



Value of Protein in Diets

[Dietary Protein Priorities]

⇒ Fluids:

- ☑ safe supply, use in preparation

⇒ Calories:

- ☑ primary sources are carbs and fat

⇒ Protein:

- ☑ spare for use as protein

⇒ Micronutrients:

- ☑ balanced with variety of sources

[Human Protein Needs]

- ➔ Based on “nitrogen balance”
 - ☑ Provides for maintenance of protein levels according to intake = output
 - ☑ Validity/methods are tricky and interpretation is questioned: the body adapts
 - ☑ Obligatory nitrogen loss replacement vs. nitrogen balance vs. optimal growth, development, and rehabilitation
 - ☑ Potential for protein metabolism alterations are not always considered

[Dietary Protein: Demands]

- ⇒ Maintenance of body pool and functions: largest amount needed
- ⇒ Growth, development at crucial points
- ⇒ Disease alterations in turnover and “shunting” to allow priority body functions, even to allow protein loss

[Not All Proteins are Alike]

- ➔ Essential amino acids especially crucial to consider
 - ☑ Change in amino acid profile affects effectiveness of dietary protein intake to maintain nitrogen balance
- ➔ RDI is established using highly digestible and high quality protein
 - ☑ Lower quality protein means higher protein requirements
 - ☑ Study results vary widely in estimation of needs in special populations

[Protein Requirements]

- ➔ Maintenance/balance
- ➔ Additional for deposition
 - ☑ Pregnancy/lactation
 - ☑ Growth, physical activity
- ➔ Additional for conditions of loss
 - ☑ Disease, injury, climate
- ➔ Non-protein nitrogen

Contribution of Dietary Protein

- ➔ Shore up deficient food supply
 - ☑ As ingredient
 - ☑ As fortificant
- ➔ Maintain body in health and disease
 - ☑ Growth/development
 - ☑ Disease management
 - ☑ Health maintenance