

Myxedema Coma

The thyroid has stopped working, and the patient's whole body is shutting down.

THE STORY IN ONE SENTENCE

The thyroid has stopped working, and the patient's whole body is shutting down.

“Myxedema coma is when severe low thyroid crashes the body — almost every system slows to a crawl and the patient can die.”

Normal anatomy — the body's job

The thyroid gland makes thyroid hormone (mainly T4, which the body turns into the active form T3). Thyroid hormone tells every cell in the body how fast to burn fuel and make energy. It keeps your core temperature steady, drives your heart to beat at the right speed and strength, tells your brain to keep breathing, and keeps your brain cells working sharply. The adrenal glands make cortisol, which helps the body handle stress like infection, injury, or surgery. These two systems work together to keep the body running smoothly.

BODY'S JOB

Thyroid hormone is the master fuel switch — without it, every system slows down. Cortisol backs it up during stress. If you know how these work normally, every weird finding in myxedema coma makes sense as the opposite.

1. The thyroid gland sits in the front of your neck, shaped like a small butterfly.
2. It makes thyroid hormone (T4 and T3) and sends it into the bloodstream.
3. Thyroid hormone travels to every cell and tells the cell's energy-making factories (mitochondria) how fast to burn fuel.
4. That burning makes heat (so you stay warm), drives the heart's pacemaker (so your heart beats steady), powers the brain's breathing center (so you breathe), and keeps brain cells sharp (so you think clearly).
5. The adrenal glands (on top of your kidneys) make cortisol, which helps the body respond to stress and keeps blood pressure stable.
6. When thyroid hormone and cortisol are normal, the body hums along — warm, alert, breathing well, heart pumping strong.

What breaks

The thyroid stops making enough hormone (or someone stops taking their thyroid pill), and then a big stress — like infection, cold, surgery, a sedating drug, or a heart attack — pushes the body over the edge into shutdown. Often the adrenal glands fail at the same time and cannot make enough cortisol to handle the stress.

CLINICAL TERM

Severe hypothyroidism (TSH very high, free T4 very low) plus a precipitating stressor (infection, cold exposure, surgery, opioids, benzodiazepines, amiodarone, lithium, or stopping levothyroxine) triggers myxedema coma. Concomitant adrenal insufficiency is common.

How the body compensates

The body has almost no reserve left — it cannot compensate for long. Vital signs may look OK for a short time, but the patient is on the edge of total collapse. The job is to recognize the pattern early, start treatment immediately, and watch for the crash points that signal the window is closing.

1. {'step': 'The body tries to keep blood pressure steady', 'detail': 'Early on, blood vessels tighten a little to keep pressure from falling completely, but this does not last because the heart is too weak and cortisol is too low.'}
2. {'step': 'Temperature keeps dropping', 'detail': 'The body cannot make heat without thyroid hormone, so core temperature falls below 95°F (35°C) and keeps going down — this is a red flag that compensation is failing.'}
3. {'step': 'The heart slows more and more', 'detail': 'Heart rate may fall into the 40s or 50s, and the heart pumps weakly, so blood pressure drops and organs get less oxygen.'}
4. {'step': 'Breathing becomes dangerously slow', 'detail': 'The brain's breathing center loses its drive, breaths get shallow, and carbon dioxide builds up in the blood (respiratory too much acid in the blood (acidosis)). The patient may stop breathing entirely.'}
5. {'step': 'The brain shuts down', 'detail': 'Confusion deepens into stupor or coma because the brain is not getting enough oxygen and thyroid hormone.'}
6. {'step': 'Watch for the crash points', 'detail': 'Low blood pressure that does not respond to IV fluids, dangerously low blood sugar (hypoglycemia), stopped breathing (respiratory failure), seizures from very low sodium, and abnormal heart rhythms (especially if thyroid hormone is replaced too fast in older patients or patients with heart disease) all signal the patient is crashing.'}

7. {'step': 'Death rate is high even with treatment', 'detail': 'Mortality ranges from 25% to 60% depending on how late the diagnosis is made and how sick the patient is, so early recognition and immediate treatment are critical.'}
8. {'step': 'Trend over time, not just one snapshot', 'detail': 'A patient who looks stable but is getting more confused, colder, or slower is not really stable — they are sliding toward collapse, and you need to act now.'}

Domino effect

1. Core temperature drops below 95°F (35°C) — Thyroid hormone (T3) tells the mitochondria (the cell's power plants) to burn fuel and make heat. Without enough T3, fuel burning slows way down, heat production falls, and the body loses more heat than it makes — so core temperature drops.
2. Heart rate slows and the heart pumps weakly — The sinoatrial node (the heart's natural pacemaker in the right atrium) depends on thyroid hormone to fire at a normal speed. Low T3 slows the pacemaker, so heart rate falls into the 40s or 50s. At the same time, thyroid hormone normally strengthens heart muscle contraction, so without it the heart pumps weakly and cardiac output (how much blood the heart pushes out) drops.
3. Breathing drive falls and carbon dioxide builds up — The medulla (the part of the brainstem that controls breathing) has a breathing center that depends on thyroid hormone to stay alert and responsive. Low T3 dulls this center, so the urge to breathe drops, breaths become slow and shallow, and carbon dioxide (CO₂) builds up in the blood, causing respiratory acidosis (acid building up from trapped carbon dioxide).
4. Thinking becomes foggy, then the patient slips into confusion or coma — The brain needs steady blood flow carrying oxygen and glucose to work. When the heart pumps weakly, less blood reaches the brain. At the same time, thyroid hormone is essential for normal brain cell (neuron) metabolism and neurotransmitter function. Without enough T3, neurons slow down, thinking gets muddy, and the patient becomes confused, stuporous, or unconscious (comatose).
5. Sodium in the blood falls (hyponatremia) — Low thyroid hormone causes myxedema — swelling of cells because they fill with sugar-protein chains (glycosaminoglycans) that trap water. This pulls sodium out of the bloodstream and into the swollen cells. At the same time, the kidneys work slowly and cannot clear free water or correct sodium levels fast enough, so serum sodium drops.
6. Blood pressure falls and does not respond to IV fluids — The adrenal glands often fail at the same time (adrenal insufficiency), so cortisol levels are too low. Cortisol normally helps blood vessels tighten and keeps blood pressure stable during stress. Without it, blood vessels stay loose, blood pressure drops, and giving IV fluids does not fix the problem.

7. Blood sugar can drop dangerously low (hypoglycemia) — Thyroid hormone and cortisol both help the body make new glucose (gluconeogenesis) and release stored glucose from the liver. When both are low, the body cannot keep blood sugar steady, so glucose falls and the brain (which runs on glucose) is starved.
8. The patient is at the edge of collapse — every system is failing together — Each finding — hypothermia, slow weak heart, shallow breathing with rising CO₂, confusion or coma, low sodium, low blood pressure, low blood sugar — traces back to the same broken part: not enough thyroid hormone (and often not enough cortisol). This is the body shutting down, not compensating. Treatment must start immediately with IV levothyroxine (T₄) and IV hydrocortisone (cortisol replacement) to restart the body's systems before the patient dies.

Symptoms · what the patient feels, and why

- Very low body temperature (often below 95°F): Without enough thyroid hormone (the body's metabolism gas pedal), every cell in the body slows down and makes less heat, so body temperature drops dangerously low.
- Extremely slow or confused thinking, sometimes completely unresponsive: The brain needs thyroid hormone to keep neurons firing quickly; when levels crash, the brain fog deepens into true confusion, lethargy, and eventually coma.
- Very slow heart rate and low blood pressure: Thyroid hormone tells the heart how fast to beat; without it, the heart slows way down and pumps weakly, so blood pressure falls.
- Breathing is slow and shallow: The muscles that control breathing lose their drive when thyroid hormone is missing, so breaths become slow and weak; carbon dioxide can build up dangerously in the blood.
- Skin looks puffy, thick, and smooth, especially around the eyes and hands: Without thyroid hormone, the body's tissues pile up a thick gel called mucopolysaccharides (like sticky glue under the skin), which traps water and makes everything look swollen.
- Hair is dry, coarse, and brittle; outer third of eyebrows may be thin or missing: Thyroid hormone keeps hair follicles cycling and healthy; when it drops, hair grows slowly, becomes rough, and can fall out, especially at the outer edge of the eyebrows.
- Tongue looks thick and voice sounds hoarse or deep: The same swelling gel builds up in the tongue and vocal cords, making them thicker and changing how the voice sounds.
- Unable to urinate much or at all, belly may feel swollen: Slow metabolism means the kidneys filter less blood and make less urine; fluid can back up, and sometimes the bladder itself becomes sluggish.

Focused exam

- Body temperature below 95°F (35°C), often down to 80-90°F, without shivering: The thyroid is the body's furnace control. When thyroid hormone drops to almost nothing, every cell burns fuel slowly and barely makes heat. No shivering means the brain has turned off the emergency warming system — this is a deep metabolic shutdown, not just being cold.
- Heart rate below 60 beats per minute, blood pressure low (systolic often under 100 mmHg): Thyroid hormone tells the heart how fast and hard to pump. Without it, the heart slows like an engine idling in neutral. Low blood pressure means not enough blood is reaching the brain and organs — the pump is failing.
- Slow, shallow breathing with high carbon dioxide (CO₂ above 45 mmHg on blood gas): The brainstem's breathing center (the medulla) depends on thyroid hormone to keep the drive to breathe strong. When thyroid hormone crashes, the brain forgets to breathe deeply, CO₂ builds up, and the patient can slip into respiratory failure.
- Delayed relaxation phase of deep tendon reflexes (the muscle takes too long to bounce back after you tap the knee or ankle): Thyroid hormone speeds muscle contraction and relaxation. A slow reflex bounce-back is a visible sign that the thyroid is too low — it is not life-threatening by itself, but it confirms the metabolic slowdown.
- Puffy face, swollen tongue, non-pitting swelling around the eyes and hands: When thyroid hormone is missing, a thick gel-like protein called mucopolysaccharide leaks into tissues and traps water. This causes swelling that does not dent when you press it (non-pitting swelling (edema)). The swollen tongue can block the airway.
- Confusion, extreme drowsiness, or coma — the patient may barely respond to voice or pain: The brain needs thyroid hormone to stay awake and think. Without it, brain metabolism slows and consciousness fades. Coma means the brain is shutting down and death is near without treatment.

Diagnostics · every test answers a question

- Thyroid-stimulating hormone (TSH) and free thyroxine (free T₄) → Is the thyroid failing, and is the brain trying to wake it up?
- Serum cortisol (random or morning level) → Are the adrenal glands working, or are they failing too?
- Serum sodium → Is the body holding too much water and diluting the blood?
- Arterial blood gas (ABG) → Is the patient breathing well enough to clear carbon dioxide?
- Complete blood count (CBC) → Is there infection or anemia that could have triggered the crisis?
- Blood glucose → Is blood sugar dangerously low?

- Chest X-ray → Is there pneumonia or fluid in the lungs?
- Electrocardiogram (ECG) → Is the heart rhythm dangerously slow or weak?

Treatment logic

- Give IV hydrocortisone 100 mg immediately, then 50-100 mg every 6-8 hours → About half of myxedema coma patients also have adrenal glands that cannot make cortisol (the body's main stress hormone). Cortisol keeps blood pressure up and helps the heart respond to stress. Replacing it prevents shock and death while you wait for thyroid hormone to work.
- Give IV levothyroxine (T4) 200-400 mcg loading dose, then 50-100 mcg IV daily until the patient can swallow pills → Levothyroxine is synthetic thyroid hormone (T4). It tells every cell in the body to restart its furnace, burn fuel, make heat, wake the brain, and speed the heart. It reverses the root cause of myxedema coma. Effects begin in 6-12 hours and build over several days.
- Some centers add IV liothyronine (T3) 5-20 mcg loading dose, then 2.5-10 mcg every 8 hours for 1-2 days → Liothyronine is the active form of thyroid hormone (T3) and works faster than levothyroxine (within 4-6 hours). It may help speed recovery in very sick patients. Guidelines vary — some experts use it, others do not because it can stress the weak heart.
- Passive rewarming with blankets; do NOT use heating blankets, warm IV fluids, or forced-air warmers → Passive warming (room-temperature blankets, warm room air) lets body temperature rise slowly and safely. The heart in myxedema coma is weak and cannot handle sudden heat, which can cause dangerous arrhythmias or shock.
- Give IV normal saline or hypertonic saline (3%) slowly if sodium is very low; raise sodium no faster than 6-8 mEq/L in 24 hours → Myxedema coma causes the kidneys to hold water and dilute blood sodium. Low sodium (especially < 120 mEq/L) causes confusion, seizures, and coma. Slow, careful correction fixes the balance without causing osmotic demyelination syndrome (brain damage from sodium rising too fast).
- Treat the trigger: IV antibiotics for infection, stop sedatives or opioids, support breathing if CO₂ is high → Myxedema coma almost always has a trigger — infection (especially pneumonia or urinary tract infection), cold exposure, surgery, stopping thyroid pills, or drugs that slow breathing (opioids, benzodiazepines). Removing the trigger stops the downward spiral.
- Intubate and start mechanical ventilation if PaCO₂ > 60 mmHg or the patient cannot protect the airway → Myxedema coma shuts down the brainstem breathing center and swells the tongue, both of which can block the airway and stop breathing. A breathing tube and ventilator clear CO₂ and deliver oxygen while thyroid hormone restarts the brain.

Medications

Levothyroxine (IV) · Thyroid hormone replacement (T4)

Levothyroxine is synthetic T4, the same thyroid hormone your thyroid gland normally makes. It replaces the missing hormone immediately through the vein, so every cell in your body gets the fuel it needs to make energy, keep you warm, and wake up your brain and heart. The IV route is used because a patient in myxedema coma cannot absorb pills reliably from their gut, which is sluggish and swollen.

1. IV levothyroxine enters the bloodstream immediately and travels to the liver and kidneys.
2. In the liver and kidneys, an enzyme removes one iodine atom from T4, turning it into T3 (the more powerful, active thyroid hormone).
3. T3 enters cells all over the body and binds to thyroid receptors inside the cell's control center (the nucleus).
4. The T3-receptor pair turns on genes that make proteins for energy production, warming the body, speeding the heart, and waking the brain.
5. Over hours to days, metabolism rises, body temperature climbs, heart rate picks up, breathing deepens, and mental fog clears.

SAFETY WATCH

Give a loading dose (200–400 mcg IV) followed by daily doses (50–100 mcg IV) until the patient can swallow pills safely. · Check for adrenal insufficiency (low cortisol) before or immediately after starting levothyroxine; if present or suspected, give hydrocortisone 50–100 mg IV every 6–8 hours to prevent adrenal crisis. · Monitor heart rhythm closely; too much thyroid hormone too fast can trigger dangerous heart rhythms (arrhythmias), especially in older patients or those with heart disease. · Watch for chest pain or rapid heart rate; if these occur, the dose may need to be lowered. · Do NOT warm the patient too quickly with heating blankets or warm IV fluids; rapid rewarming can drop blood pressure dangerously by dilating blood vessels before the heart is strong enough to keep up.

Liothyronine (IV T3) · Thyroid hormone replacement (T3)

Liothyronine is synthetic T3, the active form of thyroid hormone that cells use directly. It works faster than levothyroxine (T4) because it does not need to be converted first. Some doctors add a small dose of IV T3 to IV T4 in the sickest patients to speed up recovery, though guidelines vary and many centers use T4 alone.

1. IV liothyronine enters the bloodstream and travels to cells throughout the body.
2. T3 enters the cell and binds to thyroid receptors in the nucleus without needing conversion.

3. The T3-receptor pair immediately turns on genes that make proteins for energy, warming, and heart function.
4. Effects appear within 6–12 hours, faster than levothyroxine, which takes 24–72 hours.

SAFETY WATCH

Typical dose is 5–20 mcg IV every 8–12 hours, much lower than the T4 dose, because T3 is more potent. · Use with caution; T3 can trigger heart rhythm problems (arrhythmias) or heart attacks in patients with heart disease. · Many experts now use T4 alone and reserve T3 for patients who are not waking up or whose heart rate stays dangerously slow despite T4. · Monitor heart rhythm and rate continuously during T3 therapy. · Do NOT use T3 without also giving hydrocortisone if adrenal insufficiency is suspected.

Hydrocortisone (IV) · Corticosteroid (synthetic cortisol)

Hydrocortisone is synthetic cortisol, the stress hormone your adrenal glands normally release to help your body handle illness, injury, or low blood sugar. In myxedema coma, the adrenal glands may also be weak (about 5–10% of patients have both low thyroid and low adrenal function, called secondary adrenal insufficiency). Giving thyroid hormone without cortisol can speed up metabolism so fast that the adrenals cannot keep up, triggering a life-threatening adrenal crisis (shock, dangerously low blood pressure, and collapse). Hydrocortisone is given first or at the same time as thyroid hormone to prevent this.

1. IV hydrocortisone enters the bloodstream and travels to cells throughout the body.
2. Cortisol binds to receptors inside cells, especially in blood vessels, liver, and kidneys.
3. In blood vessels, cortisol makes the walls tighten in response to adrenaline, raising blood pressure.
4. In the liver, cortisol turns on enzymes that break down stored sugar and protein, raising blood glucose to fuel the brain and heart.
5. In the kidneys, cortisol helps retain sodium and water, keeping blood volume stable.

SAFETY WATCH

Standard dose is 50–100 mg IV every 6–8 hours until the patient is stable and able to take pills. · Give hydrocortisone BEFORE or WITH the first dose of levothyroxine, not after, to prevent adrenal crisis. · Once the patient is awake and eating, switch to oral hydrocortisone and taper the dose over several days. · Check a morning cortisol level when the patient is stable; if it is normal, you can stop hydrocortisone. If it stays low, the patient may need long-term replacement. · High doses for more than a few days can raise blood sugar, so monitor glucose, especially in patients with diabetes.

Normal saline (IV, 0.9% sodium chloride) · Isotonic crystalloid fluid

Normal saline is sterile salt water that matches the salt concentration in your blood. In myxedema coma, patients are often dehydrated (from not drinking) and have low sodium (from the kidneys holding onto too much water and losing sodium). IV saline slowly replaces lost fluid and raises sodium back to a safe level, which helps the brain, heart, and kidneys work properly.

1. IV normal saline enters the bloodstream, increasing the total volume of blood.
2. The extra fluid raises blood pressure, improving delivery of oxygen and nutrients to the brain, heart, and kidneys.
3. The sodium in the saline slowly raises the sodium level in the blood, pulling excess water out of cells and back into the bloodstream.
4. As sodium rises, brain cells shrink back to normal size, reducing the risk of seizures and confusion.

SAFETY WATCH

Infuse slowly; typical rate is 50–100 mL/hour, adjusted based on blood pressure, sodium level, and urine output. · Check sodium level every 4–6 hours and adjust the saline rate to raise sodium by no more than 8–10 mEq/L per day. · Watch for fluid overload, especially in patients with heart failure; signs include new shortness of breath, leg swelling, or crackles in the lungs. · If sodium is very low (below 120 mEq/L) and the patient is having seizures, a small amount of hypertonic saline (3% sodium chloride) may be used briefly, then switched back to normal saline. · Do NOT use dextrose-containing fluids (like D5W) alone; they can drop sodium further and worsen brain swelling.

Antibiotics (empiric broad-spectrum, e.g. ceftriaxone + azithromycin or vancomycin + piperacillin-tazobactam) · Antimicrobial agents

Infection (pneumonia, urinary tract infection, skin infection) is the most common trigger of myxedema coma. Antibiotics kill or stop the growth of bacteria, treating the infection that pushed the patient into crisis. Broad-spectrum antibiotics are started immediately (before culture results are back) to cover the most likely bacteria, then narrowed once the specific bug is identified.

1. Broad-spectrum antibiotics are given IV to reach the infection site quickly.
2. Ceftriaxone (a cephalosporin) punches holes in bacterial cell walls, causing bacteria to burst and die; it covers common lung and urinary bacteria.
3. Azithromycin (a macrolide) blocks bacterial ribosomes (the protein factories), stopping bacteria from making the proteins they need to survive; it covers atypical pneumonia bugs like *Mycoplasma* and *Legionella*.
4. Vancomycin kills resistant bacteria like MRSA by blocking cell wall assembly.

5. Piperacillin-tazobactam kills a wide range of bacteria and covers *Pseudomonas*, a tough bug often found in hospital-acquired infections.
6. As bacteria die, the body's immune response calms down, fever drops, and organs begin to recover.

SAFETY WATCH

Start antibiotics within 1 hour of suspecting infection; delay increases mortality. · Draw blood cultures BEFORE giving the first antibiotic dose if possible, but do NOT delay antibiotics to wait for cultures. · Adjust the antibiotic choice once culture and sensitivity results return, narrowing to the most specific effective drug. · Watch for allergic reactions (rash, wheezing, swelling) especially with penicillins and cephalosporins. · Monitor kidney function; many antibiotics are cleared by the kidneys and can build up if kidney function is poor, causing toxicity (e.g. seizures with high penicillin levels, hearing loss with vancomycin). · Check for *Clostridioides difficile* diarrhea (watery, foul-smelling stools, cramping) after 3–5 days of broad-spectrum antibiotics; treat with oral vancomycin or fidaxomicin if it occurs.

Passive warming (blankets, warm room air) · Supportive care / physical intervention

Patients in myxedema coma cannot make enough body heat because their metabolism is so slow. Passive warming uses blankets and a warm room (around 75–80°F) to stop further heat loss and let the body slowly warm itself as thyroid hormone begins to work. Active warming (heating blankets, warm IV fluids) is avoided because it dilates blood vessels too fast, dropping blood pressure dangerously before the heart is strong enough to compensate.

1. Blankets trap a layer of warm air around the patient's body, reducing heat loss by convection (air currents) and radiation (heat escaping to cooler surfaces).
2. The room temperature is raised to reduce the temperature gradient between the patient and the environment.
3. As IV thyroid hormone takes effect over 24–72 hours, the patient's metabolism speeds up, mitochondria burn more fuel, and body heat production slowly increases.
4. Core temperature rises 0.5–1°F per day, reaching normal (98.6°F) over several days.

SAFETY WATCH

Do NOT use heating blankets, heat lamps, or warmed IV fluids; these cause peripheral vasodilation and can trigger cardiovascular collapse. · Monitor core temperature (rectal or esophageal probe) every 4–6 hours. · Keep the patient covered with regular blankets in a warm room. · If body temperature drops below 86°F (30°C) despite passive warming, consult critical care for advanced support, but still avoid active external rewarming. · Watch for shivering; it rarely occurs in myxedema coma because the body's thermostat is broken, but if it does, it increases oxygen demand and can strain the heart.

Red flags

- Body temperature below 95°F (hypothermia)
- Breathing becomes very slow or stops (respiratory failure)
- Completely unresponsive or unable to wake up (coma)
- Heart rate under 50 beats per minute with dangerously low blood pressure (shock)
- Recent infection, surgery, cold exposure, or suddenly stopped taking thyroid medicine

Nursing priorities

1. Check core body temperature with a low-reading thermometer that goes below 94 degrees Fahrenheit, and recheck every 2 hours — Regular thermometers do not read below 94 degrees, so you will miss dangerous hypothermia (very low body temperature below 95 degrees); low body temperature below 90 degrees means the patient is critically ill and may die without treatment.
2. Start passive rewarming with warm blankets and raise room temperature, but never use heating blankets, hot water, or warming devices directly on the skin — Active external heating (using heating devices) causes blood vessels in the skin to open wide and pulls blood away from the heart and brain, which drops blood pressure and can cause cardiac arrest (heart stops); passive warming is safer.
3. Monitor respirations every hour and watch for slow breathing rate below 10 breaths per minute or shallow breathing — Myxedema coma slows the breathing center in the brain and weakens breathing muscles, causing carbon dioxide (a waste gas) to build up in the blood; high carbon dioxide causes more confusion and can stop breathing completely, requiring a breathing tube.

4. Check blood sodium level and monitor strict intake and output every hour; if giving IV fluids, use normal saline and infuse slowly — Low thyroid causes the kidneys to hold onto water, which dilutes the blood sodium (hyponatremia); raising sodium too fast (more than 6 to 8 points in 24 hours) damages the brain permanently, but giving too much IV fluid makes low sodium worse.
5. Monitor blood pressure and heart rate every 15 to 30 minutes; keep the patient lying flat and raise legs if blood pressure drops below 90 systolic — Myxedema coma causes the heart to pump weakly and blood vessels to relax, which drops blood pressure; low blood pressure means the brain and kidneys are not getting enough blood, and the patient can go into shock.
6. Check blood sugar (glucose) every 2 to 4 hours and treat any reading below 70 mg/dL immediately with IV dextrose — Low thyroid slows the body's ability to make glucose (sugar) from stored energy, causing low blood sugar (hypoglycemia) (low blood sugar below 70); low blood sugar causes more confusion, seizures, and can cause permanent brain damage if not fixed fast.
7. Protect the airway by keeping the head of bed at 30 to 45 degrees if the patient is very sleepy, and keep suction ready at bedside — Patients with myxedema coma have decreased mental status and weak throat muscles, so they cannot protect their airway and may breathe in (aspirate) saliva or vomit into the lungs, causing pneumonia or choking.
8. Watch for signs of adrenal crisis including sudden worsening confusion, vomiting, severe low blood pressure, or abdominal pain, especially in the first 24 hours of treatment — The adrenal glands (small glands above the kidneys) may also be weak in myxedema coma; giving thyroid hormone increases the body's metabolism, which can unmask adrenal insufficiency (not enough cortisol hormone) and cause life-threatening shock if hydrocortisone was not given first.

Sources

- American Thyroid Association (ATA) Guidelines on Hypothyroidism
- Endocrine Society Clinical Practice Guideline on Hypothyroidism
- UpToDate Clinical Overview on Myxedema Coma
- Journal of Clinical Endocrinology & Metabolism

Last reviewed: 2026-07-07