Thyroid Emergencies — Hypo vs Hyper, Field Reference

Recognition, classic presentation, and what the receiving team does next

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The one-line split. Hypothyroid = slow. Cold, bradycardic, constipated, confused. **Hyperthyroid = fast.** Hot, tachycardic, tremulous, anxious. The two emergencies are **myxedema coma** (severe hypo) and **thyroid storm** (severe hyper) — both are clinical diagnoses, and both are treated before labs return. TSH is the feedback signal: **primary** failure = TSH high, T4 low. **Secondary** (pituitary) = TSH low, T4 low.

HYPOTHYROIDISM — THE SLOW PATIENT

Classic presentation	Findings worth remembering
Fatigue, cold intolerance, weight gain, constipation, dry coarse skin, brittle hair, hoarse voice, slowed speech, periorbital puffiness	Bradycardia, diastolic hypertension, hypothermia, **delayed deep tendon reflex relaxation**, goiter, low-voltage ECG, depression or confusion. Most common cause: **Hashimoto**; also post-ablation, post-surgical, over-treated with antithyroid drugs.

Myxedema coma. Decreased LOC, profound hypothermia, bradycardia, hypoventilation, hypoglycemia, hyponatremia. Triggered by infection, cold exposure, sedatives/opioids, MI, or stopped thyroid medication. High mortality — miss it and the patient dies of hypoventilation, not of the thyroid.

HYPERTHYROIDISM — THE FAST PATIENT

Classic presentation	Findings worth remembering
Heat intolerance, weight loss with good appetite, palpitations, tremor, anxiety, sweating, frequent stools, goiter	Tachycardia, **atrial fibrillation**, **systolic hypertension with wide pulse pressure**, high-output heart failure. Graves adds **exophthalmos**, lid lag, pretibial edema. Elderly = **apathetic thyrotoxicosis**: afib + weight loss + heart failure, no tremor.

Thyroid storm. Fever + tachycardia often >130 + agitation to delirium, seizure or coma + nausea/vomiting/diarrhea/jaundice + heart failure. Triggers: infection, surgery, trauma, **iodine contrast**, stopping antithyroid meds, childbirth. Very high untreated mortality — treat on clinical suspicion.

FIELD CARE — SUPPORTIVE FOR BOTH

- **Airway and ventilation first.** Hypoventilation in myxedema is the quiet killer — BVM for inadequate breathing.
- Oxygen titrated to effect; **cardiac monitor and 12-lead** — afib with RVR changes management; heart block is common in hypo.
- **Check glucose.** Hypoglycemia is part of myxedema and is quickly reversible.
- **Fluids cautiously.** Untreated hypothyroidism causes a stiff myocardium that pulmonary-edemas easily — small boluses, reassess. Isotonic fluids help dehydration in storm.
- **Temperature:** warm gently/passively in myxedema; cool and give antipyretics in storm — **not aspirin** (displaces thyroid hormone).
- **Do not sedate** the hypothyroid patient. Look for and report the precipitant.

HOSPITAL-DIRECTED THERAPY — KNOW IT FOR THE HANDOFF

Emergency	What the receiving team typically does
Myxedema coma	IV levothyroxine, **hydrocortisone first or together** (adrenal insufficiency must be excluded), glucose, gradual rewarming, treatment of the precipitant, ventilatory support.
Thyroid storm	Ordered sequence: **thionamide** (PTU/methimazole) → **iodine only after** synthesis is blocked → **beta blocker** for rate → **glucocorticoid**; plus cooling, fluids, and the trigger.

TRAPS THAT CHANGE THE CALL

- Cold + bradycardic + confused = **myxedema until proven otherwise** — not "just exposure."
- Fever + tachycardia + agitation is **not automatically sepsis** — feel the neck, ask about thyroid history.
- **Amiodarone** is iodine-rich: causes hypo *and* hyper, sometimes months later.
- New afib + weight loss in an older adult → put thyroid in the handoff.
- Say the words **"concern for myxedema coma"** or **"concern for thyroid storm"** out loud.

Education only — follow your local protocols. Not medical direction.