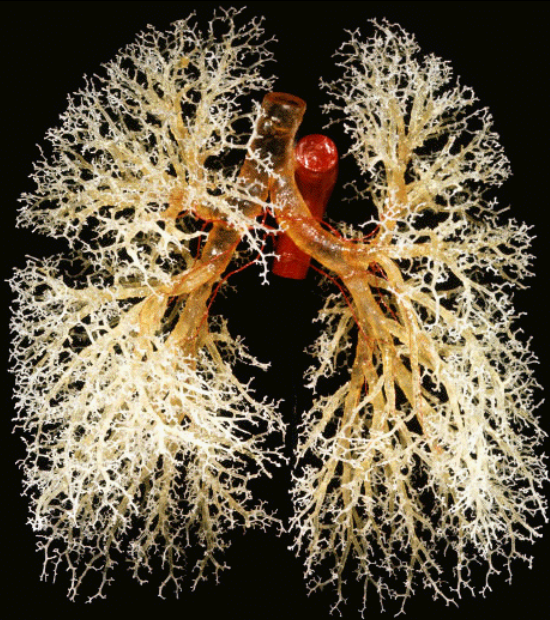
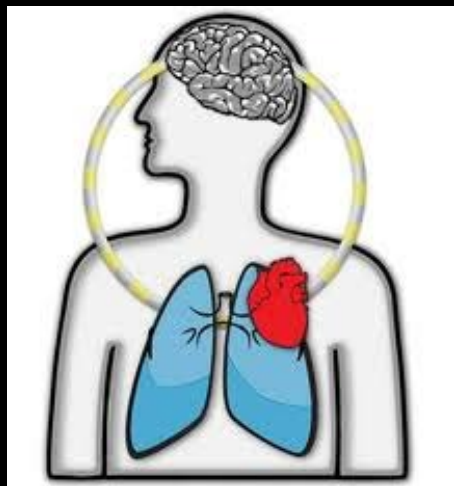


How important are the lungs in neuromuscular disease?



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Overview

- Clearing Secretions



- BiPAP for helping ventilate



Overview

- Clearing Secretions



- 1) Suctioning
- 2) Cough assistance
- 3) Chest physiotherapy

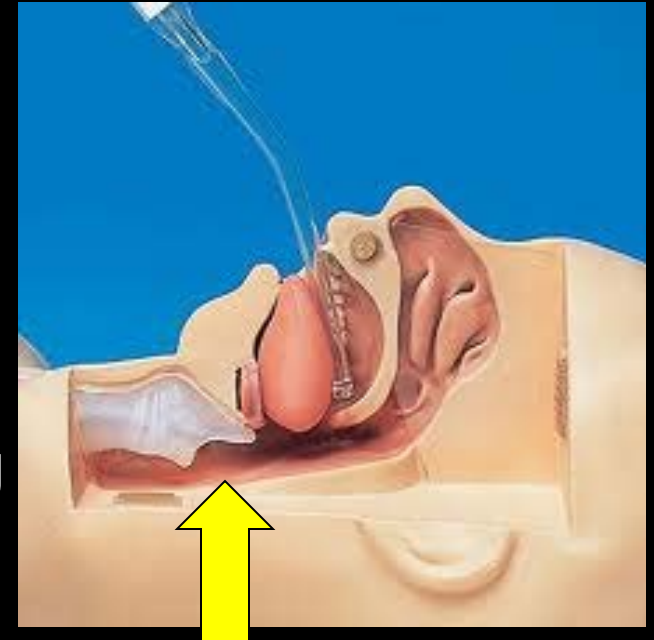
Public Enemy #1

- Oral Secretions
- Saliva
- Nasal drainage
- Worse when ill
- Pooled in back of throat
- “Rattly” breathing
- Aspiration



Suctioning

- Impaired cough from weak muscles
- Even if they can be coughed up from the lung, they can't be coughed out
- Need to be removed by suctioning
- Deep suctioning if by vocal cords (most commonly where they are)
- Hard plastic Yankauer cause gagging
- Need deep suctioning with soft red rubber catheters



Yankauer



Oral catheter



Nasal catheter



Cough Assist

- If weaker can't even cough out of lung
- Need help with cough

“Quad cough”



Cough-Assist



Cough Assist

<http://www.youtube.com/watch?v=ivwKr-841a8>



Pounding the Chest

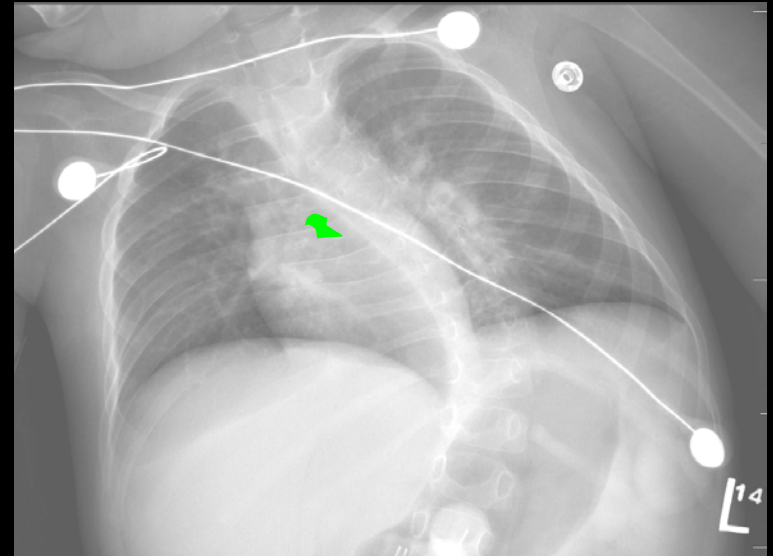


- Chest Physiotherapy (CPT)
- Needed if too weak to even loosen secretions to be able to cough them up
- Last thing needed for airway clearance
- First thing to do (CPT->Cough->Suction)
- Main types of CPT for impaired cough
 - Manual CPT
 - Percussor
 - “Vest”



Airway Clearance Summary

- 3 steps to clear lungs
 - Loosen
 - Manual CPT, Vest, etc.
 - No data that one better than another
 - Mobilize to upper airway
 - Cough assist
 - “Abd thrust” cough
 - Suction
 - May need 10-14 French red rubber catheter



Overview

- Clearing Secretions



- BiPAP for helping ventilate



Breathing/Ventilation Problems

- We all breathe a little less when we sleep
- With muscular weakness this can be much worse
- Low tone can have more OSA
- Can result in low sats at night
- Low saturation follows a very predictable progression



Low sats (*Hypoxemia*)

Illnesses ➡ Night time ➡ Day time

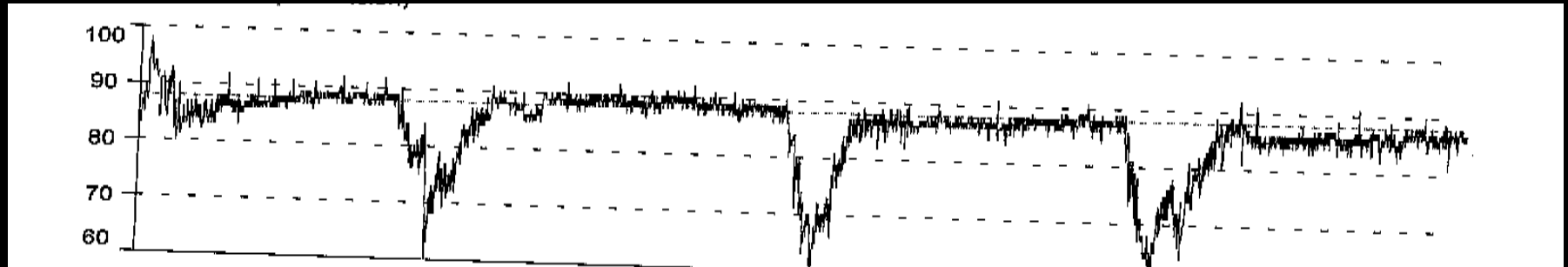
Why not just give some oxygen?

- Saturations are one of the best ways to monitor breathing at home
- CO_2 goes up when poorly ventilating
- If CO_2 is rising O_2 drops
- If on supplemental oxygen can't tell if CO_2 is high
- Can mask respiratory failure until CO_2 is really high (*maybe too late*)

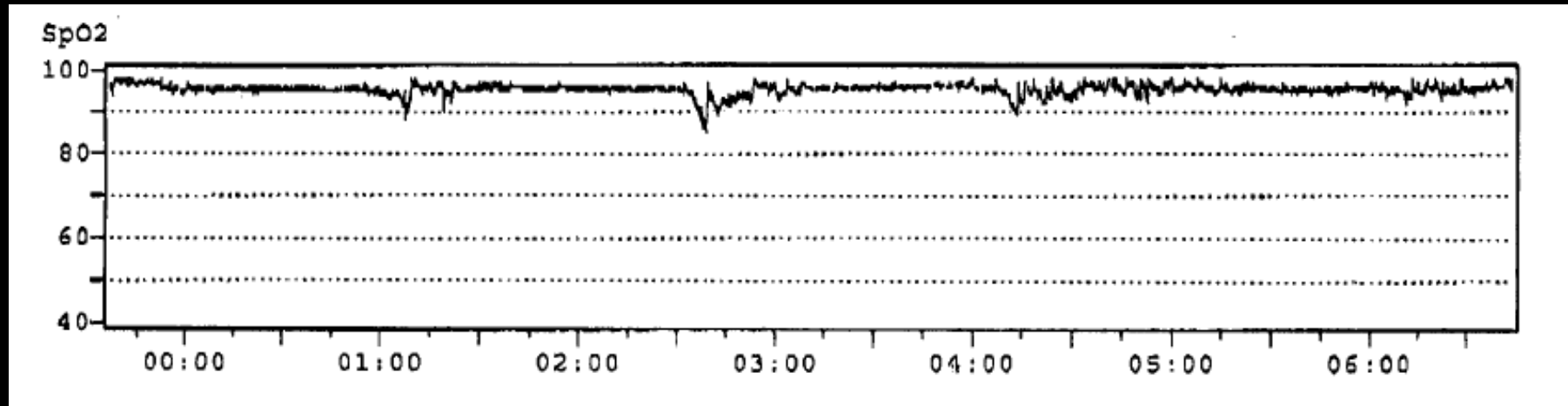


Pulse ox Monitor overnight

Before BiPAP



With BiPAP



Questions?

