



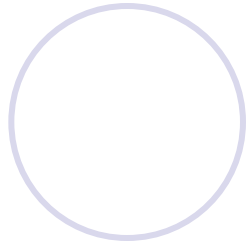
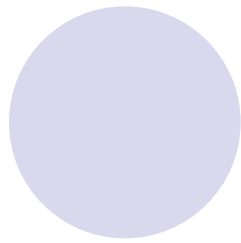
# Lymphoma Treated with Chemotherapy



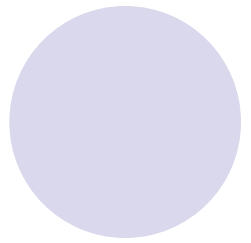
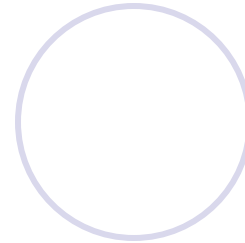
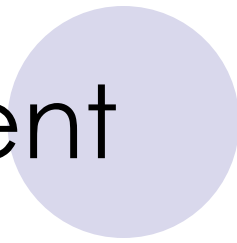
Laura Rutemiller

KNH 406

4.7.2010



Patient



- **Denise Mitchell**

- 21 yr. old college student

- Chief complaint

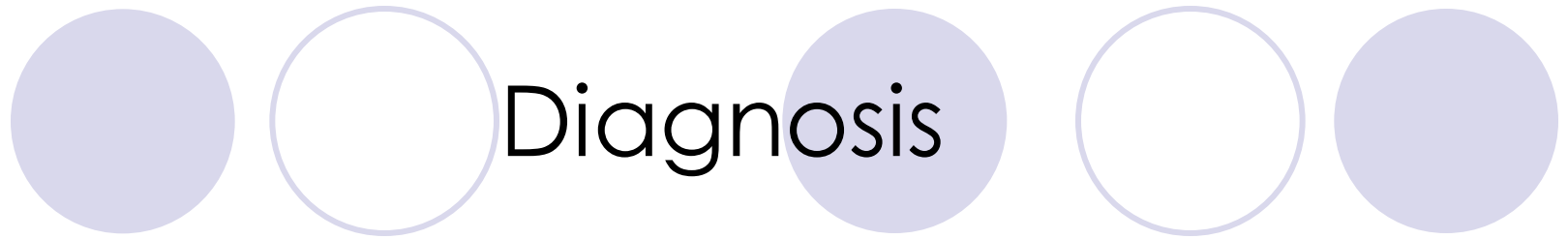
- Pt Hx

- No significant illness until past 2-3 mons
- Onset of disease:
  - Fevers, night sweats



# Symptoms/Physical Exam

- General Appearance
- Vitals
- HEENT
- Chest/Lungs

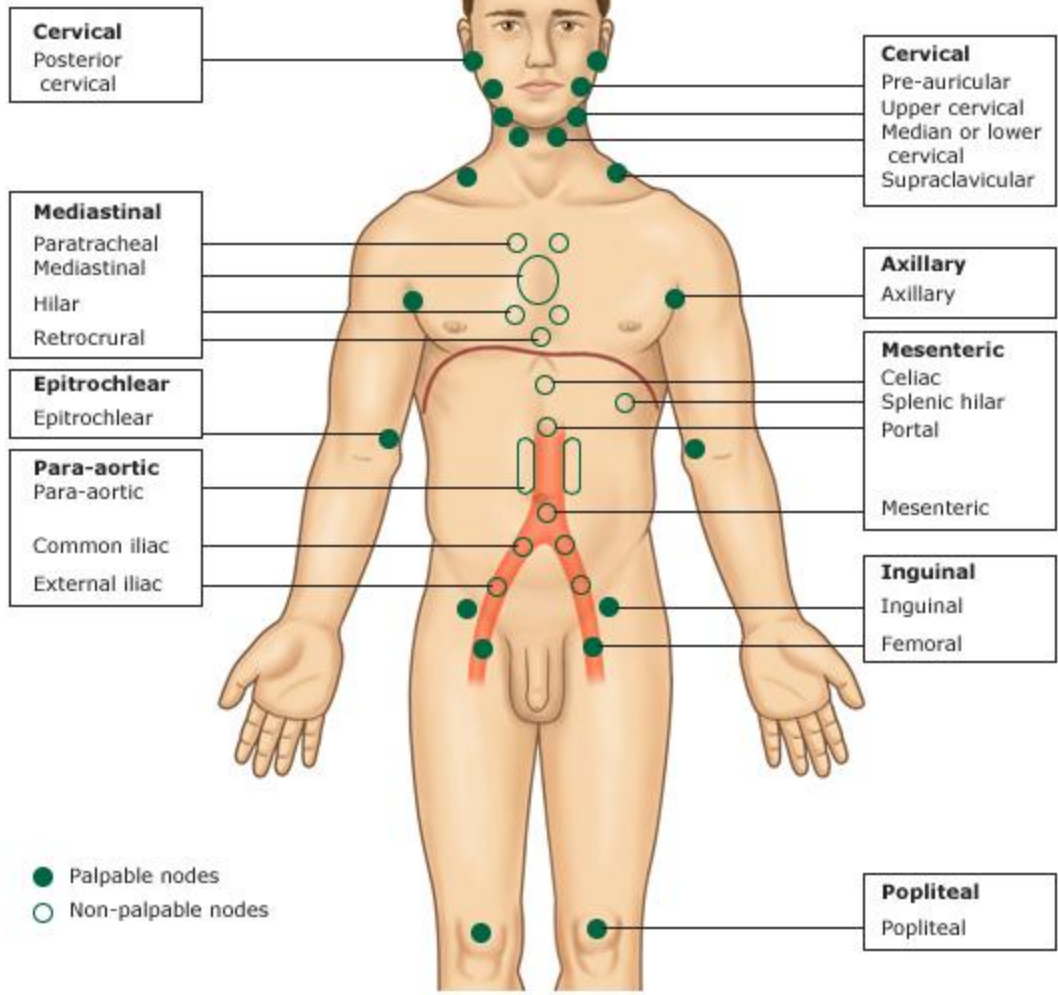


# Diagnosis

- Diagnostic measures:
  - Chest X-ray, chest CT, MRI, bone marrow biopsy, and biopsy of suspect lymph nodes
- Stage II Diffuse large B-cell lymphoma
  - with mediastinal disease & positive lymph nodes.



- Lymphoma Defined
- Classification of Stage II
- Mayo Clinic
- Classic signs of lymphoma: Swollen but painless lymph nodes in the neck, armpit or groin in the early stages. Later stage symptoms: fever, night sweats, fatigue, weight loss, abdominal pain or swelling, extremely itchy skin, and chest pain, coughing or trouble breathing.
- Prevalence:
- 30 types of non-Hodgkin lymphoma; DLBCL most common.
- In the US, DLBCL affects about 7 people out of 100,000 each year.





# Treatment

- Chemotherapy regimen of:
  - cyclophosphamide, doxorubicin, vincristine, and prednisone.
- Radiation therapy to start 3 weeks after third cycle of CHOP
- Nutritional Side Effects

# Medical Nutrition Therapy

- Nutrition Hx: appetite decreased, no nausea, vomiting, constipation or diarrhea
- 24- Hour Recall
  - AM: 1 slice dry toast, plain hot tea
  - Lunch ½ c. ice cream, ¼ c fruit cocktail, few bits of other foods on tray
  - Dinner: 1 oz. chicken, 2 Tbsp. mashed potatoes, ½ c Jell-O, plain hot tea





# Assessment

- 21 Female, pale, fatigued, fever, cough
  - Dx: Stage II large B-cell lymphoma
  - BMI: 19.36
  - UBW: 130lbs.
    - Denise is 92% of her UBW
  - Current wt.= 120 lbs
- Decreased appetite. No NV
- Albumin: 3.3 g/dl (Normal: 3.5-5 g/dl)
- Total protein: 5.5 g/dl (Normal: 6-8 g/dl)
  - High WBC, low HGB, HCT, Ferritin

# Needed Energy & Protein

- Denise's protein needs are as follows:
- $1.5 \text{ g} \times 54.4 \text{ kg} = 81.8 \text{ g PRO}$
- Since Denise is hypermetabolic, she will need 30-35kcal/kg for her energy requirements. Therefore, she needs:
  - $30\text{kcal} \times 54.4 \text{ kg} = 1,632 \text{ kcal}$
  - $35\text{kcal} \times 54.4 \text{ kg} = 1,904 \text{ kcal}$
  - $1,632 + 1,904 / 2 = \underline{1,768 \text{ kcal}}$
  - 24 Hour Recall: Only provided Only providing 332 kcal and 13.5 grams of protein.



# Diagnosis

- PES #1: Impaired nutrient utilization related to hypermetabolism as evidenced by low lab values.
- PES #2: Inappropriate kcal intake related to anorexia related to involuntary weight loss.



# Intervention

- Increase protein levels to 1.5g/kg to get lab values WNL.
- Increase kcal intake to involuntary loss in weight by giving Denise 35 kcal/kg. Total of 1,768 kcal/day
  - Small, frequent meals; desirable foods
  - Nutritional beverages between meals



# Monitoring/Evaluation

- Reassess lab values (albumin, prealbumin, CRP) within 5-7 days of tx.
- Physical signs
- Weight gain/loss checked every 2-3 days.
  - Physical signs (N/V, early satiety?)



# Prognosis

- Revised International Prognostic Index (R-IPI)

Age > 60

Serum Lactate Dehydrogenase Concentration above normal

Stage III or IV

ECOG performance status >2

Number of extranodal disease sites >1

Score	Risk Group	4 yr OS	4-yr PFS
0	Very good	94	94
1-2	Good	79	80
3 or more	Poor	55	53



# References

- American Cancer Society. How is non-hodgkin's lymphoma staged? (2009). Retrieved on April 3, 2010, from, [http://www.cancer.org/docroot/CRI/content/CRI\\_2\\_4\\_3X\\_How\\_is\\_non-Hodgkins\\_lymphoma\\_staged\\_32.asp](http://www.cancer.org/docroot/CRI/content/CRI_2_4_3X_How_is_non-Hodgkins_lymphoma_staged_32.asp)
- FitDay Free Calorie Counter. Retrieved on April 6, 2010, from, [http://fitday.com/fitness/FoodLog.html?\\_a\\_Date=1270512000](http://fitday.com/fitness/FoodLog.html?_a_Date=1270512000)
- Glutamine. University of Maryland Medical Center. (2009). Retrieved on April 6, 2010, from, <http://www.umm.edu/altmed/articles/glutamine-000307.htm>
- Mayo Clinic. Non-Hodgkin Lymphoma. (2010). Retrieved on April 3, 2010, from, <http://www.mayoclinic.org/non-hodgkins-lymphoma/diagnosis.html>
- Medina, Miguel. Glutamin and Cancer. *The Journal of Nutrition*. (2001). Retrieved on April 6, 2010, from, <http://jn.nutrition.org/cgi/content/full/131/9/2539S>
- National Cancer Institute. Radiation Therapy. (n.d) Retrieve on April 3, 2010, from, <http://www.cancer.gov/cancertopics/factsheet/Therapy/radiation>
- National Cancer Institute. Effect of Chemotherapy and Radiation on Nutrition Therapy. Retrieved on April 3, 2010, from, <http://www.enotalone.com/article/7443.html>
- Nelms, M., Sucher, K., & Long, S. (2007). *Nutrition Therapy and Pathophysiology*. Belmont, CA. pp. 769
- Shenkin, Alan. Serum prealbumin: Is it a marker of nutritional status or of risk of malnutrition? (2006). *Clinical Chemistry*. 52. Retrieve on April 6, 2010, from, <http://www.clinchem.org/cgi/content/full/52/12/2177>
- Sehn, LH, Berry, B, Chhanabhai, M, et al. The revised International Prognostic Index (R-IPI) is a better predictor of outcome than the standard IPI for patients with diffuse large B-cell lymphoma treated with R-CHOP. *Blood* 2007; 109:1857.
- Treating cancer with coffee enemas. Healing Deva. (2008). Retrieved on April 6, 2010, from, [http://healingdeva.com/coffee\\_enemas.htm](http://healingdeva.com/coffee_enemas.htm)
- UC Davis Health System. Clinical Dietitians. Low-Microbial Diet. (2007). Retrieved on April 6, 2010, from, [http://www.ucdmc.ucdavis.edu/cancer/pedresource/pedres\\_docs/LowMicrobialDiet.pdf](http://www.ucdmc.ucdavis.edu/cancer/pedresource/pedres_docs/LowMicrobialDiet.pdf)