

Understanding Your Thyroid and Parathyroid

Susan Skaff Hagen, MD, FACS, MSPH, MME
Boulder Valley Surgical Associates
719-220-7893

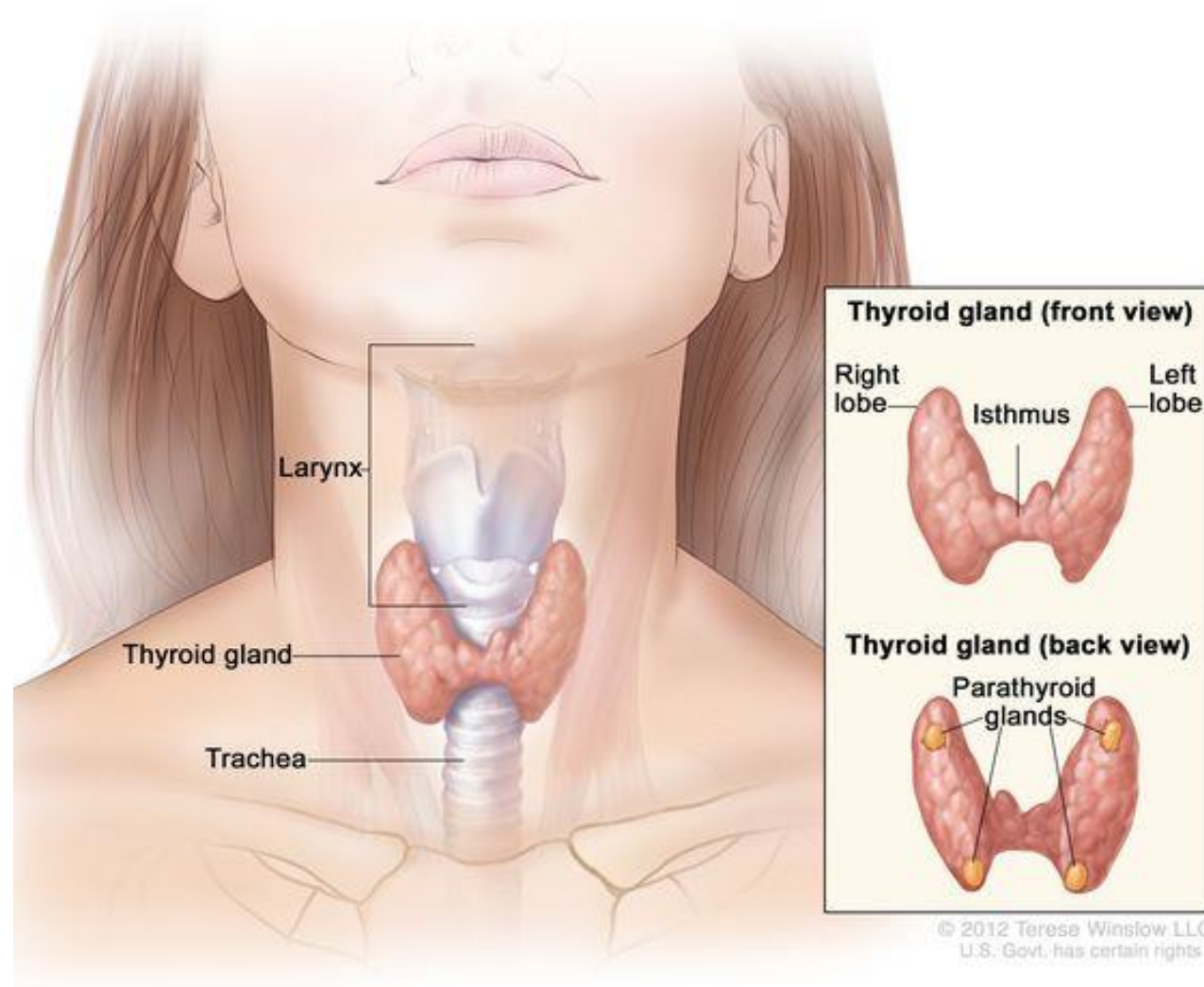


Boulder Community Health

- Thyroid
 - Anatomy and Physiology
 - Symptoms
 - Diseases
 - Treatment
- Parathyroid
 - Anatomy and Physiology
 - Symptoms
 - Diseases
 - Treatment

Thyroid Anatomy

Anatomy of the Thyroid and Parathyroid Glands



- Endocrine Gland
- The thyroid helps with metabolism
 - T4 (thyroid makes a lot of this and it converts to T3 in the blood)
 - T3 (thyroid makes very little of this)
 - Reverse T3 (thyroid makes very little of this)
 - Calcitonin – regulates calcium in the blood

- What common substance that we consume affects the levels of thyroid hormone in our bodies?

- Iodine
 - Added to salt in the 1920s
 - Decrease goiter
 - Decrease fetal problems



- Cardiovascular Symptoms
 - Both strength and rate
- Nervous Symptoms
 - Numbness, depression, anxiety, fatigue
- Digestive Symptoms
 - Motility
- Reproductive Symptoms
 - Irregular cycles

- How many people have thyroid disease in the United States?
 - About 20 million people in the US
- Is it more common in men or women?
 - Women are 5-8 x more likely to have thyroid disease than men

Common Thyroid Diseases

- Hyperthyroid – thyroid is overactive
 - Graves
 - Thyroiditis
 - Post partum
 - Nodules
 - Overtreatment

Common Thyroid Diseases

- Hypothyroid – thyroid is underactive
 - Hashimoto's thyroiditis
 - Thyroiditis
 - Iodine deficiency
 - Non-functioning gland
 - Surgery

Body doesn't make or get enough thyroid hormone.
Thyroid grows to compensate.

- Papillary – most common about 80%
- Follicular – about 15%
- Medullary 3-5%
- Oncocytic 3-5%
- Anaplastic – most aggressive about 2%

Work up of thyroid disease

- Labs
- Imaging
- Possible Biopsy
 - Possible second level testing

Thyroid Treatment

- Medical when function too high
- Medical when function too low

Surgical Tx of Thyroid Disease

- Biopsy
- Removal of half of the thyroid
- Removal of entire thyroid

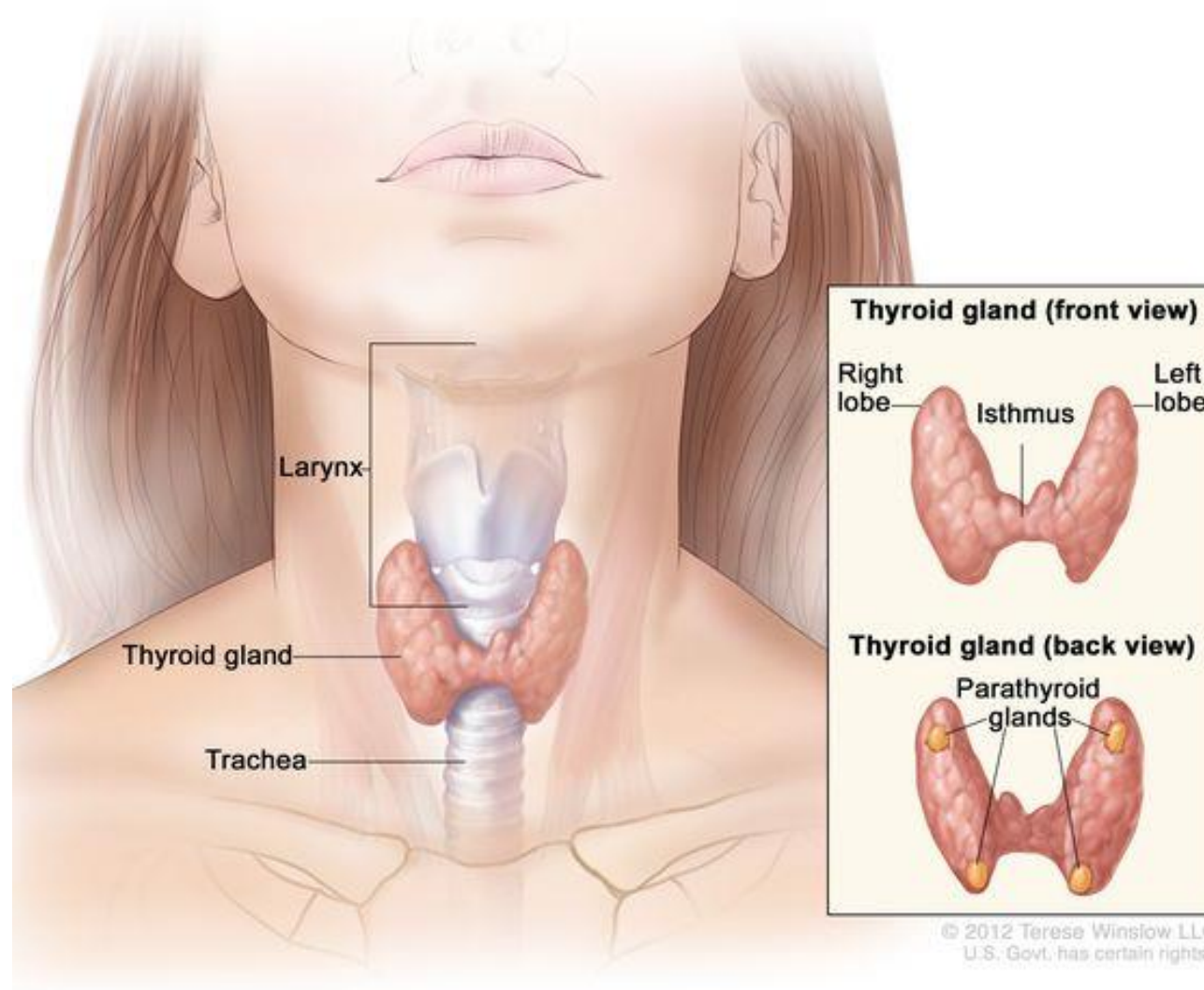
- Infection and bleeding are rare
- Damage to recurrent laryngeal nerve
- Damage to superior laryngeal nerve
- Leaving someone hypothyroid
- Inadvertent removal of parathyroids

Life after missing part of your thyroid

- ...depends why you had your thyroid out.
- ...depends how your body functions with only part of your thyroid.
- Usually, medication will help return to normal functioning

Parathyroid Anatomy

Anatomy of the Thyroid and Parathyroid Glands



- They help regulate calcium in the body.

- Primary:
 - Most likely due to a single gland – about 80%
 - Can be due to all four glands!
 - Can be due to MEN type 1 or type 2

- Secondary:
 - Most common as reduced calcium in blood due to kidney disease, vitamin D deficiency or malnutrition.

- Tertiary
 - Can occur after prolonged secondary and last even after cause has been corrected.
- Malignant
 - Some tumors can create a protein that mimics parathyroid function!

Symptoms of Parathyroid Disease



- Hyperparathyroid
 - Bones, stones, groans and overtones
- Hypoparathyroid
 - Rare – low calcium and high phosphate
 - Most often due to surgery, radiation, or congenital

Work up of Parathyroid Disease

- Labs – PTH and Calcium are critical
- Rule out other causes
- Rule out Familial Hypocalciuric Hypercalcemia
- Imaging

Parathyroid Treatment

- Medical when secondary or FHH
- Surgery

- Remove affected gland – most often one
- Sometimes need to remove all four (or more) and re-implant

- Find the diseased gland(s)
 - Pathology reviews
 - Send Labs
- Same as thyroid
- Removal of all 4 glands requires high doses of calcium for whole lifetime.

Life after missing your parathyroid



- Most often feel better
- Some require high doses of calcium
- Sometimes blood levels of PTH will increase after removal

So, what's next?

- Talk to Primary Care Physician first!
 - Sometimes referral to surgeon
 - Sometimes referral to endocrinologist

- Primary care:
 - Visit bch.org/primarycare
 - Many providers and location choices in the area
- Endocrinology Associates of BCH
 - Phone: 303-415-4344
- Surgeon:
 - Susan Skaff Hagen, MD, FACS
 - Boulder Valley Surgical Associates
 - 719-220-7893



Boulder Community Health Foundation

Over 40 Years of Community Impact

Enhancing the quality and availability
of health care in our community

COMMUNITY

We believe everyone should have a fair and just opportunity to reach their full health potential, both physically and mentally.

PATIENTS

We believe providing the community with the highest value in health care requires an innovative, patient-centered environment.

WORKFORCE

We believe it's imperative to invest in the professional growth and physical and mental health of BCH's greatest asset—the staff and physicians providing care to the community.

Learn more at bch.org/foundation



Understanding Your Thyroid and Parathyroid

Susan Skaff Hagen, MD, FACS, MSPH, MME
Boulder Valley Surgical Associates
719-220-7893



Boulder Community Health