

PRACTICAL TIPS FOR THERAPEUTIC DIETS FOR DOGS

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Food is a highly significant resource for dogs and feeding should not be seen simply as an essential husbandry procedure. Therapeutic diets are concerned with the nutritional requirement of dogs suffering from different diseases and prescribing the right diets for them. To achieve an impact on the animal's body chemistry, therapeutic diets have scientifically formulated amounts and ratios of various nutrients.

This article helps to formulate appropriate diet for your dogs during disease conditions

Liver Diseases

In Liver diseases, diet must

- (1) Reduce the need for liver function such as gluconeogenesis, fat conversion, deamination, nitrogen and uric acid conversion and bile secretion,
- (2) Restore liver glycogen,
- (3) Prevent ammonia toxicity (encephalopathy), and
- (4) Prevent sodium retention.

Provide readily available to your dog in the form of dextrose, corn-starch or other simple-easily digested carbohydrates. Avoid coarse-grain cereals as used in many dry dog foods.(See Table 1)

Table 1: Recipes for liver diseases

Recipe 100 g Lean ground beef 1 Large egg, hard-cooked 2 Cups cooked rice without salt, 3 Slices white bread, crumbled 1 Teaspoon ostocalcium	Chemical Composition: Moisture % 65.5 Protein % 6.9 Fat % 5.5 Carbohydrate % 21.0 Ash % 1.0 Phosphorus % 0.1 Sodium % 0.1 ME (Kcal) 340/ kg
Recipe: (When diarrhea develops) 1/2 a cup cream of wheat/ gruel prepared from broken rice/ bean or wheat. 1½ cup creamed cottage cheese 1 Large egg, hard-cooked. 2 Table spoon brewers yeast 3 Table spoon sugar 1 Table spoon vegetable oil 1 Teaspoon Ostocalcium	Chemical Composition: Moisture % 75.8 Protein % 7.1 Fat % 3.7 Carbohydrate % 11.2 Fiber % 0.1 Ash % 2.1 Calcium % 0.33 Phosphorus % 0.19 Potassium % 0.36 ME (Kcal) 225/ kg
Recipe:(When ascites or edema develop) 100g Lean ground beef 2 Cups cooked rice without salt, 1 Table spoon vegetable oil 1 Teaspoon Ostocalcium	Chemical Composition: Moisture % 68.5 Protein % 6.3 Fat % 5.5 Carbohydrate % 17.7 *Sodium % 0.01 ME (Kcal) 300/ kg * 50 mg sodium/ 100g dry diet

Table 2: Recipe for renal failure

Recipe:	Chemical Composition:
100 g Lean ground beef	Moisture % 65.5
1 Large egg, hard-cooked	Protein % 6.9
2 Cups cooked rice without salt,	Fat % 5.5
3 Slices white bread, crumbled	Carbohydrate % 21.0
1 Teaspoon Ostocalcium	Ash % 1.0
	Sodium % 0.1
	ME (Kcal) 340/ kg

Table 3: Recipe for constipation

Recipe:	Chemical Composition:
100 g Lean ground beef	Moisture % 86.0
2 Cups carrots,	Protein % 5.5
2 Cups green beans	Fat % 1.7
1 Teaspoon Ostocalcium	Carbohydrate % 4.5
	ME (Kcal) 115/ kg

Table 4: Recipe for diarrhoea

Recipe:	Chemical Composition:
1/2 Cup cream of wheat/ gruel prepared from broken rice/ bean or wheat.	Moisture % 75.8
1 Large egg, hard-cooked.	Protein % 7.1
2 Table spoon brewers yeast	Fat % 3.7
3 Table spoon Sugar	Carbohydrate % 11.2
1 Table spoon Vegetable oil	Fiber % 0.1
1 Teaspoon Ostocalcium	Ash % 2.1
	Calcium % 0.33
	Phosphorus % 0.19
	Potassium % 0.36
	ME (Kcal) 225/ kg

Table 5: Recipe for urolithiasis

Recipe:	Chemical Composition:
2 1/2 cups cooked rice	Moisture % 69.0
2 Table spoon vegetable oil	Protein % 3.0
1 Large hard-cooked egg	Fat % 6.7
1 Teaspoon Ostocalcium	Carbohydrate % 20.5
1 Teaspoon salt	Ash % 0.6
	Calcium % 0.12
	Phosphorus % 0.07
	Sodium % 0.1
	Sodium% (with 1 teaspoon salt) 0.4
	ME (Kcal) 315/ kg

Table 6: Recipe for obesity

Recipe:	Chemical Composition:
100 g lean ground beef	Moisture % 86.0
2 Cups carrots,	Protein % 5.5
2 Cups green beans	Fat % 1.7
1 Teaspoon Ostocalcium	Carbohydrate % 4.5
	ME (Kcal) 115/ kg

Renal failure

Diet must reduce the need for renal function (Table 2). So the diet should contain

- Not more than 17% protein or a biologic value of 80 or greater.
- Not more than 0.4 % phosphorus.
- Between 0.2-0.4% sodium. Such a diet provides a protein intake of approximately 2.2g/kg body weight daily.

Constipation

Diet must provide a balanced diet high in fibre to increase intestinal volume, to improve contraction and to hold water in the colon (Table 3).

Diarrhoea

Diet must provide easily digestible and absorbable food to allow healing of any lesions in the GI tract (Table 4). In diarrhoea

- Feed highly digestible diet containing less than 1.5% Crude fibre
- Feed highly digestible protein such as cheese, chicken egg and liver at the rate of 4 g/kg of body weight daily.
- Muscle meat and coarse cereals are contraindicated.
- Foods containing more than 10% sugar should be avoided.

Urolithiasis

Diet must reduce concentration of raw materials (minerals) in urine to prevent formation of uroliths, modify urine pH and increase urine volume (Table 5).

In Phosphate Uroliths diets should be severely restricted in protein, phosphorus and magnesium and is high in salt until the problem ceases.

For Urate, Oxalate and Cystine Uroliths feed a diet restricted in protein, phosphorus, calcium, magnesium, oxalate and nucleic acids.

For Cystine of Urate uroliths, feed the animal 1 g of sodium bicarbonate (1/4 teaspoon)/5 kg body weight every 6-8 hours.

Anemia

In anaemic conditions

- Diet must provide adequate nutrients for accelerated erythropoiesis
- Increase protein by adding one part (muscle meat/ liver/ cheese/ boiled egg by weight) to three parts of routine diet
- Increase B-complex to six times by adding 2g of yeast per kg body weight per day, to the diet.
- Increase iron (8 mg), cobalt (0.35 mg) and copper (1 mg) per kg body weight with metallic salts.
- Add 60 g raw liver per kg of food.

Fever

Diet should supply sufficient calories to meet increased metabolic needs of the body due to an elevation in temperature.

Increase caloric intake by 7-kcal/kg-body weight daily for each degree of fever by adding corn oil to the diet. One teaspoon of corn oil provides 45 Kcal of energy.

Obesity

Diet must reduce the caloric intake of obese animals and regulate the caloric intake in obese-prone animal. Feed only that amount of a balanced diet necessary to achieve and maintain optimal weight (Table 6).

Post-gastro intestinal surgery

Diet must provide adequate high quality protein and energy necessary for tissue repair and regeneration in easily digested forms (Table 7).

For Esophagus: Insert gastric or nasogastric or pharyngotomy tube and feed liquid diets through the tube. Ensure water intake of at least 45 ml/kg body weight daily. The liquid diets should meet normal water and nutrient needs.

For Stomach: Avoid bulky food. Feed liquid diets.

For Intestine: Oral alimentation should be started only after restoration of intestinal peristalsis.

Table 7: Recipe for post gastro-intestinal surgery

Recipe:	Chemical Composition:
1/2 Cup cream of wheat/ gruel prepared from broken rice/ bean or wheat.	Moisture % 75.8
1½ Cups cheese	Protein % 7.1
1 Large egg, hard-cooked.	Fat % 3.7
2 Table spoon brewers yeast	Carbohydrate % 11.2
3 Table spoon Sugar	Fiber % 0.1
1 Table spoon Vegetable oil	Ash % 2.1
1 Teaspoon Ostocalcium	Calcium % 0.33
	Phosphorus % 0.19
	Potassium % 0.36
	ME (Kcal) 225/ kg

sis. Small quantities of highly digestible diet and water should be fed at frequent intervals.

Conclusion

To conclude, therapeutic diets are as essential as therapeutic drugs for an ailing dog. It gives a speedy recovery without complications. It reduces convalescence period and hence suffering of the animal too. The information provided in this article will help veterinary professionals formulate appropriate diets for the dogs they treat and help them serve their owners better.

References

1. Liz Palika (1996). The Consumers Guide to Dog Food, Published by Howell Books
2. The Merks Veterinary Manual (1998), Published by Merks & Co, USA.
3. Reddy, D.V (2004). Applied Nutrition. Oxford & IBH Publishing Co Pvt Ltd, New Delhi

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