From the Greek work meaning shield, the thyroid is a butterfly-shaped gland located in front of the windpipe (called the trachea) and just below the larynx or Adam’s apple in the neck. It consists of two halves, known as lobes, which are attached by a band of thyroid tissue.

The thyroid is a part of the endocrine system. It’s main role is to regulate metabolism, which is the body’s ability to break down food and convert it to energy.

The thyroid keeps metabolism under control through the action of thyroid hormone, which makes by uniquely absorbing and using iodine from the blood and incorporating it into thyroid hormones.

All cells depend on the thyroid to manage its metabolism.

The two main hormones the thyroid produces and releases are T₃ (triiodothyronine) and T₄ (thyroxine). A normally functioning thyroid produces approximately 93% T₄ and about 7% T₃, though T₃ is the stronger of the pair.

Calcitonin, which helps control blood calcium levels, is also produced by the thyroid to a lesser extent.

Goiters, hyperthyroidism, hypothyroidism, solitary thyroid nodules, thyroid cancer, and thyroiditis are some of the diseases and disorders associated with the thyroid. They can develop at any age and can result from a variety of causes — but in most cases can be traced to: too much or too little thyroid hormone, abnormal thyroid growth, nodules or lumps within the thyroid, thyroid cancer.

Special points of interest:

• The thyroid regulates metabolism.

• The two main thyroid hormones are T₃ and T₄.

• Thyroid disorders are common, and include goiters, hyperthyroidism, and hypothyroidism.

Thyroid Disease and Pregnancy

Thyroid disease is the second most common endocrine disorder affecting women of childbearing age. During pregnancy, if pre-existing hyperthyroidism (over activity of the gland) or hypothyroidism (abnormally low activity of the gland) may require more medical attention to achieve control, especially during the first 3 months.

Untreated thyroid diseases in pregnancy may lead to premature birth, preeclampsia (a severe increase in blood pressure), miscarriage, and low birth weight.

It is important to talk with a health care provider if there is any history of hypothyroidism or hyperthyroidism so monitoring before and during pregnancy can occur and treatment can be adjusted if warranted.
Iodine: Essential to Thyroid Function

Iodine is an essential element to both triiodothyronine (T₃) and thyroxine (T₄).

Few foods are rich in iodine; it is found mainly in milk, seafood, and some grain products.

For many people, iodized salt is used in cooking and at the table is their primary source of iodine. In the United States, iodized salt contains an average of 76 micrograms of iodine per gram of salt.

One-quarter (¼) teaspoon of iodized salt contains approximately 71 micrograms (mcg) of iodine and 575 milligrams (mg) of sodium.

A significant portion of the salt intake in the United States comes from processed foods. Non-iodized salt is used by the majority of food manufacturers. If they do use iodized salt they must list the salt as iodized in the ingredient list on the food label.

WHO has been at the forefront of a worldwide public health drive to eliminate iodine deficiency by encouraging salt iodization.

Healthy Foods Question (?????)

Sulforaphane, a compound thought to protect against cancer, is found in (a) broccoli, (b) cabbage, (c) tea, or (d) kale?

Answer: (a, b and d) It is found primarily in members of the brassica family, such as broccoli, kale, and cauliflower. These and other cruciferous vegetables, such as Brussels sprouts, contain elements, some of which may not have been identified yet.
Women are more likely to experience thyroid diseases than men, especially following pregnancy and menopause.

Hypothyroidism symptoms develop often over several years. They include:
- Feeling cold when other people do not
- Constipation
- Muscle weakness
- Weight gain, even though you are not eating more
- Joint or muscle pain
- Feeling sad or depressed
- Feeling very tired
- Pale, dry skin
- Dry, thinning hair
- Slow heart rate
- Less sweating than usual
- A puffy face
- A hoarse voice
- More than usual menstrual bleeding
- You may also have high LDL or “lousy” cholesterol, which can raise heart disease risk

Hypothyroidism is more likely to develop after menopause.

Symptoms of hyperthyroidism may not be noticeable at first. Over time the increased metabolism may result in:
- Weight loss, even if the same or more food is eaten (most but not all people lose weight)
- Eating more than usual
- Rapid or irregular heartbeat or pounding of your heart
- Feeling nervous or anxious
- Feeling irritable
- Trouble sleeping
- Trembling in your hands and fingers
- Increased sweating
- Feeling hot when other people do not
- Muscle weakness
- Diarrhea or more bowel movements than normal
- Fewer and lighter menstrual periods than normal
- Changes in your eyes that can include bulging of the eyes, redness, or irritation

Hyperthyroidism increases risk for osteoporosis.

“One in eight women will develop thyroid problems in her lifetime.”
**CRISPY OVEN “FRIED” CHICKEN**

*Recipe Created by Liz Weizz, MS, RD*

**INGREDIENTS:**
- Four 4-ounce boneless, skinless chicken breast halves
- 3 tablespoons all-purpose flour
- 1 tablespoon ground flaxseed
- 1 teaspoon low-sodium Old Bay Seasoning
- ¼ cup 1% low-fat milk
- 2 teaspoons lemon juice
- 1 teaspoon Dijon mustard
- 3 cups generous cups cornflakes, crushed

**DIRECTIONS:**
1. Preheat the oven to 400°F. Spray a cooling rack generously with nonstick cooking spray. Line a rimmed baking sheet or roasting pan with aluminum foil and place the cooling rack on top.
2. Pat the chicken dry with paper towels. Season generously with kosher salt and pepper and set aside. Prepare the breading by placing the flour, flaxseed, and Old Bay in a wide bowl or on a plate, and mix together with a fork.
3. Place the milk, lemon juice, and mustard in a second wide bowl and whisk together until well combined. Place the cornflakes in a third wider bowl or plate.

4. Dredge each chicken piece in the flour mixture until well coated; tap off the excess flour. Coat each floured chicken piece in the milk mixture and then roll in the cornflake crumbs until very well coated.
5. Arrange the chicken pieces on the rack and place in the oven. Cook for 10 minutes, lower the heat to 350°F and cook for another 10 to 15 minutes, until the chicken is cooked through and the coating is crispy.

**Nutrition Information per Serving (1 piece):**
- 230 calories, 3.9g fat (1g saturated), 340mg sodium, 24g carbohydrate, 1g fiber, 10% vitamin C, 40% iron