Thyroid disease in Pregnancy

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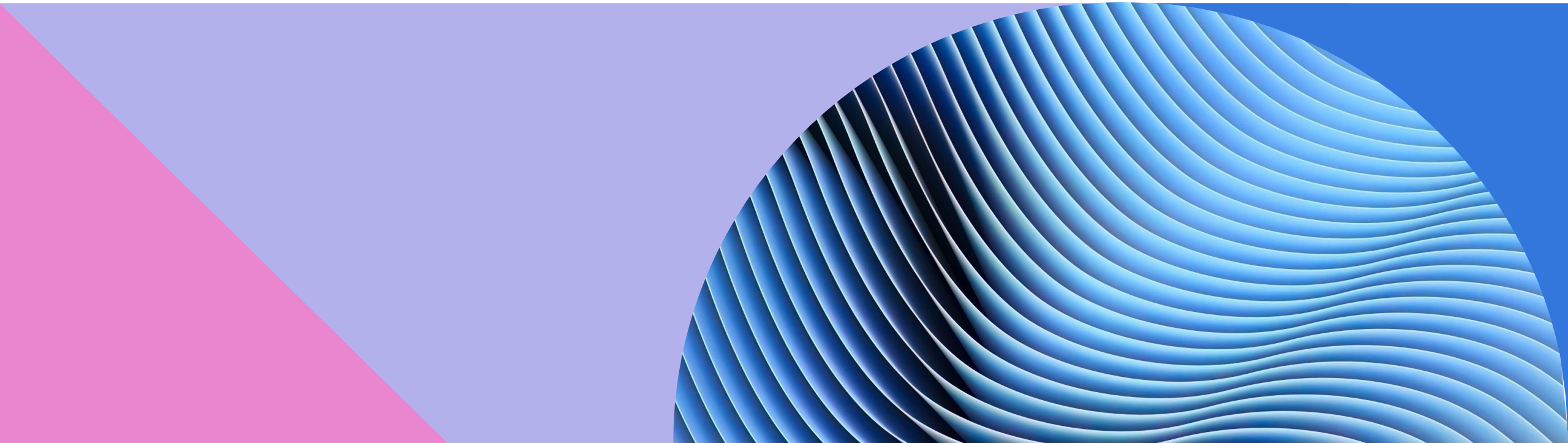

Incidence

- Hyperthyroidism is in 0.2-0.7% of pregnancies
- 0.8-1.7% of pregnancies are complicated by subclinical hyperthyroidism
- 2-10/1000 pregnancies are complicated by hypothyroidism
- Subclinical hypothyroidism: 2-5% of pregnancies

Physiology

Table 1. Changes in Thyroid Function Test Results During Uncomplicated Pregnancy and in Pregnant Women with Thyroid Disease

Maternal condition	*Thyroid-stimulating hormone*	*Free thyroxine*	*Free thyroxine index*	*Total thyroxine*	*Triiodothyronine*	*Resin triiodothyronine uptake*
Hyperthyroidism	Decrease	Increase	Increase	Increase	Increase or no change	Increase
Hypothyroidism	Increase	Decrease	Decrease	Decrease	Decrease or no change	Decrease
Normal pregnancy	Decrease	No change	No change	Increase	Increase	Decrease

Adapted with permission from American College of Obstetrics and Gynecology. ACOG practice bulletin no. 37. Thyroid disease in pregnancy. Obstet Gynecol. *2002;100(2):388.*

Carney LA, DO., Quinlan JD, MD., West JM, MD. Thyroid disease in Pregnancy. *AAFP.* 2014; 89(4): 273-78.

TSH Range of normal	1st Trimester	2nd Trimester	3rd Trimester
	0.1-2.5 mIU/L	0.2-3.0 mIU/L	0.3-3.0 mIU/L

NON-PREGNANT: 0.3-4.3 mIU/L

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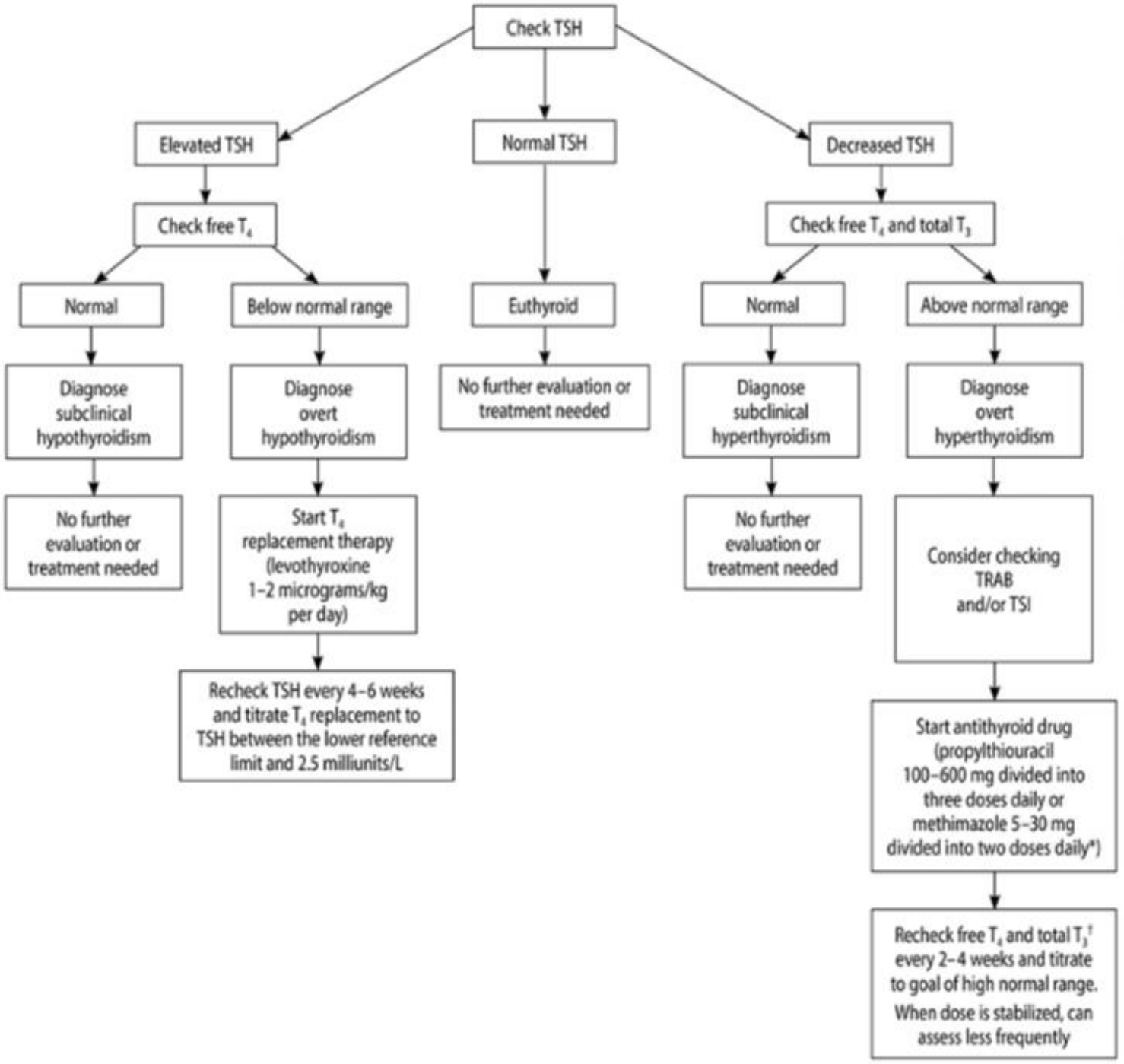
Diagnosis

- **Screen in women with T1DM, clinical suspicion, or family hx**



Thyroid Disease in Pregnancy. *ACOG Practice Bulletin 223*. 2020

Management

- Hyperthyroidism: treat with anti-thyroid drugs

  - First trimester: propothiouracil

  -Second/third trimester: methimazole

  -Propranolol: can be used for symptoms of palpitations

- Manage in conjunction with endocrine or MFM
- GOAL: free T4 in high normal range

Management

- Hypothyroidism: T4 replacement with levothyroxine

  -Can expect a 25% increase in T4 requirements in patient with known hypothyroidism when becomes pregnant

  -Monitor TSH every 4-6 weeks when titrating medication

Pregnancy Complications

- Thyroid storm: Symptoms: fever, tachycardia, nervous system dysfunction
- Treatment: DO NOT withold while waiting for lab results!

  -Propothiouracil (oral then IV), iodine (lithium if iodine allergy), steroids

  -AVOID delivery: fetus will improve as mother improves
- 9% of pregnant women with hyperthyroidism develop heart failure/cardiomyopathy

  -Can be reversible!

Delivery

No indication for earlier delivery

If hyperthyroidism not controlled, weekly antepartum testing starting at 32-34 weeks

Postpartum management

Decrese synthroid dose to pre-preganancy dose over four weeks

Breastfeeding is ok with thionamide medications

Postpartum thyroiditis

- Occurs in 5-10% of women within 12 months of delivery
- First phase is destruction of thyroid gland and hyperthyroid symptoms

  -can use beta blockers to help symptoms
- Second phase is hypothyroid phase
- 3.6% progress to permanent hypothyroidsim

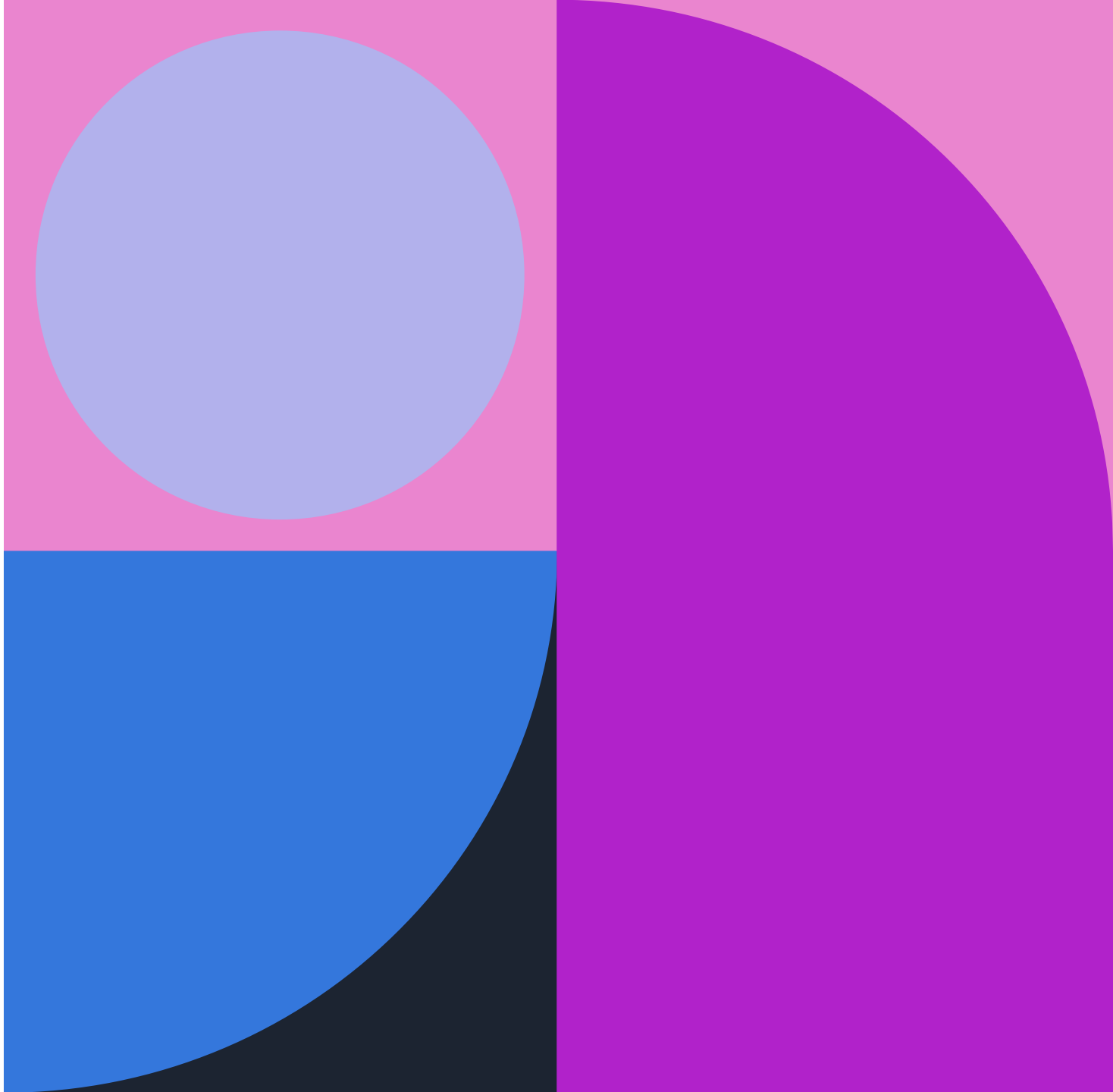
Cases

Case 1

30yo G1P0 at 16.3 weeks GA with hx of T1DM presents for prenatal follow up appointment. Patient reports that she has been experiencing palpitations and hair loss.

What to do next?

-Order TSH to screen for thyroid disease
-Second trimester- methimazole for treatment



Case 2

25yo with pmhx of hypothyroidism sends you a message requesting a visit for a positive home pregnancy test.

No other pmhx aside from hypothyroidism

Has been stable on 75mcg synthroid daily for over 4years

What do you do?

Advise to take two 75mcg tablets Monday and Wednesday until your appointment

Case 3

32yo G1P1 presents for her 6 week postpartum follow up visit.

Reports palpitations, some hair loss.

TSH is low and free T4 is elevated on labs

Hyperthyroid phase of post partum thyroiditis

Treat symptoms with propranolol

Recheck in 4-8 weeks

References

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