

Aspiration Pneumonia and Pneumonitis

A plain-English guide for you and your family

WHAT IS HAPPENING

Normally when you swallow, a small trapdoor at the top of your windpipe—the glottis, or voice box opening—slams shut to keep food and liquid out of your lungs. At the same instant, a ring of muscle at the top of your food tube (the upper esophageal sphincter) relaxes and opens, so food slides down into your stomach, not your airway. Tiny hair-like sweepers called cilia line your airways and constantly push any stray crumbs or mucus upward, and your cough reflex kicks in if anything bigger gets through. This coordinated dance happens hundreds of times a day without you thinking about it. But when something breaks the system—you pass out, a stroke weakens your swallow muscles, medicine makes you too drowsy, or a breathing tube holds your voice box open—food, saliva, or stomach acid can drop straight into your lungs. If stomach acid (which is as strong as battery acid) hits the delicate lining of your air sacs (alveoli), it burns them within an hour or two, just like acid on your skin. Those burned air sacs leak fluid into the space where oxygen is supposed to cross into your blood, so you get short of breath, your oxygen level drops, and a chest X-ray lights up white—it looks exactly like pneumonia, but there is no germ yet. Fever and a high white blood cell count can appear within hours purely from the chemical burn and the body's alarm response, not from infection. If you start to feel better by 24 to 48 hours without antibiotics, it was just the burn (aspiration pneumonitis), and your lungs are healing on their own. But if you are still sick or getting worse at 48 to 72 hours—fever persists, breathing gets harder, the white shadow on X-ray spreads—bacteria from your mouth have moved into the damaged, fluid-filled tissue and started multiplying. Now you have a real infection (aspiration pneumonia) that needs antibiotics. Every strange finding—the cough, the low oxygen, the white spot on the X-ray, the fever—points back to that one broken moment when the trapdoor did not close. Your body is working hard to seal the leak, clear the fluid, kill any germs, and heal the lining. None of it is random; every step follows logically from that upstream break.

What you might feel

- Witnessed aspiration event or coughing and choking during eating or tube feeding

- Acute low oxygen in the blood (hypoxemia) (low blood oxygen), often with oxygen saturation dropping below 90% on room air
- Fast breathing (Tachypnea) (breathing faster than 20 breaths per minute)
- New infiltrate (white shadowing) on chest X-ray in a dependent lung zone, classically the right lower lobe
- Fever (temperature above 100.4°F or 38°C) within hours of aspiration
- Productive cough with pus-filled (purulent) (thick, yellow or green) coughed-up mucus (sputum), appearing after 48 hours
- A fast heart rate (Tachycardia) (heart rate over 100 beats per minute)
- Pleuritic chest pain (sharp pain that worsens with breathing or coughing)
- Crackles (fine popping or crackling sounds) heard through a stethoscope over the affected lung
- Confusion or altered mental status in elderly patients

Call the doctor right away if...

- Hypoxemic respiratory failure requiring high-flow oxygen or mechanical ventilation
- Persistent or worsening fever and infiltrate at 48 to 72 hours despite supportive care
- Coughing up blood (Hemoptysis) (coughing up blood), which may signal necrotizing pneumonia (tissue death in the lung) or lung abscess
- Altered mental status or severely dulled alertness (obtundation) (severely decreased alertness), raising concern for sepsis or brain injury from low oxygen
- Septic shock (low blood pressure, cool extremities, elevated lactate) from secondary bacterial pneumonia

What the care team will do

- Apply oxygen immediately by nasal cannula, simple face mask, or high-flow nasal cannula to keep oxygen saturation at 92% or higher; call the provider urgently if the patient needs more than 6 liters per minute or saturation stays below 90%.
- Elevate the head of the bed to 30 to 45 degrees and keep the patient upright during and for 30 minutes after all meals or tube feedings.
- Suction the mouth and oropharynx (back of the throat) gently if you see pooled saliva or secretions; avoid deep suctioning unless the airway is clearly obstructed.
- Keep the patient NPO (nothing by mouth) until a provider evaluates swallowing safety; post an NPO sign at the bedside and in the medical record.

- Monitor respiratory rate, work of breathing, and oxygen saturation every 2 to 4 hours; watch for accessory muscle use (neck and belly muscles working hard), nasal flaring, or confusion.
- Check temperature every 4 hours and report fever above 100.4°F or 38°C, especially if it persists or appears 24 to 48 hours after aspiration.
- Request a speech-language pathology consult for bedside swallow evaluation or videofluoroscopic swallow study before restarting oral intake.
- Review the medication list and hold or reduce doses of sedatives, opioids, or anticholinergic drugs (medicines that dry secretions and slow the gut) that impair alertness or swallowing.

Medicines you may be given — and why

Aspiration Pneumonitis: Supportive Care (Oxygen, Suctioning, Airway Protection)

Aspiration pneumonitis happens when stomach acid splashes into the lungs and burns the delicate air sacs (alveoli). It's like pouring bleach on skin—the acid causes instant swelling and fluid leak, but no germs are involved yet. The body needs time (2–3 days) to heal the burned tissue. We help by giving extra oxygen so the blood gets enough despite injured lung tissue, suctioning out liquid and food bits stuck in the airways, and keeping the person's head up or protecting the airway with a breathing tube so no more stomach contents get in. Antibiotics do NOT help right away because this is chemical injury, not infection. Starting antibiotics too soon just breeds resistant germs. If a true bacterial pneumonia (infection) starts 2–3 days later, we THEN add antibiotics like ampicillin-sulbactam (kills mouth bacteria and common pneumonia germs like *Streptococcus pneumoniae*) or piperacillin-tazobactam (adds coverage for tougher hospital germs like *Pseudomonas*). Steroids are NOT used—they don't reduce the acid burn and may raise infection risk.

Where this information comes from

- IDSA/ATS 2019 Community-Acquired Pneumonia Guideline
- ATS/IDSA 2016 Hospital-Acquired and Ventilator-Associated Pneumonia Guideline
- ARDS Definition Task Force (Berlin Definition) 2012
- Cochrane systematic reviews on aspiration pneumonia

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