

The food on the plate is the answer.

Every high-yield food list a nursing student needs before the NGN NCLEX — eight nutrients, each split into what's high, what's low, and which patients need more or less.

PROTEIN

CALORIES

FAT

CARBOHYDRATES

SODIUM

POTASSIUM

CALCIUM

PHOSPHATE

Quick reference

Scan the table for the top sources, then jump to any nutrient below for the full food lists, clinical indications, and memory hooks. Use the nav bar to move between sections.

TOP SOURCES AT A GLANCE

NUTRIENT	HIGHEST IN	LOWEST IN
● Protein	Meats, Poultry, Fish / seafood	Fruits, Most vegetables, Refined grains
● Calories	Fats / oils, Nuts & butters, Avocado	Non-starchy veg, Broth soups, Fresh fruit
● Fat	Oils & spreads, Fried foods, Fatty meats	Lean protein, Egg whites, Nonfat dairy
● Carbohydrates	Breads / grains, Starches, Starchy veg	Proteins, Cheese, Non-starchy veg
● Sodium	Table / sea salt, Processed & canned, Cured / deli meats	Fresh fruit, Fresh / frozen veg, Fresh proteins
● Potassium	Banana group, Melons, Avocado	Fruits, Canned (drained), Veg
● Calcium	Dairy, Canned fish + bones, Tofu	Oxalate greens, Most grains/meat, (Restriction is rare)
● Phosphate	Dairy, Proteins, Nuts / seeds	Fresh fruit, Most veg, Refined grains

01

Protein

Builds & repairs tissue

▲ HIGH IN PROTEIN

Meats

beef, pork, lamb, veal

Poultry

chicken, turkey

Fish / seafood

tuna, salmon, cod, shrimp

Eggs

whole egg, egg white

Dairy

milk, cheese, Greek yogurt, cottage cheese

Legumes

lentils, chickpeas, black & kidney beans, edamame

Soy

tofu, tempeh, soy milk

Nuts / seeds

peanuts, almonds, peanut butter, pumpkin seeds

Grain

quinoa

▼ LOW IN PROTEIN

Fruits

apples, berries, grapes

Most vegetables

leafy greens, squash

Refined grains

white bread, pasta, rice

Fats / sugars

oils, butter, candy

INCREASE / GIVE MORE

- Wound healing & pressure injuries
- Burns
- Post-op recovery
- Pregnancy & lactation
- Growth (children/adolescents)
- Malnutrition, cachexia, cancer
- Trauma & sepsis

— RESTRICT / LIMIT

- Chronic kidney disease — pre-dialysis
- Hepatic encephalopathy / advanced liver failure
- Phenylketonuria (PKU) — limit phenylalanine, avoid aspartame

REMEMBER Dialysis flips it: protein is LOST in the dialysate, so dialysis patients need HIGH protein — even though pre-dialysis CKD is low protein.

- Complete proteins (animal, soy, quinoa) carry all essential amino acids; combine legumes + grains for vegetarians.
- Albumin & prealbumin are lab markers of protein/nutrition status.

02

Calories

Total energy intake

▲ HIGH IN CALORIES

Fats / oils

butter, margarine, olive & vegetable oil

Nuts & butters

peanut butter, almond butter, trail mix

Avocado

whole, guacamole

Dried fruit

raisins, dates, apricots

Full-fat dairy

whole milk, cream, cheese

Calorie boosters

granola, honey, gravy added to foods

▼ LOW IN CALORIES

Non-starchy veg

lettuce, cucumber, celery, greens

Broth soups

clear, broth-based

Fresh fruit

in moderation

Lean / light

egg whites, air-popped popcorn

INCREASE / GIVE MORE

- Burns (hypermetabolic state)
- Cancer / cachexia
- Cystic fibrosis (malabsorption)
- Failure to thrive
- COPD — small, frequent, calorie-dense meals
- Hyperthyroidism
- Severe malnutrition / refeeding (monitored)

— RESTRICT / LIMIT

- Obesity / overweight
- Metabolic syndrome
- Weight management for HTN, type 2 DM, osteoarthritis

REMEMBER When the body is burning fast — burns, cancer, CF, COPD, hyperthyroidism — feed it dense calories in small, frequent amounts.

- Calorie-dense ≠ large volume: add fats/PB to small portions when appetite is poor.
- Pair high-calorie with high-protein for healing, not empty sugar.

03

Fat

Dense energy; needs bile to digest

▲ HIGH IN FAT

Oils & spreads

butter, lard, margarine, mayonnaise

Fried foods

fried chicken, fries, doughnuts

Fatty meats

bacon, sausage, marbled/ground beef

Full-fat dairy

cream, ice cream, whole milk, cheese

Nuts / avocado

nuts, seeds, avocado

Egg yolk

yolk-heavy dishes

Extras

salad dressing, chocolate, pastries

▼ LOW IN FAT

Lean protein

skinless poultry, lean beef, white fish

Egg whites

no yolk

Nonfat dairy

skim milk, low-fat yogurt

Plants

fruits, vegetables, beans

Whole grains

oats, brown rice

INCREASE / GIVE MORE

- Cystic fibrosis — high-calorie/fat WITH pancreatic enzymes
- Adequate healthy fats for fat-soluble vitamin (A, D, E, K) absorption

— RESTRICT / LIMIT

- Gallbladder disease — cholecystitis, cholelithiasis
- After cholecystectomy (low fat while bile regulation recovers)
- Pancreatitis
- Cardiovascular disease / hyperlipidemia
- Malabsorption syndromes

REMEMBER No gallbladder, inflamed gallbladder, or inflamed pancreas → cut the fat. Fat triggers bile/enzyme release and pain.

- Separate saturated/trans (limit: fried, fatty meat, butter) from unsaturated heart-healthy fats (olive oil, fish, nuts, avocado).
- Dumping syndrome actually uses moderate fat to slow gastric emptying.

04

Carbohydrates

Primary fuel; simple vs. complex

▲ HIGH IN CARBOHYDRATES

Breads / grains

bread, bagels, tortillas, crackers

Starches

pasta, rice, noodles, oatmeal, cereal

Starchy veg

potatoes, corn, peas

Fruit & juice

fruit, fruit juice, smoothies

Sugars

candy, soda, syrup, honey, jam

Legumes

beans, lentils (also protein)

▼ LOW IN CARBOHYDRATES

Proteins

meat, poultry, fish, eggs

Cheese

hard & soft cheeses

Non-starchy veg

leafy greens, broccoli, peppers

Fats

nuts, oils, butter, avocado

INCREASE / GIVE MORE

- Hypoglycemia — Rule of 15: 15 g fast carb (4 oz juice, glucose tabs, regular soda), recheck in 15 min
- Endurance/energy needs; complex carbs for sustained fuel

— RESTRICT / LIMIT

- Diabetes — CONSISTENT carbohydrate (carb counting), favor complex/high-fiber, limit simple sugars
- Dumping syndrome — low simple sugar, high protein/fat, small frequent meals, fluids between meals
- Celiac disease — gluten-free carbs only (rice, corn, quinoa, potato); avoid wheat, barley, rye

REMEMBER Diabetes is CONSISTENT carbs, not zero carbs. Treat a low with FAST sugar; build meals on COMPLEX, high-fiber carbs.

- High fiber (whole grains, fruit, veg, legumes) → constipation, diverticulosis, diabetes, cholesterol.
- Low fiber / low residue → acute diverticulitis, IBD flare, post-op bowel rest.

05

Sodium

Fluid balance; the salt cation

▲ HIGH IN SODIUM

Table / sea salt

salt, seasoned salt

Processed & canned

canned soup, canned veg, broth

Cured / deli meats

bacon, ham, sausage, hot dogs, lunch meat

Salty extras

pickles, olives, sauerkraut

Condiments

soy sauce, ketchup, mustard, BBQ

Snacks

chips, pretzels, salted nuts

Convenience

frozen dinners, fast food, bread, cheese

▼ LOW IN SODIUM

Fresh fruit

all fresh fruit

Fresh / frozen veg

plain, no sauce

Fresh proteins

unprocessed meat, poultry, fish

Unsalted

unsalted nuts, no-salt-added items

Flavor swaps

herbs, spices, lemon, garlic

INCREASE / GIVE MORE

- Addison's disease / adrenal insufficiency — sodium wasting, liberal salt
- Cystic fibrosis — sodium lost in sweat

— RESTRICT / LIMIT

- Heart failure
- Hypertension (DASH diet)
- Chronic kidney disease
- Cirrhosis with ascites / edema
- SIADH
- Corticosteroid therapy (Na & fluid retention)

REMEMBER Processed, canned, cured, pickled = high sodium. Fresh = low sodium. Heart failure, HTN, CKD, cirrhosis all want it LOW.

- Salt substitutes are POTASSIUM chloride — avoid in renal disease, hyperkalemia, K-sparing diuretics, ACE/ARBs.
- Read labels: 'low sodium' ≤140 mg/serving.

06

Potassium

Cardiac & muscle excitability

▲ HIGH IN POTASSIUM

Banana group

bananas, oranges, kiwi, mango

Melons

cantaloupe, honeydew

Avocado

avocado, guacamole

Potatoes

white & sweet potato, winter squash

Tomato

tomato sauce, paste, juice

Greens

spinach, broccoli, beet greens

Dried fruit

raisins, apricots, dates, prunes

Legumes / nuts

beans, lentils, nuts, seeds

Dairy & fish

milk, yogurt, salmon, halibut, cod

Salt substitute

KCl salt substitutes, prune/OJ juice

▼ LOW IN POTASSIUM

Fruits

apples, berries, grapes, pineapple

Canned (drained)

canned peaches/pears in juice

Veg

green beans, cabbage, lettuce, cucumber, cauliflower

Grains

white rice, white bread, pasta

INCREASE / GIVE MORE

- Loop & thiazide diuretics (potassium-wasting)
- DKA recovery — insulin shifts K into cells
- Vomiting, diarrhea, NG suction losses

— RESTRICT / LIMIT

- Chronic kidney disease / dialysis
- Hyperkalemia
- Potassium-sparing diuretics (spironolactone)
- ACE inhibitors & ARBs
- Addison's disease

REMEMBER High-K all-stars: Bananas, Oranges, Potatoes, Tomatoes, Avocados, Spinach, Salt-substitutes. Loop/thiazide diuretics need MORE; renal/K-sparing need LESS.

- Leaching (peel, dice, soak, boil, drain) lowers the potassium in potatoes.
- Normal serum K is 3.5–5.0 mEq/L — narrow window, cardiac risk at both ends.

07

Calcium

Bone, clotting, neuromuscular tone

▲ HIGH IN CALCIUM

Dairy

milk, cheese, yogurt

Canned fish + bones

sardines, canned salmon

Tofu

calcium-set tofu

Fortified

fortified OJ, plant milks, cereal

Low-oxalate greens

kale, collards, bok choy, broccoli

Nuts

almonds

▼ LOW IN CALCIUM

Oxalate greens

spinach, rhubarb, beet greens (block absorption)

Most grains/meat

low intrinsic calcium

(Restriction is rare)

guided by serum calcium

INCREASE / GIVE MORE

- Osteoporosis / osteopenia
- Postmenopausal women
- Pregnancy & lactation
- Hypocalcemia — e.g., post-thyroid/parathyroid surgery (tetany, +Chvostek/Trousseau)
- Growing children & adolescents
- Long-term corticosteroid use

— RESTRICT / LIMIT

- Hypercalcemia
- Hyperparathyroidism
- Immobilization (mobilizes bone calcium)

REMEMBER Calcium needs vitamin D to absorb. Spinach is 'calcium-rich' but its oxalates block absorption — kale and broccoli are better sources.

- Calcium-oxalate kidney stones: keep calcium ADEQUATE (not low), cut oxalate & sodium, push fluids.
- Calcium and phosphorus move inversely — high phosphate drives calcium down.

08

Phosphate

Bone, ATP; inverse of calcium

▲ HIGH IN PHOSPHATE

Dairy

milk, cheese, yogurt, ice cream

Proteins

meat, poultry, fish, eggs, organ meats

Nuts / seeds

peanut butter, nuts, seeds

Legumes

beans, lentils

Whole grains

bran, whole-grain bread/cereal

Dark colas

cola & dark sodas (phosphoric acid)

Extras

chocolate, cocoa, beer, processed foods

▼ LOW IN PHOSPHATE

Fresh fruit

apples, berries, grapes

Most veg

non-starchy vegetables

Refined grains

white bread, white rice, pasta

Light snacks

popcorn, rice/almond milk (unfortified)

INCREASE / GIVE MORE

- Hypophosphatemia
- Refeeding syndrome — phosphate drops sharply; monitor & replace

— RESTRICT / LIMIT

- Chronic kidney disease / dialysis (hyperphosphatemia)
- Hypoparathyroidism

REMEMBER CKD retains phosphate. Give phosphate binders (calcium acetate, sevelamer) WITH meals to trap dietary phosphorus in the gut.

- Dark colas & processed-food additives are sneaky, highly absorbed phosphate sources.
- Phosphate ↑ pulls calcium ↓ — watch for the reciprocal imbalance.

Condition → diet map

The same food lists, organized the way exam stems present them: by the patient's diagnosis. This is where the eight nutrients come together.

CONDITION	DIETARY APPROACH
Heart failure	Low sodium + fluid restriction
Hypertension	DASH: low sodium, high K/Ca/Mg, high fiber
CKD — pre-dialysis	Low protein, low Na, low K, low phosphorus, fluid limit
CKD — on dialysis	HIGH protein, low Na/K/phosphorus, fluid restricted
Cirrhosis with ascites	Low sodium; low protein only if encephalopathy
Gallbladder disease / post-chole	Low fat
Pancreatitis	Low fat; NPO in acute, then advance
Diabetes mellitus	Consistent carbohydrate, high fiber, limit simple sugar
Hypoglycemia	Rule of 15 — 15 g fast carb, recheck in 15 min
Dumping syndrome	High protein/fat, low simple carb, small frequent, fluids between meals
Celiac disease	Gluten-free (no wheat, barley, rye)
Gout	Low purine — limit organ meat, red meat, shellfish, sardines, alcohol
Osteoporosis	High calcium + vitamin D
GERD	Avoid caffeine, chocolate, citrus, fatty/fried/spicy, peppermint; upright after meals
Addison's disease	HIGH sodium (Na wasting)
Cushing's / chronic steroids	Low sodium, high potassium, high protein & calcium
Phenylketonuria (PKU)	Low phenylalanine; avoid aspartame
Diverticulitis (acute)	Low fiber / low residue, then advance to high fiber