INE INSTITUTE OF NUTRITIONAL ENDOCRINOLOGY

Blood Chemistry: Bones and Minerals

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Medical Disclaimer: The information in this presentation is not intended to replace a one-on-one relationship with a qualified health care professional and is not intended as medical advice. It is intended as a sharing of knowledge and information from the research and experience of Dr. Ritamarie Loscalzo, drritamarie.com, and the experts who have contributed. We encourage you to make your own health care decisions based upon your research and in partnership with a qualified health care professional.

Bones and Minerals

Iron

High

- Hemochromatosis - iron overload disease (check ferritin)
- Excess iron supplementation
- Alcohol – increases iron absorption
- Fortified cereals

Low

- Iron deficiency anemia
- Blood loss
- Chronic disease
- Other disease

Bones and Minerals

Calcium

Blood levels remain fairly constant except in disease states

High

- Thyroid supplementation
- Alcoholism
- Hyperparathyroidism (most common cause)
- Cancer (rare – less than 0.01%)

Low

- Thyroid imbalance
- Vitamin D deficiency
- Magnesium deficiency
- Hypoparathyroidism
- Kidney disease
- Decreased calcium absorption
- Pancreatitis
- Medications

Bones and Minerals

Phosphorus

High

- Excess vitamin D intake
- Kidney disease, renal failure (check BUN to confirm)
- Laxative (phospho-soda) abuse
- Tumor lysis
- Rhabdomyolysis
- Hypoparathyroidism
- Healing fractures

Low

- Vitamin D deficiency
- Low stomach acid
- Vomiting
- Severe diarrhea

Bones and Minerals

Indirect indicators in serum

✓**Zinc**

- Alkaline Phosphatase low
- Decreased WBC

✓**Molybdenum**

- Increased Serum Iron
- Decreased Uric Acid

Bones and Minerals Case Analysis

	CATEGORIES	Units	PATHOLOGICAL RANGE Min	PATHOLOGICAL RANGE Max	FUNCTIONAL RANGE Min	FUNCTIONAL RANGE Max	CURRENT 1/14/10
30	Iron, serum	ug/dl	40.0	180.0	85.0	130.0	125
18	Calcium, serum	mg/dL	8.7	10.5	9.2	10.1	10
19	Phosphorus, serum	mg/dL	2.3	4.8	3.5	4.0	3.9