

COPD  
CHRONIC OBSTRUCTIVE  
PULMONARY DISEASE

BY: ERICA ITALIANO

JENNIFER DEBERDT

# WHAT IS COPD?

- **DEFINITION:**
  - **A DISEASE THAT LIMITS AIRFLOW THROUGH EITHER INFLAMMATION OF THE LINING OR THE BRONCHIAL TUBES, OR DESTRUCTIVE OF ALVEOLI**
- **COPD WILL BECOME THE THIRD LEADING CAUSE OF DEATH WORLDWIDE BY 2020**

# ASSESSMENT

# MR. HAYATO

- **AGE: 65**
- **SEX: MALE**
- **CHIEF COMPLAINT:**
  - **SHORTNESS OF BREATH**
- **MEDICATIONS**
  - **COMBIVENT**
  - **LASIX**
  - **OXYGEN 2 L/HOUR VIA NASAL CANNULA WHEN SLEEPING**
- **SMOKER:**
  - **YES, 2 PPD FOR 50 YEARS**
- **FAMILY HISTORY:**
  - **FATHER WITH LUNG CANCER**

# MEDICAL HISTORY

- COPD SECONDARY TO CHRONIC TOBACCO USE
- CHOLECYSTECTOMY 20 YEARS AGO
- TOTAL DENTAL EXTRACTION 5 YEARS AGO
- INTERMITTENT CLAUDICATION
- ALLERGIC TO PENICILLIN

# NUTRITION HISTORY

- FAIR APPETITE
- HT: 5'4"
- UBW: 135 LBS
- CURRENT BW: 122 LBS

# MEDICAL DIAGNOSIS

- ACUTE RESPIRATORY DISTRESS
- COPD
- PERIPHERAL VASCULAR DISEASE WITH INTERMITTENT CLAUDICATION

# BIOCHEMICAL PARAMETERS

## ABNORMAL FINDINGS

Test	Patients	Normal
TRANSFERRIN	173 MG/DL	215-365 MG/DL
URIC ACID	3.9 MG/DL	4.0-9.0 MG/DL
BILLIRUBEN	0.8 MG/DL	≤ 0.3
LDH	412 U/L	208-378 U/L
HDL	32 MG/DL	< 45 MG/DL
LDL	142 MG/DL	< 130 MG/DL
HCT	39 %	40-54%
SEGS	83%	50-62%
LYMPHS	10%	24-44%
MONOS	3%	4-8%
PH	7.2	7.35-7.45
PCO2	65 MM HG	35-45 MM GG
CO2 CONTENT	35 MMOL/L	23-30 MMOL/L
PO2	56 MM HG	≥ 80 mm Hg
HCO3-	38 M EQ/L	24-28 EQ/L



# PHYSICAL EXAM

- **GENERAL APPEARANCE: ACUTELY DYSPNEIC ASIAN AMERICAN MALE IN ACUTE RESPIRATORY DISTRESS**
- **HR 118 BPM, SHOULD BE 60-100 BPM**
- **RR 36 BPM, SHOULD BE 12-20 BPM**
- **HEENT: AV NICKING**
- **THROAT: JUGULAR VEINS APPEAR DISTENDED, TRACHEA SHIFTED TO THE RIGHT**
- **EXTREMITIES: CYANOSIS, 1 + PITTING EDEMA**

# ANTHROPOMETRIC

- **CURRENT WEIGHT: 122 LBS**
- **UBW: 135 LBS**
- **HT: 5'44"**
- **IBW: 94%**
- **UBW: 90%**
- **BMI: 20.9**

# 24 HOUR RECALL

- AM: 2 SCRAMBLED EGGS, FEW BITES OF CREAM OF WHEAT, SIPS OF HOT TEA, BITE OF TOAST
- PM: SIPS OF HOT TEA

# USUAL DIET

- **BREAKFAST: EGG, HOT CEREAL, BREAD OR MUFFIN, HOT TEA WITH MILK AND SUGAR**
- **LUNCH: SOUP, SANDWICH, HOT TEA WITH MILK AND SUGAR**
- **DINNER: SMALL AMOUNT OF MEAT, RICE, 2-3 KINDS OF VEGETABLES, HOT SOUP AND TEA**

# ENERGY NEEDS

- **CALORIC NEEDS: 2019 KCALS/DAY**
- **PROTEIN NEEDS: 55G/DAY**

# ENTERAL VS.

## Enteral Nutrition

- Pro's:
  - If the gut works use it
  - Cheaper
- Con's:
  - High residuals
  - Aspiration

## Parenteral Nutrition

- Pro's:
  - Meet caloric needs
  - No residual
- Con's:
  - Expensive
  - Not using the gut when it works

(Tanchoco; 2008)

# PSYCHOSOCIAL/FAMILY

- **SUPPORTIVE WIFE**
  - **COOKS FOR HIM**
  - **HELPS WITH DAY TO DAY TASKS**
- **EDUCATION: BACHELORS DEGREE**
- **OCCUPATION: RETIRED MANAGER OF LOCAL GROCERY STORE**
- **CHILDREN: FOUR (DO NOT LIVE IN THE AREA)**

# LIFESTYLE

- **SMOKES 2 PACKS PER DAY FOR THE PAST 50 YEARS**
- **SLEEPS WITH NASAL CANNULA**
- **MODERATELY ACTIVE**
- **HEALTH RISK APPRAISAL?**



# DIAGNOSIS

# NUTRITION DIAGNOSIS

- **INADEQUATE ENERGY INTAKE (NH 1.2) RELATED TO DIFFICULTY BREATHING AND LACK OF APPETITE AS EVIDENCE BY WEIGHT LOSS AND DIET RECALL**

# INTERVENTION

# INTERVENTION

- **FOOD AND/OR NUTRIENT DELIVERY, ENTERAL AND PARENTERAL NUTRITION (ND-2) INITIATE ENTERAL AND PARENTERAL NUTRITION.**

# DIET ORDER

## Parenteral

- Formula: Procalamine
- AA: 101g
- Dextrose: 238 g
- Lipids: 90 g

(Grade ?)(DeLegge 2007; Basel 2007)

## Enteral

- Formula: Nutren 2.0
- Kcals: 2064 kcals
- Protein: 83 g
- Fat: 110g
- Free Water: 723 ml
- Flushes: 240 ml every six hrs

(Grade ?)(Cochrane 2004; Afolabi 20004)

# NUTRITION EDUCATION

- HIGH CALORIE DIET
- LOW CARBOHYDRATE DIET
- LIGHT EXERCISE
- EASILY CHEWABLE FOODS
- ADEQUATE FIBER
- SUGGEST VITAMIN C SUPPLEMENT

# SHORT TERM GOALS

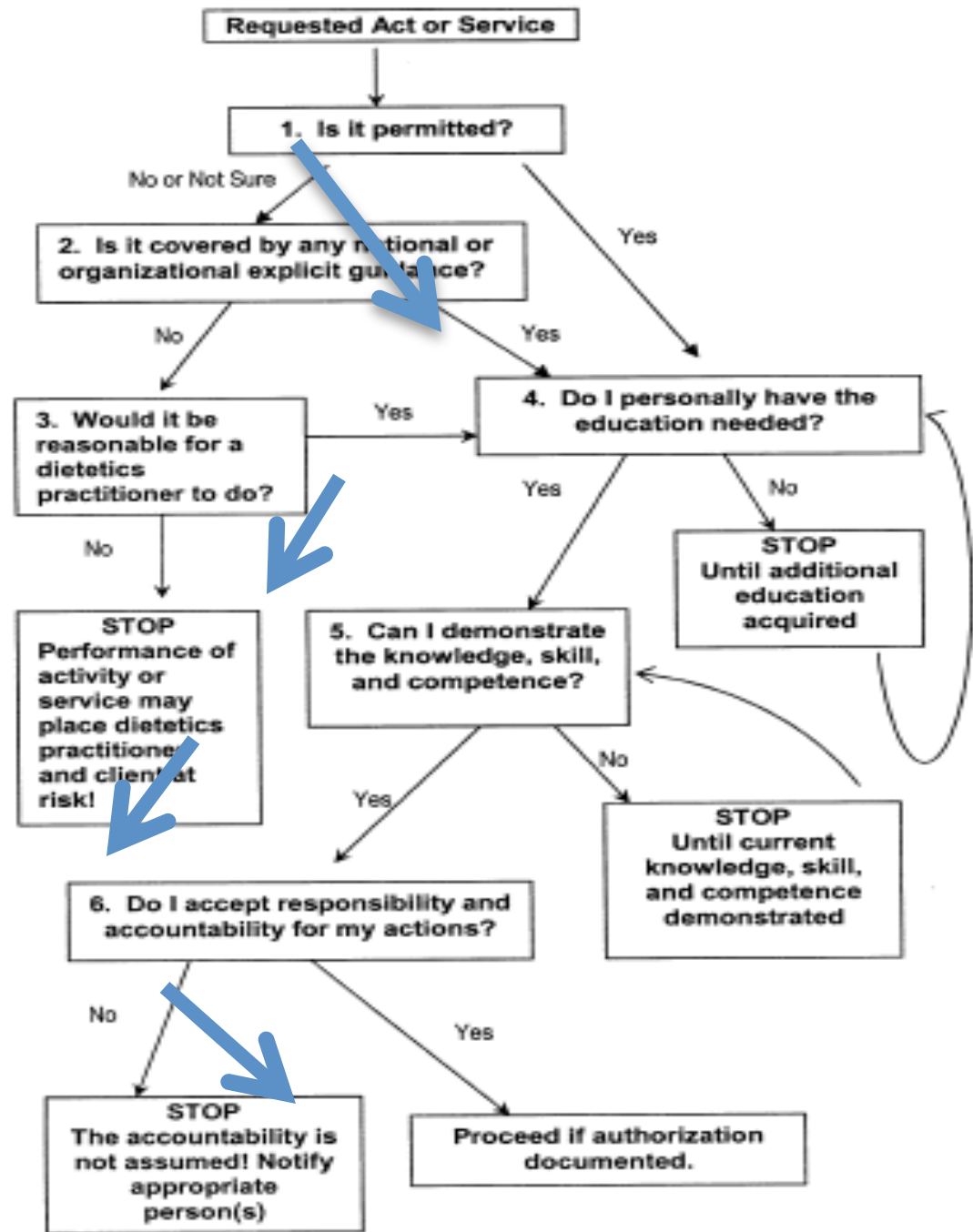
- **Outcome Goals:** MAINTAIN WEIGHT
- **Action Goals:** PARENTERAL/ENTERAL NUTRITION SUPPORT

# LONG TERM GOALS

- **Outcome goal:** GAIN WEIGHT
- **Action Goal:** INCREASE CALORIES, ESPECIALLY FAT AND PROTEIN



# SCOPE OF PRACTICE



# MONITOR AND EVALUATION

# THE PATIENT'S

- ANTHROPOMETRIC

- WEIGHT

- LABS

- PRE-ALBUMIN

- DIETARY RECALL

- 3 DAY RECALL PRIOR TO MEETING WITH RD

# FOLLOW-UP

- **PATIENT WILL MEET WITH RD ONCE BEFORE LEAVING THE HOSPITAL**
- **PATIENT SHOULD CONTINUE MONTHLY FOLLOW-UP APPOINTMENTS WITH AN RD TO GAIN AND MAINTAIN HIS WEIGHT**

# REFERENCES

- COCHRANE WJ, AFOLABI OA. INVESTIGATION INTO THE NUTRITIONAL STATUS, DIETARY INTAKE AND SMOKING HABITS OF PATIENTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE. *J HUM NUTR DIET* 2004;17(1):3-11.
- FERREIRA IM, BROOKS D, LACASSE Y, GOLDSTEIN RS, WHITE J. NUTRITIONAL SUPPLEMENTATION FOR STABLE CHRONIC OBSTRUCTIVE PULMONARY DISEASE. *Cochrane Database Syst Rev* 2005 APR 18;(2):CD000998.
- DELEGGE MH, BASEL MD, BANNISTER C, BUDAK AR. PARENTERAL NUTRITION USE FOR ADULT HOSPITALIZED PATIENTS: A STUDY OF USAGE IN A TERTIARY MEDICAL CENTER. *Nutr Clin Pract.* 2007; 22: 246-249.
- PATIENT AND CARER PERSPECTIVES, PROMOTING THE HEALTH OF PEOPLE WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE: PATIENTS' AND CARERS' VIEWS, ANN CARESS, KAREN LUKER AND KAREN CHALMERS
- CELESTE C. TANCHOCO, <sup>1</sup> CECILIA A. MA CASTRO, <sup>1</sup> MILAGROS F. VILLADOLID, <sup>1</sup> GERARDO CASIÑO, <sup>2</sup> MARIETTA P. RODRIGUEZ, <sup>1</sup> CAMILO ROA, <sup>2</sup> CHRISTINE MARIE A. DE LA CRUZ <sup>2</sup> AND FAUSTO TANGCONGCO JR <sup>2</sup> ENTERAL FEEDING IN STABLE CHRONIC OBSTRUCTIVE PULMONARY DISEASE PATIENTS JULY 2008