

Malnutrition

The body is not getting enough fuel from food, so it starts eating itself to survive.

THE STORY IN ONE SENTENCE

The body is not getting enough fuel from food, so it starts eating itself to survive.

“Not enough food coming in (or the body cannot use it), so the body breaks down its own muscle and fat for fuel.”

Normal anatomy — the body's job

Normally, the food you eat—carbs, fats, and protein—gets broken down in your gut, absorbed into your blood, and delivered to every cell. Carbs and fats burn for energy. Protein builds and repairs muscle, skin, organs, and the white blood cells that fight germs. Your body constantly balances what comes in with what it burns and uses, so your weight and muscle mass stay steady.

BODY'S JOB

Food is fuel and building blocks. Your gut breaks it down, your blood carries it, and your cells burn it for energy or use it to build and repair tissue. When intake matches need, your body stays strong and steady.

1. You eat food (carbs, fats, protein).
2. Your gut absorbs these nutrients into your blood.
3. Cells burn carbs and fats for energy.
4. Cells use protein (amino acids) to build and repair.
5. Intake matches what your body burns and uses.

What breaks

Malnutrition means the body is not getting enough fuel from food. This can happen in four main ways: not eating enough (lost appetite from depression, dementia, poverty, or trouble swallowing after a stroke), the gut cannot absorb food (like in Crohn disease, celiac disease, or after part of the bowel is removed), the body burns fuel too fast (like in cancer, bad infections,

or an overactive thyroid), or the body loses food before it can be used (constant vomiting, diarrhea, or draining wounds). No matter the cause, the result is the same: the body runs out of incoming fuel and starts breaking down its own muscle and fat to survive.

CLINICAL TERM

Malnutrition (insufficient intake or utilization of nutrients to meet metabolic demand).

How the body compensates

When food stops coming in, the body does not just shut down. It tries to survive by breaking down its own muscle and fat for fuel. At first, vital signs and basic labs can look okay because the body is working hard to keep blood sugar, blood pressure, and oxygen steady. This is the dangerous middle—the patient looks stable, but the body is slowly eating itself. The crash point to watch for is refeeding syndrome: if you feed someone too fast (especially with a lot of carbs or sugar), the sudden flood of glucose drives phosphorus, potassium, and magnesium into cells, and blood levels of these minerals drop dangerously low. This can cause deadly heart rhythms, seizures, confusion, and respiratory failure. The key is to recognize malnutrition early, measure weight loss and labs (albumin, prealbumin, phosphorus, potassium, magnesium), and refeed slowly and carefully.

1. {'step': 'The body breaks down its own muscle and fat for fuel.', 'why': "When food stops coming in, the body needs another source of energy to keep the heart beating, the brain thinking, and the lungs breathing. It starts burning fat for energy and breaking down muscle protein into amino acids, which the liver converts to glucose (a process called gluconeogenesis). This keeps blood sugar from crashing, but it slowly eats away the body's own tissue."}
2. {'step': 'Vital signs stay normal for a while.', 'why': 'The body is good at keeping blood pressure, heart rate, and oxygen levels steady even as it is starving. This is the dangerous middle—the patient looks stable on the monitor, but inside, muscle is wasting, the immune system is weakening, and stored energy is running out.'}
3. {'step': 'Weight loss, muscle wasting, and low albumin appear.', 'why': 'As the body burns through muscle and fat, weight drops, arms and legs look thin and weak, and albumin (a protein made by the liver) falls because the liver does not have enough amino acids to make it. Low albumin also causes fluid to leak into tissues (edema) because albumin normally holds water in the blood vessels.'}
4. {'step': 'The immune system weakens.', 'why': 'White blood cells need protein and energy to grow and patrol for germs. Without enough fuel, the body makes fewer immune cells, and infections (pneumonia, UTIs, skin infections) happen more easily and last longer.'}

5. {'step': 'Wounds heal slowly and pressure sores form.', 'why': 'Healing a wound means building new skin, which is made of protein (collagen). A starved body cannot make collagen fast enough, so cuts and surgical wounds stay open longer. If the person is lying in bed, constant pressure on bony spots (tailbone, heels, hips) squeezes blood vessels flat, and the skin dies because it cannot repair the tiny damage, forming pressure ulcers (bedsores).'} }
6. {'step': 'The crash point: refeeding syndrome.', 'why': 'If you feed a starved person too fast—especially with a lot of carbs, sugar, or IV dextrose—insulin surges and drives phosphorus, potassium, and magnesium from the blood into cells to help process the food. Blood levels of these minerals drop dangerously low (hypophosphatemia, low potassium (hypokalemia), low magnesium (hypomagnesemia)). Low phosphorus causes muscle weakness, confusion, seizures, and heart failure. Low potassium causes deadly heart rhythms (arrhythmias). Low magnesium makes both worse. Refeeding syndrome can kill within days if not caught early.'} }
7. {'step': 'Watch the trajectory, not just one moment.', 'why': 'A patient who looks stable today but has lost 10 pounds in two weeks and is still not eating is on a downhill slope. Vital signs can hide this until the crash happens. The job is to spot the trend early—measure weight, check albumin and electrolytes, count how many calories the patient is actually eating, and intervene before refeeding syndrome or infection or organ failure tips the balance.'} }

Domino effect

1. The body breaks down its own muscle for fuel. — When food stops coming in, the body needs energy to keep the heart, brain, and lungs running. It starts burning fat and breaking down muscle protein into amino acids, which the liver turns into glucose (gluconeogenesis). This keeps blood sugar from crashing, but it slowly eats away the body's own tissue, so muscles shrink and the person gets weaker.
2. Weight drops and the person feels tired and weak all the time. — As muscle breaks down, the body loses the tissue that burns energy and does work. Less muscle means less strength and endurance, so even simple tasks like standing up, walking to the bathroom, or lifting a fork feel exhausting. Weight drops because fat and muscle are disappearing.
3. The immune system weakens, so infections happen more easily. — White blood cells (the immune system's soldiers) need protein and energy to grow, multiply, and patrol for germs. A starved body cannot make enough of these cells, so bacteria and viruses that the body would normally fight off (like pneumonia, UTIs, or skin infections) take hold and last longer.
4. Wounds heal slowly or not at all. — Healing a wound means building new skin and tissue, which is made of protein (especially collagen). A malnourished body does not have enough amino acids to make collagen fast enough, so cuts, surgical wounds, and pressure sores stay open and raw for weeks or months.

5. Pressure sores (bedsores) form on skin over bony spots. — When someone lies in bed or sits in a chair for hours, the weight of the body presses down on bony spots like the tailbone, heels, hips, and shoulder blades. This pressure squeezes the tiny blood vessels flat, so skin and tissue do not get oxygen. Normally the body repairs this tiny damage every time you shift position, but a starved body cannot repair fast enough, so the skin dies and forms open, painful sores.
6. Albumin drops and fluid leaks into tissues, causing swelling (edema). — Albumin is a protein made by the liver that floats in the blood and acts like a sponge, holding water inside blood vessels. When the body is starved, the liver does not have enough amino acids to make albumin, so blood albumin drops. Without albumin, water leaks out of blood vessels into the surrounding tissue, causing puffy swelling in the legs, belly, or lungs.
7. Refeeding syndrome can happen if you feed too fast. — When a starved person suddenly gets a lot of food (especially carbs or sugar), insulin surges and drives phosphorus, potassium, and magnesium from the blood into cells to process the food. Blood levels of these minerals drop dangerously low. Low phosphorus causes muscle weakness, confusion, seizures, and heart failure. Low potassium causes deadly heart rhythms. This can kill within days if not recognized and corrected.
8. Organs can start to fail if malnutrition goes on too long. — The heart, lungs, kidneys, and liver are made of muscle and tissue that need constant fuel to work. As the body runs out of stored energy and keeps breaking down its own tissue, these organs get weaker. The heart muscle shrinks and pumps less strongly (heart failure), the lungs cannot fight off pneumonia, the kidneys slow down, and the liver cannot make the proteins and clotting factors the body needs. At this point, even with treatment, recovery is slow and sometimes incomplete.

Symptoms · what the patient feels, and why

- Weight loss over time — you drop pounds without trying: Your body is not getting enough fuel (calories and nutrients) from food, so it starts breaking down its own stored fat and muscle to keep going — like burning furniture when you run out of firewood.
- Muscle wasting — arms and legs look thinner, you feel weak: Without enough protein coming in, the body dissolves its own muscle tissue to harvest amino acids (the building blocks of protein) for vital repairs — the muscles literally shrink because they are being used as spare parts.
- Low energy and constant tiredness: Cells run on glucose (sugar from food) and other nutrients. When you are not eating enough, your cells have less fuel to make ATP (the energy molecule every cell needs), so you feel drained — like a phone stuck at 10 percent battery.

- Swelling in the legs, feet, or belly (edema): The liver makes albumin (a key blood protein that holds water inside blood vessels). Without enough protein from food, albumin drops and water leaks out into the tissues, pooling in the legs and belly by gravity — like a weak sponge that can't hold water.
- Skin problems — dry, peeling, slow to heal, or bruises easily: Skin cells need vitamins (especially vitamin C, A, and zinc) and protein to renew and repair. Without them, the outer layer breaks down, wounds heal slowly, and blood vessels under the skin become fragile and leak (causing bruises).
- Hair loss or hair that pulls out easily: Hair follicles need a steady supply of protein and iron to build new hair strands. When the body is starved, it shuts down non-vital jobs like hair growth to save resources for the heart and brain — hair falls out or becomes thin and brittle.
- Pale skin and inside of eyelids (anemia): Without enough iron, vitamin B12, and folate from food, the bone marrow cannot make enough healthy red blood cells to carry oxygen — so the blood becomes thin and pale, and tissues look washed out.
- Confusion, trouble concentrating, or mood changes: The brain burns about 20 percent of the body's glucose and needs B vitamins, omega-3 fats, and amino acids to make neurotransmitters (chemical messengers like serotonin and dopamine). When nutrition drops, brain signaling slows and mood regulation breaks down — like a computer lagging when the RAM is low.
- Infections that keep coming back: White blood cells (the immune system's soldiers) need protein, zinc, vitamin C, and vitamin A to multiply and fight germs. Malnutrition weakens these defenses, so bacteria and viruses can take hold more easily — like a castle with too few guards.
- Very low body mass index (BMI under 18.5 in adults, or weight dropping below growth curve in children): BMI is weight divided by height squared — it gives a rough snapshot of whether the body has enough stored energy. When it drops below the healthy range, it signals the body's reserves (fat and muscle) are running dangerously low.

Focused exam

- Weight loss and low BMI (under 18.5 kg/m²): When food does not come in, the body burns its own muscle and fat for fuel. Weight and BMI tell you how much the body has already lost and how serious it is right now.
- Muscles feel soft and flat when you press them: Malnutrition eats muscle first because muscle is full of protein the body needs to keep organs alive. Soft, flat arms and legs mean the body is starving and breaking itself down.

- Loose, sagging skin especially over the arms, belly, and face: The fat under the skin is gone. Skin has nothing to fill it out, so it hangs loose and looks hollow. This tells you the body has burned through its fat stores.
- Thin, dry, brittle hair that falls out easily: Hair is made of protein. When the body is starving, it stops building hair and sends all the protein to keep the heart, lungs, and brain alive instead. Hair gets weak and falls out.
- Pressure sores or wounds that do not heal: Healing needs protein and calories to build new skin. Without food, the body cannot fix broken skin, so wounds stay open and get infected easily.
- Slow heart rate and low blood pressure: The heart is a muscle, and malnutrition weakens it. A weak heart beats slower and cannot pump blood as hard, so blood pressure drops. This can lead to fainting and organ damage.

Diagnostics · every test answers a question

- Serum albumin → Is the body running out of protein and losing its ability to hold water in the blood vessels?
- Prealbumin (transthyretin) → Is the body starving right now, or is nutrition getting better?
- Complete blood count (CBC) → Is the body so low on nutrients that it cannot make enough blood cells?
- Basic metabolic panel (BMP) with phosphate and magnesium → Are the minerals the body needs to turn food into energy dangerously low?
- Thiamine (vitamin B1) level → Is the body so low on thiamine that the nerves and heart are at risk?
- C-reactive protein (CRP) → Is there infection or inflammation making the body burn through nutrients even faster?

Treatment logic

- Find and fix the upstream cause (not eating enough, cannot swallow, cannot absorb food, or burning calories too fast from illness) → Stops the broken step that started everything. Once food actually gets in and stays in, the body can start rebuilding muscle, fat, and strength.
- Start feeding slowly at 50% of goal calories, then increase over 3 to 5 days (called cautious refeeding) → Prevents refeeding syndrome by letting the body adjust its electrolytes and metabolism gradually as food comes back in. Gets real nutrition in without shocking the system and causing heart rhythm problems or seizures.

- Give phosphate, magnesium, potassium, and thiamine before or with the first feedings → Replaces the minerals and vitamins the starved body desperately needs to turn food into energy and rebuild cells. Thiamine especially prevents brain and nerve damage. Prevents refeeding syndrome.
- Use mouth eating first, feeding tube (enteral) second, IV feeding (parenteral) only as last resort → Gets food into the body using the safest, most normal route. Mouth eating keeps the gut working, lowers infection risk, and is easiest to stop if problems happen. Feeding tubes work when swallowing is unsafe; IV feeding is riskiest and only for broken guts.
- Work with a dietitian to build a meal plan and treat depression, food insecurity, or other reasons the person stopped eating → Fixes the human and social reasons the person ran out of food or stopped wanting to eat. Prevents malnutrition from happening again after discharge.
- Add light resistance exercise once eating is steady and calories are coming in reliably → Signals muscles to rebuild using the new protein and calories coming in. Speeds recovery of strength, balance, and ability to do daily tasks.

Medications

Oral multivitamin with minerals · Micronutrient supplement

Replaces vitamins and minerals the body has run out of during long stretches of not eating enough. Think of it like refilling empty shelves in a warehouse — the body needs dozens of tiny helpers (vitamins like B, C, D, and minerals like zinc and iron) to run every job, from healing wounds to making energy. When these run low, organs slow down or break. A multivitamin tops them back up so cells can work normally again.

1. You swallow the tablet; it dissolves in the stomach and small intestine.
2. The intestine wall absorbs each vitamin and mineral into the bloodstream.
3. Blood carries them to the liver, which stores fat-soluble vitamins (A, D, E, K) and activates others (like folate and B12).
4. Cells all over the body pick up these micronutrients and plug them into enzymes — the tiny machines that run chemical reactions.
5. With the right vitamins and minerals back in place, cells can make energy, build new proteins, heal wounds, and keep the immune system strong.

SAFETY WATCH

Start at half dose in severe malnutrition, then go to full dose after a few days, to avoid overloading weak kidneys. · Iron can constipate and upset the stomach; take with food if that happens. · Too much vitamin A or D (from taking multiple supplements at once) can harm the liver or kidneys — stick to one multivitamin unless the doctor orders extra.

Thiamine (vitamin B1) · Water-soluble B vitamin

Replaces thiamine, a vitamin the brain and heart need to turn sugar into energy. When someone has been starving or living on alcohol with almost no food, thiamine runs out fast. Without it, brain cells (especially in the thalamus and mammillary bodies, deep memory and coordination centers) and heart muscle cells cannot burn glucose for fuel — like trying to start a car with no spark plugs. Giving thiamine back lets those cells make energy again and prevents permanent brain damage.

1. You give thiamine by mouth (pill) or IV (into a vein) if the gut is not absorbing well.
2. Blood carries thiamine to cells all over the body.
3. Inside each cell, thiamine is turned into thiamine pyrophosphate (TPP), the active form.
4. TPP plugs into enzymes in the mitochondria (the cell's power plant) that break down glucose step by step.
5. With TPP in place, the cell can finish burning glucose and make ATP (the energy currency cells use to do their work).
6. Brain and heart cells get the energy they need, so confusion clears, heart function steadies, and risk of permanent damage drops.

SAFETY WATCH

ALWAYS give thiamine BEFORE you give IV dextrose (sugar water) in a starved or alcoholic patient — dextrose without thiamine can trigger sudden, severe brain damage (Wernicke encephalopathy). · Very rare allergic reactions can happen with IV thiamine; watch for rash, throat swelling, or trouble breathing in the first few minutes. · Oral thiamine is extremely safe with almost no side effects.

Phosphate supplement (oral sodium phosphate or potassium phosphate, or IV sodium phosphate) · Electrolyte replacement

Replaces phosphate, a mineral that is the backbone of ATP (the energy molecule every cell uses). When someone starts eating again after long starvation, insulin rises and shoves glucose AND phosphate into cells to rebuild. If blood phosphate is already low, it can crash dangerously (refeeding hypophosphatemia), and cells cannot make ATP — the heart, lungs, and muscles

stop working, and red blood cells fall apart. Giving phosphate back keeps blood levels safe so cells can make energy without crashing.

1. You give phosphate by mouth (tablet or liquid) or IV if levels are critically low or the gut is not working.
2. The gut absorbs oral phosphate into the blood, or IV phosphate goes straight into circulation.
3. Kidneys adjust how much phosphate they keep or throw away to match what the body needs.
4. Cells pull phosphate in and attach it to ADP to make ATP, the fuel for every cellular job.
5. Phosphate also gets woven into DNA, RNA, and the fatty layers of cell membranes, so cells can divide and repair.
6. Blood phosphate stays in the safe range, preventing muscle weakness, confusion, heart failure, and red blood cell breakdown.

SAFETY WATCH

Check blood phosphate, calcium, and kidney function before and during treatment — phosphate can bind calcium and cause dangerous drops in blood calcium (leading to muscle spasms or seizures). · Give IV phosphate slowly over hours; fast infusion can cause sudden low calcium or deposit calcium-phosphate crystals in tissues. · Oral phosphate can cause diarrhea — split the dose through the day and take with food. · Do NOT give phosphate if kidneys are failing (high creatinine) unless closely monitored — it can build up and cause harm.

Magnesium supplement (oral magnesium oxide or citrate, or IV magnesium sulfate) · Electrolyte replacement

Replaces magnesium, a mineral that steadies the heart's rhythm and helps muscles relax after they contract. Magnesium also activates enzymes that make ATP and build protein. In starvation, magnesium leaks out of cells, and when refeeding starts, it rushes back in — blood levels can drop dangerously (refeeding low magnesium (hypomagnesemia)), triggering dangerous heart rhythms, muscle cramps, and seizures. Giving magnesium back keeps blood and cell levels safe during the refeed.

1. You give magnesium by mouth (capsule, tablet, or liquid) or IV if blood levels are very low or the gut is not absorbing.
2. The small intestine absorbs oral magnesium into the blood; kidneys control how much to keep or throw away.
3. Magnesium enters cells and binds to enzymes, switching them on so they can make energy, build protein, and copy genes.

4. In heart and muscle cells, magnesium blocks some calcium channels and helps the cell reset after firing, preventing overexcitation and dangerous rhythms.
5. Blood magnesium stays in the safe zone, preventing arrhythmias, cramps, tremors, and seizures during refeeding.

SAFETY WATCH

Check blood magnesium, potassium, calcium, and kidney function before and during treatment — low magnesium often travels with low potassium and calcium, and all three may need replacing. · Oral magnesium can cause diarrhea (especially magnesium citrate and oxide); lower the dose or switch to magnesium glycinate if this happens. · Give IV magnesium slowly; fast infusion can drop blood pressure, slow the heart, or stop breathing. · Use caution if kidneys are failing — magnesium can build up and cause muscle weakness, low blood pressure, or even cardiac arrest.

Potassium supplement (oral potassium chloride, or IV potassium chloride) · Electrolyte replacement

Replaces potassium, the main mineral inside cells that keeps the heart beating steadily and muscles contracting normally. In starvation, potassium leaks out of cells, and total body stores drop even if blood tests look okay. When refeeding starts, insulin drives potassium (and glucose) back into cells, and blood potassium can crash (refeeding low potassium (hypokalemia)), causing dangerous heart rhythms, muscle weakness, and paralysis. Giving potassium back keeps blood levels safe and cells working.

1. You give potassium by mouth (tablet or liquid) or IV if blood levels are dangerously low or the person cannot swallow.
2. The gut absorbs oral potassium into the blood; kidneys adjust how much to keep or throw away.
3. Cells pull potassium in (driven by the sodium-potassium pump, which trades three sodium out for two potassium in).
4. Inside the cell, potassium keeps the electrical charge stable so nerve and muscle cells can fire and reset properly.
5. In the heart, the right potassium balance keeps the rhythm steady and prevents chaotic beats (arrhythmias).
6. Blood potassium stays in the safe range, preventing weakness, paralysis, and life-threatening heart rhythms.

SAFETY WATCH

Check blood potassium and kidney function (creatinine) before and during treatment — if kidneys are failing, potassium can build up and stop the heart. · NEVER give IV potassium fast or as a bolus — it must be diluted and infused slowly (usually no faster than 10–20 mEq per hour through a large vein) or it can cause cardiac arrest. · Oral potassium can irritate the stomach; take with food and plenty of water. · Watch for high potassium (hyperkalemia) if you are also giving potassium-sparing diuretics, ACE inhibitors, or ARBs — these drugs make kidneys hold onto potassium and can push levels too high.

Zinc supplement (oral zinc sulfate or zinc gluconate) · Trace mineral supplement

Replaces zinc, a trace mineral that over 300 enzymes need to build proteins, copy DNA, heal wounds, and keep the immune system sharp. Malnutrition depletes zinc stores, slowing wound healing, weakening immunity (more infections), and damaging taste and smell. Giving zinc back helps cells repair tissue, fight infection, and recover normal function.

1. You swallow the zinc tablet; the small intestine absorbs it into the blood.
2. Blood carries zinc to the liver and throughout the body.
3. Cells pick up zinc and load it into enzymes (called metalloproteins) that do jobs like copying DNA, making collagen (the scaffold of skin and connective tissue), and activating immune cells.
4. In wounds, zinc-powered enzymes speed up tissue repair and close the injury.
5. In immune cells, zinc helps them recognize and kill bacteria and viruses.
6. Taste and smell receptors use zinc to send signals to the brain, so food tastes and smells normal again.

SAFETY WATCH

Take zinc with food to avoid stomach upset and nausea. · Do NOT take more than 40 mg of elemental zinc per day long-term — high doses can block copper absorption, leading to anemia and nerve damage. · If you are also taking iron or calcium supplements, space them a few hours apart from zinc — they compete for absorption. · Long-term high-dose zinc can weaken the immune system (the opposite of the goal) and lower HDL (good cholesterol).

Red flags

- Sudden, large weight loss (more than 10 percent of body weight in 3–6 months) — the body is burning through reserves too fast and may soon fail to keep vital organs working

- Swelling in the belly or legs that keeps getting worse — a sign that the liver or heart may be struggling because protein levels are critically low
- Confusion, severe weakness, or inability to get out of bed — the brain and muscles are starving and shutting down; this is a medical emergency
- Repeated infections or wounds that will not heal — the immune system is too weak to fight off germs, and the body cannot repair itself

Nursing priorities

1. Check labs for phosphate, magnesium, potassium, and glucose before starting any feeding and monitor daily for three to five days — Refeeding syndrome (electrolyte shifts when malnourished cells start taking in glucose again) can drop phosphate below 2.5 and cause respiratory failure, heart arrhythmias (irregular heartbeat), and seizures within 72 hours of starting nutrition
2. Give thiamine 100 to 300 milligrams IV or by mouth, plus multivitamin with folate and other B vitamins, before or with the first feeding — Thiamine stores run out after three weeks of poor nutrition and giving carbohydrates without thiamine uses up the last bit in the body, triggering Wernicke encephalopathy (confusion, eye movement problems, walking trouble) or lactic acidosis (acid from oxygen-starved tissues) (too much acid in the blood)
3. Start nutrition at 50 percent of estimated calorie needs (usually 10 to 20 calories per kilogram per day) and increase slowly over three to five days if labs stay stable — Starting full feeding too fast in a starved body pulls phosphate and potassium into cells faster than we can replace them, causing refeeding syndrome; slow advancement lets us catch and fix electrolyte drops before dangerous levels happen
4. Weigh the patient daily at the same time with the same scale and measure intake and output every shift — Sudden weight gain over one to two kilograms in 24 hours means fluid overload (too much IV fluid or the body holding water) not muscle gain, which can cause heart failure in a malnourished heart; tracking intake shows if they meet nutrition goals
5. Replace phosphate, magnesium, and potassium aggressively per protocol when levels drop below normal even if the patient has no symptoms — Electrolyte replacement must stay ahead of refeeding shifts because waiting for symptoms like muscle weakness or arrhythmias means dangerous levels already happened; phosphate under 1.5 can stop the diaphragm (breathing muscle) from working
6. Sit the patient upright at 30 to 90 degrees for all meals and tube feedings and keep head elevated for 30 minutes after eating — Upright position uses gravity to keep food and formula in the stomach and prevents aspiration pneumonia (stomach contents going backward into the lungs), which is more likely in weak malnourished patients with poor cough strength

7. Coordinate with speech therapy for swallow evaluation and dietitian for calorie goals and protein needs (usually 1.2 to 1.5 grams per kilogram per day) — The safest feeding route (mouth, NG tube, or IV) depends on swallow function, and accurate calorie prescription prevents underfeeding (malnutrition continues) or overfeeding (refeeding syndrome risk increases); dietitians calculate needs based on weight, illness, and lab values
8. Monitor for swelling (edema) (swelling) in ankles and legs, check lung sounds every shift, and report new shortness of breath immediately — Malnourished patients have low albumin (protein that holds fluid in blood vessels) so IV fluids leak into tissues causing swelling (edema) and pulmonary edema (fluid flooding the lungs) (fluid in lungs); the starved heart is also weak and cannot handle extra fluid volume

Sources

- ASPEN (American Society for Parenteral and Enteral Nutrition) consensus statement on malnutrition 2020
- WHO (World Health Organization) guidelines on malnutrition management
- Academy of Nutrition and Dietetics malnutrition identification standards
- Cochrane reviews on nutritional interventions

Last reviewed: 2026-07-07