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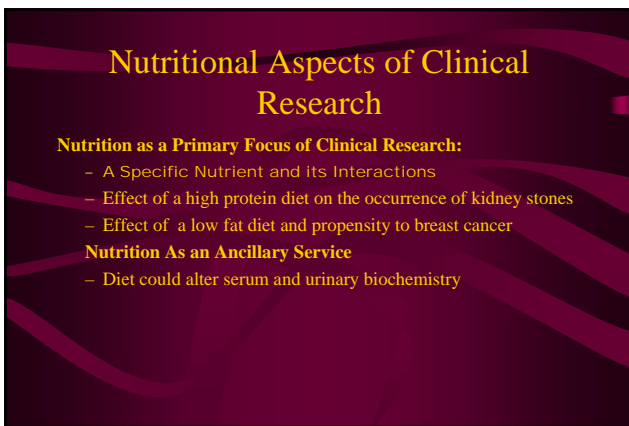
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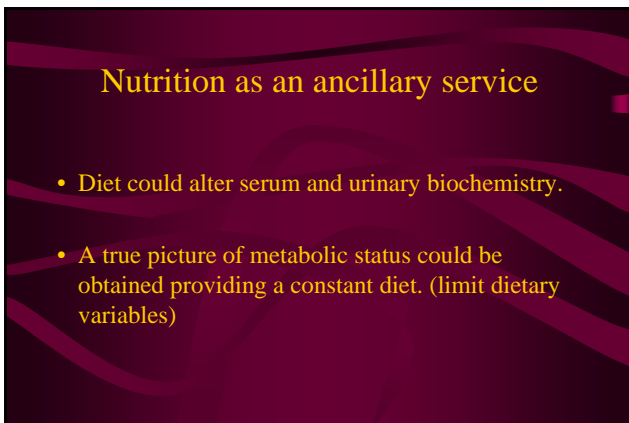
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### Other Nutritional Considerations

Bioavailability of Nutrients

- Substances that interfere with absorption
- **Heat and oxidation that may render a molecule inactive**
- Binding substances
- Oxalates

Food and Drug Interaction

- Drug therapy can affect absorption of nutrients
- Food can alter drug metabolism

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### Diets Offered at USC's Bionutrition Department

- Metabolically Balanced Diets
- Intake equals output
- Constant Isocaloric
- Solid Food - Formula or liquid food
- Cycle menu
- Modifiable for diabetes, hypertension or high cholesterol
- New Innovative way of doing controlled feeding studies
- Off-site feedings where meals are prepared frozen and given to subject to take home

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### Other services Available

- Research dietitians
- Analysis of 3 day food records - diet histories - 24 hr. recalls
- Computer software for data analysis
- Pronutra - Pronessy and Nutritionist Pro
- Anthropometric Core
- Body composition measurements by Calipers - BIA - and DEXA
- Indirect Calorimetry
- Exercise Testing Core
- Exercise testing with a treadmill or ergometer

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## DEXA

- Dual Energy X-ray Absorptiometry
- Measures
  - Bone mineral density - Bone mineral content - lean body mass - fat mass.
- Eliminates the use of an underwater tank for body composition.

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## Exercise Testing



- Measures:
  - Stress testing
  - Fitness capacity and improvements with therapy

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### Off-Site Feeding

- Allows for a controlled feeding of specific diets for free living subjects  
Meals carefully measured and prepared frozen.
- Feeding studies essential for answering how diet influences risk factors and disease processes.

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### Future endeavors

- **Nutrition and Genetic Research**
    - Interactions between dietary response and genetic factors.
    - Effects of individual nutrients on the expression of specific genes.
- New areas of investigation where the Bionutrition department will play an important role.**

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