

UNDERSTANDING BLOODWORK

COURSE OUTLINE

by

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Week One – General Principles

- I. Introduction: Indications for, and limitations of, blood work
- II. Types of tests available
- III. Importance of sample handling
- IV. Importance of timing of testing
- V. Converting units

Week Two – The Erythron (red blood cells) and Platelets

- I. How red cells are made and stored
- II. Red cell counts and indices (MCV, MCH, MCHC)
- III. Platelet count and MPV
- IV. RDW and PBW

Week Three – White Blood Cells

- I. Production and storage
- II. Cell types
- III. Cell counts and ratios

Week Four – Serology and Cultures

- I. Types of antibodies
- II. Types of antibody tests
- III. Interpreting antibody titers
- IV. Viral, bacterial and fungal cultures

Week Five – Chemistry Screens

- I. Electrolytes and minerals
- II. Proteins and protein breakdown products
- III. Enzymes
- IV. Glucose and fats
- V. Osmolality

Week Six – Abnormal CBCs

- I. Anemia – Types and causes
- II. Acute infections
- III. Chronic infections
- IV. Stress
- V. Effects of age

Week Seven – Abnormal Chemistry Results

- I. Liver function
- II. Kidney function
- III. Albumin and globulin
- IV. Disorders of mineral balance
- V. Pancreas
- VI. Pregnant and growing horses

Week Eight – The Performance Horse

- I. Exercise and oxidative stress
- II. Indicators of oxidative stress
- III. Electrolytes and dehydration
- IV. Timing matters
- V. Using the anion gap
- VI. Overreaching and overtraining

Week Nine – Hormonal tests and disorders

- I. Thyroid
- II. Pituitary
- III. Pancreas
- IV. Adrenal

Week Ten – Other tests

- I. Cerebrospinal fluid analysis
- II. Joint fluid analysis
- III. Peritoneal fluid analysis
- IV. Urinalysis
- V. Iron status