

Subject: Vitamin D-3 need
sent: 5 Dec 97

Iguanas NEED, specifically UV-B rays in which to aid in the production of the vitamin D-3 which aids in the absorption of CALCIUM. Without UV-B to help create the D-3 Vitamin Iguanas can not absorb Calcium and thus develop weak and brittle bones often termed as Metabolic Bone Disease, Fibrous Osteodystrophy and/or Nutritional Secondary Hyperparathyroidism. You can provide this UV-B quite simply by adding a Vita-Lite to the enclosure and allowing about 12 hours of exposure to it per day.

<http://www.escape.com/~iggyden/igcare.html>

If this can happen to Iguanas then without light it can happen to our bodies. Suspect we will need to stock up on vitamin D-3 or supply UV-B light to our bodies in the proper minimum quantities.

The following is from:
Bi 231 Anatomy & Physiology PCC
Lecture: Integument Dr. Walters
Much of this is from Tortora & Marieb

- a. In sunny areas, 1 hour/week of arm/face exposure to sun enough for making adequate vitamin D3, so no dietary supplement would be required. Aging reduces ability to make vitamin D3; have 4-fold reduction after age 70. Topical sunscreens may prevent vitamin D3 synthesis. Latitude is important: at our latitude, the sun's angle is low in the winter months & the ozone absorbs photons so well that no vitamin D is made in the skin between November & February
- b. Milk has vitamin D3 added, so can go without sun. Other foods: fatty fish

like salmon, eggs, butter, liver

- c. vitamin D deficiency: if drink no milk & completely cover skin in sun or don't go outside
- d. if get enough sun to cause mild sunburn, equivalent to taking 10,000 to 25,000 international units (IU) of vitamin D.
- e. If no skin production of vitamin D, should take 400-600 IU/day, otherwise 200 IU/day is recommended.
- f. If liver or kidney disease, get calcitriol deficiency. Ingesting vitamin D3 or synthesizing it in skin is ineffective. Need take Rocaltrol (calcitriol) 1,25(OH)₂VitD₃

See the following for the full text:

<http://www.pcc.edu/academ/sylsci/lifesci/marc/skin.htm>

The major role of vitamin D is calcium homeostasis - it does this by integrating absorption of calcium from the intestine with mobilisation and deposition of bone and its excretion in the kidney.

Vitamin D : What happens if you don't get enough?

A deficiency of vitamin D is known as hypovitaminosis D. Hypovitaminosis D causes decreased intestinal absorption and bone resorption of calcium, leading to low levels of blood calcium. Low levels of blood calcium stimulate compensatory parathyroid hormone production. This results in demineralisation of bone which presents as rickets in young growing mammals and osteomalacia in adult mature mammals. In mammals other symptoms include : loss of appetite, slow growth, general weakness, digestion problems and stillbirths. In fowl, symptoms include retarded growth, lameness, abnormal bone development, thin shelled eggs and fertility problems.

Rickets is a disease of growing bones in which the deposition of calcium and phosphorus is abnormal. This results in the bones being weak, easily broken and the legs may be bowed. It may also result in convulsions and tetany.

Near the bottom of the file is a table that gives the daily need of various common animals. See Table III : Daily Requirements for Vitamin D (adapted from Miller & Norman)

For more complete technical information see:
<http://numbat.murdoch.edu.au/nutrition/vitD/tpvitD.html>

more data on this subject:

From Dr. Robert Marshall's office newsletter October 1995 he states:

Many researchers calculate the life span (or "genetic potential") of mankind to be around 145 years of age. Yet, the average lifespan of an American is only 75.5 years. What happened? Maybe we can take a few lessons from 5 well-known human cultures whose peoples routinely live from 120 to 140 years of age. These 5 cultures are: the Tibetans of northwest China, the Hunzakut of eastern Pakistan, the Georgians from Russia, the Vilcabamba of Ecuador and the Titicaca of the Peruvian Andes. They are all famous for there large number of centenarians. The Georgians consider "youth" to be from 0 to 80 years of age, "middle-age" from 80 to 100 years, and the seniors are those from 100 to 160 years of age!

Although the longest lived peoples all have differing lifestyles and locations,

they have 6 common denominators: 1) they live at elevations ranging between 8,500 to 14,000 feet in mountain valleys, 2) the annual rainfall is less than 2 inches, 3) there is no heavy industry to pollute their air, food or water, 4) Western allopathic medicine was not historically available for them to take (they used herbs and natural remedies), 5) their water source for drinking and irrigation comes from "glacial milk" water with precious ground-up minerals from glaciers that actually make the water look milky, 6) they use only natural fertilizers for their crops (manure, plant debris, irrigation with "glacial milk").

He goes on to explain "Glacial milk" is a solution of ionically dissolved elements and suspension of finely ground rock dust with an average particle size of 7,000 times smaller than a human red blood cell. The bottom line is there is a lot of colloidal minerals ready for biological use in the water they consume and grow there crops with.

About 10 years ago from a friend - I heard that the Darma (sp) or "hymns of the dawn child" a many volume book from about 10,000 to 12,000 BC in Asia, had in it a passage that indicated that "some of the boys had come down to eating" in other words the beings in this area took in air, water, and minerals. They looked at "eating" as we would (now days) look at someone taking drugs.

My comments: I think after the shake up of the PS there will be plenty of minerals in all water, some good and some bad. We will learn how to filter out the bad. Ultimately, when the sun comes back growing should be very good, and the bad chemicals will eventually go away for all water. The use of Herbs will come back naturally as a matter of necessity. I believe number 3) through 6) above will come about through natural causes of the PS, and that 1) and 2) are not a major factor. Thus, we should start to see mankind living much longer for those born after the PS.

We can help the process along by producing, mineral rich, toxin free, organically grown (or as close to it as we can) food and herbs in our PS shelters. This, I believe to be attainable, and is something we can all work to

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achieve. If we lay out the technology of how to do this, then we will have an improved live style ahead for all those living now. Something to look forward to - more healthy food, that helps to clean and rebuild the body.