Urology birmingham
CENTERS OF ALABAMA

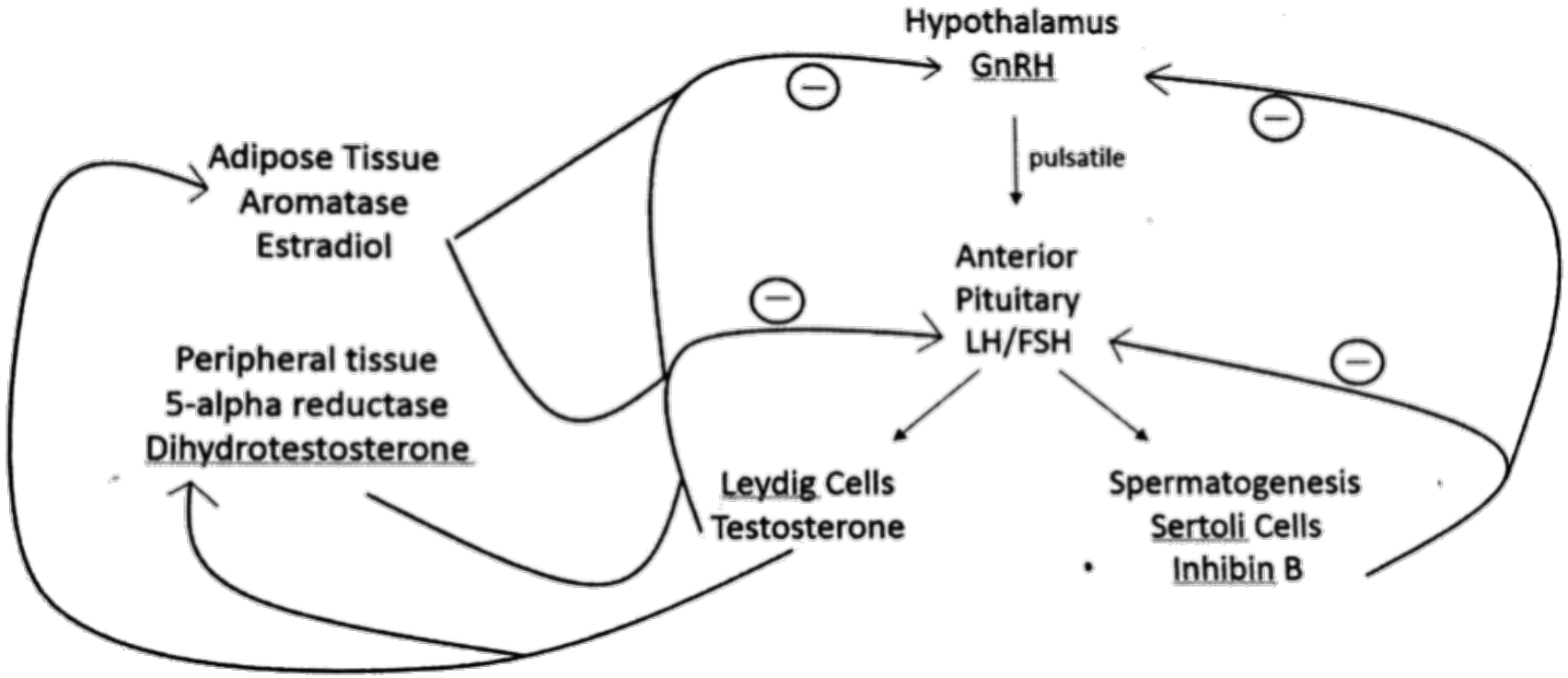
Benefits of Optimal Testosterone

Eric Westerlund, *CRNP*

Rationale for Androgen Replacement Therapy

Pathophysiology of Low-T

Hypothalamus-pituitary-gonadal axis



Source: Treatment of Male Hypogonadism: Alternatives to Testosterone, American Urological Association Education and Research, 2017, Volume 36, Lesson 39.

Hypogonadism

- **Primary Hypogonadism, Testicular failure**
  - Elevated LH, FSH
- **Secondary Hypogonadism, Pituitary**
  - Decreased LH, FSH
- **Mixed Hypogonadism**
  - 85% of all cases
  - Commonly referred to as “low T” and develops in aging men, beginning in the 40s through 60s and beyond

Men's Hormone Replacement Clinic

Assessment:

- Evaluation and treatment for androgen deficiency

Treatment:

- Receive supplemental testosterone therapy

Goals:

- To increase testosterone level to the mid-normal range

Assessment

The diagnosis of hypogonadism requires two components:

- Signs and symptoms of low testosterone
- Low serum testosterone level
  - First-visit work up
  - Lab follow up
  - Initiate treatment/follow up

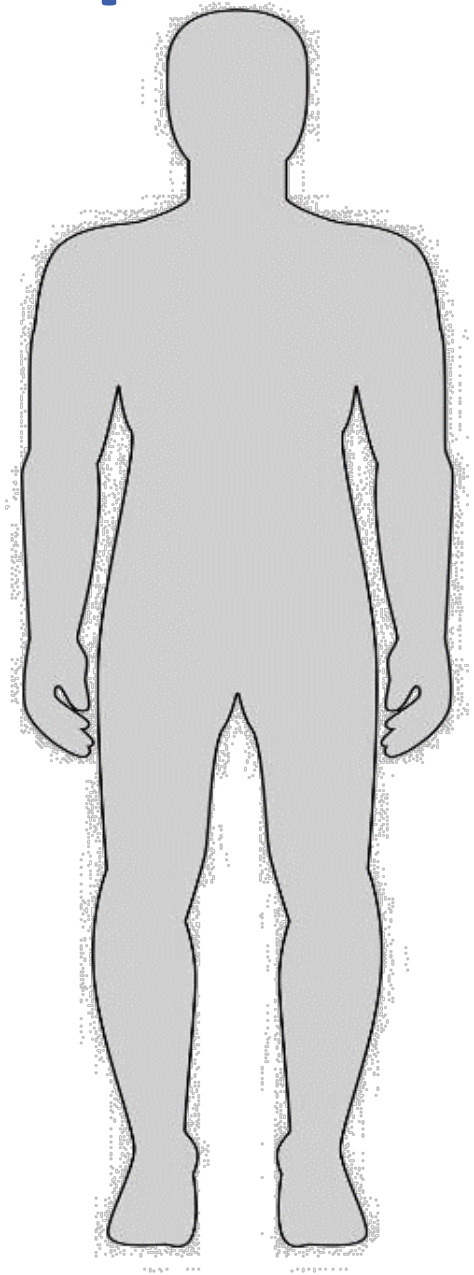
Signs and Symptoms of Low Testosterone

Psychological

- Changes in mood (e.g. anger, irritability, sadness, depression)
- Decreased well being/ poor self-rated health
- Diminished cognitive function (including impaired concentration, verbal memory, and spatial performance)

Physical

- Decreased body hair
- Gynaecomastia
- Decreased muscle mass and strength
- Hot flushes/sweats
- Sleep disturbances
- Fatigue
- Osteoporosis/height loss/low-trauma fractures



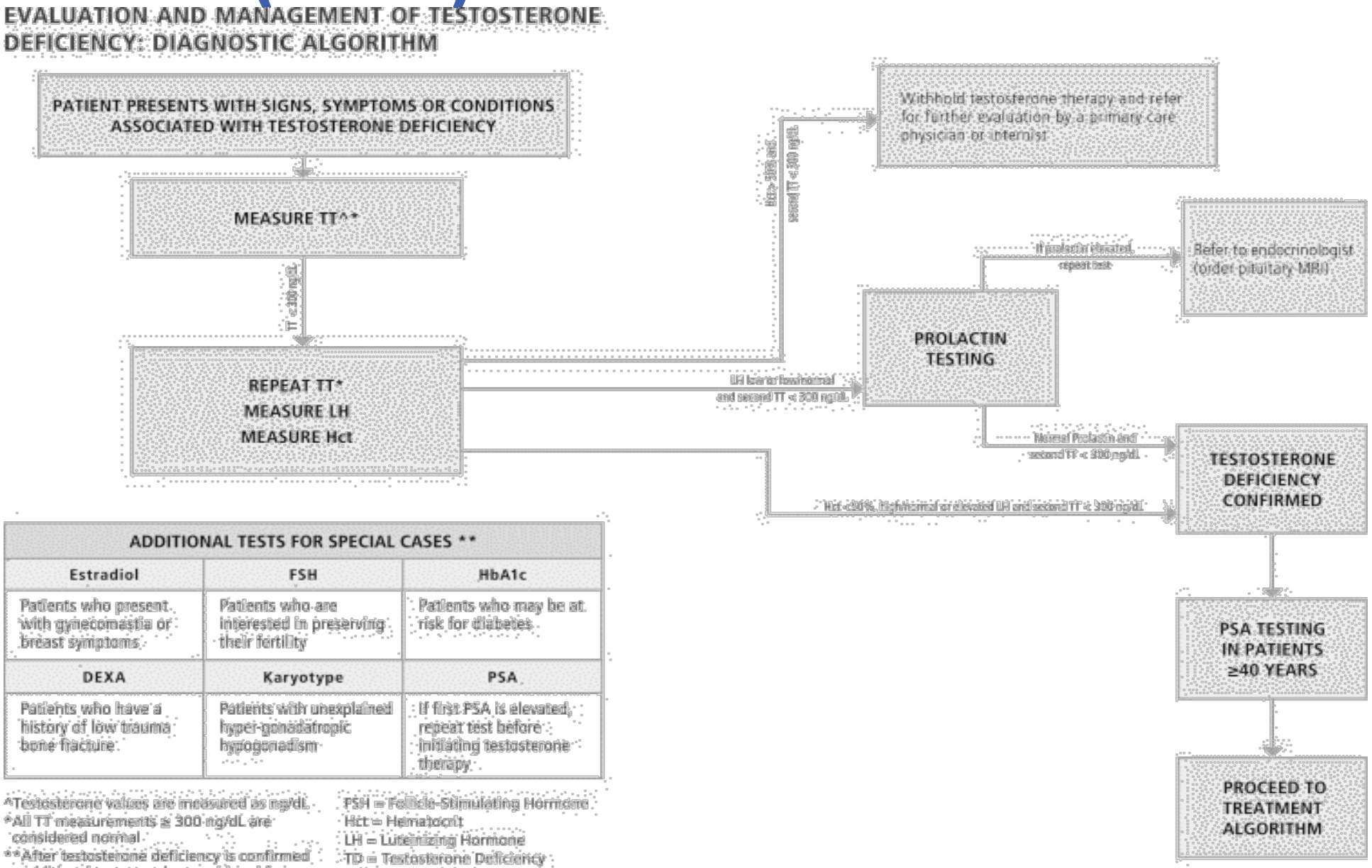
Cardiometabolic

- Increased body mass index (BMI)/obesity
- Visceral obesity
- Metabolic syndrome
- Insulin resistance and type 2 diabetes

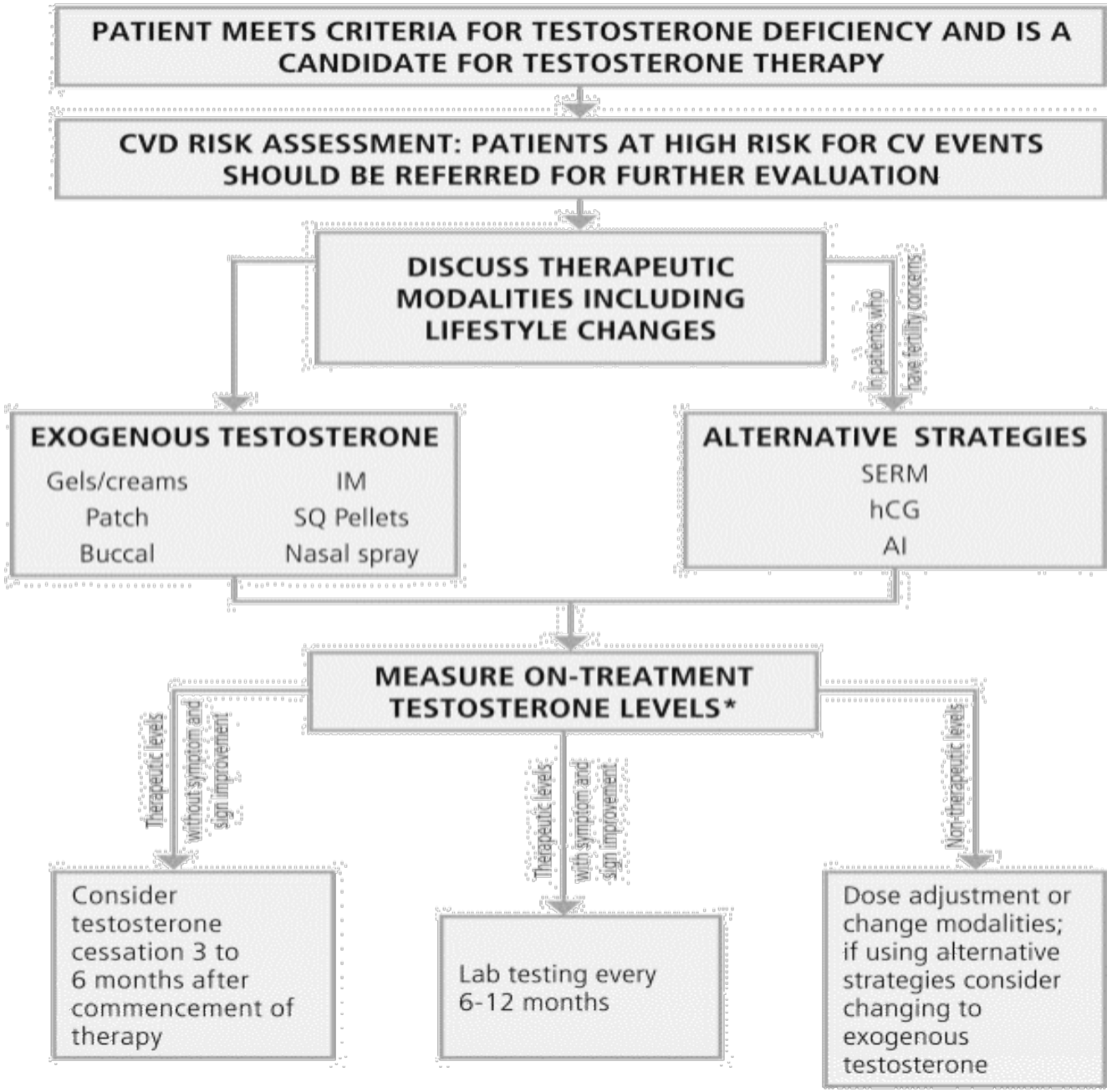
Sexual

- Delayed puberty
- Small testes
- Infertility
- Decreased sexual desire and activity
- Decreased frequency of sexual thoughts
- Erectile dysfunction
- Delayed ejaculation
- Decreased volume of ejaculate
- Decreased or absent morning/night-time erections

Assessment (cont.): Low Serum Testosterone Level



EVALUATION AND MANAGEMENT OF TESTOSTERONE DEFICIENCY: TREATMENT ALGORITHM



*Testosterone levels should be driven to the normal physiological range of 450-600 ng/dL (approximately equivalent to the middle tertile of the normal range).

AI = Aromatase Inhibitor
CVD = Cardiovascular Disease
hCG = Human Chorionic Gonadotropin
IM = Intramuscular Testosterone Injection
SERM = Selective Estrogen Receptor Modulator
SQ = Subcutaneous

Notes:

Treatment

Testosterone Level <300 all men or <350 for symptomatic men below age 65
Testosterone treatment may be initiated with the patient having input/choice of the following (based on insurance coverage or lifestyle/convenience): ▪ **Gels** – Androgel, Testim, Axiron, Fortesta ▪ **Compounded Creams** ▪ **Injections** – Testosterone Cypionate 200 mg/milliliters every 1-2 weeks, Aveed* ▪ **Sub-Q** - Xyosted ▪ **Patch** – Androderm ▪ **Pellet** – Testopel (procedure completed by urologist) ▪ **Oral**** – Clomid (primary choice if LH is normal/low and if fertility is current or future concern; starting dose 50 mg ½ tablet qod to help prevent tachyphylaxis; Titrate dose based on follow-up labs) ▪ **Arimidex** (1 mg po q M/W/F if Estradiol level is significantly elevated) *5 injections/year, additional lab tests, insurance PA, written consent, provider education enrollment required; protocol maintained in nurse manager's office; patient observation for 30 minutes post injection **based on if have low Tyet seeking pregnancy with spouse; requires additional labs including FSH, LH
Testosterone Level >350
Offer to repeat lab in 3 months unless very symptomatic; mid-level provider to consult with urologist to consider course of treatment

Increasing Testosterone Through Lifestyle Choices

- Lose weight
- Exercise with strength training
- Consume plenty of zinc
- Optimize Vitamin D level
- Limit sugar in diet
- Decrease fats in diet

Continued Care

- Follow-up Testosterone Care Plan
  - 1st Follow up visit: 4-6 weeks
  - Continued follow up visits: 6-month schedule
- Follow-up Visits With Primary Urologist
  - Testosterone clinic will treat testosterone and may refill ED medications; however, annual urology visits will be continued with primary urologist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THANK YOU

Eric Westerlund, CRNP
ewesterlund@urologyal.com

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