# **Appositional Growth**

Is the process of cells in the inner layer of the periosteum differentiating into osteoblasts and depositing superficial layers of bone matrix, which then differentiate into osteocytes.

# **Intermembranous Ossification**

Begins when osteoblasts differentiate within a mesochymal or fibrous connective tissue.

#### The Blood and Nerve Supplies to Bone:

- The Nutrient Artery and Vein. 1.
- 2. Metaphyseal Vessels
- 3. Periosteal Vessels

# 6-6

# Bone growth and development depend on a balance between bone formation and bone resorption

Remodeling) (goes on throughout life) the process of continent is ecycling and renewing the organic mineral components of the bone matrix.

# Exercise, Bormones, and autometers of considering and renewing the process of consider the skeletal system

These factors have the most important effects on bone remodeling

### **Effects of Exercise**

Heavily stressed bones become thicker and stronger in order to accommodate the forces applied to them. The bumps and rides on the bones become bigger as well so as to accommodate the growing larger muscles in order to handle the forces applied to the bone. Physical activity is vital to maintaining and recycling bone.

# Nutrition and Hormonal Effects on Bone

Normal bone growth and development depend on a combination of nutrition and hormonal factors, such as

- Minerals
- Calcitriol and Vitamin D
- Vitamin C
- Vitamins A, K, and B12
- Growth hormone and thyroxine
- Sex hormones
- Calcitonin and parathyroid hormone