

[Disease and Symptom]

Infectious

- Flu
 - high fever
 - chills
 - cough / sore throat
 - runny nose
 - muscle/body aches
 - headache
 - **treatment**
 - rest
 - hydration
 - fever reduces / pain relievers → tylenol/ibuprofen
 - gargle with salt water for sore throat / saline nasal drops for congestion
 - oseltamivir (tamiflu)
 - antibiotics are not effective → can increase the risk of antibiotic resistance
- Covid
 - fever
 - cough
 - shortness of breath
 - fatigue
 - muscle aches
 - headache
 - loss of taste or smell
 - sore throat
 - congestion
 - nausea
 - **treatment**
 - antibiotics are not effective
- Common cold
 - a sore or scratchy throat
 - nasal congestion
 - runny nose
 - sneezing
 - coughing
 - treatment
 - rest
 - hydration
 - over-the-counter medications: acetaminophen, ibuprofen, decongestants
- Norovirus
 - violent vomiting
 - diarrhea
 - nausea

- abdominal cramps
- treatment
 - prevent dehydration (water, electrolyte drinks)
 - avoid caffeine, alcohol
 - bland diet
 - medication: anti-diarrheal medicine (ex. Imodium), pain relievers (acetaminophen) → BUT consult a doctor first
 - isolate from others for at least 72 hrs after symptoms stop
- sinusitis
 - thick, discolored nasal discharge
 - facial pain or pressure (especially when bending over)
 - nasal congestion
 - headache
 - postnasal drip
 - treatment
 - rest
 - hydration
 - medication: pain relievers (ibuprofen, acetaminophen), nasal decongestant sprays (ex. Afrin, Neo-Synephrine), saline nasal irrigation

Gastrointestinal

- Indigestion
 - discomfort
 - pain, or a burning sensation in the upper abdomen
 - (often accompanied by bloating, burping, and early fullness during meals)
 - treatment:
 - herbal aids: ginger tea, chamomile tea, peppermint oil
 - medication
 - antacids → neutralize existing stomach acid (tums, rolaids)
 - H2 blockers (famotidine/pepcid AC, cimetidine/tagamet HB) → reduce acid production
 - gas relief (mylanta, gas-X) → for bloating
- Gastritis
 - burning pain in the upper abdomen
 - nausea
 - vomiting
 - a feeling of fullness
 - indigestion
 - treatment:
 - medication
 - proton pump inhibitors → reduce acid production (common options. omeprazole, esomeprazole, lansoprazole)
 - H2 blockers → lower stomach acid production (eg. famotidine, cimetidine)
 - antacids → neutralize existing stomach acid (eg. magnesium hydroxide, aluminum hydroxide)

- Constipation
 - having fewer than three bowel movements a week
 - hard/dry/lumpy stools
 - straining, pain
 - bloating
 - stomach cramps
 - a feeling of incomplete emptying
 - often accompanied by abdominal discomfort and sometimes gas or nausea
 - treatment
 - increase fiber (beans, fruits, vegetables, whole grains) & fluids
 - medication
 - bulk-forming: fiber supplements like psyllium husk
 - stool softeners: eases stool passage
 - osmotics/stimulants: draws water into the bowel / stimulates nerves for movement
 - exercise regularly
- GERD (gastroesophageal reflux disease)
 - A burning sensation in the chest
 - Heartburn usually happens after eating and might be worse at night or while lying down.
 - Backwash of food or sour liquid in the throat.
 - Upper belly or chest pain.
 - Trouble swallowing, called dysphagia.
 - Sensation of a lump in the throat.
 - If you have nighttime acid reflux, you also might experience:
 - An ongoing cough.
 - Inflammation of the vocal cords, known as laryngitis.
 - New or worsening asthma.
 - treatment
 - eat high-fiber foods (oatmeal, whole grains, veggies), alkaline foods (melons, bananas, nuts), and watery foods (cucumbers, broth)
 - avoid eating 3hr before bed
 - elevate your head w/ pillows or sleep on your left side
 - medications:
 - antacids → neutralize stomach acid (tums, rolaids) (eg. calcium carbonate)
 - H2 blockers → reduce acid production for longer relief than antacids (Pepcid AC/Famotidine, Tagamet HB)
 - proton pump inhibitors → strongest acid blockers (take on an empty stomach) (ex. prilosec/omeprazole, nexium/esomeprazole)

Allergy/skin

- Allergic reaction
 - hives
 - itchy eyes

- nasal congestion
 - life-threatening anaphylaxis
 - characterized by throat tightening
 - wheezing
 - rapid blood pressure drop
 - treatment:
 - medication:
 - emergency → EpiPen
 - mild ~ moderate
 - antihistamines (ex. Zyrtec, Allegra, Benadryl) for itching, hives, sneezing
 - nasal sprays/decongestants (steroid sprays like Flonase or saline rinses)
 - skin creams (hydrocortisone cream or cold compresses) → help soothe rashes & hives
- Contact dermatitis
 - an itchy
 - red rash
 - dry or cracked skin
 - blisters with potential oozing
 - burning
 - swelling
 - treatment
 - medication:
 - steroid creams, ointments, lotions → reduce inflammation
 - itch relief: oral antihistamines, calamine lotion, cool & wet compresses
 - skin care: wash the skin with mild, fragrance-free soap after exposure, use cool baths (sometimes with oatmeal), and apply fragrance-free moisturizers → restore the skin barrier
- Urticaria
 - sudden appearance of itchy
 - raised, red or skin-colored welts (wheals) that blanch (turn pale in the center) when pressed
 - **treatment:**
 1. Immediate: Oral antihistamines (cetirizine, loratadine)
 2. Severe: Short course oral steroids
- eczema
 - dry, sensitive patches
 - intense itching, and redness
 - common signs include flaky, scaly, or thick, leathery skin
 - sometimes with weeping or crusting
 - non-contagious, often flares periodically, and commonly appears on the face, elbows, knees, hands, and feet
 - **treatment:**
 1. Immediate: Topical corticosteroids (hydrocortisone, triamcinolone)
 2. Moderate-severe: Topical tacrolimus, Oral steroids, Dupilumab

Neurological/sleep

- Insomnia
 - persistent trouble falling asleep
 - waking up frequently during the night
 - waking up too early
 - not feeling refreshed upon waking
 - **treatment:** Melatonin, Zolpidem (Ambien), Eszopiclone, Trazodone
- migraine
 - moderate-to-severe throbbing head pain
 - often on one side
 - nausea
 - vomiting
 - extreme sensitivity to light, sound, or smell
 - **treatment:**
 1. Acute: NSAIDs, Triptans (sumatriptan), Antiemetics (metoclopramide)
 2. Severe: IV ketorolac, IV magnesium (selected cases)
 3. Prevention: Beta-blockers, Topiramate, CGRP inhibitors

Metabolic/chronic

- Diabetes
 - Feeling more thirsty than usual.
 - Urinating often.
 - Losing weight without trying.
 - Presence of ketones in the urine. Ketones are a byproduct of the breakdown of muscle and fat that happens when there's not enough available insulin.
 - Feeling tired and weak.
 - Feeling irritable or having other mood changes.
 - Having blurry vision.
 - Having slow-healing sores.
 - Getting a lot of infections, such as gum, skin and vaginal infections
 - **treatment:**
 1. Type 1: insulin
 2. Type 2: metformin (first-line), GLP-1 agonists (semaglutide), SGLT2 inhibitors (empagliflozin), insulin if uncontrolled
 3. DKA: IV insulin, IV fluids, electrolyte correction
- High Blood Pressure
 - headaches
 - shortness of breath
 - nosebleeds
 - dizziness
 - vision changes
 - chest pain
 - confusion
 - often no symptoms
 - **treatment:**
 1. ACE inhibitors (lisinopril)
 2. ARBs (losartan)
 3. Thiazide diuretics (HCTZ)

4. Calcium channel blockers (amlodipine)

- hypoglycemia
 - Looking pale
 - Shakiness
 - Sweating
 - Headache
 - Hunger or nausea
 - An irregular or fast heartbeat
 - Fatigue
 - Irritability or anxiety
 - Difficulty concentrating
 - Dizziness or lightheadedness
 - Tingling or numbness of the lips, tongue or cheek
 - when severe:
 - Confusion, unusual behavior or both, such as the inability to complete routine tasks
 - Loss of coordination
 - Slurred speech
 - Blurry vision or tunnel vision
 - Nightmares, if asleep
 - Unresponsiveness (loss of consciousness)
 - Seizures
 - **treatment:**
 1. If conscious → 15-20g glucose (juice, glucose tablets)
 2. If unconscious → Glucagon injection, IV D50 (50% dextrose)
- hyperlipidemia
 - chest pain (angina)
 - shortness of breath
 - dizziness
 - leg pain
 - **treatment:** Statins (first-line): Atorvastatin, Rosuvastatin / Ezetimibe / PCSK9 inhibitors (evolocumab) / Fibrates (for high triglycerides)

Musculoskeletal

- Muscle Inflammation
 - progressive muscle weakness
 - pain
 - stiffness
 - fatigue
 - **treatment:** NSAIDs
- back pain
 - dull, aching sensations to sharp, stabbing, or shooting pains that may radiate down the legs
 - often accompanied by stiffness, muscle spasms, and decreased mobility
 - **treatment:** NSAIDs
- joint inflammation
 - pain
 - stiffness

- swelling
- warmth in the affected area
- often with redness and reduced range of motion
- **treatment**
 1. NSAIDs (Ibuprofen, Naproxen, Diclofenac)
 2. Severe flare → oral or intra-articular corticosteroids
 3. chronic → DMARDs (e.g. methotrexate)

[Specific Condition]

Food Poisoning

- nausea
- vomiting
- diarrhea (sometimes bloody)
- stomach cramps
- fever
- **treatment**
 1. Oral rehydration solution (ORS)
 2. Medication:
 - a. Ondansetron (Zofran) - nausea/vomiting
 - b. Loperamide (Imodium) - diarrhea (NOT if bloody diarrhea or high fever)
 - c. Bismuth subsalicylate (Pepto-Bismol)
 - d. Severe cases → get hospitalized, IV fluids
 - e. Suspected bacterial cause → antibiotics (e.g. azithromycin, ciprofloxacin depending on organism)

Orthostatic Hypotension

- dizziness
- lightheadedness
- blurred vision
- weakness
- fainting (syncope)
- → immediately after standing
- **treatment**
 1. Sit or lie down immediately
 2. Elevate legs
 3. Hydrate
 4. Move slowly when changing positions

Vasovagal Syncope

- sudden dizziness
- lightheadedness
- nausea
- pale skin
- cold/clammy sweat

- tunnel vision before or during a faint
- **treatment**
 1. Lie down immediately
 2. Elevate your legs
 3. If you can't sit down → sit and put head between knees
 4. Loosen tight clothing
 5. Cool down

After fainting:

1. Stay lying down for several minutes
2. Sit up slowly
3. Stand gradually
4. Drink water
5. Avoid driving immediately afterward

[Emergency & First Aid Guide]

1st degree burns, 2nd, 3rd

- 1st degree
 - superficial, red, no blisters
 - treatment: Cool water, aloe vera, over-the-counter pain relief
- 2nd degree
 - partial-thickness, blisters, red/white, painful
 - treatment: Clean and cover; do not pop blisters. May take 2–3 weeks to heal
- 3rd degree
 - full-thickness, charred/white, numb
 - treatment: Requires immediate emergency medical attention (Call 911)
- medical help if:
 - Burns larger than 3 inches.
 - Burns on face, hands, feet, groin, or major joints.
 - Burns that are deep, charred, or white/leathery.
 - Difficulty breathing.

How to treat cuts

- first-aid:
 - **Stop the Bleeding**: Apply firm, direct pressure with a clean cloth or bandage for several minutes. If possible, elevate the injured area above the heart.
 - **Clean the Wound**: Rinse the cut with clear, running water for several minutes to remove dirt and debris. Clean the surrounding area with soap, but avoid getting soap directly into the wound.
 - **Clean Out Debris**: Use tweezers cleaned with alcohol to remove any remaining debris.
 - **Apply Antibiotic Ointment**: Apply a thin layer of antibiotic cream or ointment (like Neosporin) or petroleum jelly to keep the surface moist and help prevent infection.
 - **Cover the Wound**: Cover the cut with a sterile bandage, gauze, or adhesive strip to keep it clean and protected

- follow up care:
 - Change Bandages: Replace the bandage daily, or immediately if it becomes wet or dirty.
 - Monitor for Infection: Watch for signs of infection, such as increased redness, pain, swelling, warmth, or pus.
 - Manage Pain: Use over-the-counter pain relievers if necessary
- medical help if:
 - The bleeding does not stop after 5–10 minutes of direct pressure.
 - The wound is deep, long, or caused by a dirty/rusty object.
 - The edges of the wound are jagged or gaping.
 - Signs of infection develop, such as red streaks, fever, or pus.
 - The injury involves numbness or inability to move a body part.
 - A tetanus shot is needed
- Do not:
 - Do not use hydrogen peroxide or iodine, as they can damage tissue.
 - Do not blow on the wound.
 - Do not remove deeply embedded objects; seek emergency care instead

[Additional Function]

Options available in the US for Korean medication + prices + whether prescription is required

- 까스활명수 등 소화제 (Gas Hwalmungsoo) / 개비스콘

Ingredients: Herbal digestive enzymes and stomach-soothing herbs (often including licorice, angelica, ginger, citrus).

US equivalent: There's no exact herbal formula brand in the U.S., but for **gas relief**:

- **Simethicone** products (e.g., **Gas-X, Mylanta Gas Minis**)
- **Digestive enzymes** (e.g., **Beano, Lactaid** depending on symptoms)
- **Aluminum hydroxide, Magnesium hydroxide** (pepto bismol, mylanta) → 걸 타입
- 소염진통제 (Anti-inflammatory / Pain relievers) → 이부프로펜 (Ibuprofen)

US equivalents:

- **Ibuprofen:** Advil, Motrin
- **Naproxen:** Aleve
- 근이완제 (Muscle Relaxants) → Most require prescription
 - **US equivalents:**
 - Methocarbamol: Robaxin
 - Cyclobenzaprine: Flexeril
 - Tizanidine: Zanaflex
- 마데카솔 (Madecassol): Centella asiatica-based wound healing
 - US alternative: Cica/Centella creams (e.g. Cicaplast Baume B5, PurCellin Oil)
 - Basic wound care (recommended): Neosporin / Polysporin

- 후시딘: Fusidic acid not common in US
 - Closest: Bacitracin, Neosporin
- 알보칠: Antiseptic for oral/gum issues
 - US alternative: Chlorhexidine gluconate rinse (Rx or OTC mouthwash), Peroxyl (hydrogen peroxide rinse)
- 오라메디: Oral antiseptic/throat spray
 - US alternative: Chloraseptic spray, Cepacol spray/lozenges
- 용각산: Korean antacid and digestive aid
 - US equivalents: Antacids: Tums, Rolaids, Acid relief: Pepcid AC, Zantac 360mg (famotidine or ranitidine)
- 멀미약: Motion sickness
 - US: Dramamine (dimenhydrinate), Bonine (meclizine), Motion sickness bands (sea-bands)
- 탁센: Naproxen
- 걸포스 (CaCO₃ + MgOH)
 - Tums, Maalox
- 버물리: Topical analgesic rub (menthol, camphor)
 - **US equivalents:**
 - Biofreeze, Icy Hot, Bengay, Tiger Balm
- 생리통 약
 - 이지엔 6, 이브, 프로 등등
 - US: Ibuprofen: Advil, Motrin, acetaminophen: Tylenol, period pain: Midol, naproxen: Aleve
- 종합감기약/판콜 → 세분화해서
 - 콜대원
 - 코푸시럽
 - US: DayQuil / NyQuil, Alka-Seltzer Plus, Mucinex Fast Max Cold & Flu, Delsym, Mucinex DM, **Robitussin**
- 인공눈물 → 렌즈 끼고도 사용 가능한거
 - should be Preservative-free
 - Refresh Optive Sensitive / Mega-3: 보존제가 없어 렌즈 착용 중 건조함 해소에 탁월함.
 - Systane Hydration PF (Preservative-Free): 높은 보습력으로 렌즈 착용자에게 권장.
 - Blink Contacts Lubricating Eye Drops: 렌즈를 끈 상태에서 점안하도록 설계된 제품.
- Redness relief eye drops, such as Lumify, Visine, and Clear Eyes
- 파스 (Pain patches)
 - US equivalents: Salonpas, Icy Hot patch, Voltaren Arthritis Pain Gel/Patch
- 부루펜 → Ibuprofen. Advil, Motrin
- 게보린 → Tylenol or other OTC cold/flu medication
 - 엑세드린 (Excedrin): 아세트아미노펜+아스피린+카페인 조합으로 게보린과 가장 유사한 성분 구성을 가짐.
 - 타이레놀 (Tylenol Extra Strength): 아세트아미노펜 단일 성분으로 두통, 해열에 효과적.
 - 애드빌 (Advil): 이부프로펜 성분으로 소염 진통 작용이 강함.
 - 알리브 (Aleve): 나프록센 성분으로 약효 지속 시간이 길.
- 지르텍 → 미국 지르텍. (Zyrtec)

- 빨간 약
 - Povidone-iodine
- 메디폼 / 듀오덤
 - hydrocolloid / foam dressing
 - Band-Aid Hydrocolloid Blister Pads
 - DuoDERM also available OTC
 - Compeed Blister Cushions

같이 먹으면 안되는 약, 음식 + 도움이 될 수 있는 영양제

→ for

- 항생제 + 유제품
 - 칼슘이 약이랑 결합 → 흡수 (X)
- 감기약 + 술 → acetaminophen. Ibuprofen is ok in terms of liver health, but bad for stomach
 - 간 독성 증가
- 이부프로펜 + 공복
 - 위 점막을 자극하여 속쓰림, 위장 장애, 심하면 위장 출혈을 유발
- 혈압약 + 자동
 - 자동이 간 효소 억제 → 약 분해 (X), 혈중 농도 상승, 부작용 위험 증가
- 철분 + 카페인/탄닌 (커피, 녹차, 와인)
 - 비타민 C량 섭취하면 흡수 증가 → 좋음 !
- 항응고제(와파린) + 비타민K 많은 음식(시금치, 케일)
 - 약효 감소
 - 혈전 위험
- 위장약 + 다른 약
 - 흡수 방해
- 수면제 + 감기약
 - 과다 졸림
- 항우울제 + 세인트존스워트
 - 심박수 증가
 - 세로토닌 과다
 - 심하면 발작
- 피임약 + 담배
 - 혈전 위험 증가

같이 먹으면 도움이 될 수 있는 영양제 조합

- 철분 + 비타민 C → 흡수 증가
- 비타민 D + 지방이 있는 음식 → 흡수 증가
- 마그네슘 → 수면에 도움
- 프로바이오틱스 + 항생제 → 장 보호

같이 먹으면 안되는 영양제 조합

- 철분 + 칼슘
 - 철분은 공복에 좋음
- 아연 + 철분
 - 흡수 통로가 비슷해서 둘 다 흡수율 감소
- 마그네슘 + 칼슘
 - 흡수 통로가 비슷해서 둘 다 흡수율 감소

- 오메가3 + 비타민 E
 - 혈액 응고 억제 → 멍이 잘 들거나 출혈 위험 증가

Medication that is banned in Korea / US

→ 통관 시 문제. (e.g. melatonin)

한국 → 미국

- 종합감기약이 흔하지만 미국은 증상별로 나눠져 있음
- 한국은 ibuprofen 400mg → 미국은 보통 200mg
- 까스활명수 같은 한방 + 약 → 미국은 제산제, 가스약으로 분리

미국 → 한국

- 멜라토닌
 - 한국에서는 처방 있어야함
- aleve (나프록센) 드럭 스토어 구매 가능 → 한국은 처방 필요 / 접근성 낮음
- 강한 기침 억제제 (Dextromethorphan 단일제) → 한국에서 일부 성분 제한

【프로그래밍 예시】

symptoms.json (dictionary)

eg:

```
{  
  "symptoms": [  
    {  
      "id": "sx_runny_nose",  
      "label_en": "Runny nose",  
      "label_ko": "콧물",  
      "synonyms_en": ["rhinorrhea", "nasal discharge"],  
      "synonyms_ko": ["콧물 나요", "콧물이 흐름"],  
      "category": "ENT"  
    },  
    {  
      "id": "sx_shortness_breath",  
      "label_en": "Shortness of breath",  
      "label_ko": "호흡곤란",  
      "synonyms_en": ["difficulty breathing", "dyspnea"],  
      "synonyms_ko": ["숨이 차요", "숨쉬기 힘들"],  
      "category": "RESP"  
    }  
  ]  
}
```

conditions.json (diagnose)

```
{  
  "conditions": [  
    {  
      "id": "cond_flu",  
      "label_en": "Influenza (Flu)",  
      "label_ko": "독감",  
      "symptom_weights": [  
        {"symptom_id": "sx_high_fever", "weight": 5},  
        {"symptom_id": "sx_chills", "weight": 4},  
        {"symptom_id": "sx_body_aches", "weight": 4},  
        {"symptom_id": "sx_cough", "weight": 3},  
        {"symptom_id": "sx_sore_throat", "weight": 2}  
      ],  
      "exclusion_red_flags": [  
        {  
          "rule_id": "rf_breathing_trouble",  
        }  
      ]  
    }  
  ]  
}
```

```

    "if_symptoms_any": ["sx_shortness_breath"],
    "recommendation": "ER / urgent evaluation"
  },
],
"care_pathway": {
  "default_level": "self_or_urgent_care",
  "where_to_go_us": ["pharmacy", "urgent_care", "primary_care"],
  "notes_en": "Antivirals work best within 48 hours of symptom onset (doctor/urgent care)."
},
"otc_options_us": [
  {
    "goal": "Fever/pain",
    "active_ingredients": ["acetaminophen", "ibuprofen"],
    "example_brands": ["Tylenol", "Advil", "Motrin"]
  },
  {
    "goal": "Cough",
    "active_ingredients": ["dextromethorphan"],
    "example_brands": ["Delsym", "Robitussin DM"]
  }
]
}
}

```

korean_products.json (K-med → closest US equiv)

```

{
  "korean_products": [
    {
      "id": "kr_fucidin",
      "name_ko": "후시딘",
      "name_en": "Fucidin",
      "category": "topical_antibiotic",
      "active_ingredients": ["fusidic acid"],
      "us_status": {
        "availability": "not_approved_us",
        "note": "Fusidic acid is not FDA-approved/marketed in the US."
      },
      "us_alternatives": [
        {
          "active_ingredients": ["bacitracin"],
          "brands": ["Bacitracin Ointment (generic)"],
          "rx_required": false
        },
        {

```

```
        "active_ingredients": ["triple antibiotic (bacitracin/neomycin/polymyxin B)"],
        "brands": ["Neosporin (varies by product)"],
        "rx_required": false
    },
],
"cautions": [
    "Contact dermatitis is possible with topical antibiotics.",
    "If worsening redness, warmth, pus, fever → urgent care."
]
}
]
```