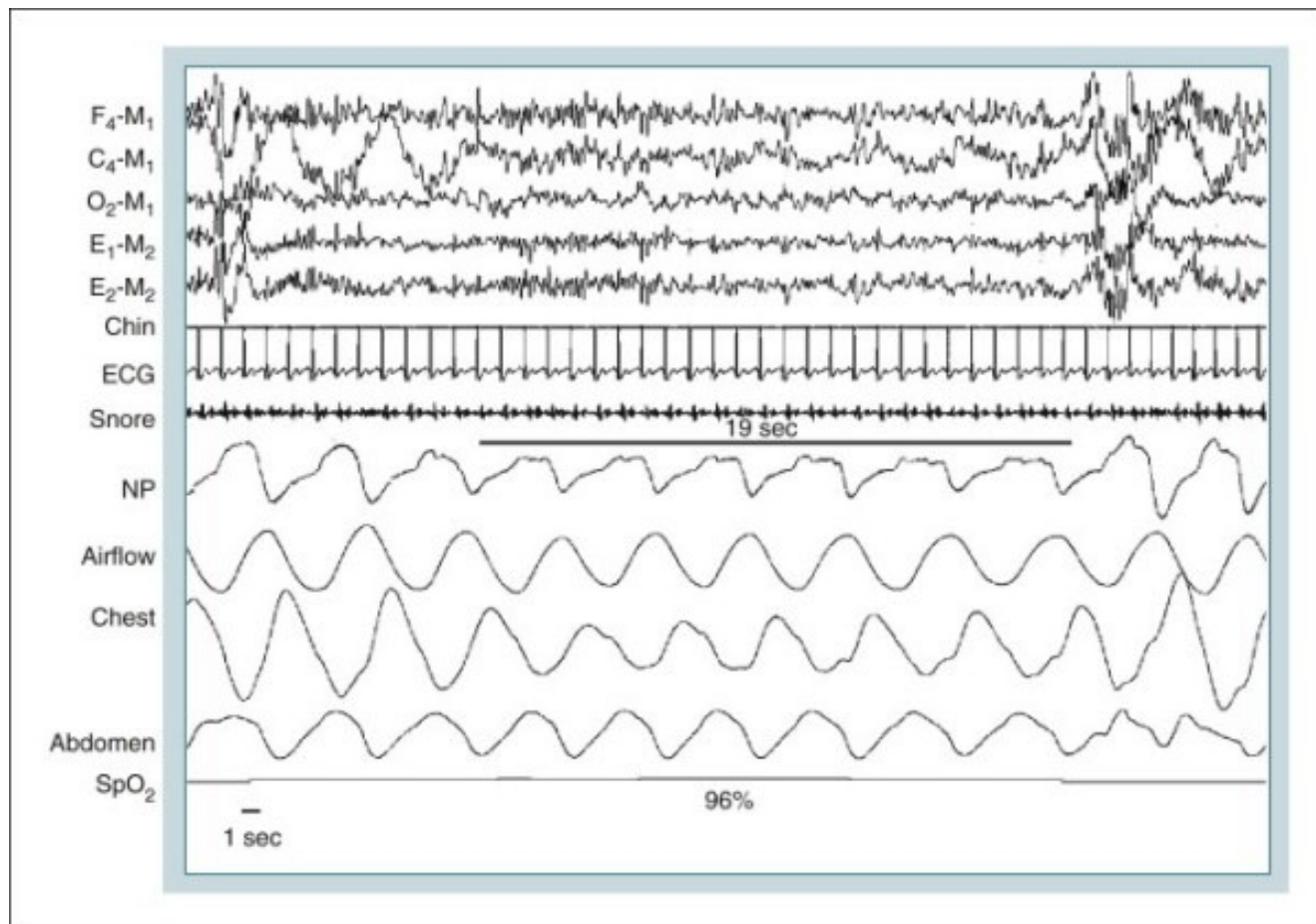
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Scoring RERAs,  
Hypoventilation, and  
Cheyne-Stokes Breathing



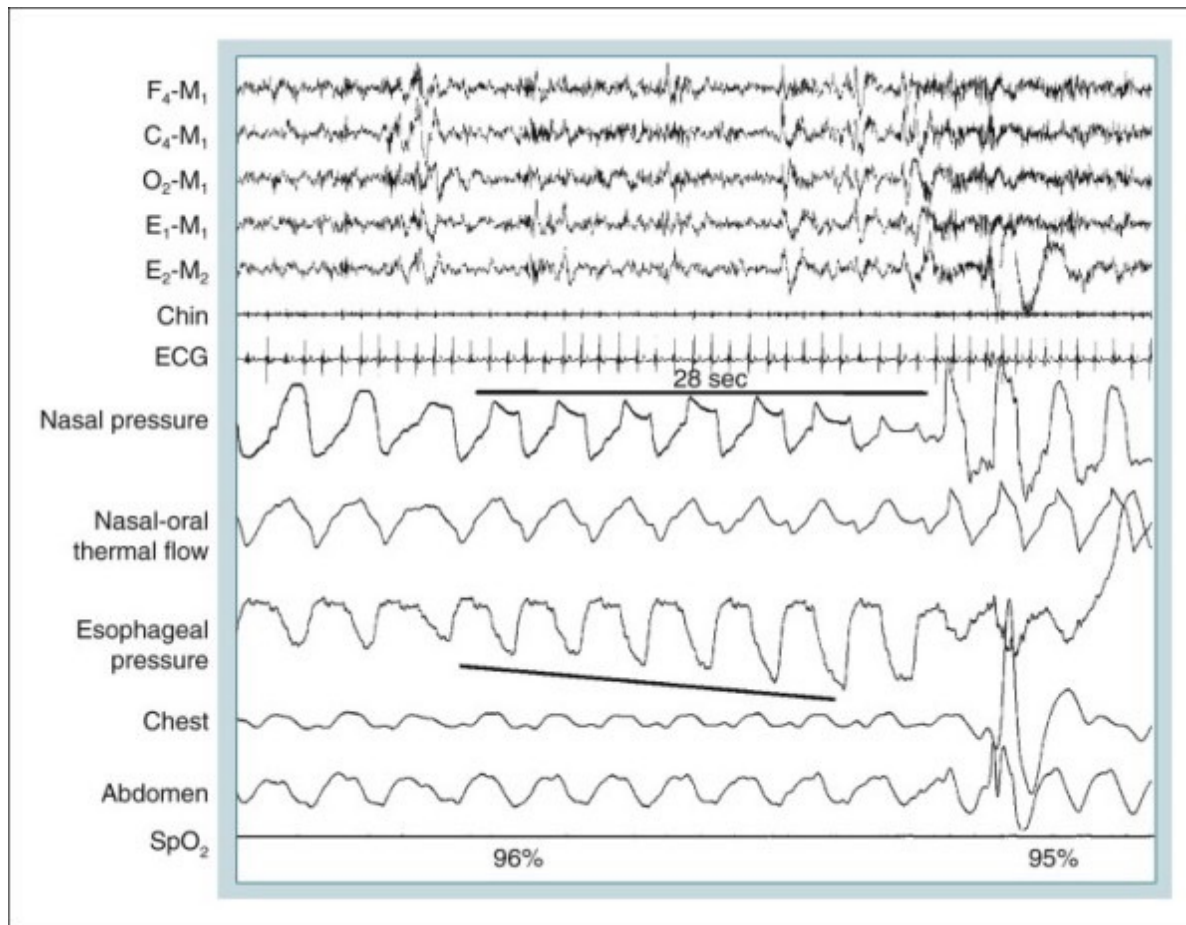
# RERAs

- Respiratory effort-related arousals
- Scoring RERAs is optional, and it is the decision of the individual lab whether to score these
- If scoring, follow this criteria:
  - Sequence of breaths lasting  $\geq 10$  seconds characterized by increasing respiratory effort or by flattening of the inspiratory portion of the nasal pressure (diagnostic study) or PAP flow waveform leading to arousal from sleep when sequence of breaths doesn't meet criteria for apnea or hypopnea

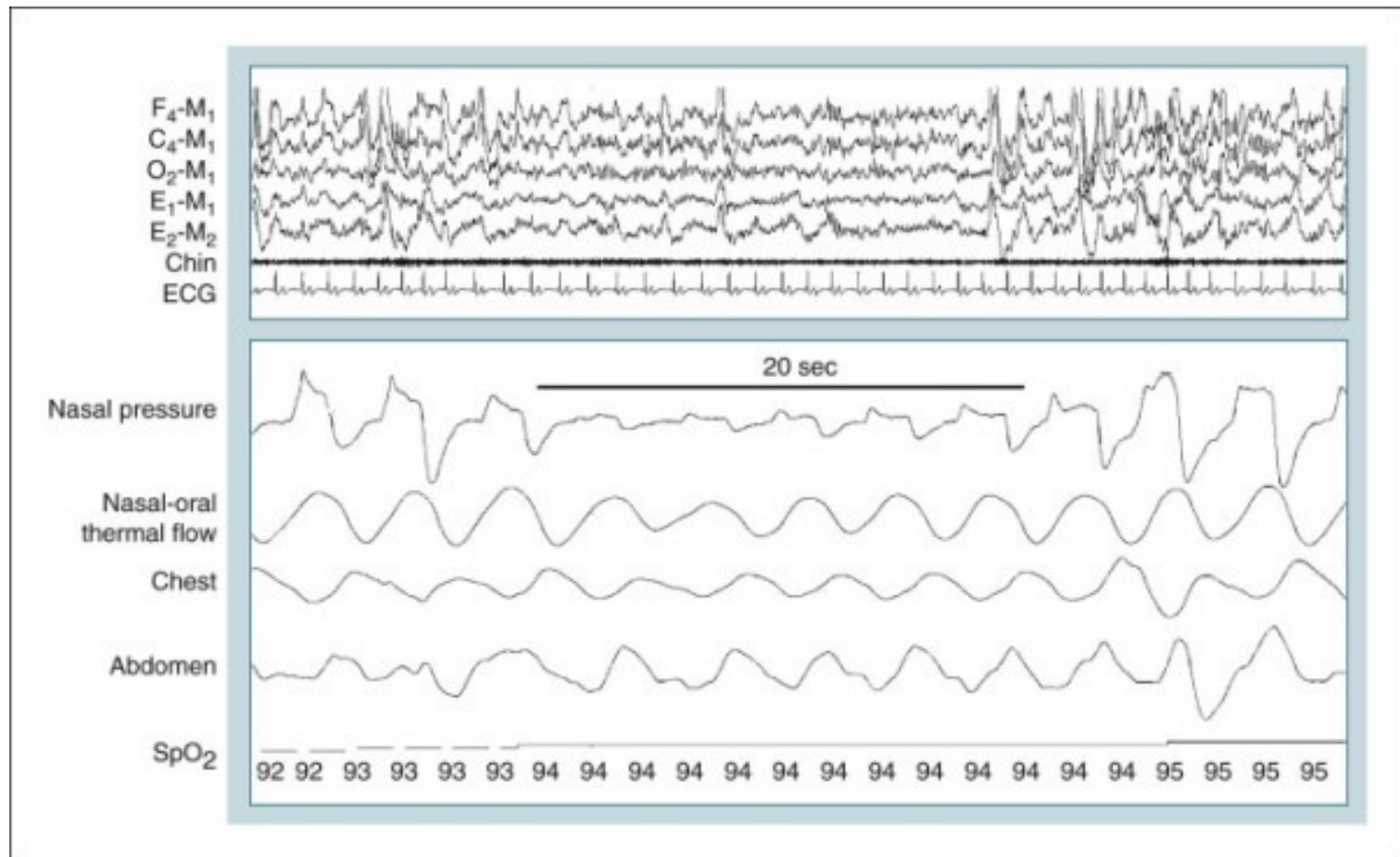


RERAs

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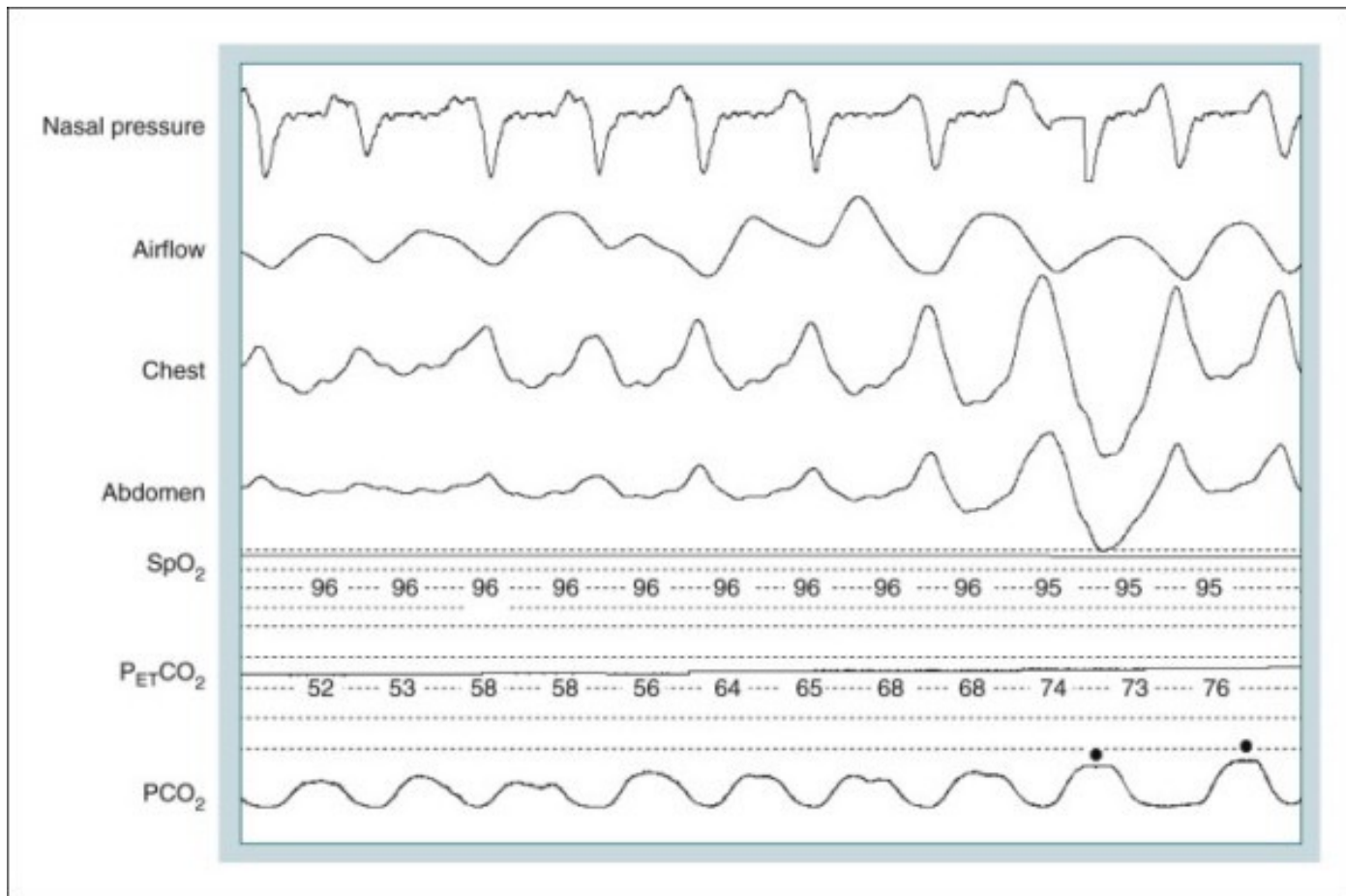


# Hypoventilation

Optional parameter for lab

If scoring, follow this criteria:

- If EITHER of the below occur:
  - Increase in arterial PCO<sub>2</sub> to a value > 55 mmHg for ≥ 10 minutes
  - ≥ 10 mmHg increase in arterial PCO<sub>2</sub> during sleep (in comparison to awake supine value) to a value exceeding 50 mmHg for ≥ 10 minutes



Hypoventilation

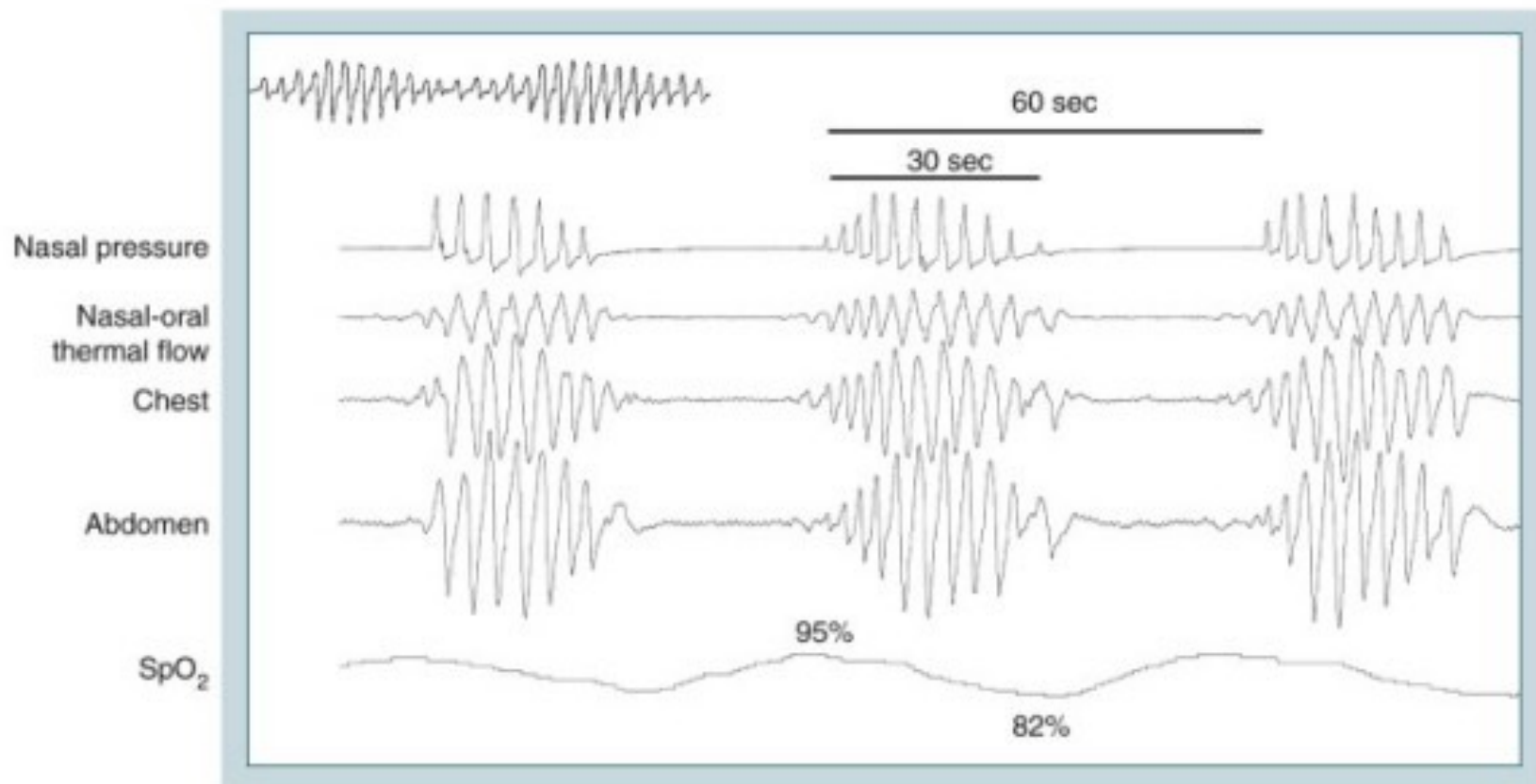
# Cheyne-Stokes Breathing

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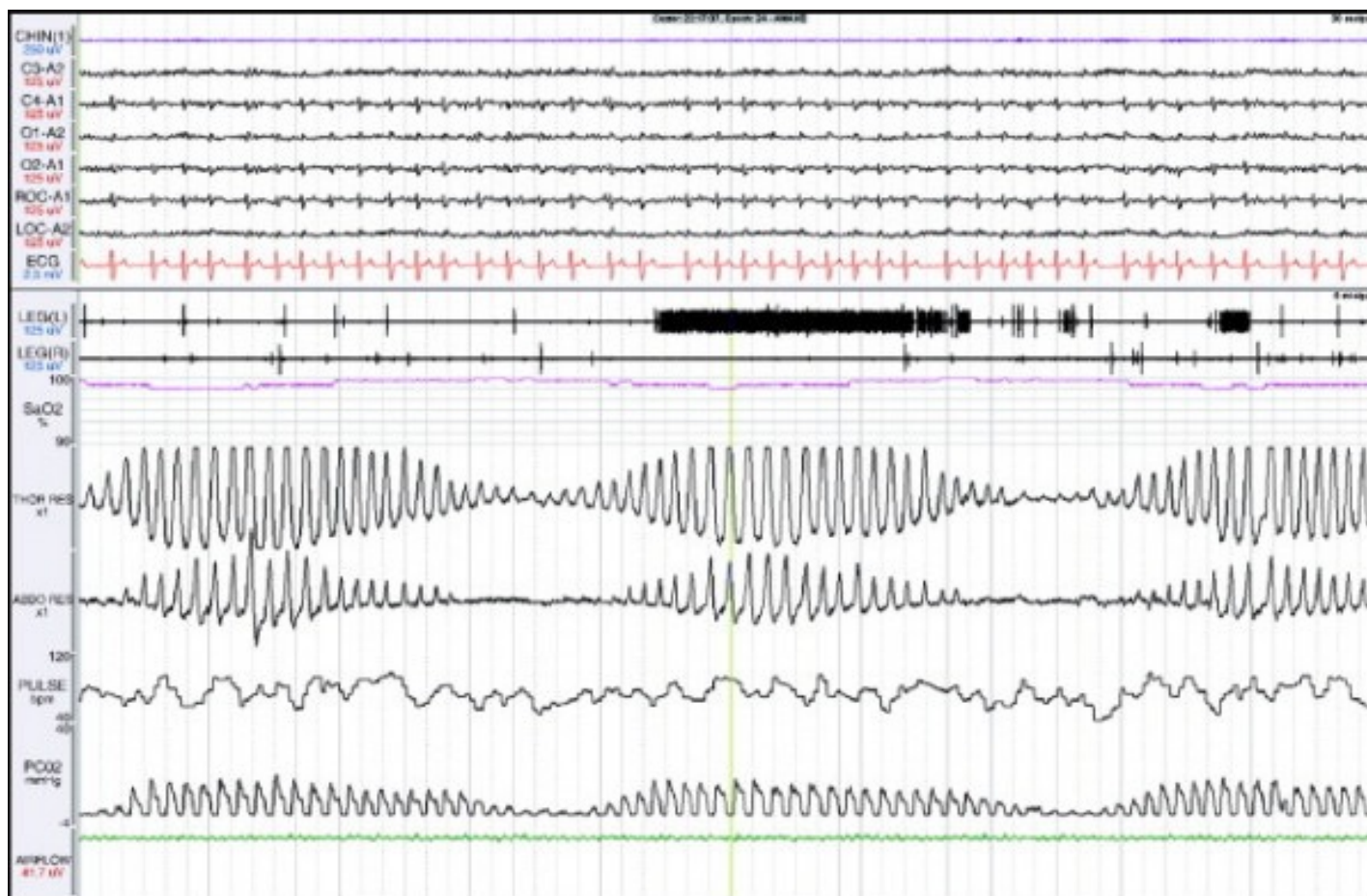
- Must meet BOTH of the following criteria:
  - Episodes of  $\geq 3$  consecutive central apneas and/or central hypopneas separated by crescendo and decrescendo change in breathing amplitude with a cycle length of  $\geq 40$  seconds
    - To be included, hypopneas must have a symmetrical decrescendo crescendo pattern of tidal volume or flow
  - $\geq 5$  central apneas and/or hypopneas per hour of sleep associated with crescendo/decrecendo breathing pattern recorded over  $\geq 2$  hours of monitoring
- Notes:
  - Cycle length = Time from beginning of central apnea to end of next crescendo-decrecendo respiratory phase (start of next apnea)
  - Central apneas and hypopneas that occur within run of Cheyne-Stokes breathing should be scored as individual apneas or hypopneas as well



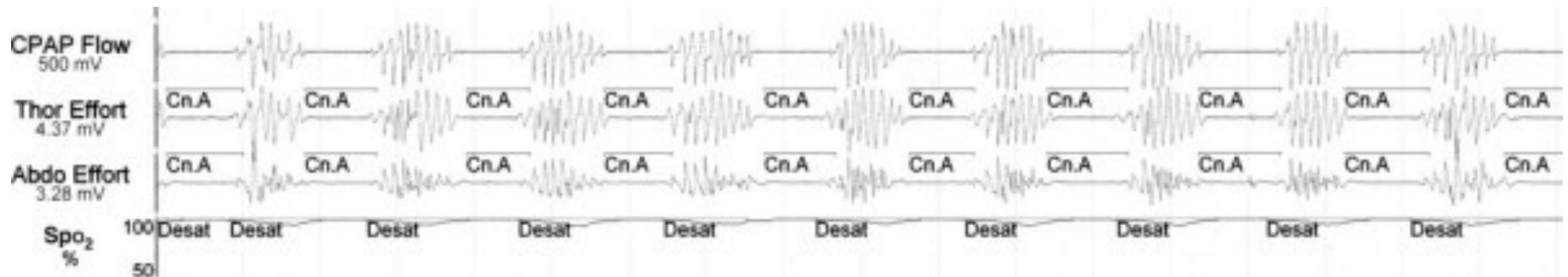
# Cheyne-Stokes Breathing



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# Special Circumstances for Scoring Respiratory Events

- Score a respiratory event occurring during PAP device-triggered breaths as a central apnea if ALL the following are met:
  - Decrease in PAP flow meeting apnea criteria
  - Device-triggered pressure pulses (pressure support) during the event
  - No evidence of spontaneous (patient-triggered) respiratory effort during the event