NUTRITION · CARDIOVASCULAR · NCLEX 2026

The *DASH* Diet

Dietary Approaches to Stop Hypertension — an evidence-based eating pattern that lowers blood pressure, LDL, and cardiovascular risk through whole foods, mineral-rich plants, and tightly controlled sodium.

CARDIAC | RENAL | ENDOCRINE | HEALTH PROMOTION | NUTRITION

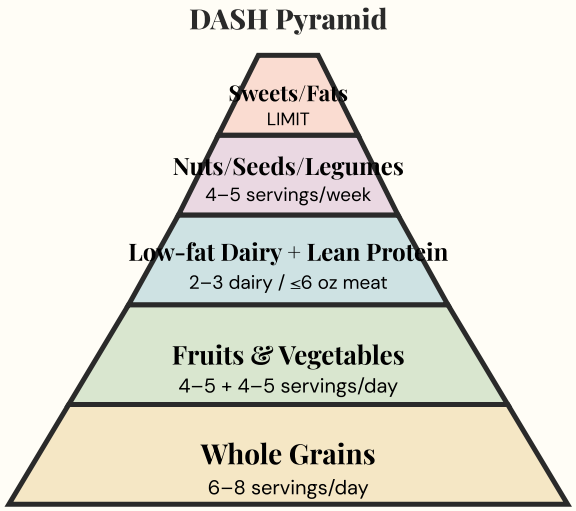
<2,300	<1,500	4,700	~11
MG/DAY	MG/DAY	MG/DAY	MMHG
Standard sodium limit	Lower-sodium DASH (HTN)	Target potassium intake	Avg systolic BP drop

01 Definition & Overview

DASH = **D**ietary **A**pproaches to **S**top **H**ypertension. Developed by the NIH/NHLBI as a lifelong eating plan — not a short-term weight-loss diet.

Emphasizes **fruits, vegetables, whole grains, low-fat dairy, lean proteins, nuts, seeds & legumes**. Limits **sodium, saturated fat, red meat, sweets, sugary drinks**.

Recommended for: **HTN, prehypertension, heart failure, hyperlipidemia, type 2 diabetes, metabolic syndrome,** and stroke prevention. Often paired with the **Mediterranean diet** for cardioprotection.



02 How DASH Lowers BP — Mechanism

Sodium Pathway

↓ Dietary Sodium → ↓ Water retention → ↓ Blood volume & BP

Potassium / Magnesium / Calcium Pathway

↑ K^+, Mg^{2+}, Ca^{2+} from plants → Vasodilation + natriuresis → ↓ Systemic vascular resistance & BP

Fiber + Saturated Fat Pathway

↑ Soluble fiber
↓ Sat. fat → ↓ LDL absorption → ↓ Atherosclerosis

→ ↓ MI · Stroke · CKD progression

03 Daily Servings (2,000 kcal Plan)

	FOOD GROUP	SERVINGS	EXAMPLES / 1 SERVING =
🌾	**Whole Grains**	6–8 / day	1 slice whole-wheat bread · ½ cup cooked oats · brown rice
🥦	**Vegetables**	4–5 / day	1 cup raw leafy · ½ cup cooked · broccoli, spinach, carrots
🍎	**Fruits**	4–5 / day	1 medium fruit · ½ cup fresh/frozen · ¼ cup dried
🥛	**Low-Fat / Fat-Free Dairy**	2–3 / day	1 cup skim milk · 1 cup low-fat yogurt · 1.5 oz low-fat cheese
🐟	**Lean Meat / Poultry / Fish**	≤ 6 oz / day	Skinless poultry · fish (salmon, tuna) · trim visible fat
🥜	**Nuts / Seeds / Legumes**	4–5 / week	⅓ cup nuts · 2 tbsp seeds · ½ cup cooked beans
🫒	**Fats & Oils**	2–3 / day	1 tsp soft margarine · 1 tbsp olive/canola oil
🍬	**Sweets / Added Sugar**	≤ 5 / week	1 tbsp sugar/jelly · ½ cup sorbet · 1 cup sweetened drink

04 Eat Freely vs. Limit / Avoid

✓ ENCOURAGE

- ✓ Fresh & frozen fruits / vegetables (no salt added)
- ✓ Whole grains: oats, brown rice, quinoa, whole-wheat
- ✓ Skim / low-fat milk & plain low-fat yogurt
- ✓ Skinless poultry, fish (esp. salmon — ω-3)
- ✓ Beans, lentils, unsalted nuts & seeds
- ✓ Olive & canola oil; soft tub margarine
- ✓ Herbs & spices: garlic, basil, oregano, lemon, pepper
- ✓ Bananas, oranges, potatoes, spinach (↑ K^+)

✗ LIMIT / AVOID

- ✗ Canned soups, vegetables, beans (unless low-sodium)
- ✗ Cured/processed meats: bacon, ham, sausage, deli, hot dogs
- ✗ Fast food, frozen dinners, packaged snacks
- ✗ Pickles, olives, sauerkraut
- ✗ Soy sauce, teriyaki, ketchup, BBQ sauce, gravy mixes
- ✗ Salted nuts, chips, pretzels, salted crackers
- ✗ Sugary beverages, candy, pastries, full-fat desserts
- ✗ Red & fatty meats, butter, lard, full-fat dairy
- ✗ Alcohol: ≤ 1 drink/day women · ≤ 2 drinks/day men

Bananas
↑ POTASSIUM

Leafy Greens
K · MG · CA

Salmon
OMEGA-3

Beans/Lentils
FIBER + K

Bacon/Deli
↑↑ SODIUM

Canned Soup
HIDDEN NA

Fast Food
NA + SAT FAT

Salted Snacks
↑ SODIUM

05 Priority Nursing Interventions

Assess

- **Baseline BP** (both arms, sitting, after 5 min rest)
- Weight, BMI, waist circumference
- 24-hour diet recall + sodium intake estimate
- Cultural/religious food preferences & budget
- Labs: **K^+, Mg^{2+}, BUN/creatinine, lipid panel, A1c**
- Current meds (esp. diuretics, ACEI/ARB, anticoagulants)

Educate

- Read **Nutrition Facts labels** — sodium per serving
- Choose products with **<140 mg Na/serving** ("low sodium")
- Cook at home; **rinse canned beans** to ↓ Na ~40%
- Substitute **herbs/spices/lemon** for salt
- Make changes **gradually** over 2–3 weeks
- Keep a food + BP diary

Monitor

- **BP at home** — same time daily, log readings
- Weight weekly (sudden gain → fluid retention)
- I&O if heart failure or CKD
- Serum K^+ if on ACEI/ARB or K-sparing diuretic
- Adherence and barriers each visit

Promote / Refer

- Combine DASH with **150 min/wk moderate exercise**
- Smoking cessation + alcohol moderation
- Stress reduction, adequate sleep (7–9 hr)
- Refer to **registered dietitian** for individualized plan
- Coordinate care with provider for medication titration

RED FLAG: Patient reports using a "salt substitute" while on lisinopril, losartan, or spironolactone → HOLD & notify HCP. Salt substitutes contain potassium chloride → risk of life-threatening hyperkalemia & dysrhythmias.

06 Pharmacology — Diet × Drug Interactions

Lisinopril · Captopril

ACE INHIBITOR — "-PRIL"

Blocks Angiotensin II → vasodilation + ↓ aldosterone → **K^+ retention**.

⚠ Combined with high-K DASH → **monitor K^+**. AVOID salt substitutes (KCl). Watch for dry cough, angioedema.

Losartan · Valsartan

ARB — "-SARTAN"

Blocks Angiotensin II receptors → ↓ BP, K^+-sparing effect.

⚠ Same hyperkalemia risk as ACEI. Monitor K^+, BUN/Cr.

Spironolactone

K-SPARING DIURETIC

Blocks aldosterone → Na^+ excretion + **K^+ retention**.

⚠ HIGHEST hyperkalemia risk. Limit high-K foods if K^+ elevated. No salt substitutes.

Furosemide (Lasix)

LOOP DIURETIC

↓ Na^+ & **↑ K^+ excretion** → hypokalemia risk.

✓ DASH's K-rich foods (banana, OJ, potato) help replace lost K^+. Monitor K^+, may need supplement.

HCTZ (Hydrochlorothiazide)

THIAZIDE DIURETIC

Causes **↓ K^+, ↓ Na^+, ↑ Ca^{2+}, ↑ glucose, ↑ uric acid**.

✓ K-rich DASH foods help. Caution with gout, diabetes.

Warfarin (Coumadin)

ANTICOAGULANT

Vitamin K antagonist.

⚠ Leafy greens (spinach, kale) are high vitamin K. Patient should keep intake **CONSISTENT** — not avoid. Monitor INR.

Quick Pharm Pearls

- **Loop & Thiazide diuretics** waste K^+ → DASH replaces it naturally.
- **ACEI / ARB / K-sparing** retain K^+ → DASH may push K^+ too high; watch labs.
- **Salt substitutes = potassium chloride** — never combine with K-retaining drugs.
- **Grapefruit juice** ↑ levels of CCBs (amlodipine, nifedipine), statins — avoid.
- **Licorice (real)** can cause Na^+/water retention & ↓ K^+ — counteracts DASH.

07 NCLEX Test Traps

TRAP

"DASH = low-salt diet only."

DASH is a complete eating pattern. Sodium reduction is one piece — potassium, calcium, magnesium, fiber, and lean protein matter equally.

CORRECT

"I'll rinse canned beans before using them."

Rinsing reduces sodium by ~40%. Excellent adherence indicator.

TRAP

"All dairy is fine on DASH."

Only **low-fat or fat-free** dairy. Whole milk, cream, full-fat cheese = saturated fat.

TRAP

Reading "low sodium" claims literally.

FDA terms: **Sodium-free** <5 mg · **Very low** ≤35 mg · **Low** ≤140 mg · **Reduced** = 25% less than original (still may be high).

TRAP

"Salt substitutes are a safe alternative."

Most contain **potassium chloride**. Dangerous with ACEI / ARB / K-sparing diuretics → hyperkalemia.

TRAP

"Frozen vegetables aren't healthy."

Plain frozen veggies (no sauce, no salt added) are equal to fresh. Canned with added salt is the problem.

TRAP

"Patient on warfarin should AVOID green vegetables."

Wrong — they should keep vitamin K intake **consistent**. Eliminating greens disrupts INR stability and removes a DASH cornerstone.

TRAP

"DASH is only for hypertension."

Also indicated for **heart failure, hyperlipidemia, type 2 DM, metabolic syndrome, and stroke prevention**.

08 NCJMM — Clinical Judgment Framework

Scenario: 62 y/o with HTN & new lisinopril Rx, BP 158/94, BMI 31, takes "Mrs. Dash–Lite Salt" (KCl-based) on food.

1 RECOGNIZE CUES	2 ANALYZE CUES	3 PRIORITIZE	4 SOLUTIONS	5 TAKE ACTION	6 EVALUATE
↑ BP, ↑ BMI, ACEI Rx, KCl salt substitute use, possible high dietary Na from processed foods.	ACEI + KCl substitute → **hyperkalemia risk**. Stage 2 HTN — needs lifestyle + pharm therapy.	SAFETY first: stop KCl substitute. Then DASH education + adherence + BP self-monitoring.	Replace salt sub with herbs/lemon/garlic. Begin DASH gradually. Daily home BP log. Dietitian referral.	Teach label reading, demo herbs, write 7-day sample menu. Order BMP / K^+ in 1–2 wks.	BP <130/80 within 4–8 wks. K^+ WNL. ↓ Weight 1–2 lb/wk. Patient verbalizes label use & food choices.

09 Patient & Family Education

1. **Read every label.** Aim for <140 mg sodium/serving and check serving size carefully.
2. **Cook fresh.** Restaurant + processed foods = ~70% of Americans' sodium intake.
3. **Use herbs & acids.** Garlic, basil, oregano, rosemary, lemon, vinegar — flavor without salt.
4. **Plate method:** ½ veggies/fruit, ¼ whole grain, ¼ lean protein at each meal.
5. **Smart shopping.** Shop the store perimeter (produce, dairy, lean protein); skip center aisles for processed foods.
6. **Hydrate with water.** Avoid sugar-sweetened beverages; limit caffeine if BP-sensitive.
7. **Alcohol limits:** ≤ 1 drink/day women · ≤ 2 drinks/day men. Excess raises BP.
8. **Move daily.** 150 min/wk moderate aerobic + 2 days resistance training adds another ~5 mmHg drop.
9. **Track BP at home.** Same arm, sitting, after 5 min rest, no caffeine/smoking ×30 min prior.
10. **Don't stop meds.** DASH complements antihypertensives — never replaces them without HCP.
11. **Watch hidden sodium:** bread, cheese, condiments, pickles, deli meat, soup, frozen meals.
12. **Family-style approach.** Whole household benefits — easier adherence + child HTN prevention.

10 Memory Boosters & Mnemonics

D · A · S · H

- **D** — **Dairy** — low-fat & fat-free, 2–3 servings/day
- **A** — **Avoid** sodium, saturated fat, sweets & alcohol
- **S** — **Servings** of fruits & veggies (4–5 + 4–5 daily)
- **H** — **Heart-healthy** whole grains, nuts, lean protein

"FRESH" Foods Win

- **F** — **Fruits & Fiber** at every meal
- **R** — **Reduce** sodium (<2,300 mg → <1,500 mg)
- **E** — **Eat** lean proteins & legumes
- **S** — **Skip** processed/canned/cured foods
- **H** — **High** in K^+, Mg^{2+}, Ca^{2+} from plants

⚡ Pattern Recognition Pearls

- **"Low salt" ≠ "Low sodium."** Always check the mg/serving — not marketing claims.
- **"Salty 6"** sodium offenders: *breads/rolls, pizza, sandwiches, cold cuts, soup, burritos/tacos*.
- **1 tsp salt = 2,300 mg Na** — the entire daily allowance in one teaspoon.
- **"-pril"** + KCl salt sub = ⚠ **K^+ trouble**. Memorize this NCLEX combo.
- **Loop & Thiazide diuretics:** bananas/OJ welcome. **K-sparing/ACEI/ARB:** bananas with caution.
- Best DASH-friendly seasoning swap: **Mrs. Dash® Original** (NOT "Lite Salt" — that one has KCl).
- DASH + exercise + weight loss + ↓ alcohol = up to **20–25 mmHg systolic BP reduction** stacked.