Thyroid gland and functions

Phase 1: Discussion Board: A View of the Thyroid Gland, the Functions of, and the Thyroid Hormone Phase 1: Discussion Board Connie Ann Crandell Bio142-0903A-04 Anatomy and Physiology ll Instructor: Denise Albina When observing the thyroid gland from an anatomical standpoint, the thyroid is located in the anterior portion of the neck and seemingly shaped similar to that of a butterfly (VH Dissector, 2009)the thyroid is just inferior to the larynx, but close to the trachea. There are two lateral lobes connected by a median tissue mass called the isthmus.

The largest pure endocrine gland in the body and commonly named the thyroid gland (Marieb, 1998). In addition to viewing the thyroid gland, one must take into consideration the interior part of the thyroid in order to understand the functioning of the thyroid hormone. Within the interior part of the thyroid gland contains spherical hollow follicles formed by squamous epithelial cells called follicle cells, producing the glycoprotein thyroglobulin. The lumen, a central cavity of this follicle stores an amber-colored, material that is sticky and consisting of thyroglobulin molecules and attached to this areiodine atoms.

The thyroid hormone is resultant from this iodinated thyroglobulin. The thyroid hormone moreover named the metabolic hormone, which is actually two active iodine-containing hormones, thyroxin or T4, and triiodothyronine, or T3. The thyroid folliclessecrete the thyroxin. Every cell in the body is affected by the thyroid hormone. Not only does it increase the basal metabolic rate but it also stimulates enzymes concerned with glucose oxidation(Marieb, 1998). Increase in basal metabolic rate and oxygen

consumption and body heat production would refer to the hormones calorigenic (heat producing) affect (Anderson, 1987-1996).

Incites of the thyroid hormone, causes anincrease in the adrenergic receptors in the blood vessels playing a very important role in maintaining blood pressure. However, other important roles and functions in addition to those listed also includetissue growth and development. It is especially critical in the formation of of normal skeletal and nervous system development and maturation and reproductive capabilities(Marieb, 1998). Other effects of the thyroid hormone (T4 and T3) in the body would include carbohydrate/lipid/protein metabolism promoting glucose catabolism; the nervous system in fetus and nfants depend on the thyroid hormone for proper development. The thyroid hormone creates the normal adult nervous system and alternately carries the relations to normal functioning of the cardiovascular system, muscle system and skeletal system. A thyroid hormone is responsible for promotion ofa normal gastrointestinal system by increasing secretions of the digestive juices. It plays a factor in the reproductive system with promotion of normal female lactation and reproductive ability.

In addition, the integumentary or (skin) system is another regulated function of the thyroid gland by keeping with normal hydration (Marieb, 1998)(David Shier, 2007). What are sources of Iodine? Iodine is required to form thyroid hormones (T3 and T4), which are important in regulating cellular metabolic rate(Anderson, 1987-1996). Knowingly all tissues, contain iodine in high concentrations, and only in the thyroid gland, you will find the absorption,

which would be controlled by blood levels of protein bound iodine excreted in the urine.

Sources and recommended daily amounts (RDA) of iodine for adults come from cod liver oil, which is highly recommended by physicians and the use of iodized salt, but, shellfish and vegetables grown in iodine-rich soils are other suggestions of the RDA: 0. 15 mg per day(Marieb, 1998). In researching the thyroid gland and thyroid hormone, as well as incorporating, the iodine sources one can get an overview of just how important our thyroid gland and its many functions thus including the thyroid hormone play an important role in the human body. References