@Introduction:

Ca constitute 1.5-2% of total body wt & 39% of body minerals. The body of healthy humans cotains about 1250 g , About 99% of which is presented in bones & teeth as deposits of ca phosphate & ca hydroxide.

The remaining 1% is found in extracellular fluid, soft tissue & as component of various membrane structure.

@Food sources:

\*milk & diary products are the best source.

\*leafly green vegetables such as turnip greens & kale are important sources of ca \*beans , shellfish & fish of the sardine & canned salmon with the bone,

\*meet & cereal green are poor sources .

\*Numerous calcium-fortified foods are available, including soy milk, soy yogurt, and soy cheese, as well as calcium precipitated tofu and calcium-fortified cereals, breakfast bars, pastas, waffles, and juices . Calcium bioavailability in most of these sources is equivalent to that of milk. As an example, one 8-ounce (240 mL) glass of calcium-fortified orange juice provides 300 mg of calcium, equivalent to an 8-ounce glass of milk. The fractional absorption of calcium from calcium-fortified breakfast cereal was equivalent to that of milk .

@Absorption of Ca:

Most of the ca absorbed in the proximal small intestine usually 20-30 % of ingested ca.

Factors increase ca absorption:\*

1- increase need: growth, pregnancy, lactation, exercise, ca deficiency.

2- vit D.

3- hydrochloric acid in the stomach (ca salt are more soluble in acid than in basic solution.

4- lactose: milk sugar lactose has beneficial effect on ca absorption.

\*Factors decrease ca absorption:

1- vit D deficiency.

2- oxalate, phytate, fiber.

3-excessive GI motility, laxative, antacids.

4- antibiotics as penicillin, tetracycline.

5- aging.

@Excretion of Ca:

175 mg in the urine , 125 mg in the feces & 20 mg from the skin. Excretion is increased in high protein diet, postmenopausal women, intake of caffeine & theophylline , prolong immobilization, alcohol, cigarret smoking, drugs such as CS , diuretics.