INTRODUCTION

DEFINITION
DYSPNEA IS SENSATION NOT ENOUGH TO BREATH
(sensasi bernapas yang tidak nyaman secara abnormal)

The American Thoracic Society defines dyspnea as a "subjective experience of breathing discomfort that consists of qualitatively distinct sensations that vary in intensity. The experience derives from interactions among multiple physiological, psychological, social, and environmental factors, and may induce secondary physiological and behavioral responses.

"Dyspnea", a symptom, must be distinguished from the signs of increased work of breathing

(Harrison’s Principle of Internal Medicine 17th Ed. 2008; Problem-Oriented Medical Diagnosis 7th Ed 2001)
DYSPNEA, caused by

- Pulmonary system
- Non pulmonary system:
  - Cardiovascular system
  - Neuromuscular system
  - Metabolic system
  - Psychiatric origin
- Mixed
- Acute or chronic
Dyspnea in Pulmonary system

• Acute:
  – Infection: Pneumonia → bacterial, viral, other
  – Acute Lung Injury (ALI)
  – Acute Respiratory Distress Syndrome (ARDS)
  – Pneumothorax
  – Foreign body
  – Embolism

• Chronic:
  – COPD: Chronic Bronchitis, Emphysema
  – Asthma
  – Pleural Effusion → infection or non-infection
  – Infected bronchiectasis
  – Cancer: primary or metastasis
  – Interstitial Lung Disease
DYSPNEA, non pulmonary

- **CARDIOVASCULAR:**
  - Myocardial Infarction (MCI)
  - Acute lung edema
- **NEUROMUSCULAR**
  - Stroke
  - CNS infection
- **METABOLIC**
  - Thyroid crisis
  - Hyperuremia renal failure
- **PSYCHIATRIC:**
  - Psychoneurosis
  - Panic disorder, etc
TOP TEN DYSPNEA
SARDJITO HOSPITAL

• PULMONARY
  – COPD
  – Infection
  – Pleural effusion
  – Cancer → primary or metastasis
  – Asthma

• NON PULMONARY
  – Chronic heart failure (CHF)
  – Myocardial infarction (MCI)
  – Chronic kidney disease
  – Hepatic cirrhosis
  – OBGYN cancer

Medical Record Sardjito Hospital 2007
DYSPNEA: differential diagnosis

- ACUTE or CHRONIC $\rightarrow$ first anamnesis
- YOUNG MEN or OLDER $>50$ years old
- ACUTE ONSET $\rightarrow$ THINK FIRST: CARDIAL or NON CARDIAL (pulmonary)
- Old man + acute $\rightarrow$ think first: CARDIAL
  - Pulse $\rightarrow$ irregular $\rightarrow$ aware $\rightarrow$ ASAP $\rightarrow$ ICCU
  - Trial nitrate sub lingual $\rightarrow$ better $\rightarrow$ cardial
DYSPNEA: differential diagnosis

• Usually: chronic mean pulmonary, except embolism and foreign body
• Febrile or Non febrile → infection?
• Acute + febrile → mean lung infection
• Acute + febrile + old man → mean worse
  – Refer to EMERGENCY ROOM
  – Oxygen first
  – Think → comorbid factor → complication
DYSPNEA: comorbid factor

- Old man
- Cardial
- Diabetic
- Renal impairment
- Cancer
- Chronic disease
- Immobilization:
  - Arthritis
  - Stroke
  - Malnutrition
  - Debility

- COMORBID FACTOR → REFER TO EMERGENCY ROOM
PNEUMONIA

- ACUTE DYSPNEA, FEBRILE, RALES (+)
- YOUNG MAN < 40 YO
- OXYGEN 3-5 L/MINUTE CANULE
- BROADSPECTRUM ANTIBIOTICS
- MUCOLYTIC
- BEDREST
- PLUS COMORBID → REFER TO EMERGENCY ROOM
ASTHMA

- ACUTE ONSET IN CHRONIC DISEASE
- History: treatment by more 1 doctor
- Many medication
- TREAT:
  1. Anti Inflammation: steroid → methylprednisolone
  2. Bronchodilator: beta agonist + anticholinergic inhalation
  3. Continuous steroid inhalation
  4. Bronchodilator inhalation as needed
  5. Antibiotics only for infection (febrile+leukocytosis)
  6. DO NOT TREAT MUCOLYTIC
  7. Plus comorbid factor → refer to hospital → may difficult
ASTHMA

normal vs asthma
COPD dyspnea

- SMOKER
- > 40 years old
- Acute on chronic disease
- Febrile + leukocytosis $\rightarrow$ acute exacerbation
- Treat: antibiotics + steroid + bronchodilator

Plus comorbid factor $\rightarrow$ refer to EMERGENCY ROOM $\rightarrow$ MAY GET WORSE
PLEURAL EFFUSION

• SILENT AUSCULTATION on CHEST
• TRIAL PROOF PLEURAL PUNCTION
• DISCHARGE 500-700 CC ONLY
• IF BLOODY EFFUSION → REFER TO EMERGENCY ROOM
• OXYGEN 3-5 L/MINUTE CANULE
• FAWLER POSITION
CARDIAL DYSPNEA

• DYSPNEA ON EFFORT
• USUALLY OLDMAN
• HISTORY OF CARDIAC MEDICATION
• OLDMAN IN ACUTE DYSPNEA → THINK FIRST ACUTE MYOCARD INFARCTION
• IRREGULAR PULSE
• CARDIAC MURMUR
DYSPNEA

MANAGEMENT:
1. Oxygen 3 → 5 L/minute → canule or mask
2. Fawler position: chest over the stomach
3. PULMONARY OR NON PULMONARY
4. CARDIAL NON CARDIAL
5. PLUS COMORBID FACTOR → REFER TO EMERGENCY ROOM
6. TX UNDERLYING DISEASE
SUMMARY

• SENSATION NOT ENOUGH TO BREATHE
• PULMONARY OR NON PULMONARY
• OLDMAN ACUTE DYSPNEA, THINK FIRST CARDIAL!!
• OLDMAN CHRONIC DYSPNEA IS COPD OR Congestive Heart Failure
• YOUNG MAN ACUTE DYSPNEA MAY PNEUMONIA OR ASTHMA
• ELDERLY+COMORBID → WORSE
THANK YOU for YOUR ATTENTION

ALHAMDULILLAH