

# Diagnostic Pediatric Obstructive Sleep Apnea



Teeradej Kuptanon, M.D.

Division of Pediatric Pulmonology,  
Ramathibodi Hospital, Mahidol University

# Outlines

Sign and Symptom of Pediatric OSA

Investigations X-ray

Pulse oximetry

Polysomnography

Pulse Transit Time

Hypoventilation syndrome



*"...and on the box sat a fat and red-faced boy, in the state of somnolency."*

Charles Dickens introduces us to Joe (in the upper right of the drawing). Dickens described many of the features of sleep apnea 120 years before this syndrome was identified by medical science.

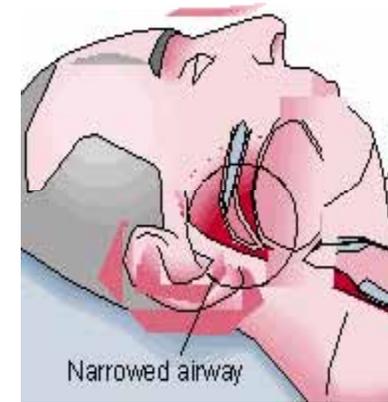
NORMAL AIRWAY



Primary Snoring

Upper Airway Resistance Syndrome

SLEEP APNEA



Obstructive Hypopnea Hypoventilation

OSA

Normal

Apnea

increased resistance

disrupted sleep

partial obstruction  
hypoxemia  
hypercapnia

complete obstruction  
hypoxemia  
hypercapnia

# Pediatric OSA

- Symptoms & Signs
  - Snoring
  - Increased respiratory effort
  - Sleep disruption
  - Sleep position
  - Nocturnal sweating, enuresis
  - Daytime sleepiness problem
  - Learning and behavior problem
  - Cor-pulmonale

